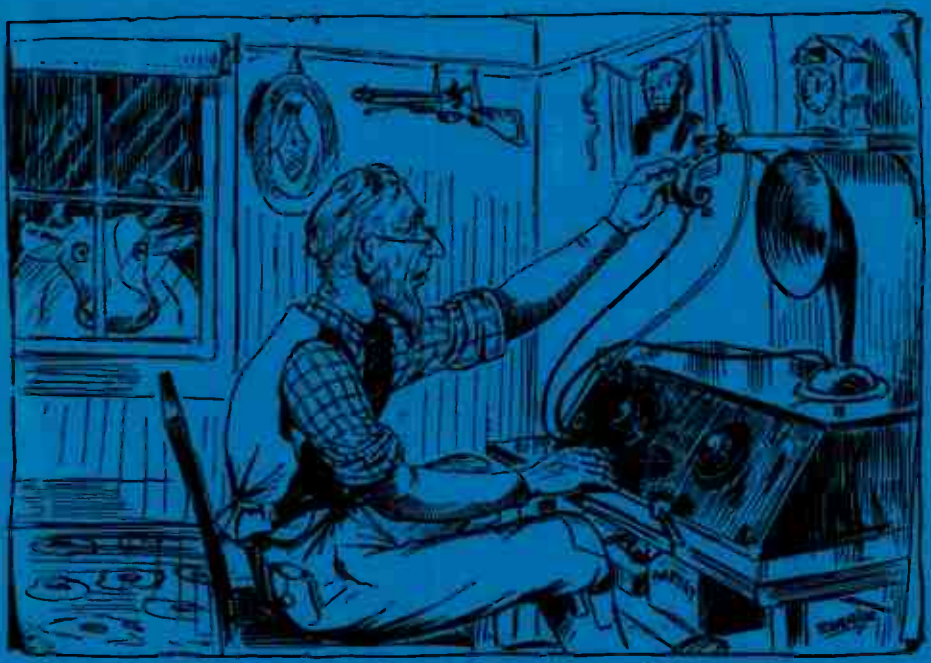
# Indiana Historical Radio Society

# Bulletin

Vol. 12 March 1983 No. 1



*"Do you know what I did, young fellow? Well, I connected that ground clamp to the set all right, but do you know where I put the clamp? Right on the mantel shelf in the parlor! No wonder we couldn't hear anything with no ground on the set."*


OFFICERS

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FOR SOCIETY INFORMATION WRITE TO:

Vice President - For legal matters of the I H R S.

Secretary - For general correspondence and membership applications.

Treasurer - For membership payments and address changes. (1982 I H R S membership dues remain $6.00.)

Historian - For history of the I H R S and for donations of material for the Society Scrapbook.

Please use a Self Addressed Stamped Envelope when requesting information.

INDIANA HISTORICAL RADIO SOCIETY and ANTIQUE WIRELESS ASSOCIATION

REGIONAL SPRING MEET, SATURDAY APRIL 16, 1983 at AUBURN INDIANA

AT THE AUBURN-CORD-DUSENBERG MUSEUM

FRIDAY, APRIL 15: 5:00 PM- Early Registeration at the Museum
7:00 PM-" Old Tyme Movie " and AWA show on Radio Tubes, Museum Mezzanine Room.

SATURDAY, APRIL 16: Registeration at the Museum
9:00 AM SWAP MEET in the NORTH PARKING LOT.
9:30 AM Register items for the OLD EQUIPMENT CONTEST, Jerry Hueber, Chairman

OLD EQUIPMENT CONTEST CLASSIFICATIONS:
1. Crystal Sets
2. Regenerative Receivers
3. TRF Receivers
4. Superhetrodyne Battery Receivers
5. All other Receivers
6. Horn Speaker Contest, best sounding speaker by popular vote. Conducted by Nelson Preble.

10:00 AM: SALE OF DONATED ITEMS for the IHRS Museum fund. You are invited to bring surplus parts and sets for a good cause.

10:00 AM: Register items for the afternoon auction. All items must be registered by 12:00 Noon.

10:30 AM: CONTEST JUDGING

12:00 Noon- Lunch at the Museum "Filling Station".

1:00 PM: AUCTION OF PERSONAL ITEMS. A 10% donation to the Museum fund is expected.

3:45 PM: " The Radiola Story" from the 1980 AWA Radio Conference. A dual slide show comparing the early Westinghouse, GE, and Wireless Specialty Radiola Sets,, by Ross Smith.

6:00 PM: Social Hour in the Museum Mezzanine Banquet Room.

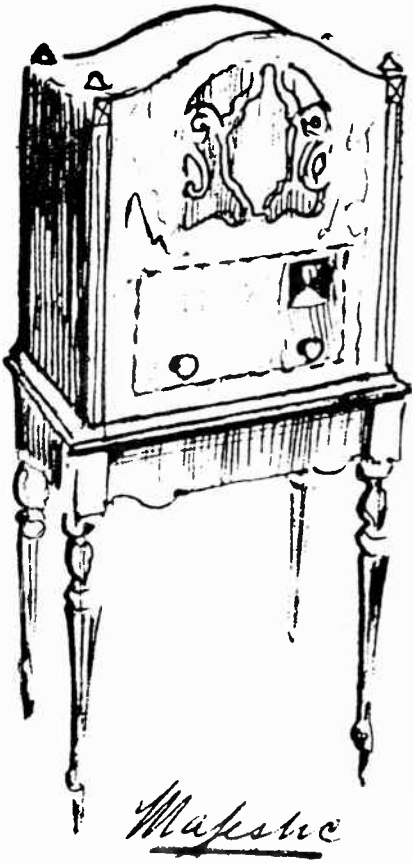
7:00 PM: BANQUET andOLD EQUIPMENT CONTEST AWARDS. "BEST OF SHOW" will receive the Grebe Trophy,
Entertainment by BOB SIEVERS of WOWO fame.

PRE-REGISTERATION for the Banquet must be received before April 14 1983. Banquet tickets are $11.00 each. Make checks payable to I. H. R. S. and mail to Ross Smith, 1133 Strong Ave,, Elkhart, IN 46514. Make your own Motel reservations at the L & K Motel 800-848-5767 or at the STARLITE Motel 219-925-0500, both on SR 8W, Auburn, IN 46706.

REGISTERATION FEE is $3.00 each at the door (includes Museum adm. )

ALL AWA, IHRS MEMBERS, FRIENDS AND VISITORS ARE WELCOME

Jerry Hueber & Del Barrett, Co-Chairmen
Geo. and Edna Clemens, Arrangements Comm.




Model 50

# *Radio of the year 1930!*

# MAJESTIC "MODELS 50," "51" AND "52" SUPERHETERODYNE RECEIVER

The "Model 50" chassis is used in the "Model 52" Majestic superheterodyne; removing the legs from the small cabinet, thus making a radio set of the mantel type, results in the "Model 51" receiver. This circuit is one of the latest developments of the Grigsby-Grunow Company, Chicago, Ill.

Referring to the diagram, the following parts values will apply: (C1, C2, C3, ganged variable condensers); (C5, C6, C8, C9, C10, C11, C12, C13, are built into the receiver assembly as circuit-aligning units); C4, C7, C17, C18, .001-mf.; C14, C15, C21, C22, C23, C28, 0.15-mf.; C16, C19, C24, 1.0 mf.; C20, .04-mf.; C25, 3 mf., C26, 2 mf.; C27, .09-mf.

The resistors have the following ohmic values: R1, 10,000; R2, 100,000; R3, 12,500; R4, 500; R5, 35,000; R6, 25,000; R7, 800; R8, 60; R9, 2,680; R10, 4,170; R11, 4,030; R12, 645; R13, 116.

Filter choke Ch1 has a resistance of 330 ohms; the field coil is filter choke Ch2, 1,000 ohms. A 3.2-volt pilot light is used at V9. The volume control is a double unit; the ganged resistors R1, R12.

Lack of plate voltage on the second detector may be reported in some instances; probably due to an open resistor (R6).

Condenser C8 is the antenna compensator.

Operating current values are as follows: Filament potentials, V1, V2, V3, V4, V5, V6, V7, 2.35 volts; V8, 4.8 volts. Plate potentials, V1, V2, 180 volts; V3, 256 volts; V4, 225 volts; V5, 90 volts; V6, V7, 250 volts; V8, 358 volts. Plate currents, V1, V5, 3 ma.; V2, 0.8-ma.; V3, 4 ma.; V4, 0.5-ma.; V6, V7, 25 ma.; V8, 40 ma. Control-grid potentials, V1, V3, 3 volts; V2, 8 volts; V4, 20 volts; V6, V7, 37.5 volts (on analyzer, the grids may read about 1.75 volts; to get true reading, measure from filaments to ground). Screen-grid potentials, V1, V2, V3, 90 volts. (Cathode potentials, same as control-grids.)

Following are the correct (manufacturer's) code numbers for the Majestic tubes recommended for the receiver: V1, V2, V3, "G-24;" V4, "G-27;" V6, V7, "G-45;" V8, "G-80." V5 is a "427" de Forest tube.

Where the line potential exceeds 118 volts, it will be necessary to use a line-voltage regulator; there is available a special unit which is recommended in such instances. It is designed with three outlets marked "110," "120," and "130" volts, rating the corresponding inputs.

It is extremely important that an accurately-calibratrd oscillator be used to supply the 175-kc. frequency required for aligning the receiver; and that the procedure be followed accurately.

To align the intermediate-frequency oscillator, connect the output of the I.F. oscillator to the grid of first detector V2. Tune the oscillator to a frequency of 175 kc., and align the plate circuit of V2, the grid and plate circuits of V3, and the grid circuit of V4 for maximum deflection of a milliammeter or thermogalvanometer connected (in place of the dynamic reproducer's voice-coil) across the output secondary terminals of the output transformer T2. This alignment should be done with great caution, inasmuch as it materially affects the entire selectivity of the receiver.

If the I.F. circuits are so far out of alignment that no signal can be heard, it may be necessary to put the oscillator output (which should be adjustable) on the grid of V3 and roughly align the second half of the I.F. stage, first; then proceed with the remainder of the steps indicated above. The four aligning condensers are located on the rear of the chassis about midway down the right-hand side; from left to right (facing the receiver from the rear) their order is; C10, C11, C12, C13.

The procedure to follow in aligning the R.F. circuits is given below. The locations of the small circuit-aligning condensers are as follows; C5 (aligning condenser balancing the minimum capacity of the oscillator tuning condenser C3 to the minimum capacities of the hand-selector tuning condensers C1, C2-C9), is accessible from the bottom side of the chassis, and is located next to the end of the gang condenser on which the cable drive is mounted; C6 ("tracking" condenser, shaping the tuning graph of the oscillator to accurately match that of the hand-selector), is accessible from the rear side of the chassis through a hole in the R.F. base assembly, and just to the right of the power transformer; C8, the first antenna alignment condenser, is accessible from the back of the chassis, just slightly upward and to the right of the antenna and ground binding posts; C9, the second antenna or band-selector alignment condenser, is accessible from the bottom of the chassis and is located through the center hole of the chassis base.

Tune in a station at approximately 1,280 kc. and align the oscillator and antenna or band-selector condensers C5, C8, C9. Next, tune in a 600-kc. signal and adjust the tracking condenser C6, while slightly rocking the tuning condenser knob from side to side, until maximum signal strength is obtained, (as indicated on the output meter). The third step is to set the main tuning dial to exactly 1,500 kc. and tune in, by means of the oscillator aligning condenser C5, a 1,500-kc. signal. It now will be necessary to readjust condensers C8 and C9. At this point, the dial reading should be checked by tuning in a broadcast station with a known frequency higher than 1,000 kc.; and then the dial strip is to be slipped to the correct setting with respect to the index of the dial escutcheon. As a final check, test the receiver for sensitivity and selectivity; and, if necessary, repeat the operation until satisfactory results are obtained.

Note that in some cases maximum output may appear to fall at either the maximum or the minimum capacity setting of the oscillator tracking condenser C6. A simple check to determine whether this is actually the maximum output is as follows: after obtaining the best setting of C6, try a slight readjustment of C9. If this readjustment results in nothing more than slight improvement, the adjustment of C6 is satisfactory.

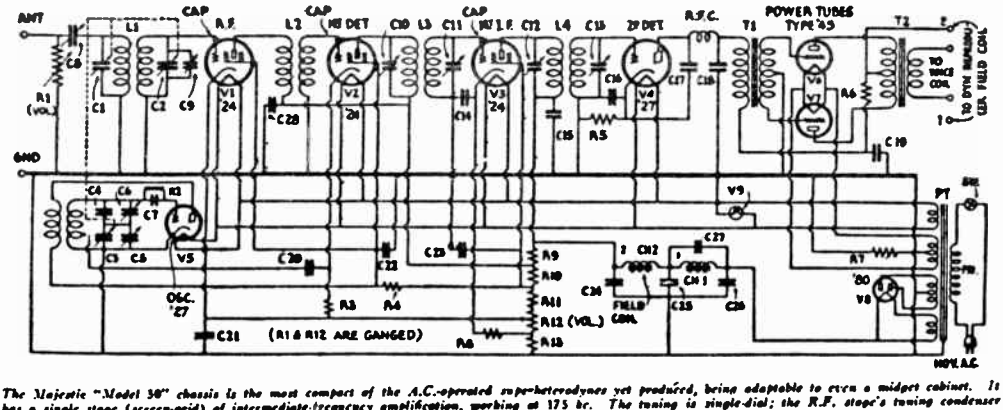
Resistor R6 is located at the right of the connecting terminals, inside the can above the power transformer; it is below and between the sockets of the power tubes.

Resistor R1 varies the signal input to the R.F. amplifier tube V1. The other half of the volume control (R12) controls the biasing voltage on the R.F. amplifier V1 and the first detector, V2.

Condenser C8 is adjustable through a hole in the rear of the chassis. When the installation of the receiver is complete, a station between 1,000 and 1,400 kc. should be tuned in, and the volume control adjusted to low volume. Then adjust C8 until maximum volume is obtained. Further adjustment of this condenser will not be necessary unless the length or position of the antenna is changed.

The manufacturers advise that *under no conditions* should an attempt be made to use a ground connection on the antenna binding post.

A tuned filter choke-and-condenser system (Ch1, C27) is used to reduce the hum level to a minimum. For this reason, a replacement condenser of exactly the right capacity must be used, if it becomes necessary to change condenser C27; otherwise, the absorption circuit (Ch1, C27) will not resonate at the correct frequency.




*The Majestic "Model 50" chassis is the most compact of the A.C.-operated superheterodynes yet produced, being adaptable to even a midget cabinet. It has a single stage (screen-grid) of intermediate-frequency amplification, working at 175 kc. The tuning is single-dial; the R.F. stage's tuning condenser being ganged with that of the oscillator.*

# *From the Editor's Desk*

Greetings from your new Editor of the I H R S Bulletin. The press of business travel and other factors prompted the resignation of our hard working former editor, Fred Prohl.

Several suggestions have been made for improving our Bulletin. We will try to put most of them into future Bulletins. Some of the suggestions are:

1. Better quality paper, this will take effect immediately. We will use 30 pound paper with a better surface finish.

2. A colored cover, We will use light blue paper for the cover for the March issue.

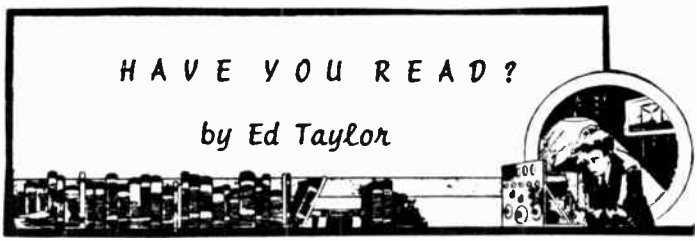
3. Larger type for our older members, when ever possible we will not reduce the size of type face.

4. More pages, a lack of time for the first issue of 1983 prevents more pages in this issue.

5. More technical material, if the members will send us suitable technical material such as restoration tips, how you solved a problem, etc, we will be able to increase the technical content in future issues.

We invite your RADIOADS (they are FREE to members), technical material, letters, and telephone calls. Our number is 1-317-268-2214 (we do not accept collect calls). We are available most days from 8 AM to 10 PM.

Jim Fred, Editor

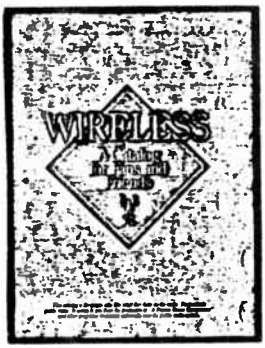



## WIRELESS
### A Catalog for Fans and Friends

For those of us who enjoy public radio, "A PRAIRIE HOME COMPANION" is a program that we could have heard 30 or 40 years ago. It is aired on approximately 160 FM stations, usually on Saturday evening from 6 to 8 PM EST. This is a variety show with folk music, light jazz, humorous skits and readings, the news from mythical Lake Wobegon and fictional commercials: POWDERMILK BISCUITS "Heavens! they're Tasty!"

The program originates in St. Paul and Minnesota Public Radio has issued this 8 page catalog, free, to listeners who may want to order books, recordings, and a multitude of items pertaining to " A PRAIRIE HOME COMPANION". Next Saturday tune-in and enjoy.

Available free from:
Minnesota Public Radio
45 E. Eighth St.
St. Paul, MN 55101



# ★ ★ RADIOADS ★ ★

FROM THE MAIL BAG: wanted information on the following; "Whitestone" mfg. by G. Boissonault Inc., New York and "Showers" chassis TRF type 01A tubes, has figure 8 coils. Send SASE for 3 page list of radios, parts, and tubes. Robert E. Dickerson, 1907 Lynn Lee Road, Shively, KY 6399.

WANTED: military Signal Corps Gibson Girl receiver, preferably working with data. Andrew Mooradian, 5 Priscilla Lane, Winchester MA 01890.

FOR SALE: 300 copies of Radio Electronics, Radio and Television News, Radio Craft, Radio TV Electronics, late 1940's and early 1950's, 75¢ each. Larry Chambers, 5026 Suter Drive, Nashville, TN 37211.

WANTED: Hickock Mutual Cond. tube tester, volumes 15 thru 23 Riders manuals plus index. Don Myers, 201 Dickson St., Plymouth, IN 46563, ph. 219-936-2423.

FOR SALE: AC-DC radio resistance line cords, new old stock, rubber is in good condition, not hard and brittle. $4.50 postpaid. Send SASE for value needed.

Parts needed to build crystal radio in this issue of BULLETIN. Send SASE for list of magnet wire, tuning capacitors, and x'tal stand parts. James Fred, R1, Box 41, Cutler, IN 46920.

WANTED: loop antenna for Radiola model 28 and manual for same. T. A. Drogoski, 507 Cool Valley, Clairton, PA 15025.

# Tech Tips

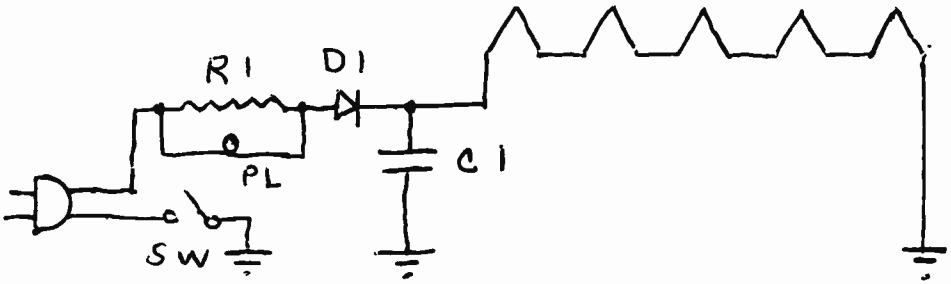
*Jim Fred*

## HOW TO REPLACE A BALLAST TUBE

Many of the AC-DC radios made in the 1930's had a resistor in series with the tube filaments. This allowed the tube filaments in series to be operated from the line voltage. Because this resistor generated a lot of heat various methods were tried. One, was a resistor line cord. Another was a resistor mounted in a metal tube.

When you find one of these radios the line cord or ballast tube is open and must be replaced. However it is now possible to use a silicon diode, a resistor, and an electrolytic capacitor to replace the ballast tube. This combination generates practically no heat. I opened up the old ballast tube and mounted the nessary parts inside the metal shell. This allows me to plug it into the ballast tube socket. If I ever find the right ballast tube I can use it instead of the replacement.

The following circuit can be used.



The 5 tube filaments is series require a filament drop of 69 volts. The half wave diode rectifier will produce half wave DC, but the tube filament doesn't care whether it has AC or DC voltage. Since the half wave rectifier produces less than 69 volts we can use a capacitor to raise the voltage. In this case 8 mfd. will be about right. The resistor provides a voltage drop for a pilot light.

The same scheme can be used to replace a resistor line cord.

# BUILD A CRYSTAL RADIO

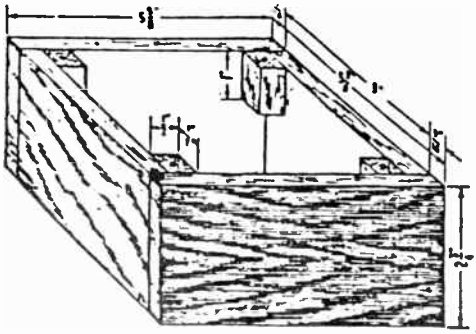


FIG.1 - THIS DRAWING GIVES ALL NECESSARY DETAILS FOR MAKING A CABINET FOR THIS RECEIVER. WOOD CORNER POSTS 1" × 1" × 2½ INCHES ARE USED TO STRENGTHEN BOX AND PROVIDE SUPPORT FOR PANEL SCREWS. THE CABINET IS MADE OF WOOD ⅜" THICK. IT IS 5½" SQUARE AND 2¼" HIGH. IT MAY BE ASSEMBLED WITH WOOD SCREWS AND GLUE.

THE CONDENSER C1 IS THE ONLY TUNING CONTROL FOR THIS RECEIVER, AND THE CRYSTAL DETECTOR IS THE ONLY OTHER ADJUSTMENT. THE AERIAL MAY BE A SINGLE WIRE 100' IN LENGTH, AND THE GROUND CONNECTION MAY BE MADE TO ANY CONVENIENT COLD-WATER OR RADIATOR PIPE. NO. 14 WIRE MAY BE USED FOR AERIAL AND GROUND WIRES. THE ONLY ACCESSORY REQUIRED FOR THE OPERATION OF THE SET IS A PAIR OF TELEPHONE RECEIVERS.

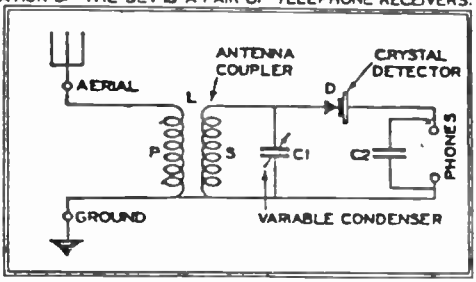



FIG.3 - SCHEMATIC DIAGRAM OF CRYSTAL RECEIVER. L, ANTENNA COUPLER. C1, .0003-MF. VARIABLE CONDENSER; C2, .001MF. FIXED CONDENSER; D, CRYSTAL DETECTOR.


FIG.5-DETAIL OF COIL L

SECONDARY COIL (S) CONSISTS OF 90 TURNS NO. 24 D.C.C. WIRE ON 1½" DIA. CARDBOARD TUBE. PRIMARY COIL (P) HAS 15 TURNS OF SAME SIZE WIRE ON SAME TUBE. A STANDARD MAILING TUBE MAY BE USED FOR COIL FORM.

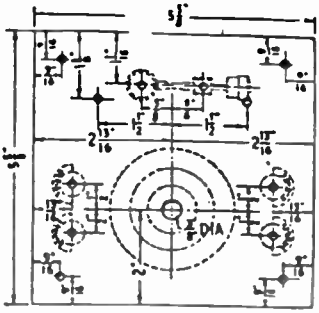



FIG.2 - COMPLETE DRILLING LAYOUT FOR PANEL OF CRYSTAL RECEIVER. THE LOCATION OF PARTS AND BINDING POSTS IS INDICATED IN DOTTED LINES. PANEL MAY BE MADE OF CIGAR-BOX WOOD PAINTED WITH SHELLAC, OR BETTER STILL BAKELITE OR HARD RUBBER. ALL HOLES ⅛" DIA. UNLESS OTHERWISE SPECIFIED IN DRAWING.

SYMBOLS IN PICTURE WIRING DIAGRAM CORRESPOND TO SIMILARLY-MARKED PARTS SHOWN SCHEMATICALLY IN WIRING DIAGRAM. NO. 24 D.C.C. WIRE MAY BE USED FOR MAKING CONNECTIONS, AND ALL JOINTS SHOULD BE SOLDERED FOR BEST RESULTS.

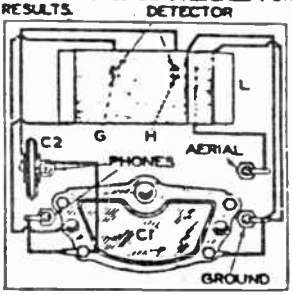



FIG.4 - COMPLETE PICTURE WIRING DIAGRAM

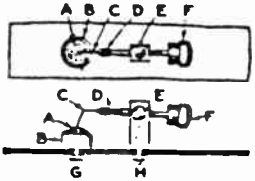



FIG.6 DETAIL OF CRYSTAL DETECTOR

A IS THE GALENA CRYSTAL WHICH FITS IN CUP B. CATWHISKER C IS HELD IN PLACE WITH CHUCK D. BALL JOINT E MAKES ALL POINTS ON CRYSTAL ACCESSIBLE FOR CONTACT. F IS THE ADJUSTMENT KNOB AND G AND H ARE TERMINALS.

## IHRS MEET HELD IN INDIANAPOLIS

The first meeting of 1983 by the Indiana Historical Radio Society took place on Feb. 26, 1983, at the Sherwood Club on the south edge of Indianapolis. The meet was very successful with 92 members and friends present.

The museum committee reported that it was quite active since our last meet. Eight new cabinets and several pieces of radio equipment were loaned by members for display. More material has been promosed and should be in place before the next meet on April 16 at the Auburn-Cord-Dusenberg Museum in Auburn, IN.

Fred Prohl, who has done an excellent job as the Editor of the IHRS Bulletin, resigned and Jim Fred was appointed by Frank Heathcote, club president, to serve for the remaindure of 1983. Several suggestions were received as to how the Bulletin could better serve the members needs.

One of our members, Gordon Eklund, passed away on February 13, 1983.

A motion was made, seconded, and passed that a Plaque be designed and the name of each deceased member be engraved thereon.It was suggested that the Plaque be placed in the A-C-D IHRS radio Museum.

On behalf of all our members we wish to extend our appreciation to the Indianapolis members who were the hosts for this meeting.

Our next meeting will be in Auburn IN on April 16 followed by a carry-in dinner meet to be held July 23 in Logansport, IN. I hope to see you at both meets.

Jim Fred, Secretary


THE
ANTIQUE RADIO CLUB OF ILLINOIS
AN AFFILIATE OF
THE ANTIQUE RADIO CLUB OF AMERICA
IN CO-OPERATION WITH
THE INDIANA HISTORICAL RADIO SOCIETY
AND
THE MID-AMERICA ANTIQUE RADIO CLUB
PRESENTS


RADIOFEST '83

AUGUST 13, 1983 at the HOLIDAY INN,
345 RIVER RD, ELGIN, ILL. ( Route 31 South exit from the I-90 Northwest Tollway--turn left at first stop light).

THE PROGRAM

I. ALL DAY SWAP-SELL SESSION
II. SEVERAL TECH SESSIONS INCLUDING: " HOW MUCH IS THAT OLD RADIO WORTH?"
III. RADIO CONTEST--CATAGORIES
CLASS I--REGENATIVE RECEIVERS
CLASS II-- TRF RECEIVERS
CLASS III--CRYSTAL SETS--1920 TO PRESENT
CLASS IV--CATHEDRAL SETS
CLASS V--PRE-1920 RECEIVERS
CLASS VI--CONSOLES
CLASS VII--ZENITH RECEIVERS--1922 TO PRESENT
CLASS VIII--ADVERTISING

CONTEST ENTRIES MUST BE IN THE CONTEST ROOM BY 11:00 A.M.

IV. SATURDAY NIGHT: BANQUET AND AWARDS PRESENTATION PLUS AN INTERESTING PROGRAM.

REGISTRATION: PRE-REGISTRATION $2.00--REGISTRATION ON THE DAY OF MEET $3.00
BANQUET TICKETS: $10.50
MOTEL ROOMS: HOLIDAY INN IS OFFERING US A 10% ON ROOMS--CONTACT THEM AT THE ABOVE ADDRESS OR CALL 312-695-5000 AND REQUEST RESERVATIONS FOR RADIOFEST '83.

EARLY BIRDS--ENJOY A RECEPTION FRIDAY EVENING HOSTED BY ARCI STAY OVER SUNDAY AND ATTEND THE SANTA FE HAMFEST ( ONE OF THE LARGEST IN THE COUNTRY) DIRECTIONS AT THE MEET.

YES, I PLAN TO ATTEND THE MEET
YES**NO** I PLAN TO ATTEND THE BANQUET
MAKE BANQUET AND PRE-REGISTRATION CHECKS TO: ARCI AND SEND TO:
JOE WILLIS--525 OAKDALE #524--CHICAGO, ILL. 60657
IF POSSIBLE, PLEASE REPLY BY APRIL 30th.

# "See! Dad

**how much stronger it's coming in since you bought me Burgess Radio Batteries."**

# BURGESS
## RADIO BATTERIES

SOMETIMES it's Dad who does the buying for his radio family, but you may be sure that that youngster of his sits in on the advisory board.

In all events, whether it be the boy or his father who buys receiving set equipment, the service of Burgess Radio Batteries provides a most satisfactory and economical means to greater enjoyment of the evening's radio entertainment.

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