

Indiana Historical Radio Society

BULLETIN

VOLUME 18

JUNE 1989

NUMBER 2





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IHRS is a NON-PROFIT organization which was founded in 1971. Annual membership dues are \$8.00 which includes first class quarterly IHRS Bulletin. RADIOADS are free to all members.

••PLEASE••

Send a stamped, self-addressed envelope
 when requesting information.

Ft. Wayne Meet in Review

1989 Indiana Historical Radio Society and
Antique Wireless Association Regional
Spring Meet Ramada Inn Fort Wayne, Indiana
May 5th and 6th, 1989

Pre Registrations 68
Attendance approx. 224
Banquet dinners 48

A very good swap met in parking lot. Auction well attended and many items. Friday night's program of "The Transatlantic Tests" from AWA and a film series of W.C. Fields and Mickey Rooney in "Our Gang " Comedy plus a RCA promo film (furnished by Pete Yanczer) was very enjoyable.

Contest 26 entries in five categories
INDIANA RADIOS : 1st place SLAGLE Del Barrett
2nd place a 3 way tie
CAPEHART Ross Smith
KINGSTON Jim Fred
CASE John Jones
MICHIGAN RADIOS: 1st place DELCO Joe Koester
2nd place DETROLA Ed Dupart

Contest continued

OPEN CATEGORY: 1st place 2 way tie
GLOBE NAVIGATOR Ed Taylor
PHILIPS 25-14 Bob Lozier
2nd place a 3 way tie
PHILCO Ted Miller
MCMURDO SILVER Mike Feldt
MCMURDO SILVER Craig Korpak

CRYSTAL SETS: 1st place 1917 NAVY loose coupler
Don Myers

only one entry

SOLID STATE : 1st place PEPSI DISPENSER
TRANSISTOR Kim Korpak
and 2nd place 838 EMERSON TRANSISTOR
NOVELTY RADIOS TEAPOT
Dean Thurnall

BEST OF SHOW THE GREBE TROPHY
PHILIPS 25-14 Bob Lozier

Banquet Program was a talented group of three musicians (7 instruments) called "Prairie Fire String Band" playing Irish, English and United States folk music.

Our thanks goes to all committees and the hard workers who help make this a successful met.

John & Katie Foell
General Chairpersons

IHRS Coming Events

Our next meeting will be held on Saturday, June 10, 1989 in Spencer Park, Logansport, IN. There is a map of Logansport elsewhere in the Bulletin.

The meet will begin with the usual flea market and swap session at 9:00 A.M. A popular vote contest will be held with the following categories:

1. Early A.C. radios, around 1930.
2. Crosleys to 1950.
3. Small radio collectibles and advertising.

Eric Sanders is planning a meet for Sheridan, IN in late July or August. The date and location will be announced later.

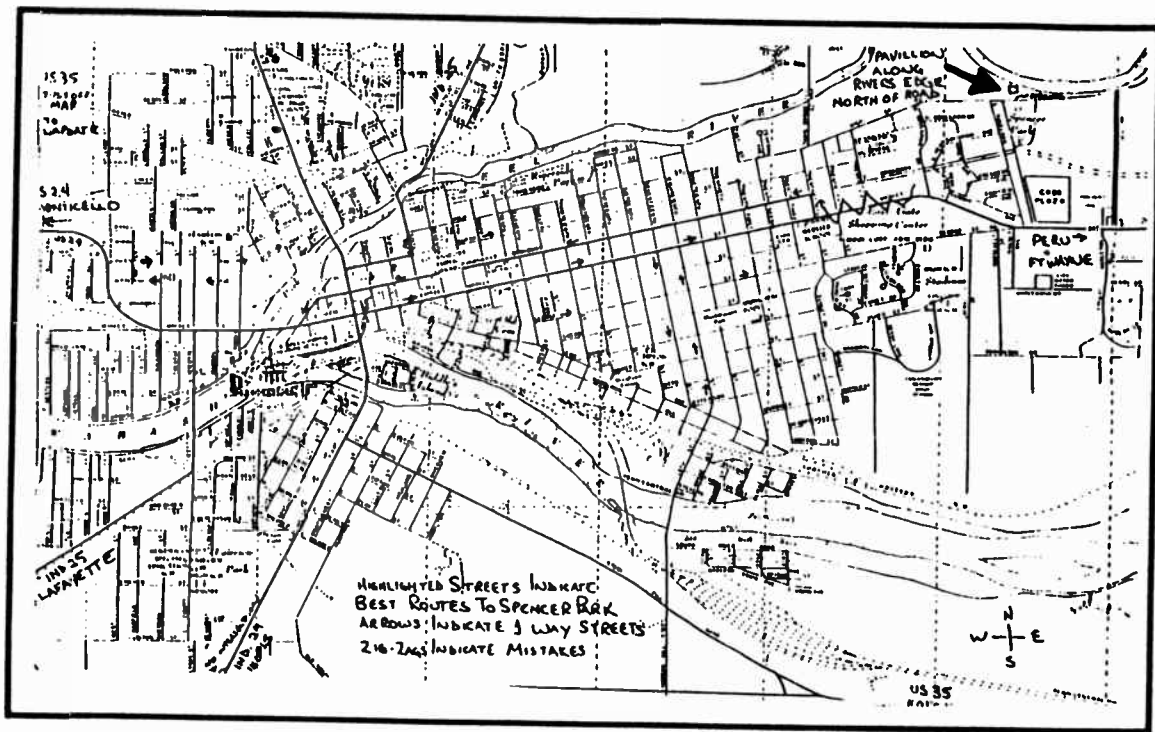
Editor's Notes

Starting soon our Bulletin will be published in the second month of each quarter. Deadlines for material to be published will be:

February 1
May 1
August 1
November 1

You should receive your Bulletin by the 5th of the last month in the quarter.

Map of Logansport



Circuit Restoration by the High Impedance Power Supply Method

By: Ross Smith

Serge Krauss, Advisor

1. Remove chassis and speaker from cabinet. Remove tubes from chassis, clean chassis and replace bad tubes.
2. Clean and oil variable capacitor bearings and ground springs to eliminate noise. Clean all variable resistors with control cleaner or TV tuner cleaner. Oil all control, tuning dial and switch bearings, being careful not to spill oil on friction drives or dial cords. If dial cords slip, rub them with rosin or tighten the holding spring. Clean switch wafers on both sides and clean interior of all switches, including slide switches, with contact cleaner or TV tuner cleaner.
3. With all tubes out, turn chassis over with speaker connected and apply voltage from high impedance power supply. Negative will be ground on power transformer sets and will be one side of the power line switch (turn on switch) for floating negative AC-DC sets with the AC line isolated from the metal chassis. Positive will be a red wire from the electrolytic filter capacitor or pin 3 of the screen grid power output tube.
4. Observe short circuit and/or overload conditions on the high impedance power supply voltmeter (red line shows dead short). Isolate and remove any shorted circuits, capacitors, coils, etc.
5. After shorts have been cleared, check for open circuits. With the high impedance power supply connected, check voltage

Circuit Restoration (continued next page)

Circuit Restoration (Continued)

on tube socket pins. A tube manual can be used to identify "live" pins if a schematic is not available. At this stage, tubes will not be pulling current, so series circuit dropping resistor pins will show full voltage. Remove power supply and check all grid returns by continuity to negative, either from grid caps, tube socket pins or variable capacitor grid connections. Older sets without automatic volume control will have low resistance. AVC circuits may be as high as 3 megohms. Open grid returns must be repaired before proceeding to point 6.

6. After point 4 and 5 have been cleaned, plug tubes back into set. For power transformer sets, leave the rectifier out. Plug the set into the 117 volt AC line. Check to see if all tubes and pilot lights "light up" and check for proper heater voltage. Check both sides of the high voltage transformer windings. **(Caution, high voltage shock hazard)** set an AC voltmeter on the 1,000 volt scale, connect one lead to the chassis and measure the rectifier socket pins. If only one side is good, you can still use it for half-wave rectification. This will require an input capacitor of approximately twice the value of the original in order to cut down hum from the half-wave rectifier. Turn the set "off" and place a DC voltmeter from the chassis ground to B-plus. Turn the set "on" and monitor B-plus voltage. If it does not build up immediately with a filament rectifier (such as type 80) or after warm up on a heater type rectifier (such as 25Z5) turn the switch "off" or pull the plug and trace the trouble. **Caution:** All filter electrolytic capacitors should be checked before this step is taken. Use the floating negative on AC-DC sets. The rectifier will be the slow heating type. **(Caution, Shock hazard)** early AC-DC sets use a "hot" metal chassis. To avoid the shock hazard connect the chassis to the ground side of the 117 volt line by turning the plug to the right position. A small neon bulb will tell you if the chassis is "hot". In this case the chassis is negative.

7. Re-check voltage on all tube pins as in point 5 above. This time, with all tubes operating, voltages should be within 15%

Circuit Restoration (continued next page)

Circuit Restoration (Continued)

of specifications of the schematic or voltage chart. Here again, tube manuals can be used for approximate specifications when schematics are not available. On older sets with B-plus on the superheterodyne oscillator coil, check for leakage on open windings due to electrolysis. Some or all of the plate voltage will show up on the grid side of the oscillator circuit if there is leakage.

8. If there is no signal on the speaker, check for open output transformer, open voice coil or shorted capacitor on the plate of the power tube. If speaker has a field winding, check for correct D.C. resistance. If a series field winding is open, there will be no B-plus on the tubes. If a parallel field coil is open, sound will be low and there will be no bass response from the speaker. Substituting a P.M. speaker in the output circuit is a good tool for servicing output problems. If audio transformers are used check all windings for opens or shorts.

9. Align intermediate frequency transformers with signal generator set for minimum output at specified I.F. frequency (**usually 175 Khz, 262 Khz or 456 Khz**). For AVC circuits, a high impedance D. C. voltmeter connected to the AVC string at the diode detector or high end of the unblocked volume control will serve as a good output peaking meter. Chassis or floating ground will now be positive. Start with the 10 volt scale and go up or down as needed. If I.F. signal is strong and broadcast stations do not come in, look for an open oscillator coil or bad capacitors in the oscillator circuit. Now complete the R.F. alignment, peaking the low frequency padder and the high frequency trimmers.

10. For automobile radios with vibrators, follow the above procedures except pull the vibrator out with the tubes. When points 1 thru 5 have been completed, plug in the tubes but **not** the vibrator. Supply the six or twelve volt D.C. to the tube

Circuit Restoration (continued next page)

Circuit Restoration (Continued)

heaters and connect the high impedance power supply to negative ground and positive B-plus circuit as before. Connect a short wire antenna and operate the set. Complete points 7, 8 and 9. With the set now playing OK, turn to the vibrator check. First check the vibrator on a vibrator tester then test performance in the radio set. Remember that "drug store" vibrator testers using AC power will not always detect vibrator troubles. Test for defective buffer capacitors in the power supply circuit. Replacements should be rated at 1,600 volts. Check battery polarity on early 6 volt sets using synchronous vibrators. Some automobiles used positive ground.

Operating Notes

- A. Obtain a good capacitor checker. Sometimes even new capacitors have excessive leakage or will not form to the specified voltage rating. Electrolytic capacitors that have not been charged for a long period sometimes take 10 to 30 minutes or more to form at rated voltage. Watch for excessive temperature rise on electrolytics. (**Caution, explosion hazard**). Better **not** to use an electrolytic that will not form to rated voltage or if power factor checks higher than 15% even if operating voltage in the set is lower.

- B. If set was manufactured before WW-II always replace the electrolytic filter capacitors. On newer sets, check the electrolytics on a capacitor checker. Most sealed metal can electrolytics will outlast the open cardboard tube types.

- C. If set was manufactured before WW-II **always** replace the coupling capacitor (**usually .02 Mfd. 600 volts**) between the detector - first amplifier plate and the grid of the power output

Circuit Restoration (continued next page)

Circuit Restoration (Continued)

tube. This will prevent present and future distortion caused by driving the power tube grid positive from coupling capacitor leakage. Check coupling capacitor on later sets by checking DC voltage on the grid of the power tube, mostly pin 3 on triodes and pin 5 on pentodes. Make this check when set has been operating and capacitor is warm. Maximum DC voltage on the grid should be 0.1 to 0.2 volts.

- D. Following the checking of the tube socket pins in point 5, locate all by-pass capacitors that are operating at full B-plus voltage. Replace the brown cardboard types and check round plastic types for correct capacitance and leakage at rated voltage.
- E. Low voltage capacitors in cathode and AVC circuits are usually good. However, if low gain, hum modulation or heterodyning occurs, these may need to be replaced. Always check capacitors visually for deterioration such as end-caps pulling loose. Also check visually for burned resistors and check fixed wirewound resistors with an ohmmeter.
- F. Approximate settings for the high resistance power supply are 50 to 67 volts for battery sets, 120 to 130 volts for AC-DC sets, 180 volts for automobile vibrator type sets and 180 to 220 volts for power transformer sets. The power supply may also be used as a single voltage B-plus supply for early battery sets.

The writer has experienced over 90% "Good As New"

Results from the above restoration methods.

R. S.

9-15-88

Circuit Restoration (continued next page)

Circuit Restoration (Continued)

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TUBE TESTER POWER TRANSFORMER

500 OHM 10 WATT

RED

117 VAC
PRIMARY

OFF
20 MFD
250 V.

200 or 250 V
DC VOLTMETER

BLACK

*Note: Red line on Meter Indicates
Short circuit condition.*

117/230 VOLT
ISOLATION TRANSFORMER

RED

SMALL VARIAC

BLACK

**NOTE: RECORD VOLTMETER
READING UNDER SHORT CIRCUIT CONDITIO**

Notes from The President

The 1989 Spring I. H. R. S. - AWA meet was another good annual meet. With the meet not starting, until Friday, we still saw several early birds on Thursday afternoon.

We had over 225 registered attending with many clubs represented. I saw a good turnout, with much buying and selling, in the flea market.

Again, much thanks are due to John and Katie Foell for the excellent job they did in putting together this meet. I would also like to thank the many, behind the scenes individuals, that helped with the registrations, auction, contest, etc.

Steve Waldron did a superb job with the auction and we always welcome his help.

Our entertainment this year was a very pleasant hour of music from the "The Prairie Fire String Band".

Our contest Chariman was Del Barrett. The judges were: Fred Schultz, Neal Baitcher, Mike Feldt, with Ross Smith as alternate. The contest results are reported elsewhere.

Thanks again and hope to see all of you at the next meet.

Eric Von Grimmenstein
President, IHRS



Kirsten Flagstad
Celebrated Wagnerian Soprano

Since her American debut at the Metropolitan, Kirsten Flagstad the famous Norwegian operatic soprano has attained a niche in the musical world which is accorded to but a select few. Her principal work has been in Wagnerian music drama and her various appearances in London, Vienna, Prague, Honolulu, and Australia have been a succession of glorious triumphs.

KIRSTEN FLAGSTAD

January 8, 1940

Mr. E. H. Scott, President
E. H. Scott Radio Laboratories Inc.
4450 Ravenswood Avenue
Chicago, Illinois

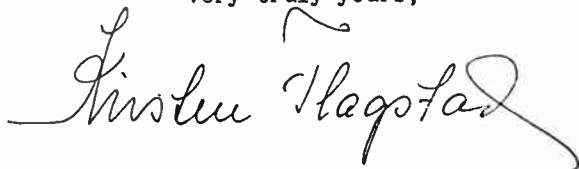
Dear Mr. Scott:

I would like to take this opportunity to inform you that the Scott Radio which I have purchased from you recently, has been installed in my New York apartment.

My anticipations as to the performance of this instrument have been rather high, caused by the opinions of many of my friends who already possess a Scott Radio. I now feel that my anticipations belittled the results, and it gives me extreme pleasure to inform you that I did not believe it possible for any reproducing instrument to possess the tone quality and faithfulness of reproduction that your instrument so marvelously provides. My own records, when played on a Scott not only appear to approach the fidelity only experienced when listening to an actual concert, but they really open to me an entirely new field of enjoyment of recorded music.

I am only sorry that I have neglected to obtain one of your remarkable instruments long before this time.

Very truly yours,

A handwritten signature in cursive script that reads "Kirsten Flagstad". The signature is written in dark ink and is positioned below the typed name.

From The Mail Bag

Dear Members:

On another page you will find a letter I received from Carole Darst prior to closing the IND'EX museum at the Union Station in Indianapolis.

I have delivered all the equipment to the people who loaned it for the display.

I would like to express my thanks to all the folks who loaned this equipment for this display.

Paul Gregg

Dear Marilyn,

Enclosed is my check for 1989 dues. I wish I had enough time to devote to all of my hobbies. As you can see from my writing paper, I like old cars. I have had this one for ten years. I have been interested in the old radios for quite a while, too. I just finished a Philco Model 19. It is a Cathedral. I will be displaying some of the radios in our local library sometime in the next few months. It probably won't be as impressive as Don Myers' collection, but I know it will generate a lot of interest. Who knows, I may get some leads on some more radios!! I plan on having six to eight Cathedral and upright radios there.

Sincerely, Bill Arnold

THE QUIET

by Eleanor V. Sass
Guideposts Associate Editor

PEOPLE



When Paul Stack was 11 years old and living in Cleveland, Ohio, he got into trouble with the Federal Communications Commission. It seems that Paul and his buddy Ralph had devised a way to send Morse-code messages back and forth between their houses. Using the spark coil from an old Ford Model T, the boys transmitted at the same time every evening. As a result, they created severe interference with some radio shows being broadcast, notably the popular *Amos 'n' Andy*.

Today, living in Vista, California, Paul laughs as he recalls the consequences. "One evening when I came home, there was a big black truck parked in front of our house. In our living room my mother was talking to a man in a black suit—an FCC inspector. He was very understanding. He lectured me in a nice way." The inspector also gave the lad a book for radio amateurs that started young Paul on the road to becoming a licensed ham-radio operator.

Paul Stack is 65 years old and retired now, but he still sends ham-radio messages. He's a member of the International Mission Radio Association, an organization of 800 members in 40 countries who communicate daily on the 20-meter (14,280 megahertz) band from

11:00 A.M. to noon (Pacific Standard Time). The organization's purpose is to link isolated mission outposts with the outside world to exchange information and relay messages. One day Paul heard a faint message coming from a missionary station deep in the jungles of Peru. Fourteen native children had been stricken with an eye disease that rendered them temporarily blind. The missionary on the scene was calling for help.

Paul immediately telephoned an eye specialist in his area. Then, using a "phone patch"—a device that connects a telephone to a radio transmitter and receiver—he put the missionary on the line with the doctor. And the very next day medical supplies for the children were air-dropped into the Peruvian jungle. About a week later Paul received a jubilant call from the missionary. "All fourteen children have recovered from their eye disease and every one can see! Praise God that you were on the missionary net when I called," he told Paul. "We are so far from civilization here that the only other means of communication is having natives beat drums and pass the message from tribe to tribe down the river."

In addition to emergencies, Stack has handled simple calls that enable missionaries to talk with their relatives and catch up on home news. How wonderful when a man can turn a hobby into something that helps people. And to think it all started with some boyhood experimenting. ◀

(From *GUIDEPOST*, May 1986)

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In 1915 I had a similar experience with my first spark coil transmitter; however, the FCC didn't catch me.

Marshall Howenstein

RADIOS OF THE 1930s

Back in the days before Television, VCRs, Stereos, F.M. Stations and modern roads, many people relied on the A.M. radio for entertainment. These Radios produced in the 1930s are examples of the types used.

The Radios were more than just entertainment. They were considered a piece of furniture as well. The Cathedral style of cabinet was popular from late 20s to mid to late 30s. The design resembled a Cathedral window. Philco seems to be one of the most common brands. Later came the Upright or Tombstone named for its squared off top. This resembled a tombstone.

These sets are tube type A.M. which operate on A.C. Most of these styles would be available in the battery version for rural areas without electricity. With the bad roads and economic conditions, a lot of the people on the farm relied on the radio for News and information as well as entertainment.

The Radio wasn't as common as today. A number of people didn't have jobs and the Radio was a luxury they couldn't afford. Some of these radios were produced during the depression of the 30s. The working man was indeed lucky to be able to purchase one of these.

As mentioned, all of these sets are operated by A.C. They are Vacuum tube type, Superheterodyne, A. M. Radios. The cabinets are wood veneered. The knobs are either wood or Bakelite. The dials are lighted and the later ones covered with glass.

Most of the old radios provided years of reliable service without many problems. Occasionally, a tube needed replacing, but they were fairly simple to repair by today's

RADIOS OF THE 1930s (continued)

standards. They are not as complex as modern stereo. This was the technology of the day.

This was a simpler time. There weren't as many Automobiles, no Television, no modern conveniences, and no super highways, but people were fascinated with the "New-fangled" Radio.

Were these the "good old days"? I can't really say because I wasn't born yet. In some ways, yes, but in many ways, it wasn't a good time. The people worked harder just to survive. The people were more honest and accommodating, I suppose. It was also the time of the Great Depression. I think when people look back, they want to remember the good times and forget the bad.

As I said, I don't remember those times. All I can do is try to preserve some of the things of the past for future generations to enjoy as I do. I hope you have enjoyed seeing this part of the past.

Bill Arnold
R. 1, Box 62
Petersburg, Ind. 47567



LOG EVERY WORTH WHILE STATION WITH PERFECT EASE

Be able to get the programs you like best any time and with that smoothness and clearness of tone that makes Radio most enjoyable. It's easy with

Stromberg-Carlson

HEAD SETS and LOUD SPEAKERS

Their powerful magnets give extreme sensitivity. The layer wound and layer insulated coils enable these instruments to stand up under the highest voltages and to retain their sensitivity permanently.

Ask your Dealer

STROMBERG-CARLSON TEL. MFG. CO., Rochester, N. Y.



Radio Ads

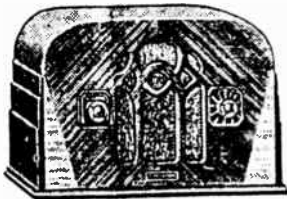
FOR SALE: Radio related Tie clasps & lapel pins, send a L.S.A.S.E., I also buy old wooden clocks, Michael S. Sabodish Sr., 11-A Matawan Ave, Cliffwood, NJ 07721.

MECHANICAL TELEVISION!! Get on board. Read THE MECHANICS OF TELEVISION. Get a copy from the author for only \$22 ppd. Peter Yanczer, 835 Bricken, St. Louis, MO 63122.

WANTED: Rider Manuals No. 20 and No. 23. Also looking for Sam's Photofacts to fill out my collection. Write for want list to: Dan Healy, P. O. Box 764, Woodacre, CA 94975 or call after 9 A.M., PDT (415) 488-4596.

WANTED: Early Scott power supply/amp. These are black instead of chrome. Cash or trade. Don Johnston (317) 945-7735, R. 1, Box 218A, Windfall, IN 46067-9706.

Kingston RADIO Company



Model 55

AC-DC — Superheterodyne, five tubes, dynamic speaker, Vernier tuning, volume control and switch combined, dial calibrated in kilocycles, heat-dissipating cord, requires no outside antenna, receives police calls in addition to regular broadcast stations, encased in semi-moderne cabinet.

I will pay \$50.00 for a Kingston, model 55 Compact Table model radio, made in 1934. James A Fred, r. 1, Box 41, Cutler, IN 46920.

AUCTION

Saturday, June 24, 1989

11:00 A.M.

Preview 9:00 A.M.

34555 Center Ridge, Rd., N. Ridgeville, OH

CATALINS, BAKELITES, METAL Bendix 526MC, RCA 66X8, Fada 740, Emerson, Crosley, Zenith.

CATHEDRALS, TOMBSTONES, CONSOLES. At least 15 Cathedrals, including Philco 70, 16B, 89, 60, 84, Jrs., 50, GE K-52, Crosley, Phoenix, US, Gloritone, Stewart-Warner; Chrome front Grunow, Zenith consoles, Crosley, AK, Philco, Balkeit, etc.

Much miscellaneous books, catalogs, manuals, magazines, battery parts, etc.

This is a partial listing due to printing deadline. Approx. 300 lots. Sales tax applies.

Send \$1.00 for complete list.

TERMS: Cash. Checks w/approval of acutioneer or owner.

For more information, contact:

Jerry Canterbury, Auctioneer
5999 Avon Belden
N. Ridgeville, OH 44039
216-327-9394

Vintage TV & Radio, Owner
3552 West 105 Street
Cleveland, OH 44111
216-671-6712

THE INDIANA EXPERIENCE MUSEUM



March 16, 1989

Mr. Paul Gregg
725 College Way
Carmel, Indiana 46032

Dear Mr. Gregg:

Your generosity as an IND*EX lender has been deeply appreciated by our IND*EX Board of Directors, staff and, especially, the more than 70,000 visitors who have seen the Indiana Experience Museum since its opening, July 25, 1987. Time has proven that visitor traffic is inadequate to support an independent organization and that IND*EX concepts and information may reach wider audiences in another location and/or form. Therefore, IND*EX will close its Union Station doors to the public on April 1, 1989.

Indiana Experience-owned exhibitry and equipment will find new "homes" within the Indiana State Museum System and IND*EX functions will be transferred to the State Museum to carry on the spirit of IND*EX in new spaces.

Your objects/materials continue to be kept safe until arrangements can be made for their return between April 1 and April 13, 1989. PLEASE CONTACT IND*EX, (317)635-7933, between March 20 and March 31 so that we may schedule your pick up or find other suitable means to return items to you.

Please accept my gratitude for your kindness, patience and cooperation.

Sincerely,

Carole R. Darst
Executive Director

I am writing this letter to you since you were kind enough to accumulate and bring in the radio and telegraphic materials which we currently display from:

Delbert Barrett
Frank Heathcote
Marshall Howenstein
Ross Smith
Dr. Ed Taylor

I hope to speak with you soon about a convenient way to return these precious items!

Union Station • 39 West Jackson Place • Suite 9 • Indianapolis, Indiana 46225 • 317/635-7933

Radiatorial Comment

Please note the front cover picturing a boy industriously installing his radio *aerial*. The article below, from a 1914 Electro Importing Co. catalog, illustrates a preferable alternative to just bouncing a spheroid.

E.T.

A SERMON TO PARENTS

"KEEP YOUR BOY AT HOME"

THE strongest ties in life are the home ties. It makes a lot of difference, both to you—his parents—and to him too, when a young man has grown up whether his thoughts dwell with sweet pleasure upon his old homestead, or whether the remembrance of his home and his past home-life are painful to him.

Q How many well-meaning, fond American parents develop the home-idea in the young boy? Are you not a bit to blame if your boy, when still in his 'teens, is seen too much in questionable company and in questionable resorts? Your boy is not naturally inclined to stay away from his home and his family. He is usually forced out, for want of something to keep his growing, inquisitive mind occupied; it's the something that he can't find at his own home that forces him out. So out he goes. He drifts on, away from you,—the heartstrings loosen more and more, you—his fond parents—wonder and wonder and the boy becomes a stranger before you realize it.

IT IS USUALLY THEN TOO LATE TO MEND

Q This is—alas—only too true a picture of the average American youth. And it is so easy to keep your boy at home. He doesn't want much, just something to dabble, to tinker, to experiment with and to keep his inborn insatiable curiosity satisfied.

Q You know your boy likes nothing better than this, he was born for it; are you going to club it out of him?

Q How do we know all this about your boy? Why, bless him, if it wasn't in his system, if he wasn't soaked full of it, do you think he would have written for this catalogue of ours?

Q He has the right idea—the home idea; somewhere in him is a spark alive that needs but proper fanning to create a future Edison, a coming Marconi.

Q It has been our business for ten years to keep hundreds of thousands of boys at home, and the multitude of letters of grateful parents testify that we must have done it successfully.

Q Electricity, especially Wireless, are positively the strongest home-magnets to-day. His workshop, his small Electric laboratory or his Wireless Den are the most powerful home attractions for the 20th Century Boy.

Q Electricity and Wireless are the coming, undreamed of, world-moving forces. Don't kill the electric spark in your boy. It costs little to keep it going, and some fine day it will pay you and your boy handsome dividends.

Q Only one in 300 boys is interested in Electricity and Wireless. Your boy has the electric "bug." Thank the stars for it that he is so deeply interested in the greatest art the world has ever known. It's a distinction, besides:

"IT KEEPS YOUR BOY AT HOME."

H. GEENSBACK.

