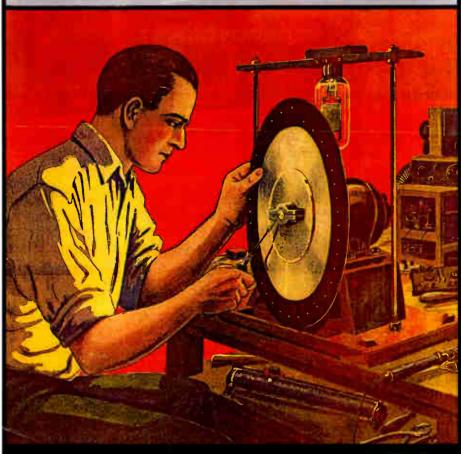
The Indiana Historical Radio Society



Volume 45

March 2016

Number 1





In this issue: A Mechanical TV Project

A Miller Circuit Diode Radio A "Darb " Holiday Radio The IHRS Spring Meet!



# The Indiana Historical Radio Society Bulletin March 2016

#### On the cover:

It is a frequent happening, at Indiana Historical Radio Society meets, that a unique example of communications equipment is placed on display. It happened at the Winter Meet when Doug Faubion set up his recently constructed Mechanical Television. Doug's display, see page 6 of this Bulletin, caused me to scrap the original cover planned for this March issue in favor of the cover picture from "Television", vol 1 issue 2, a July 1928 Gernsback publication. The cover is a great illustration of a Mechanical "Scanning Disk" television.



"Mechanical TV" article contributors; Michael Feldt and Doug Faubion.

#### In this issue:

Planning for the IHRS Spring Meet at the Shriner's Club in Kokomo is progressing well. A highlight of the weekend will be a presentation by Rusty McClure, co-author of the book "Crosley". (Details are on the facing page.)

The schedule for the Spring meet is on page 4.

Ed Dupart continues his experimentation with simple circuit solid state receivers and his "Miller" circuit, page 10.

Ever hear of a Darb Holiday All Purpose Radio? See page 16 and the back cover for an education on the Bill Morris' "Darb" display.

Are you working on a two transitor AM radio? See page 15 for a review of the Spring Meet Two Vintage Transistor AM Receiver contest guidelines. Notes on the bottom of the (page 15) may help you in getting a radio ready for the Spring Meet.

See you at the Spring Meet! Fred Prohl, Editor

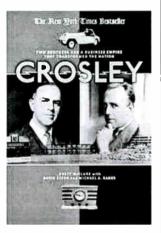
# "Crosley" A Book Signing With Rusty McClure

The Indiana Historical Radio Society is pleased to welcome Rusty McClure as a guest speaker at the 2016 IHRS Spring Meet in Kokomo. Rusty McClure is the co-author of the popular biography, <u>Crosley</u>. The book <u>Crosley</u> opens the world of Powel and Lewis Crosley, entrepreneurs and manufacturers of Crosley radios, refrigerators, and automobiles.



Rusty is the grandson of Lewis Crosley. Rusty will be speaking on Saturday morning, May 7, at the Indiana Historical Radio Society Spring Vintage Radio meet, Kokomo Shrine Club, 3892 East US35, Kokomo. He will have his book(s) available for sale as well as a book signing. (If you have previously purchased a copy of his book bring it for his signature.)

The book <u>Crosley</u> is set in the vibrant Industrial Age and filigreed with family drama and epic ambition, Crosley chronicles one of the great untold tales of the twentieth century. Born in the late 1800s into a humble world of dirt roads and telegraphs, Powel and Lewis Crosley were opposites in many ways but shared drive, talent, and an unerring knack for knowing what Americans wanted. Their pioneering inventions — from the first mass-produced economy car to the push-button radio — and breakthroughs in



broadcasting and advertising made them both wealthy and famous, as did their ownership of the Cincinnati Reds. But as their fortunes grew, so did Powel's massive ego, which demanded he own eight mansions and seven yachts at the height of the Great Depression. Rich with detailed reminiscences from surviving family members, Crosley is both a powerful saga of a heady time in American history and an intimate tale of two brilliant brothers navigating triumph and tragedy.

Bring a Crosley radio for the contest or display!



Page 1 of a 1941 4 page brochure.

Bring a Crosley radio to the 2016 Spring Meet for the contest or display!

## Old Equipment Contest Categories for 2016

# Now is the time for "Radio Restoration" in preparation for an IHRS 2016 Old Equipment Contest!

The IHRS offers vintage radio contests at each of our meets. The Winter, Summer, and Fall meet contests are judged by "Popular Vote". All individuals attending the meet select their favorite for each of the two categories of the contest.

At the Spring IHRS meet each contest category is judged by a team of IHRS members. The team determines 1st and 2nd place in each category by grading the Historical significance, Uniqueness and rarity, Quality of restoration, and Supportive and illustrative documentation of each entry. When an outstanding contest entry is presented, as determined by the judges, a "Best of Show" may be awarded.

Contest categories for each of the remaining 2016 IHRS meets are as follows:

Spring Meet, Kokomo - Judged by a team of IHRS members

category 1-Indiana Made Radio

category 2 - 1930's multiband radio

category 3 - 1920's three dial battery radio

category 4 – Horn Speaker

category 5 – Open to all radio and radio related equipment Special category – DIY Two Vintage Transistors AM radio

# Bring a Crosley radio to the Kokomo Spring Meet for the contest or for display!

#### Summer Meet, Cool Creek - Popular Vote

category 1 – 6" X 10" Tube radio (maximum radio base is 6 inches by 10 inches)

category 2 - Open to all radio and radio related equipment

#### Fall Meet, Greenfield-Popular Vote

category 1 – Novelty Radio, tube or transistor

category 2 - Open to all radio and radio related equipment

# The Indiana Historical Radio Society, the Antique Wireless Association and the Hoosier Antique Phonograph Society invite you to a Spring Meet Friday, May 6 & Saturday May 7, 2016 Meet at the Kokomo Shrine Club, Kokomo, Indiana

Our 45th Annual Spring Meet!

#### KOKOMO SHRINE CLUB, 3892 East US 35, Kokomo, Indiana.

The Kokomo Shrine Club is approximately 1.5 miles East of the new US31 Kokomo bypass on US35. (SR22 East of SR931, old US 31) There is space for indoor and outdoor Swap N Sell setup.

The indoor space is on ground level with easy access.

Registration fees: Admission to the Vintage Radio Meet is free.

Swap table rental: IHRS members - \$10.00 for each table; non-IHRS members - \$15.00 for each table. Tables are rectangular.

#### Friday schedule:

3:00pm Auction setup, Swap N Sell setup

4:00pm Spring Meet begins

5:30pm Sandwich and drink

6:00pm Technical presentation,

Ed Dupart, "Working With A Hot Chassis"

6:45pm Voice of America video

7:00pm Doors close for the evening

#### Saturday schedule:

7:00am Doors open for general setup

8:00am Meet officially begins

8:00am to 9am contest setup

9:30am Contest judging begins

# 10:30am Crosley! Rusty McClure Presentation

12:00 noon Lunch from the grill,

donations to cover costs accepted.

1:00pm Donation Auction - Consignment Auction follows.

Our 45th Annual Spring Meet!

Old Equipment Contest - The contest is open to all Indiana Historical Radio Society and Antique Wireless Association members. Non-member entries will be for display only. The entries are judged for historical significance, documentation, and condition of radio.

Contest Categories: Contest judged by a team of IHRS members.

## Bring a Crosley radio for the contest or display!

category 1-Indiana Made Radio

category 2 – 1930's multiband radio

category 3 - 1920's three dial battery radio

category 4 - Horn Speaker

category 5 – Open to all radio and radio related equipment Special category – DIY AM Radio using 2 Vintage Transistors

Operating radios will be judged in the appropriate contest category.

On Display – Want to show off a radio set or unique electrical device, generate a discussion? Space will be available to display your "electrons at work" equipment.

The IHRS welcomes the Hoosier Antique Phonograph Society to our Spring Meet. They will set up with us in the Swap N Sell area. Have a vintage phonograph to show off?

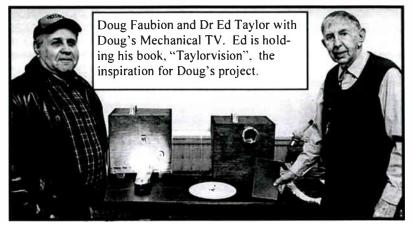
Bring it for display.

Meet contacts: Dave Mantor, 765-618-8342—Don Yost 765-945-7014 Check indianahistoricalradio.org for updated information. Convenient Motel—Comfort Inn, 522 East Essex Drive, Kokomo (765) 452-5050 The Comfort Inn is a couple blocks north of SR22 on SR931.



Bring a Crosley radio for the contest or display!

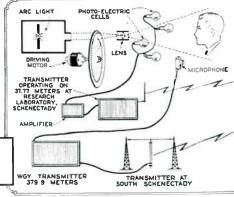
#### Mechanical Television—A Doug Faubion Winter Meet Demonstration

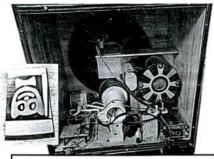


I first became aware of mechanical television after looking at vintage radios and television sets which I found on the internet. In the Spring of 2015, I met Dr. Edmund Tayler at a IHRS swap meet in Kokomo, Indiana, and purchased his book Taylorvision. Taylorvision inspired me to take on the challenge of building my own mechanical television transmitter and receiver. Construction started soon after I read the book and I took on the logistical task of gathering up all of the parts necessary including the motors, lens, belts, pulleys, and various electronic components, to accomplish my project. During the course of construction, I invested about \$350, a lot of time doing my own R&D, and I constantly consulted

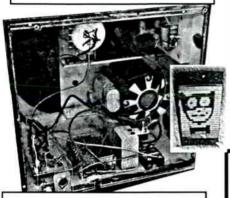
> Scanning Disk basics "Television" Gernsback, July 1928

Dr. Taylor's book during every stage of construction. Some of the challenges that faced me were with the motor, optics, and the signal amplification. I solved a motor synchronization problem by using hysteresis-synchronous motors. I could not find a 1200 rpm motor so I used a 600 rpm motor, along with pulley's and belts, in order to get the rotary disk to spin at 1200 rpm which seams to be the standard speed for the 32 hole Nipkow rotary disk. The optics challenge was



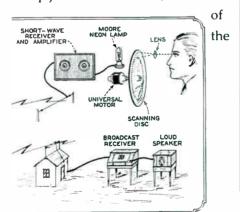


Scanning Disk Transmitter



Scanning Disk Receiver

solved by salvaging three lenses out of a rear projection TV and for the optical pickup; I used a photodiode which I purchased from Radio Shack. Many of the parts that I used, such as motors, step up jack shaft and belts, and some



IC's, I acquired from E-bay. The rotary disc is made out of 1/8 inch plastic that's been laser cut. I chose to use square holes instead of round holes in order to allow maximum light to get through. I don't see how the people in the mid 1920's did this without the use of an oscilloscope and good volt ohm meter. Looking back, now, I feel that this was a very challenging but rewarding project which I undertook and I'll still be making improvements on it as time goes by.

#### **TAYLORVISION**

A review by George Clemans, IHRS Bulletin, March 1985

For most of us mechanical television is a fascinating area of radio history that is largely a closed door. This is so because the original equipment is almost impossible to find today and early articles about it in Radio Craft and similar publications are rather badly written and short on detail. IHRS member Ed Taylor has now solved both problems at once. First, he has used modern solid-state circuitry to create a hybrid mechanical tv system, and second, he has written a clear and profusely written monograph entitled "Taylorvision" explaining the principles of the scanning disk method. All interested in early radio will find this volume of great interest.

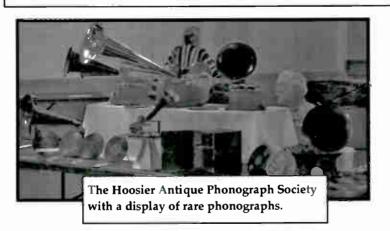
Edmund E. Taylor - Taylorvision: A Mechanically Scanned Solid State Television System – 1984 TEL Press

#### IHRS 2016 Winter Meet, Lawrence Park





Dave Leach with a display of Clough-Brengle test equipment. Check the March 2013 issue of the IHRS Bulletin for details of Dave's extensive collection of Clough-Brengle. Additional information can be found at Dave's web site—thermionicemissions.neocities.org



# - 2016 Regional Vintage Radio -

#### Indiana Historical Radio Society (IHRS)

May 6 & 7—Spring Meet, Kokomo Shrine Club August 13—Smmer Meet, Cool Creek Park, Carmel October 1—Fall Foliage Meet Greenfield Riley Park indianahistoricalradio.org

#### Mid-South Antique Radio Club (MSARC)

April 30, 9-1, Strathmoor Presbyterian, 2201 Hawthore Ave., Louisville Meet information contact: <a href="mailto:layvinrad@twc.com">layvinrad@twc.com</a>

#### Antique Radio Club of Illinois (ARCI)

www.antique-radios.org

April 24, American Legion Hall, Carol Stream

#### Michigan Antique Radio Club (MARC)

www.michiganantiqueradio.org

July 7-9, Kalamazoo Expo Center, Kalamazoo

#### Cincinnati Antique Radio Society (CARS)

Info. at oltubes@roadrunner.com or Bob Sands 513-858-1755

#### Dayton Antique Radio Club (SPARK)

Contact - Ed App 937-865-0982

#### Central Ohio Antique Radio Association (COARA)

Info. at http://coara.org for event schedule.

#### Pittsburg Antique Radio Society (PARS)

April 17th - Tri-State Radio Fest, Center Stage Banquet Hall 1195 Old Broadhead Rd., Monica, PA pittantiqueradios.org

AWA-Antique Wireless Association www.antiquewireless.org

# Renew your membership for 2016 now!

If the date on your mailing envelope for this issue of the Indiana Historical Radio Society Bulletin is 12/15 or earlier, it is time to renew your membership. Send your check payable to the *Indiana Historical Radio Society* in the amount of \$15.00 per year. Send your payment to:

Don Yost, IHRS, 3814 E 400 N, Windfall, IN 46076.

Include your current mailing address, if not on your check, and your email address, if you have one. Membership questions? Contact Don at dirsir@netscape.com or call him at (765) 945-7014.

## Don't Throw Those Coils Out! By Edward Dupart

Times are a changing! Thirty years ago floor model radios were in demand and many brought high prices. As the collector's house became full, the demand for these large beautiful radios began to fall off and it seems the only people that really want them is someone who wants a period piece to go with the décor of their house.

Probably most radio collectors have one or two floor model radios in their collection, but so many of these radios, because of their size went into storage and many times the storage place was not very good and the cabinets disintegrated. So what is happening to these radios? The ones with bad cabinets are headed to the landfill; some with decent cabinets are being made into a bookcase, curio cabinets, liqueur cabinets and other innovative uses. which has been going on for decades. But what happens to the chassis? Again, many are being recycled because of all the metal and some of us are saving the parts.

What parts should we save? Obviously, the tubes and then I think the power transformers and if the variable capacitor is excellent, probably those, and maybe the tube sockets, but what about the coils? For those of us that like to tinker

with simple crystal, tube and transistor radios that uses a minimum of parts the tuning coils can be a real asset. Recently I was given a 1929 Majestic (Grigsby-Grunow) 70 -B and what I did was save the ballast and recycled the power supply, then I cut all the wiring out of the radio chassis. Then I saw those 3 beautiful copper colored cans covering the coils. I removed the cans and underneath were three very clean coils wound with nice shiny clean copper wire. The thought that went through my mind was what could I do with these coils? For now the copper colored cans became excellent parts and hardware containers and I saved all the screws, washers and nuts. Have you bought any hardware recently? They're pricey, but these were free. The variable capacitor's pot metal went to pot so it got junked, but the neutralizing capacitors were excellent, so I saved them. Some of the wire was good and so I saved it too and that's pretty much what I saved out of the Majestic and the rest went to scrap metal.

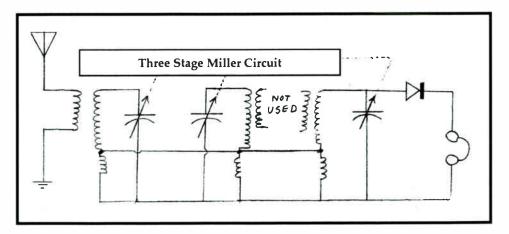
What about those coils? Bandpass circuits have always fascinated me and a crystal radio I would like to have is a Miller crystal radio of the early 1950's that use the bandpass circuit. I don't have the Miller radio, but someday I'll find one, but last year I built a similar circuit for the crystal radio contest and it performed quite well, even better than the Heathit CR-1 that I consider one of the supreme crystal radios ever made. The Miller radio and the one I made used only two coils, but now I have three coils to try out and so I set out to build a bandpass radio with three coils.

For those of you who have forgotten what a bandpass circuit is; it is a circuit that will pass only a certain set of frequencies and reject all others. A radio is a variable bandpass circuit where a certain frequency/station is selected with a typical bandwidth of 20Khz and all others are eliminated and if it did not do that we would hear multiple stations at one time. The problem with simple one tuning circuit crystal radios is that the bandwidth is

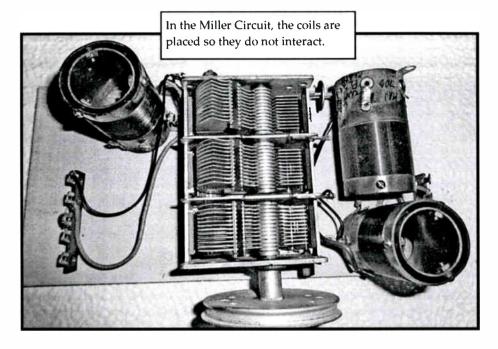
rather wide and a strong station may be heard for many kHz drowning out nearby stations. Whereas, adding tuning circuits in a bandpass circuit narrows the bandpass so that the radio can filter out unwanted adjacent stations.

The bandpass circuit has a major pro and a major con to it. The pro is that it increases selectivity and selectivity is an issue with crystal radios, but the disadvantage is that gain is lost with each tuned circuit and that is a problem with crystal sets that don't have amplification. To counter the gain problem a good antenna and ground system is essential.

Now to actually build my three coils bandpass crystal radio. Rummaging through my junk boxes I came up with a three gang variable capacitor from an old short-wave radio and so I cleaned it up and got rid of some surface rust and lubri-



#### Keep Those Coils—continued



cated it. I like to use WD-40 on the bearings and moving contact surfaces to clean out the decades old grease and oil that had dried up. If needed, I will use an air compressor to blow out the dust and dirt that can accumulate between the plates of the capacitor. Pieces of paper can be inserted between the plates to clean out stubborn dust. After the variable capacitor is cleaned I will use light oil to lubricate the bearings and moving contact surfaces. The coils have been sealed since 1929 and were absolutely perfect and didn't need any cleaning. Mounting the parts was easy since I used a 1/8" thick basswood board I got from Hobby Lobby and being

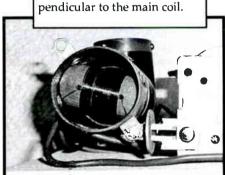
basswood it was easy to drill. Being a simple radio all I had to mount were the three coils, the variable capacitor and a terminal strip, so it didn't take long to mount everything.

Mounting the parts was easy, but laying out how the coils are oriented and mounted is a different manner. In a bandpass circuit you don't want the coils to be inductively coupled, but rather you want them to be independent from each other, hence the metal cans like this Majestic used to keep the coils isolated from neighboring magnetic fields. For my simple radio I mounted two of the coils at 90 degrees to each other and the third

coil is on the other side of the variable capacitor so in this case I am using distance to minimize inductive coupling. There are a number of radios that I have seen and you probably have seen too that have coils mounted at 90 degrees to each other and this is cheaper than placing them in metal cans and that is the method I used.

Bandpass circuits can use ca-

The inside coil is position per-



pacitive coupling or coils/chokes that are not inductively coupled to transfer electrical energy from one tuned circuit to the other to control the bandwidth of the circuit. The Majestic coils have built in small coils. What do I mean by built in coils? When I first examined the coils I noticed a small coil at the bottom of the main coil, but inside it and mounted 90 degrees to the main coil. I instinctively knew that it was used for neutralization of the RF stages that used triode type 26 tubes. I looked up the schematic for

the Majestic 70-B and the small coil was in series with the main winding with the variable capacitor in parallel with both coils. Some plate RF energy was fed back to the junction of the two coils through the neutralization capacitor, which of coarse was used for neutralization. Remember that the two coils are mounted 90 degrees to each other and would almost be the same as if the small coil were mounted externally from the main coil. I took advantage of this and connected all three coils together and it worked quite well. If you look in the schematic you will see a small coil wound in the opposite direction at the bottom of the main tuning coil and you will see a wire at the junction of the two coils that joins all three coils together. This is how electrical energy is transferred to all three coils. The plate coil was used for the antenna ground input and the plate winding on the other two coils were left idle.

How well did it work? First my reception where I live in Michigan is horrible. I'm on a lake and down in a hole. In Indiana where I used to live I was in the third highest spot in the state. My reception was amazing and with a crystal radio I could pick up stations for several hundred miles around and the local New Castle station would drive a speaker and sometimes Nashville would too. Up here it is a different

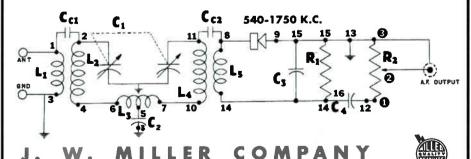
#### Keep Those Coils - continued

story where my best reception is at night. I have a 75' antenna and a good ground and with that I can pickup Chicago, Nashville, Cincinnati, Iowa and Louisville and the local station, Sturgis, which can drive a speaker. It works better than my Heathkit CR-1 does.

For now it will remain as a breadboard with out a cabinet so I can tinker with it easily. The two unused plate windings deserve more experimenting with and I have used them as antenna ground inputs for shorter antennas and that worked out quite well. Ed Dupart March 12, 2016

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J. W. Miller Tuner Kit, model 565, circa 1950.
Information and J. W. Miller literature about
Miller models 565, 570, and 585 can be located at
"John's Radio Pages" - fmamradios.com
Pictured here is the model 565 schematic.



5917 So. Main St., Los Angeles 3, California

#### Plan Now! — Start Now!

Build a 'Vintage' Two Transistor AM Radio for entry in the IHRS Spring Meet Vintage Radio Contest, Kokomo 2016.

A prize will be awarded to first and second place winners!

Guidelines for a Do It Yourself 'Vintage' Two Transistor AM Radio: ~ The contest is open to members of the Indiana Historical Radio Society. ~ The two transistor radio is constructed by the contestant. ~ Enter as many two transistor radios as you like! (Members with multiple entries will be eligible for one prize only.) ~ Contestant can choose and build from a published circuit or from a circuit of own design. ~ The transistors should be of the type manufactured in the 1950's and early 1960's. (See the list of popular pre 1960 transistors listed to the right.) ~ The associated radio parts should be consistent with vintage parts manufactured in the 1960's and earlier. ~ A detector diode may be used in addition to the transistors.

The DIY Two Transistor AM Radio will be judged as follows: - Overall presentation of the Radio. ~ Adherence of construction to the above guidelines and schematic. ~ Construction techniques. ~ Supporting documentation. ~ Does it work.

For radios not using a dynamic speaker, an IHRS amplifier with speaker will be provided to assist the judges.

*Note 1* New electrolytic capacitors can be used in your 2 transistor receiver.

Note 2 Having trouble finding vintage transistors? Use what you have on hand and have fun building! Bring your 2 transistor radio to the IHRS Spring Meet.

#### Early transistors Pre 1960

RCA 2N109 2N140 2N139 2N404

SYLVANIA 2N34

2N35 2N112 2N229

GE 2N107 2N169 2N170 2N43 2N44

2N188

TUNGSOL 2N63 2N64

2N65

WESTERN ELECTRIC

4B 4C 4D

RAYTHEON CK718

CK721 CK722

The Museum Store on the internet is good place to find vintage transistors for sale, as well as EBAY.

# Darb Holiday All-Purpose Radio - a Bill Morris Contest Entry



On the back cover of this issue of the Bulletin is a display of **Darb Holiday All-Purpose Radio**; a Bill Morris IHRS Winter Meet contest entry.

The <u>Darb</u> radio was manufactured by the S. C. Ryan Company, Minneapolis, Minnesota in the mid 1950's. (*Darb: A slang word from the 1920's meaning "something or someone very handsome, valuable, attractive, or otherwise excellent." As defined by the California Institute of Technology)* 

The Bud Box constructed battery radio was advertised for portable use on your bicycle, boat, tractor, the golf course or in the home. As shown on the back cover, the radio was offered in green, red, blue, and chrome plated. Tuning

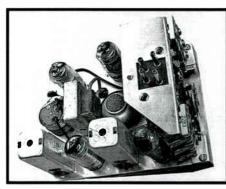
of the four tube receiver was accomplished by adjusting recessed tuning screws to your favorite three local AM stations. A three position toggle switch on the face of the radio allows the listener to easily switch from one preselected station to the next.

The four tube receiver uses a 1R5 converter, 1U4 IF amp, 1U5 detector/amp, and a 3V4 output tube. The battery box mates with



the receiver with four snap straps. Batteries required are four 1.5 volt D cells and a 67.5 volts cell. A headphone jack was available for private listening and an antenna adaptor to replace the telescope antenna with a long wire antenna.

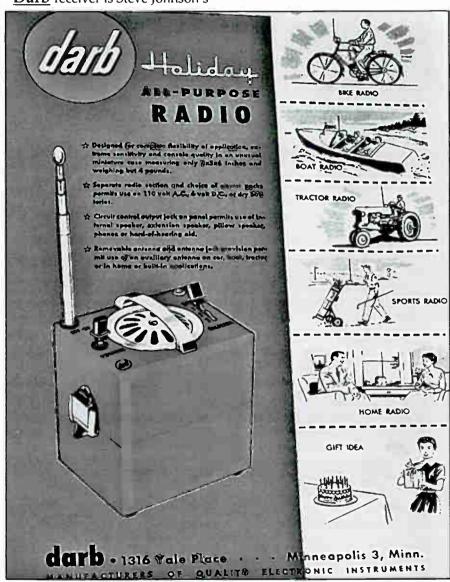
An AC operated supply was available for battery free operation. Like the battery box the AC supply strapped to the receiver.



Bill has posted on YouTube a series of four, plus one, short videos on the **Darb Holiday All- Purpose Radio.** In the videos he demonstrates the various parts and functions of the radio. Another source of information on the **Darb** receiver is Steve Johnson's

"Steve's Antique Technology" website www.StevenJohnson.com

If you have a collection of 1950's Radio Electronics magazine look for the February 1956 issue with a cover picture of the **Darb** Bicycle Radio.





Ad as posted at stevenjohnson.com

#### RADIO HOLIDAY

The Darb Holiday all-purpose radio is a 4-tube portable that uses separate power packs for line operation, 6 volts de or dry batteries. Set plugs into the desired power pack or can be mounted remotely, as in the bicycle installation shown here. Pushbuttons permit tuning in one of three stations. There is no variable tuning.

## **EMAIL?**

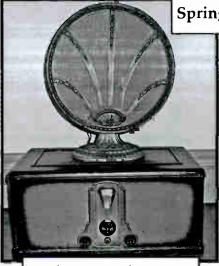
Is your email address current on the IHRS contact list? Periodically the Society officers communicate with IHRS members by way of email-meeting notices and area vintage radio sales are the most frequent messages.

A recent member email notice was an IHRS Winter Meet reminder.

For member privacy emails from IHRS are sent as a blind copy. Your address should be the only address you see on the email.

If you have recently changed your email address or would like to add your email to the IHRS contact list, send it to inhistradio@gmail.com

## Spring Meet Popular Vote Contest



Popular Vote 1st place Stewart Warner Entered by Michael Feldt



An Emerson portable, entered by Ed Dupart

# Complete Television Kits Assembled in 15 minutes

Consisting of

48 Aperture Bakelite Scanning Disc

Special Motor

Motor Speed Control

**Bushing Chuck** 

Magnifying Lens

Bakelite Frame

Bakelite Picture Frame Shield

Bakelite subpanel with socket for Television Tube Light socket extension cord and plug

Light socket extension cord and plug

Complete assembly, Brackets, Pillars, screws, etc. Blueprint Assembling Chart

Above items also supplied separately Write for prices

If your dealer cannot supply you, remit cost to manufacturer

Jobbers and Dealers
Write for Attractive Proposition

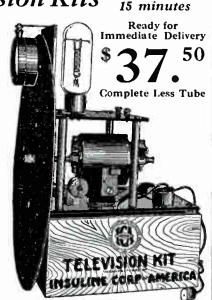
Manufactured by

# INSULINE CORP.

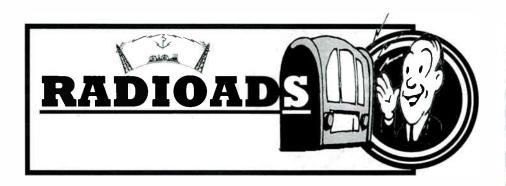
RADIO TELEVISIO

Standard Products Since 1921

78-80 Cortlandt St., New York City, N. Y.



Television, Gernsback, Vol 1 No 2, July 1928 page 32



Submit your "FREE TO CURRENT MEMBER" RadioAd by the 15th of February, May, August, or November in time for the Bulletin issue that follows.

**Wanted:** I'm looking for any information, history details, advertisements, parts, complete or partial units, photographs and/or manuals on the BC-610i military transmitter used by the United Forces in WWII. Please contact me at <a href="mailto:dmj.mantor@gmail.com">dmj.mantor@gmail.com</a> or 765-618-8342 (before 7 p,m.). Many thanks, Dave Mantor 03/16

For Sale: REPRODUCTION RADIO BATTERIES: I've developed replica battery solutions for most tube and transistor radios--batteries that have not been available for nearly thirty years. They look, they feel and they work--just like the originals! Plus, they are a reusable resource. Inside are holders for AA, C, D and 9-volt batteries. When the batteries wear out, simply remove them and install new ones. Contact Bill Morris at <a href="mailto:batterymaker@gmail.com">batterymaker@gmail.com</a> or at 317-895-1334. 03/16

#### We Remember:

Indiana Historical Radio Society member Ramona Fitch passed away peacefully on January 8, 2016 at her home in Carthage, Indiana. She was born July 17, 1937 in Kingsford, Michigan. Ramona's husband Glenn and son Geoffrey are also members of the IHRS.

IHRS member Bill Ross, born on May 26, 1930, passed away in his Kenilworth, Illinois home on February 29, 2016. Bill, was an active ham, W9WR, and also an active member of the Antique Radio Club of Illinois. The Indiana Historical Radio Society September 2012 Bulletin cover pictures a display of Bill's collection of vintage radio tube boxes.



#### 2016 Officers

#### Responsibilities

David Mantor President

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The INDIANA HISTORICAL RADIO SOCIETY is a non-profit organization founded in 1971. Annual membership dues of \$15.00 includes the quarterly IHRS "BULLETIN." Radio-Ads are free to all members. Please include an S.A.S.E. when requesting information. Send applications for membership and renewals to Don Yost, our treasurer as noted above.

#### The BULLETIN

A publication of the Indiana Historical Radio Society Forty-five years of documenting early radio.



Bill Morris entered his collecton of Darb AM portable radios in the IHRS Winter Meet Popular Vote contest. Details on the Darb receiver begin on page 18 of this Bulletin.