



WARCI News

July 2015
Summer Fun!

Firing up a Uniact, by Mike Hill (Page 3)



Figure 1 - Uniact Front Panel

NEXT WARCI MEET:	
	Sunday, July 12; 8:00 – 11:00 AM. Doors open 7:00 AM for set up indoors if needed.
	The Landmark / Terminal Site (see pages 22 and 23) at 5905 / 5917 S. Howell Avenue, Milwaukee, near the Airport. Look for our signs.
	Features: 50-50 Raffle, Donation Auction, Joe's Great Free Pizza.

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WARCI, Inc.

THE WISCONSIN ANTIQUE RADIO CLUB, INC. EXISTS TO PRESERVE THE KNOWLEDGE OF RADIO, TELEVISION, AND OTHER RELATED TECHNOLOGIES. WE HAVE A SPECIAL INTEREST IN THE HISTORY OF RADIO IN WISCONSIN, WISCONSIN RADIO COMPANIES, RADIO STATIONS, ETC. OUR MEMBERS' INTERESTS INCLUDE RADIO, TELEVISION, AUDIO, MICROPHONES, JUKEBOXES, AND ANTIQUE PHONOGRAPHS.

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WARCI Information

WARCI is incorporated in the State of Wisconsin.

Annual membership dues are \$15 for each calendar year, January - December. (Allowance is now made for new members joining in September or November.)

Seller's fee at Swap Meets is \$7.00 for members, \$10 for non-members.

The next Swap Meet will be held on July 12, at the Landmark / Terminal facility on Howell Avenue near the airport (see pages 22 and 23).

The swap meet times are 8:00AM - 11:00 AM. Doors open at 7:00AM for set-up if we need to be inside.

WARCI News

This newsletter is the official publication of the Wisconsin Antique Radio Club, Inc. It is published four times per year, in January, May, July and September. The WARCI News is free to all paid-up club members.

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Articles or material for the newsletter are most welcome and should be sent to Greg Hunolt, ghunolt@wi.rr.com or N5412 State Hwy 57, Plymouth WI 53073. Include your name, address, phone, and email. PC format (e.g. MS Word) by email is preferred. JPEG for images is preferred. Please contact Greg Hunolt for assistance.

Classified ads up to ¼ page are free to WARCI members.

The cut-off date for all newsletter material is about the fifteenth of the month preceding publication of the next newsletter (e.g. August 15 for the September 2015 issue).

Reminder!

Your membership dues for 2015 are now overdue if you haven't paid up. Please see Bill Engaas or Mike Sajdowitz at the July meet, or get a membership form from the WARCI website and mail it with your dues to Bill Engaas (address on the form).

WARCI Website

www.warci.org

The WARCI website features information about WARCI activities, Wisconsin radio, articles, etc. Contributions are most welcome! Contact our webmaster Nick Tillich, at webmaster@warci.org. Thank you, Nick, for your great work.

Firing Up a Uniact

by Mike Hill

Mike is a long time member of ARCI and an amateur radio operator. In this article Mike describes a Plymouth Wisconsin made Uniact battery set he found and brought back to life.

I bought the radio at the Oak Creek Hamfest four years ago. I paid \$175 for the radio because I knew it was rare. It then sat for four years before I got to it.

Figure 1 on the cover (page 1) is a photo of the front panel of the set.

I did some checking around with other collectors to find out if it was a Uniact radio made in Plymouth, Wisconsin. The WARCI News for July 2010 included an article by Greg Hunolt on the Plymouth Radio and Phonograph Company, and that article included ads for the Uniact, one of which is shown in Figure 2, from the February 14, 1926 issue of the Milwaukee Sentinel and Telegram.

The box at the bottom of the ad lists the Radio Corporation of Wisconsin of Milwaukee as the wholesale distributor of the set, and in the small print below it says "Uniact is manufactured by the Plymouth Radio and Phonograph Co., Plymouth, Wis."

The Uniact is a single dial, seven tube battery set from 1926. It has an unusual circuit, with resistance and capacitance coupling in its audio stages, and the use of both UX199's and UX200A and UX201A's. Figure 3 shows a top view of the chassis, and figure 4 (see page 4) shows my schematic of the Uniact.

Uniact

The Single Dial, 7 Tube, Super Radio

With a Uniact you can realize perfect radio satisfaction. For Uniact is gifted with powers of super volume, super selectivity, and rich, mellow, unequalled tone.

And Uniact is so easy to operate. Just a slight turn on the dial and station after station rolls in with wonderful clarity and tone volume.

61 Stations in 2 Hours
KFI (Los Angeles) 37 nights out of 41

Such is the achievement of Uniact. No matter what station you want, Uniact will get it when you want it and the way you want it and quickly and easily, too.

A Trial Will Convince You

Have a Uniact sent to your home for a free test. There under home conditions learn why day after day hundreds are turning to Uniact. Uniact is the super radio; comparison will prove it.

RADIO CORPORATION OF WISCONSIN
367-371 Milwaukee St. Wholesale Distributors Milwaukee, Wisconsin.
Uniact Is Manufactured by Plymouth Radio and Phonograph Co., Plymouth, Wis.



Figure 3 — Uniact chassis showing the Detector and three AF Amplifiers, ganged Tuning Condensers, and three RF Amplifiers.

The photo shows the single control tuning assembly, with three tuning condensers ganged together. The three radio frequency amplifiers are to the right of the tuner, using three UX199's and inductive coupling. The UX200A detector and three resistance-capacitance coupled UX201A AF stages are to the left of the tuner.

Figure 2 — Uniact Ad., Milwaukee Sentinel-Telegram, February 14, 1926

Uniact, continued on Page 4

WARCI Headlines

May Meet Notes

We had a great turnout at the May meet despite the cold, with a club high of 28 sellers (including 5 non-members) and a count of 81 people at the meet about 8:15AM. We sold 44 items at the donation auction, bringing in \$98 for the club, and the club took in \$34 from the 50-50 raffle. More hats, polo shirts, T-shirts, and sweatshirts were sold. The pizza was delicious. The meet was a great success!

A brass terminal from a 1920's capacitor went missing at the WARCI meet. It is believed that the item was stolen from Dale Boyce's table. WARCI meets are open to the general public, and although most of the swap meet attendees are well known and trusted, we must always be vigilant in protecting our items from the criminal element. Unfortunately this kind of behavior is all too common at antique shows and radio swaps. Please keep a watchful eye over your items at all times, and report any suspicious activity to a WARCI Board Member. With your help, we can continue to keep WARCI meets an enjoyable experience for attendees and sellers!

If you have information regarding the whereabouts of the missing terminal, please email Dale Boyce at Dale Boyce <radioman@wi.rr.com> or any of the WARCI Board Members.

Membership Update

We now have 86 active members, but as of June 26 just 66 members have paid up for this year. If you haven't paid—please do so! We finished 2014 with 75 paid members. This was up from 60 paid members in 2013. Looking back, we had 58 members in 2012 and just 44 members in 2011.

July Meet

WARCI's July meet will be held on Sunday, July 12, at the Terminal / Landmark site, indoor or outdoor depending on the weather. The meet will feature the regular Donation Auction, 50-50 Raffle, and Joe Halser's excellent pizza.

Looking Ahead to September

WARCI's September meet at the Terminal /

Landmark site will feature the annual Oktoberfest Auction. We will put out a call in mid-August for items you plan to commit to the auction so that we can feature them in the September newsletter.

WARCI Meeting Dates for 2015

July 12, The Landmark / Terminal

September 20 with Auction, The Terminal

November 8, The Terminal / Landmark

South Milwaukee Amateur Radio Club, Inc.

Swapfest '15'

Saturday, July 11, 2015

6:30 AM

**American Legion Post 634
9327 South Shepard Avenue
Oak Creek, WI**

Ham Radio, Computers, Electronics, Radios

Tickets \$5.00

For more information, call Robert, 414-764-3871
or visit www.qsl.net/wa9txe

Donation Auction Rules

We will have an area marked off for donated items. Once you place an item in that area, it is donated to the club and becomes the property of the club, and will be auctioned or disposed of if it does not sell at the auction. No one may remove a donated item from the donation area prior to the auction. So, while we very much appreciate your donations, please don't place an item in the donation auction until you're sure you want to donate it. Or, if you see an item of interest in the donation area, don't ask the donor to reclaim it—the item no longer belongs to the donor.

Visiting the Pavek, by David DeRosier

WARCI member David DeRosier provided this note and photos from his visit to the Pavek. As a many time visitor to the museum I heartily concur with his recommendation that you all should see it. In addition to the magnificence of the museum's collection, the staff is exceptionally courteous and knowledgeable.—Ed.

We recently went on vacation and one of the stops was the Pavek Broadcast Museum in Minneapolis, Minnesota. The museum has a very large collection of antique radios and televisions, including a fully operational ham rig and a radio broadcast studio. In addition to expanding and preserving its collection, the Pavek sees its mission as “sparking interest in science and communication with a variety of special, high quality educational programs for children and adults”. Tours and classes are offered for both adults and students – including classes for children in grades four through six. They offer a vintage radio repair and restoration class. The photos below provide just a taste of the extensive collection on display at the Pavek. I encourage everyone to spend some time visiting their facility.



Many, many early radios in the Pavek collection. Not shown—a working Therenin!



Vacuum tubes, microphones, and a spark transmitter.



Broadcast Studio, early televisions, and a view of the main exhibit room.

Editor's Note:

The WARCI News is your newsletter.

Your comments and suggestions for the newsletter are most welcome.

Your contributions of articles or other material are urgently needed. Your help is needed to make the WARCI News a success and to ensure that it covers the full scope of the interests of WARCI members.

If you're not seeing articles on topics you are interested in, **write one.**

You may submit complete articles, but information from which an article can be developed is also welcome.

Don't agonize over format, etc., as I will have to adapt your submission to the newsletter anyhow. Simple text is best. PC format (e.g. MS Word, separate jpegs by email) is preferred, but hardcopy text and photos are accepted.

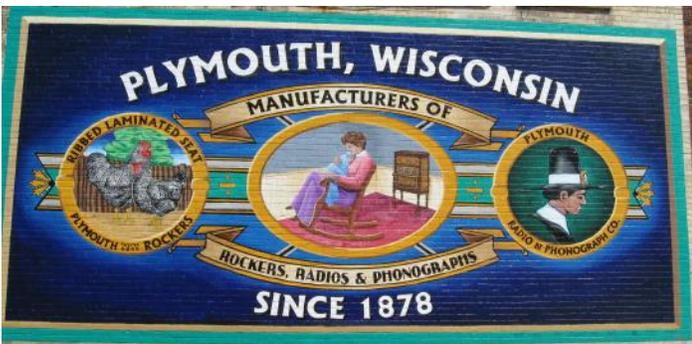
In this issue we have three articles contributed by WARCI members, Mike Hill, Dave DeRosier, and Dale Boyce. Mike describes his restoration of a Uniact receiver, made in 1926 in my town, Plymouth Wisconsin. Dave reports on his recent visit to the Pavek museum in Minneapolis, reminding us all that we need to visit or re-visit that great facility. Dale Boyce's article is Part 2 of his work on the Allen-Bradley Company of Milwaukee, with a promise of Part 3 featuring Allen-Bradley's TRF radio to come.

We thank Mike, Dave and Dale very much for their articles!

We will also cover tube audio and television and other member interests - but we need your contributions of articles or information for articles.

Thank you, and I look forward to seeing you at the July 12 meet,

- Greg Hunolt, Editor, WARCI News



Bob Paquette's Microphone Museum



WARCI member Bob Paquette's Microphone Museum features his collection of well over 1,000 different makes and models of microphones as well as related pieces of equipment. The emphasis is on historically important microphones made between 1876 and 1950, and early radios, telephones, and many other communications devices, including an assortment of military gear. Check out Bob's website, <http://www.sssmilwaukee.com/Microphone%20Museum.html>

Bob always enjoys visitors and will be happy to give a guided tour to individuals or groups. You can call Bob at Select Sound (414) 645-1672 to arrange for your visit. Just ask for Bob Senior. The museum is located on the second floor of Select Sound, 107 E. National Avenue in Milwaukee. Enjoy your visit and allow yourself plenty of time.

An advertisement for "Radio Roots Old Time Radio". It features a photograph of Rick Hagerty, a man with a mustache and glasses wearing a hat, smiling and holding a vintage microphone. The text on the right side of the ad reads: "RADIO ROOTS OLD TIME RADIO TUESDAYS 9:00AM-NOON", "WRLR 98.3FM ROUND LAKE HEIGHTS ILLINOIS", "Streaming world wide: wrlr.fm", "RICK HAGERTY PRODUCER-HOST", and "ricksradioroots@yahoo.com".

Allen-Bradley Company of Milwaukee, Part 2

by Dale Boyce

This article is another installment in our continuing series on Wisconsin radio companies and their products. Allen-Bradley (A-B) of Milwaukee was a nationally prominent manufacturer of radio devices and components in the 1920s, a producer and distributor of a line of three tube RC-coupled amplifiers, and even dipped a corporate toe into the water of radio set production in 1927. Founding WARCI member Dale Boyce has collected A-B radio devices for many years and has researched the company's history to produce a three-part article for the WARCI News. In the January 2015 issue, Part 1 featured the A-B company history and the three tube A-B amplifiers. This Part 2 issue will discuss A-B radio devices in detail. In a future Part 3 issue, the A-B TRF receiver of 1927 will be featured.

Since Part 1 was published in January 2015, I have reviewed some personal calendars and records. I have modified my 45 year old recollections to be in line with actual events. I did interview with Allen-Bradley at NDSU (North Dakota State University), but not in Milwaukee. I did have an interview trip to Milwaukee but it was with a different electrical company in 1971-72.

My first contact with Allen-Bradley Company (A-B) was in 1971-72. I was a senior electrical and electronics engineering student at NDSU in Fargo, ND. Jobs for new grads were scarce. I had a job interview with Allen-Bradley Co. on-campus at NDSU in Fargo, ND. They found other candidates and I found a job with an Engineering/Architectural company. My first visit to the Corporate Museum in the Allen-Bradley Company Headquarters Clock Tower building was during a Professional Engineering Society tour in the 1980's. My second visit to the Allen-Bradley Company Museum was in 2002 after I had purchased an Allen-Bradley 3-tube amplifier with the original box and instructions at the 2001 Dr. Ralph Muchow Estate Auction in Elgin, IL. I had a private tour of the Museum. The collection included a 3-tube amplifier and numerous 1920's radio magazines with Allen-Bradley Co. advertisements. The collection also included a variety of A-B Co. radio devices and motor control equipment.

Part 1 included a brief chronology of the early Allen-Bradley Company, its predecessors and founders. The main purpose of this part 2 article is to document some of the radio components and radio devices that were made by the Allen-Bradley company in Milwaukee during the 1920's. The author has an extensive collection of 1920's radio related publications including radio magazines, radio catalogs, newspapers, books and other publications.

WARCI News Editor Greg Hunolt located several additional Allen-Bradley advertisements and articles in various radio publications. He found an article in *Radio Age* for October 1926 titled "Allen-Bradley Co Supplies Electrical and Radio Field", shown here as figures 21 and 22, pages 16 and 17.

Allen-Bradley - Manufacturer of Radio Devices

During the 1920s Allen-Bradley Co. manufactured a variety of radio devices and components including variable resistance devices, fixed resistors, a fine-tuning vernier dial, variable condensers, switches, and adapter tube sockets (discussed in detail below) which were nationally advertised and sold. Allen-Bradley also manufactured a line of three tube, resistance (RC) coupled amplifiers (discussed in part 1) and experimented with a TRF receiver (see future part 3).

Allen-Bradley Co. continued to produce radio components through World War II (including some specially "ruggedized" for military use) and on into the 1970s.

Carbon and graphite conduct electricity. Compression rheostats and resistors operate on the principle that when a stack of carbon/graphite discs are compressed the resistance decreases. When such a device is fitted with terminations and is wired into a circuit, it allows the operator to increase compression/decrease resistance and permit more current to flow thru the circuit. Conversely, it allows the operator to decrease compression/increase resistance and permit less current to flow through the circuit. When compared to wire-wound variable resistors, control by use of compression rheostats and resistors generally results in a smoother variation in current.

Allen-Bradley continued on Page 9

Overview of A-B Variable Resistance Devices

Radiostat: 500 watts

Bradlestat: adjustable from ½ ohm to 75 ohms. Also Type E-210 for 10 watt transmitters.

Bradleyohm: A (5 ratings), E (4 ratings), R, X. Bradleyohms with a Z prefix are known.

Bradleyleak: adjustable from ¼ megohm to 15 megohms. These were also available with small grid condenser rated 0.00025 microfarads (mfd).

Bradleyometer: 2 ratings, 200 ohms, 400 ohms.

Laboratory Rheostat: ratings vary

Overview of A-B Fixed Resistors

Bradleyunit, Bradleyunit-A, Bradleyunit-B, Perfect Radio Resistors, Perfect Amplifier Resistors.

Overview of other A-B Radio Devices

Bradleynier: fine tuning vernier dial

Bradleyswitch: push-pull ON-OFF switch for A and B batteries

Bradleydenser: Multi-plate variable condenser/capacitor with 180 degrees of rotation

SLF Bradleydenser: Straight Line Frequency (SLF) variable condenser with 360 degrees of rotation

Bradleyadapter: tube socket to adapt WD-11 tube to UX type tube socket

Details on Allen-Bradley Radio Devices

Radiostat: The 500 watt dashboard mounted, adjustable graphite disc compression rheostat for control of battery charging current in vehicles. Adapted for use in radio transmitters and receivers. The cylindrical carbon/graphite discs are mounted on a threaded shaft and contained in a metal cylinder. It has electrical connection hardware on one end and a circular mounting plate on the control end. Physical size: 9.5 inches long overall by 1.5 inches in diameter. Weight is approximately 2 pounds. See Figure 1.



Figure 1 — A-B Radiostat

Bradleystat "Perfect Filament Control": Graphite disc compression rheostat in porcelain enclosure/body. These are adjustable from ½ ohm to 75 ohms. On early versions the porcelain body has a smooth matte surface with identification printed on the front and or back of the units. Some of these items were bolted together, some were riveted, some used a combination of methods. These are approximately 3-1/4 inches tall, 2-1/2 inches wide and 7/8 inch thick. The mounting brackets increase the thickness to 1-7/8 inches. On the later versions, all identifications were made with raised lettering on the front and back of the porcelain body. Obviously, the reverse image of the information and lettering was crafted into the molds to produce the raised lettering on the finished product. These were approximately 2-3/4 inches tall and 2 inches wide. The porcelain body is approximately 7/8 inch thick. Small body versions of Bradleystats are usually seen with company identification stamped into the bottom metal cover. See Figure 2 below. Bradleystats were advertised in Radio News as early as June 1922.

No E-210. These larger units were designed for



Figure 2 — A-B Bradleystat Examples

filament control for tubes in 10 watt Amateur Radio Transmitters. These are approximately 4-5/8 inches tall, 2-1/2 inches wide and 3/4 inch thick. The mounting brackets increase the thickness to 1-3/4 inches. See Figure 3.



Figure 3 — A-B E-210 Bradleystat

BradleyOhm "Perfect Variable Resistor": Graphite disc compression rheostat in porcelain enclosure/body. Types A, E, R, X and Z. Bradleyohms are usually seen with company identification stamped into the bottom metal cover. Ratings are indicated by printed paper labels or ink-stamped labels on the front or back. Typed labels and other paper labels are known. These are approximately 2 inches to 2-1/4 inches tall, 1-15/16 inches wide and 15/16 inch thick. These are shaft mounted into a radio panel and have no additional mounting brackets.

Type A— 3 watt capacity, 10-1 adjustment range

No.1A: 100 to 1000 ohms

No.5A: 1,000 to 10, 000 ohms

No.10A: 10,000 to 100,000 ohms

No.25A: 25,000 to 250,000 ohms.

No.50A: 50,000 to 500,000 ohms

Type E— 4 watt capacity, 50 to 1 adjustment range.

No.1E: 100 to 1000 ohms

No.5E: 1,000 to 50,000 ohms

No.10E: 10,000 to 500,000 ohms

No.25E: 25,000 to 2,500,000 ohms

Type R— 5 watt capacity, 75 to 1 adjustment range. Larger than Type E, for use in large variable resistors and battery eliminators up to 375 VDC.

Type X—6 watt capacity, 100 to 1 adjustment range. For use in battery eliminators producing up to 500 VDC.

Type Z: Z-195 and Z-253. Cross-reference rating chart has not yet been found. Unknown type. Minimum 1500 ohms.

Figures 4 and 5 show Bradleyohm examples.



Figures 4 and 5 — Bradleyohm examples.

Bradleyleak "The Perfect Grid Leak": This is a graphite disc compression rheostat in a porcelain body. The rheostat is adjustable from 1/4 megohm to 15

megohms. On the early versions, all identification was made with raised lettering on the front and back of the porcelain body. On later versions, Bradleyleaks are usually seen with company identification stamped into the bottom metal cover. These are approximately 2-3/4 inches tall, 2 inches wide and 7/8 inch thick. The mounting brackets increase the thickness to 1-7/8 inches. The photo, figure 6, shows early and later versions with and without the condenser.



Figure 6 - Bradleyleak Examples.

Bradleyleak with Condenser "The Perfect Grid Leak": This is a graphite disc compression rheostat in a porcelain body with an attached grid leak condenser/capacitor. On the early versions, all identifications were made with raised lettering in the front and back of the porcelain body. On later versions, Bradleyleaks are usually seen with company identification stamped into the bottom metal cover. On the early porcelain Bradleyleaks, the condenser was bolted into a recess at the bottom terminals. On the metal bottom Bradleyleaks, the condenser was bolted to the side terminals. The device is basically the same size as the previous unit. The add-on capacitor/condenser dimensions are approximately 1-1/2 inches by 11/16 inch by 1/8 inch thick.

The Bradleyleak resistance was adjustable from 1/4 megohm to 15 megohms. The grid leak condenser rated 0.00025 mfd. Stamped identification includes the following information "Bradley Leak Condenser, AB Co (Octagonal Logo), Dublier Micadon Pat. Pend." See figure 7 on the next page.



Figure 7 - Bradley leak, with condenser on base

Bradleyometer "The Perfect Potentiometer": This is a graphite disc compression potentiometer in a porcelain body. They are rated 200 ohms or 400 ohms. The early versions with raised lettering on the porcelain bodies are approximately 3-1/2 inches tall, 2 inches wide and 7/8 inch thick. The mounting brackets increase the thickness to 2-1/4 inches. These were packaged in Green checkerboard boxes. The later versions were smaller. These are approximately 2-1/8 inches tall, 1-15/16 inches wide and 1-1/8 inch thick. The mounting brackets increase the thickness to 1-5/16 inches. These smaller Bradleyometers are usually seen with company identification stamped into the bottom metal cover and a printed paper label with the rating on the terminal side. Note that on the later units, the control knob and shaft are located off-center. See figure 8 below.



Figure 8 - Bradleyometers and Box

Bradleyunit, Bradleyunit-A, Bradleyunit-B "Perfect Radio Resistors, Perfect Amplifier Resistors": These are a fixed resistance carbon/graphite cylinder cartridge with silver-plated end-caps. These "Grid Leak Resistors" are approximately 1-3/4 inches long and

either 1/4 or 3/8 inches in diameter. These were made in at least 35 distinct ratings ranging from 500 ohms to 10 megohms. They were available with orange/black checkerboard paper labels. The printed or hand lettered labels identified the ratings. They were also available with solid black bodies which were ink stamped on the end caps with numbers or letters. "C", "L" coded letters indicated ratings of 100,000 ohms and 500,000 ohms. Some versions have the full numbered ratings 100,000, 250,000 or 500,000 printed in very small font around the circumference of the silver end caps. Early versions had cone-shaped tapered end caps with hollow-tipped terminals. Later versions had squared-off end caps with hollow-tipped tubular terminals. The hollow tips were intended for insertion of circuit wiring for soldering without affecting the resistor. See Figure 9 below.



Figure 9 - Bradleyunit resistor examples.

Bradleyner "Perfect Vernier Knob": This is a small (approximately 1 inch diameter, 1 inch deep) vernier tuning dial intended to be installed in contact with large tuning dial. When the metal Vernier knob is pushed and turned, the rubber wheel on the circumference makes friction contact with the edge of the larger tuning dial to enable "fine tuning". See Figure 10 below.



Figure 10 - Bradleyner Vernier Knob

Bradleyswitch "Perfect Battery Switch": This is a push-pull, On-Off type switch for mounting in face of radio cabinet to control A and B batteries. Approximate dimensions are 2 inches long and 3/4 inch diameter. Similar switches with and without key-lock were available from Cutler Hammer (Milwaukee) and other companies. No photo available.

Bradleydenser:"Perfect Condenser": A multi-plate tuning condenser, with 180 degree rotation, available in at least four ratings including: 0.00025 mfd, 0.00035 mfd, 0.0005 mfd, 0.001 mfd. These were made of brass shaft, brass blades and a brass dust shield. Approximate dimensions are 3-1/2 inches diameter and 4 inches deep. A significant ad for these devices appeared in Radio News January 1925. See Figure 11 below.



Figure 11 - Bradleydenser and Box

Bradleydenser SLF "Perfect S.L.F Condenser": This is an improved variable condenser. It is called a Straight Line Frequency (SLF) variable condenser, with 360 degree rotation. The rating shown in advertisements is 0.00035 mfd. Approximate dimensions are: 3-1/2 inches diameter and 2 inches deep. See note below from Radio Age, October 1926.

Allen Bradley Designs Compact S. L. F. Condenser

THE Allen-Bradley Company of Milwaukee has designed a compact straight line frequency condenser, a feature of which is a cam which converts a symmetrically shaped condenser into an S. L. F. condenser, and distributes stations uniformly over a 360 degree dial. The new Bradleydenser can be mounted in place of practically any ordinary condenser. The uniform spacing of stations over a 360 degree dial facilitates close tuning.



The one hole mounting makes installation easy. The plates are of brass and soldered to provide highest conductivity. Rotor plates are grounded.

Figure 12 - Technical Note on SLF Bradleydenser, Radio Age, October, 1926

Bradleyadapter: Brass shell tube socket with alignment tab and four silver plated contact pins. Internal wiring of tube socket allows insertion of the unique WD-11 type tube into UX type tube socket. The dimensions are: 1-5/16 inches diameter by 1-11/16 inches overall height including pins. The author has found an advertisement for this device in the June 1923 issue of QST magazine. See Figure 13 below.



Figure 13 - Bradleyadapter examples w/box

Knobs on Adjustable Devices

At least four (4) different sizes and shapes of knobs can be found on adjustable A-B devices. They appear to have transitioned from straight-sided circular shapes knobs to tapered and fluted circular shapes. Some are permanently secured to the device shaft while others are removable.

Patent Dates

Some devices and boxes have patent dates. 05-29-06 can be found on some Bradleyleaks and Bradleystats. 3-4-13 can be found on some Bradleyohms and Bradleystats.

Local Competition

While Allen-Bradley Company was designing, making and selling their Radio Devices there was competition for fixed and variable resistors, fixed and variable tuning condensers/capacitors and radio switches from local Milwaukee companies including: Briggs & Stratton (BASCO), Central radio Laboratories (CRL), Cutler-Hammer (C-H), Globe Electric, Milwaukee Resistor Co. (MERL), AcmeStat and Industrial Controller (IC). These are a few of the companies who were also in the business of manufacturing radio components and Milwaukee had workers skilled in electrical/radio device manufacturing.

Advertising by Allen-Bradley

Most of the Allen-Bradley company products included the wording "Perfect" in their names. Most of the Allen-Bradley Company advertisements included the phrase "Electric Controlling Apparatus" in the company addresses. Their multi-color advertisements were frequently full-page ads located on the

prominent inside covers and back covers of radio magazines.

Allen-Bradley Company advertised their "Perfect Radio Devices" in many of the popular "Radio Trade" and Hobby magazines. Publications included: Radio News, Radio, Radio Retailing, The Radio Dealer, Popular Science, and QST. See Figures 16 through 20 below for examples of Allen-Bradley advertising.

In order to track effectiveness of advertising, it was common practice to use a different address for each publication or each product. Following are some of the Milwaukee, WI addresses that were used in advertisements for their "Radio Devices" were 276, 277, 278, 287 and 288 Greenfield Avenue and 488 Clinton Street.

Packaging Graphics

The graphics used on boxes in which Allen-Bradley Radio Devices were packaged, shipped and displayed included distinctive color-coded checkerboard patterns. They were meant to catch the attention of the customers. Bradley Amplifiers-Orange/Black; Bradleyunit-Yellow/Black; Bradleyohmeter-Green/Black; Bradleyleak-Red/Black; Bradleyohm-Yellow/Brown; Bradleyadapter-Blue/Black; Bradleystat-Orange/Black; Bradleydenser-Orange/Purple; Bradleynier-Orange/Black. A paper drilling template pattern was packaged with most devices that were intended to be mounted on a radio panel. The installation instructions that were printed on tissue-type paper and wrapped around the wiring devices seldom survived. See Figure 14 below for examples of Allen-Bradley boxes.



Figure 14 - Allen-Bradley Boxes

Some of the device boxes have a mailing label form preprinted on one side so that the radio device could be mailed directly to a customer without additional packaging.

Allen-Bradley Memorabilia

In addition to Radio Devices, Amplifiers, and motor control equipment, it is not unusual to find a variety of merchandise with the Allen-Bradley Company logo. Some items that my wife, Chris, and I have found at Antique Shops include: service award pins, cufflinks, a tie-clasp, 4 different sizes of glassware, 2 different sizes of dining plates, multi-colored stamped aluminum coasters and ashtrays, pennants, seat cushions, key chains, paperweights, and ashtrays made of ceramic and other materials. I have also seen neckties, bowties, toy-truck delivery vehicles, pocket calendars and technical catalogs. See Figure 15.



Figure 15 - Allen-Bradley Memorabilia

Allen-Bradley was in business for 111 years with thousands of employees, agents and customers all around the world. One can find a variety of Allen-Bradley merchandise.

Part 3 of the article will appear in a future issue of WARCI News. If arrangements can be made, it will feature the Tuned Radio Frequency (TRF) radio set made by Allen-Bradley in 1927.

REFERENCES

Refer to WARCI News January 2015 for part 1 featuring the 3-tube, Allen-Bradley Co. Perfect Audio Amplifier.

Refer to Antique Wireless Association (AWA) Old Timers Bulletin Vol. 18. No 2, Sept 1977, for "A Short History of Allen Bradley Company".

"The Bradley Amplifier", Buford Chidester, MAARC Radio Age, December 1995.

www.RockwellAutomation.com extensive company history and some info on radio devices. The 1925 multi-color radio Device brochure can be found at this

location..

CREDITS

Chris Boyce. For patience, understanding, assistance, proofreading, and collaborating in our 32 year search for old radios and related things.

"The Bradley Legacy" by John Gurda 1992

Author's personal collection of radio devices, radio publications from the 1920's with product advertisements, radio supply catalogs, and memorabilia.

Copies of radio magazine articles and advertisements provided by Greg Hunolt.

Gift of several radio devices from Greg Hunolt.

Loan of Version 1, Allen-Bradley amplifier: Greg Hunolt.

Allen Bradley Company information: Julie Gonzo.

Permission to photograph Version 4 Allen-Bradley

Use

Allen-Bradley Perfect Radio Devices
for maximum selectivity and noiseless control

- 1—Bradleystat—Noiseless Rheostat for ALL radio tubes.
- 2—Bradleyswitch—Compact Switch for receiving sets.
- 3—Bradleydenser—Low Loss Condenser for sharp tuning.
- 4—Bradleyometer—Perfect Potentiometer for all circuits.
- 5—Bradleyohm—Adjustable Resistor for every application.
- 6—Bradleyleak—Adjustable Grid Leak of highest efficiency.
- 7—Bradleyunit—Fixed Resistor for Resistance Amplifiers.
- 8—Bradleynier—Vernier Knob, easily attached to any set.

ALLEN-BRADLEY CO.,
287 Greenfield Ave., Milwaukee, Wis.
Please send me your latest literature on the complete Allen-Bradley line of Radio Devices.

Name _____
Address _____

Figure 16 - Allen-Bradley Devices , Radio News, October1925

Amplifier: Bob Paquette, Sr.

Permission to photograph Bradleydenser, Bradleydenser Box, Bradleyneir, Bradleyneir Box: Glenn Trichan.

Bradleyunit devices: Jay Volke

2002 AB tour Guide: James Jerschefskey

Greg Hunolt, WARCI Newsletter Editor, WARCI Past-President and his wife Jean Ann Blanke for editing the drafts.

THANKS TO

Chris Boyce, Greg Hunolt; Julie B. Gonzo; James Jerschefske, CBC; Glenn Trischan; Steve Schaffer; Bob Paquette, Sr.; Joe Halser; Jay Volke; the late Dr. Ralph Muchow; the late Dick Bury.

THE SEARCH GOES ON...

The author is interested in comments from readers and information about other Allen Bradley Company Radio Devices that are not included in this article. If you have or have access to one of the 12 Allen Bradley Company radios, I would like to hear from you. I am looking for Bradleyniers, Bradleydensers, SLF Bradleydensers, Bradleyswitches, Allen-Bradley boxes and Allen

A Low-Loss Condenser
for Selective Receivers

THE New Bradleydenser embodies many new and important features that contribute to its high efficiency and low loss. One of the most significant innovations is the omission of the outer end-plate and the substitution of a unique bearing that maintains rigid alignment of the rotor plates without the use of unnecessary insulating or di-electric end-plates. There is almost no di-electric material in the Bradleydenser to absorb energy from the antenna oscillations.

The minimum capacity also is low, affording a wide range of control. This is an important advantage in sets to be operated from loops.

We shall be glad to send you complete information about the Bradleydenser. Drop us a line, to-day!

Allen-Bradley Co.
Electric Controlling Apparatus
287 Greenfield Avenue
Milwaukee, Wisconsin

Standard Ratings and Prices
0.00025 M-F. \$4.50
0.0005 M-F. 5.00
0.001 M-F. 6.00
The Bradleydenser has no varnish plates. The shell is 1/16 in. in every dimension.

Notice the amazing reduction of insulating material to two small spacers. The di-electric loss is, therefore, very low

Another Allen-Bradley Radio Device of the same perfection and quality as the Universal Bradleystat

Figure 17 - Radio News, January 1925



There's a Real Thrill in trying a New Hook-Up!

EVERYONE in the family is eagerly waiting to hear the new set! After hours and hours of drilling and soldering, the set is nearly ready for its first crucial test. Will it meet with your expectations or will it be a disappointment? That depends upon two things—first your workmanship, and second, the quality of the parts used. Good workmanship is the result of patience, but good parts are assured only by demanding well-known, guaranteed products, such as Allen-Bradley Perfect Radio Devices. Allen-Bradley Products are known the world over for exceptional performance and fine appearance. They eliminate the hazard and disappointment that follows the use of inferior radio products. Ask your dealer for Allen-Bradley Perfect Radio Devices if you value your time and labor. *They always work!*

Allen-Bradley Co.
ELECTRIC CONTROLLING APPARATUS

Head Office: 287 Greenfield Avenue, Milwaukee, Wisconsin

Branch Offices: Chicago, St. Paul, Minneapolis, St. Louis, Kansas City, Omaha, Denver, Detroit, Cincinnati, Cleveland, Toledo, Columbus, Indianapolis, Louisville, Nashville, Memphis, Birmingham, Montgomery, New York, New Haven, Philadelphia, Baltimore, Washington, Dallas, Houston, San Antonio, Austin, Fort Worth, San Diego, Los Angeles, San Francisco, Portland, Seattle, Tacoma, Vancouver, Seattle, Tacoma, Vancouver.

General Office and Factory: 287 Greenfield Avenue, Milwaukee, Wisconsin

Bradleystat—Perfect Filament Control for All Tubes.
Bradleyohm—Perfect Adjustable Resistor.
Bradleyunit—Perfect Fixed Resistor.
Bradleyunit-B—Perfect Variable Resistor.
Bradleyswitch—Perfect Battery Switch.
Bradleyleak—Perfect Grid Leak, 1/4 to 10 Megohms.
Bradleyometer—Perfect Potentiometer.

Figure 18 - Citizens Radio Callbook, Fall 1926

Bradleystat
REGISTERED U.S. PAT. OFF.
PERFECT FILAMENT CONTROL

The Perfect Filament Rheostat

Absolutely Stepless Current Control

The BRADLEYSTAT consists of two small columns of graphite discs enclosed in a porcelain container. The resistance varies with the pressure applied to these discs by the adjusting knob and screw. There are no steps or jumps in the resistance. You can get just EXACTLY what you want!

No coils—No contact sliders—No delicate parts. An internal switch opens the battery circuit when the Bradleystat pressure screw is released.

PRICE \$1.85

For use with any 1/2 or 1 ampere re-recting tubes or with low-volt power tubes.

If your dealer hasn't a Bradleystat and will not get it for you, send us \$1.85 PLUS 10 CENTS for postage and we will mail you one.

DEALERS, ACT QUICK

Allen-Bradley Co.
287 Greenfield Ave. Milwaukee, Wis.
Manufacturers of Graphite Compression Rheostats for Twenty Years

Figure 19 - Bradleystat, Radio News, June 1922

Allen-Bradley Resistors

for

Experimental Work in Television



Bradleyunit-B

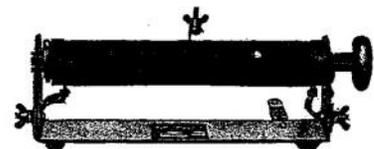
IF you are doing experimental work in television, use Allen-Bradley resistors, both fixed and variable. Bradleyunit-B is the ideal fixed resistor for resistance-coupled amplifiers as plate-coupling resistors and grid leaks because:

1. Resistance values are constant irrespective of voltage drop across resistors. Distortion is thus avoided.
2. Absolutely noiseless.
3. No aging after long use.
4. Adequate current capacity.
5. Rugged, solid-molded construction.
6. Easily soldered.



Radiostat

This remarkable graphite compression rheostat, and other types of Allen-Bradley graphite disc rheostats provide stepless, velvet-smooth control for scanning disc motors.



Laboratory Rheostat

Type E-2910 — for general laboratory service. Capacity 200 watts. Maximum current 40 amperes. A handy rheostat for any laboratory.

Write for Bulletins!

ALLEN-BRADLEY CO., 277 Greenfield Ave., Milwaukee, Wis.

Allen-Bradley Resistors

Figure 20 - QST, October 1928

Allen-Bradley Co. Supplies Electrical *and* Radio Field

By F. A. HILL

(Associate Editor)

RESISTANCES whether fixed or variable have long been, and will for many years be a vital and essential part of radio transmission and reception. Resistances had their first inning with the birth of the electrical industry; their second inning came with the appearance of broadcasting. Other fields will later be developed just as nearly everything today is adaptable to more than one use.

In the manufacture of resistances some of the larger organizations which had been making resistances for the electrical field saw a new outlet for their product and entered the new field with a product on which they already had years of experience. Thus they not only served their original industry, the electrical, but also took in new territory in the broadcast game.

Allen-Bradley Company, at Milwaukee, were admirably suited



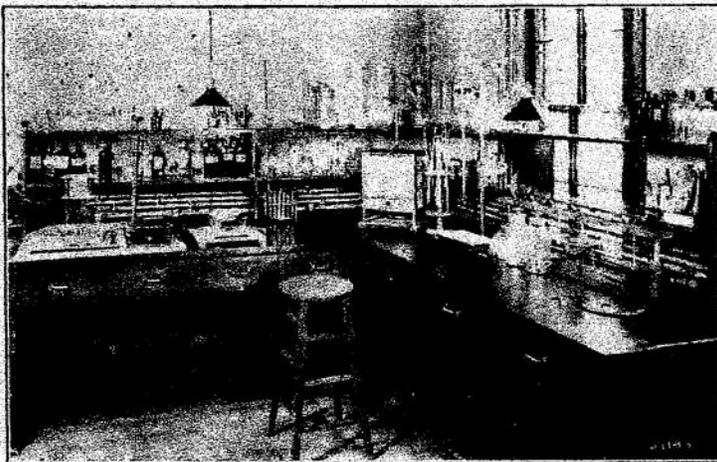
Here is shown the Bradleystat assembly line with a capacity of 5000 per 8 hour day. Five testing stations are provided to insure electrical perfection

to enter the radio business when it first blossomed. That company has been making resistance and other controller equipment for years and had built up an enviable reputation in the electrical

world. When the public demand for radio sets assumed such proportions the Allen-Bradley organization, having noted the trend, launched into the new business with a line of variable resistors, later adding fixed resistors, condensers and other small parts. Today it occupies one of the upper places in the realm of radio with a name that is as well known and favorably received by the public as any of the large manufacturers.

More Current Capacity

BATTERY elimination, it is believed spurred the Allen-Bradley Co., on to even greater effort in the making of fixed and variable resistances, for in the beginning much of the poor success of the eliminators was traceable to the fact that resistances then supplied did not stand up under service conditions. Hence there was a crying need for a *good* variable resistor that would carry enough current to supply



Allen-Bradley's chemical laboratory where much of their research work is done

Allen-Bradley - continued on Page 17

receivers using up to the capacity of the rectifying devices, generally either the Raytheon or the Rectron.

While the regular line of Bradleyohms were doing well on work for which they were designed, it became necessary to design a new resistor for greater current carrying capacity. In order to do this the resistor housing was made larger, the graphite discs doubled in number although reduced in thickness, and greater safeguards added in the way of insulating factors, such as from the frame to the active elements. On account of an eliminator being a power device it was necessary that better insulation be provided and that new standards of inspection be set up. This was done after a little research work on the problem, and today we have in radio the Bradleyohm type E which was made especially for eliminator work.

An inspection of the Allen-Bradley factory at Milwaukee recently made by the writer de-

veloped a number of interesting features in connection with the manufacture of graphite resistances. This substance was found years ago to be an excellent resistance material and the Allen-Bradley interests adopted it as their standard for resistance material. It was and is used in the makeup of their industrial controller equipment, such as motor starters, overload relays and other current controlling devices known more intimately in the electrical field.

Carbon to Graphite

DISCS making up these resistance units are originally in carbon form. They are heated in an electrical furnace to 5500 degrees, Fahrenheit, and after 72 hours ensue as graphite. The electrical furnace which the writer observed had a capacity of 60,000 of their largest controller discs to 2,500,000 of the size used in the Bradleystats.

A battery of disc making machines take the powdered carbon, form it into discs, then stack it

and tie automatically in packages ready for the electric furnace. The capacity of each machine is 45,000 discs per 8 hour day and there are a large number of them necessary to make up the rated output of the factory.

Rigid inspection tests are applied to all apparatus to insure its meeting requirements both as to accuracy of resistance and insulation factor. This results in diminishing to almost a negligible quantity the return of material due to poor assembly.

Some views of the various departments are shown in the pictures illustrating this story, the one of the chemical laboratory being interesting because not many readers know that chemistry is playing a greater part in radio than it was ever thought capable of doing. In fact the impression received after visiting the Allen-Bradley organization is that highly trained, specialized men are more in demand than ever and this company makes good use of all the data that science and research affords.



In this view are shown drill and punch presses in operation, the punch press department in the background

Photos from the May Meet

Mike Sajdowitz, Photo Editor



Our new sign for WARCI meets



Loyal Sellers Dawn and Patrick



Western Coil Radiodyne Junior WC-14



Restored Marwood Receiver



A very nice Zenith Tabletop Set



Our New Club President—Nick Tillich

News from the Neighboring Clubs

MARC

Michigan Antique Radio Club
www.michiganantiqueradio.org

Extravaganza 2015 July 9 - July 11

MARC's 2015 Extravaganza will be held in a new location, the Kalamazoo Michigan Expo Center. "We will be able to hold the entire event INSIDE the same air-conditioned space. No longer will weather, be it rain or extreme heat, be a concern. The space offers amenities such as high quality food service, multiple rest rooms, and Wi-Fi access." There are several hotels within two miles of the Expo Center and, "for the hardy", campsites on the Expo grounds. MARC has held meets at the Expo Center and has always been happy with the site. See the MARC website for details on hotels, fees, etc.

Extravaganza Schedule:

Thursday July 9:

1:00 PM Tube Collectors' Meeting
4:00 PM Pre-Registration
5:00 Open Registration
8:00 PM Program, John Reinicke
10:00 PM Doors Close

Friday July 10:

7:30 AM Flea Market Opens
9:00 AM—Noon Auction Check-In
10:00 AM Program, Ludwell Sibley
Noon—1:00 PM Auction Viewing
1:15 PM Auction (Rich Estes)
4:00-6:00 PM Contest and Exhibit Viewing
6:45 PM Doors Close

Friday Evening July 10:

7:30—9:30 PM President's Reception

Saturday July 11:

7:30 AM Flea Market Opens
10:00 AM Program, Mark Oppat
11:00 AM—1:00 PM Silent Auction
5:30 PM Doors Close

ARCI

Antique Radio Club of Illinois
www.antique-radios.org

Radiofest 2015

New Friday thru Sunday Plan and New Location for 2015

Preliminary Radiofest Schedule:

Friday July 31:

Main Auction 6:30 PM (Jim Sargent)

Saturday August 1:

All day Flea Market (starts 7:00 AM)
Educational Programs,
Old Equipment Contest,
Special Equipment Display—*The
Legendary Zenith Radio Company of
Chicago*
Banquet, with *Those Were The Days
Radio Players*

Sunday August 2:

Donation Auction
Flea Market (closes at Noon)

New Location:

Radiofest 2015 has relocated to the Quality Inn & Conference Center in Burr Ridge (One exit east on I-55 from the former location at the Willowbrook Inn & Conference Center. Radiofest remains close to both Chicago airports (20 miles from O'Hare and 15 miles from Midway). Hotel reservations for July 31 - August 2, 2015 must be made directly with the Quality Inn & Conference Center. The hotel is offering discounted rates for radio show attendees starting at \$79.00 for standard rooms, and \$89.00 for deluxe rooms. You must mention ARCI to get the discounted rate.

Fees for 2015:

Pre-Registration: \$45, On-Site Registration \$50.
Additional Spaces: \$35, Sunday Only \$30.

WARCI Radio Services

We now have a list of WARCI members who would be willing to provide repair / restoration services, advice or research for folks who contact WARCI looking for help. If you would like to be added to the list, please let me (Greg) or one of the Board members know.

Name	Email	Telephone	Service Available
Dwight Church	(none)	414-545-6972	Radio repair – electronics only.
Bill Engaas	CraftyradioBK@yahoo.com	262-786-8183	Speaker Repair.
Ralph Larsen	radioralph@hotmail.com	414-278-7981	Radio Repair.
Mike Lewis	deepheart@att.net	608-835-7193	Repair, restoration, training.
Ben Bensaid	Ben@badgerconsignment.com	262-581-5453	Repair and restoration.
Greg Hunolt	ghunolt@wi.rr.com	920-893-0422	Research, especially on 1920's radios.

Classified Ads

Badger Consignment

eBay Power-Seller

Turn your collection into profit-making treasures!

Badger Consignment is an eBay consignment dealer with 12 yrs. experience specializing in high end antique tube radios and hi-fi tube audio components (i.e. tube amps, preamps, receivers, tuners, and much more).

If you have items you would like sold or repaired/restored call WARCI member Ben Bensaid at (262)-581-5453, Ben@badgerconsignment.com or visit our website at: www.badgerconsignment.com

WANTED: by Dale Boyce, Email: radioman@wi.rr.com , 414-840-4146

1. Briggs & Stratton Corporation, Milwaukee, WI (BASCO) Radio Equipment from 1922-1937. Catalogs, Complete or incomplete crystal radios, tube type radios, radio frequency transformers, earphones, tube sockets, crystal detectors, vernier rheostats, fixed resistors, multi-plate variable condensers, fixed capacitors, literature, advertising, parts boxes, Battery Eliminators (Radio Power Units types "A", "B", "A+B"), push-button tuners, promotional items, etc. Please check your boxes of radio parts and your literature files. Also wanted: radios such as Globe Electric, Monroe McKillip and others which utilize BASCO radio parts.
2. 1920's tube type radios, amplifiers and radio parts, parts boxes, advertising, promotional items, etc. made by Allen Bradley Co., Milwaukee, WI.
3. 1920's Crystal radios, tube type radios, advertising and promotional items made by Sunlite Radio, Milwaukee, WI.
4. 1920's Julius Andrae and Sons Co (JASCO) Crystal radios, Radio Catalogs, Radio Equipment and promotional items made by ANDRAE Electric, Milwaukee, WI.
5. 1920's Horn and Cone type Radio Speakers made by Milwaukee companies including: G&G Radio Co, GEMCO, Granolite Art Products, Yahr-Lange, and others.
6. Individual and boxed sets of 1920's Brightson Blue Radio tubes distributed by Yahr-Lange, Milwaukee, WI.

Classified Ads

WANTED: Old comics. Send lists to Dan Giddings, P.O. Box 3961, Glendale CA, 91221-3961

WANTED: All things Hallicrafters! Receivers, transmitters, accessories, television sets, test equipment, signs, books, etc. Also Silver-Marshall (1933-34) and Echophone.
Stan Broome, 108 East Main Street, Sun Prairie, WI 53590, 608-520-6290.

HELP NEEDED: Would like to contact owners of 1920's battery sets, literature, and equipment made by Globe Electric Company of Milwaukee, WI, to survey existing model types and variations for development of a company history. All responses will be kept confidential. Thanks.
Glenn Trischan, P.O. Box 240022, Milwaukee, WI 53224. E-mail: gnets142@att.net.

WANTED: Any set made in Plymouth, WI, by the Plymouth Radio and Phonograph Co., and Arlington, Alkire, or other sets made by the Wells Manufacturing Co. of Fond du Lac, WI. Greg Hunolt, N5412 State Hwy 57, Plymouth, WI 53073, Email ghunolt@excel.net or 920-893-0422.

TRAINING & SERVICE: Michael Lewis -- Radio Restoration Education & Consultation

I'm available to refurbish (90 day guarantee) or fully restore (1 year guarantee) your antique radios. Estimates can usually be provided in 2-3 weeks from the time you drop off your set at my shop in rural Oregon, WI (a bit SW of Madison). The cost for an estimate is \$25, which can be applied towards a final bill if you hire me to work on your radio. Full restoration includes testing all tubes, capacitors, and resistors, with replacement as needed. Power supplies are modified to operate safely at 120 VAC. Chassis are dusted off, variable capacitors are flushed with residueless cleaner, and switches & pots are treated with contact cleaner. Moving parts are lubricated. Sets are aligned with digital RF generators, tested for proper operation, and "burned in" to reveal any intermittent problems.

I have over 30 years' experience in electronically restoring antique radios (I don't restore radio cabinets). For most of this time I've also taught others how to do radio restoration. I can be hired for 4- or 8-hr. blocks of bench time. You will have access to DMMS, digital audio and RF generators, capacitor and inductor analyzers, power supplies, and much other test equipment. I stock 1/4, 1/2, 1, 2, 5, and 10W resistors. Capacitor stock includes 75 values of mylars; micas & ceramics; electrolytics from 25 WVDC to 450 WVDC. Tubes are available to my students, as well as technical literature including Rider, Beitman, and Gernsback manuals, factory manuals, and Sams Photofacts. Whether you've never soldered before, or regularly restore radios & are stuck on a "tough dog," chances are I can help.

Michael Lewis, 6070 County Road D, Oregon, WI 53575, Phone: 608-835-7193, Email: deepheart@att.net

Remember that classified ads up to about ¼ page are free to WARCI members.

The cut-off date is August, 2015 for the September, 2015 issue). Send ads by email or letter to Greg Hunolt, WARCI News, at ghunolt@excel.net or N5412 State Hwy 57, Plymouth WI, 53073.

Site Plan for the Landmark / Terminal

Thanks to Joe Halser for hosting WARCI Meets

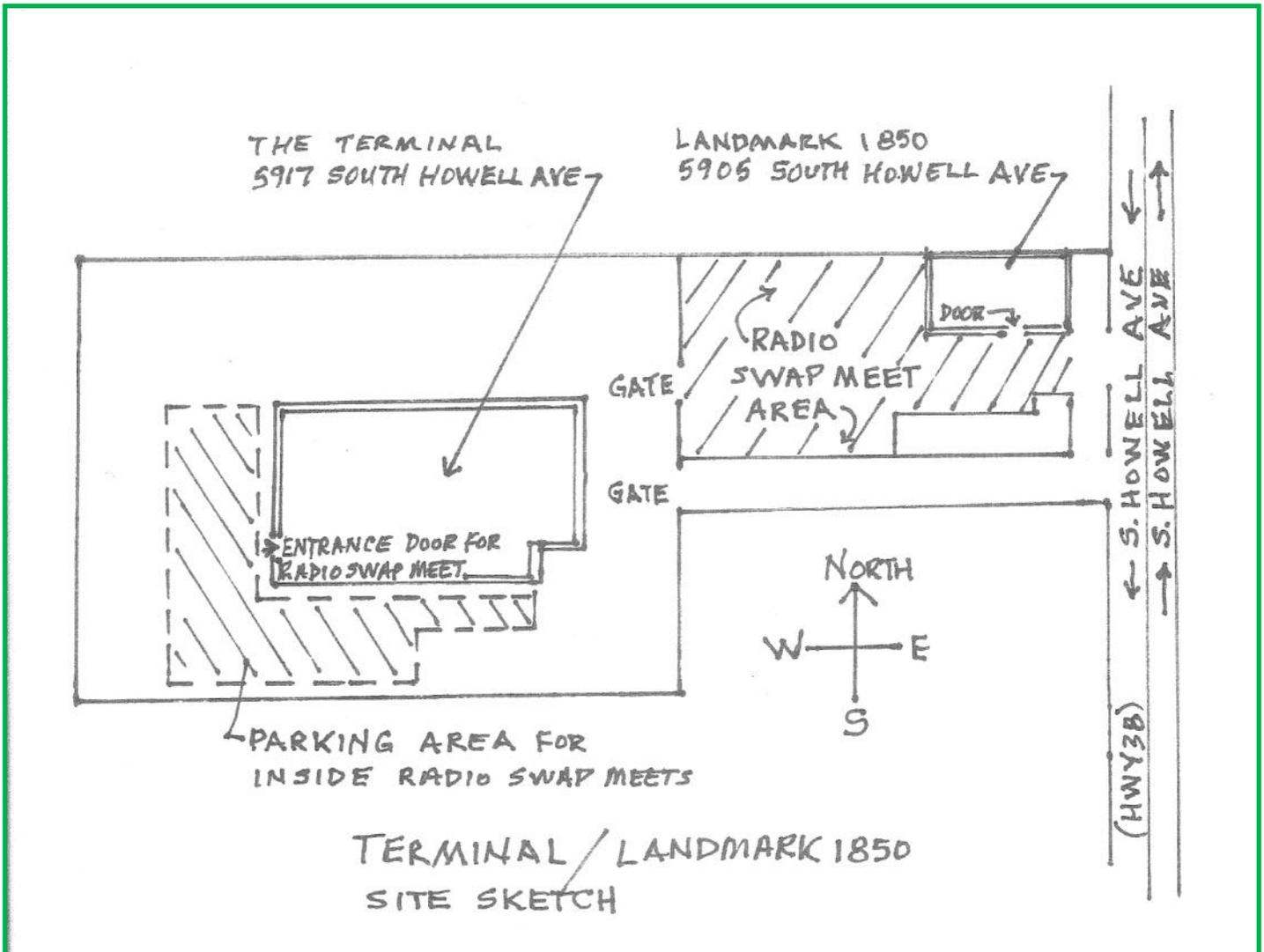
The Landmark 1850 / Terminal facility is used for WARCI's swap meets (except in January) with the kind permission of Joe Halser (and we also enjoy the delicious Pizza that Joe provides).

The Landmark area is used for outdoor meets held on good weather. The Landmark building is open for refreshments.

The Terminal area is used for indoor meets in rainy or cold weather (though some folks may set up in the Terminal parking area even if the weather is marginal).

The facility in use at a swap meet will be open at 7:00 AM. Folks may come earlier to set up for outdoor selling.

Site Plan drawing provided by Dale Boyce.



The **Wisconsin Antique Radio Club**



Will hold a swap meet
on Sunday, July 12 at the

TERMINAL

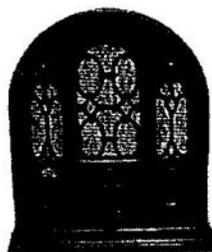
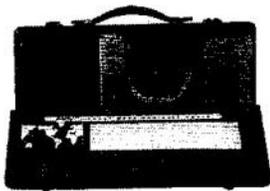
**5917 S. Howell Ave. Across from
the Milwaukee County airport**

**Indoor/Outdoor from 8:00 AM to 11:00 AM
You can set up early outdoors, but the building
will not open until 7:00 AM**



Donation Auction: Bring in your unwanted radios or other related items for auction at this meet. All proceeds will go to the club.

You will find many great old sets in the flea market



* The donation auction will start at 10:00 AM *

* There will be a 50/50 raffle at 10:30 AM *

* We will be serving Joe's famous free pizza at 11:00 AM *

Mr Radio Man

(Tell My Mammy To
Come Back Home)

Words by
IRA SCHUSTER
JOHNNY WHITE
Music by
CLIFF FRIEND



*"You can't go wrong
with any FEIST song"*



POPULAR EDITION
LEO FEIST INC. **NEW YORK**
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