Indiana Historical Radio Societi. BULLETIN

Vol.4 June 1975 No. 2



Trustworthy

Performance

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The permanent headquarters and mailing address for the Indiana Historical Radio Society has been established to help coordinate our expanding organization. The address is 245 N. Oakland Ave., Indianapolis, IN 46201.

MATERIAL FOR THE NEXT BULLETIN MUST BE RECEIVED NO LATER THAN AUGUST 15. THE BULLETIN WILL BE PUBLISHED IN SEPTEMBER.

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SOUTHERN INDIANA TO BE THE SCENE OF THE FALL IHRS MEET DETAILS TO BE ANNOUNCED LATER



THIS BULLETIN needs your help. Please contribute news items, ads, articles, and old advertisements that need not be returned. Send material to the editor.

news roundup

GEORGE HAUSSKE (Wheaton, IL) has recently found a homebrew set with Remler Variometer and an RCA "FH" Horn Speaker.

ED TAYLOR (Indianapolis, IN) picked up a nice Radiola 24 at an Auction complete with loop and 6 good 199's.

JACK M. BACON, Jr. (Minneapolis, MN) has added an AK 33, Graybar 310, Radiola 18, AK Hom, Music Master Horn, Radiola UZ 1325 Horn, Supreme No. 17 Tube Checker, Sterling Tube Reactivator, Sterling Tube Tester, WE Horn and a FADA 1924 Neutrolette to his collection.

MIKE WHITE (Naperville, IL) got results from the ad he placed in the IHRS Bulletin. He needed knobs for his Zenith 4R and he found them. Although reproduction he says they were perfect.

ROBERT LANE (Kansas City, MO) found a Western Coil Co. Crystal set that looks like a copy of the Aeriola Jr.

GEORGE HAUSSKE (Wheaton, IL) has acquired a Radiola Type FH Horn Speaker and his second Tuska Set, a Model 228 Superdyne.

RICK & CHRIS AMMON (Mt. Carmel, IL have added items to their collection including the following: E. I. Spark Coil, Murdock 440 Gap, Murdock Glass Transmitting condensers, Murdock Aerial Change-Over Switch, and a homebrew loosely-coupled helix just like the one in the M-W Reprint.



WLS RETURNS TO SEARS

With WLS-TV's switch to the Sears Tower, the original station call letters have returned home. For it was just 50 years ago that WLS Radio sent out its first signal from the Sears Headquarters, then located at Homan and Arthington, on Chicago's west side.

At that time the station was owned by Sears, and the call letters came from World's Largest Store. It was among the country's first radio stations, and quickly became one of the most listened to as it is today. The station was acquired by ABC in 1960; with the purchase of the Prairie Farmer Publishing Company (which had acquired WLS from Sears in 1928).

KIC-O"B" Battery and Charger —the ideal Christmas Gift

TWO FRENCH TUBES by Robert G. Middleton

Two different designs of French tubes are illustrated in Fig. 1. The tube on the left was made for the French army during WW-1 by Moorhead. However, the one on the right was made in France, probably after the war. In line with Americancustom, the American-made tube has verticall mounted electrodes. On the other hand, the French-manufactured tube has horizontally mounted electrodes. Both of the tubes have standard European bases. A 4-volttungsten filament was used. In amplifier operation, an 80-volt B battery was recommended.

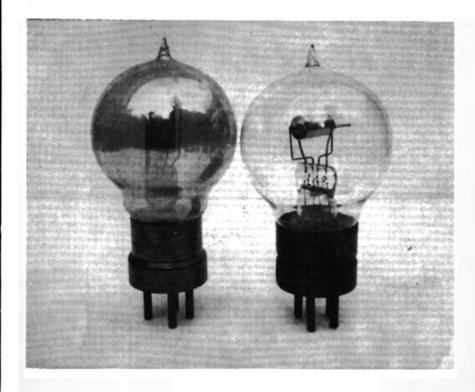


Fig. 1

Restoring Antique Radio Receivers

An Automatic Circuit For welding In ernal Wire Fractures In Audio Transformers.

There seem to be two distinct types of failures in the old audio transformers. Compain forms at the solder connection between the end of a winding and the neavier wire used to bring the connection outside the transformer. I think that there is little that can be done to repair these failures if the junction is buried in the transformer. The other type of failure occurrs when one small spot of corrosion appears within a winding or a wire fractures due to temprature changes. In this case, it is often possible to create an arc at the break in the winding. If things go well, a molten copper bridge will form at the break and the winding will be repaired.

It is easy enough to apply a sufficient voltage to make this bridge; but it usually results in too much power being disapated at the break and after a fer milliseconds the copper begins to burn away causing the break to open again before power can be removed.

Therefore it becomes necessary to provide an electronic circuit that can turn of the power instantly after the bridge is formed. Fortunately this can be done very easily with a simple 30st circuit, anen current begins to flow in the winding being repaired, this provides a trigger current to the 50st which causes the 30st to conduct and dump the remaining energy in the capacitor. The neon lamp tells you if the winding is drawing current. The DrTD switch permits you to make a test and then instantly check the winding with an object to see what progress you have made. The 500vic can come from any source; I use an old capacitor tester.

Parts list:

Hi 100 ohm aw.

Cl 10mfd. 450v. electrolytic (Sprague TVA-1705)

10 74 ons aw.

Il Type Na-2 need lamp

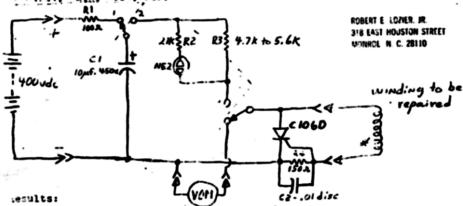
12 7.7k to 5.6k lw.

SCR G.E. type ClC6D (any 4 to 10 amb. 3CR rated

Re 150 ohm aw.*

SI Any DPDT switch rated at 230vac.

Two terminal strips to mount capacitor and resistors, pin jacks to hook up onseter, alligator clies to hook up power and winding to be remire; "sim!" tow. etc.



Twelve open transformers that I knew had never been tampered with were tried. Sight were received with this sethod.

A group of 31 junk transformers were tried. (These had been subjected to extrate abuse for many years.) Five transformers were repaired.

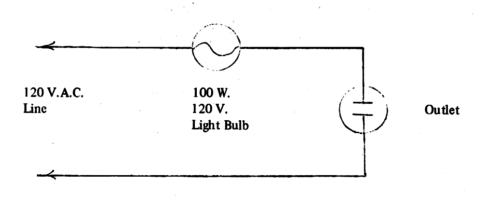
One set of windings in four other transformers were recaired but both windings could not be triangle work.

I tried to decage a winding after it not been restred. With this circuit I could not take the winding order askin in ten tries. I waited ten seconds between each try.

USING A LIGHT BULB AS A VISIBLE FUSE

By constructing this simple device an old A. C. Model radio may be saved. When you lucky collectors find an early A. C. radio, which has been stored for years, don't plug it directly in a 120 volt line. The old filter condensers may be dried out or shorted. Other wires could have the insulation off and be shorted together. Connect a 100 watt light bulb in series with the radio and you can SEE if any shorts exist. If the light comes on brightly, disconnect the radio immediately and look for the trouble. This could save replacing a costly power transformer.

Ed Taylor



MEMBER ANTIQUE WIRELESS ASSN.
DOCUMENTING THE HISTORY OF WIRELESS

All Barrett Collector - Historian
Antique Radios

PHONE
747-5655

FORT WAYNE, IND. 46809

The Antique Wireless Association Regional Conference And

The Indiana Historical Radio Society
Summer Meet

Saturday, June 21 - Purdue University West Lafayette, Indiana

General Information . . .

TICKET INFORMATION: Advance registration must be made through the Indiana Historical Radio Society Treasuret, 245 N. Oakland Avenue, Indianapolis, Indiana, 46201. Advance Registration for the Armstrong Banquet should be in by June 18th, to insure Banquet Tickets. Last minute registration without Banquet ticket is unlimited and obtainable at the Meet for an additional \$1.00. Your Banquet Tickets and Registration Badge will be waiting for you at Room 306 in the Purdue Memorial Union (Stewart Center). Please fill out and mail enclosed Registration Card with check promptly to avoid disappointment. Guests are welcome. Registration fees apply to everyone attending.

RESERVATION: An enclosed Reservation Card for room facilities is included for your convenience. You must make your reservations directly with the Union Club. A block of rooms is being held until June 13th. After that rooms will be available on a first come first serve basis. The Union Club is located in the Purdue Memorial Union Building. A good selection of motels is available in the immediate area.

FACILITIES: A parking garage is located directly across from the Purdue Union Building. The Purdue University Airport has connecting flights to Chicago and Indianapolis. A cafeteria in the Purdue Union Building will be open for the noon meal. Elevator service is available in the Union Building.

MAKE MOTEL RESERVATIONS NOW! (AREA CODE 317)

- 1. Holiday Inn, West I-65 at 43 (Battleground) 567-2131
- 2. Hilton Inn, U.S.-52 North (West Lafayette) 463-5511
- 3. Budget Inn, I-65 at 26 E. (Lafayette) 447-7566
- 4. Holiday Inn East, 400 Sagamore Pkw. S. (Laf.) 447-4131
- Howard Johnson's By Pass, 2200 Sag. Pkw. N. (Laf.) 447-3111
- 6. Howard Johnson's East, I-65 at 26 E. (Lafayette) 447-0575
- 7. Ramada Inn, I-65 at 26 E. (Lafayette) 447-9460
- 8. Travelodge, N. River Rd. (W. Lafayette) 743-9661
- 9. Morris Bryant Inn, U.S. 52 W. (West Laf.) 463-2531
- Regal 8 Inn, 1217 Sagamore Pkw. W. (West Lafayette) 463-1531

SEE THE LARGEST DISPLAY OF REGENERATIVE RECEIVERS EVER ASSEMBLED

PROGRAM

FRIDAY, June 20th, 8 AM - 7 PM, Room 306 in the Union Building will be open for those who are working on the program and for those who are bringing in equipment.

FRIDAY EVENING, June 20th, 8 PM - 10 PM

OPEN HOUSE at the home of Gary A. Vierk, Editor IHRS, 2505 Kickapoo Drive, Lafayette, IN, Phone 1-317-474-5700. An informal welcome to distant travelers and an opportunity to discuss the AWA and the IHRS activities with the officers and founders of both organizations. A small radio collection can be seen also.

SATURDAY	Purdue Memorial Union (Stewart Center) Room 306
8:00 AM	REGISTRATION BEGINS - Coffee and Donuts. See the largest display of regenerative receivers ever assembled. See some of
	Powell Crosley's original equipment.
9:00 AM	SWAP SESSION BEGINS - Bring your old equipment receivers, tubes and magazines.
11:00 AM	AN AMERICAN INVENTOR: EDWIN HOWARD ARMSTRONG.
Room 302	The life of radios greatest inventor including rare pictures and tape interviews. Historical Slide Show not to be missed. Presented by Bruce Kelley.
12 Noon	Lunch - The Union Cateteria is available.
1:00 PM	OLD TIME RECEIVER CONTEST WILL BE JUIGED.
1:15 PM	LADIES PROGRAM (Assemble in room 302)
2:00 PM	THE WLW STORY originated by the late Jack Gray.
Rm. 302	Presented by Elmer Schubert W8ALW and John Bruning W8DSR, directors of the Gray History of Wireless Museum.
3:30 PM	FREED RADIO - Movie made by the Freed Radio Company in the
Rm. 302	late twenties showing the manufacturer of radio receivers from raw stock to steam locomotive hauling away the loaded freight cars!
5:00 PM	The programming has been reduced somewhat from last year in order that everyone will have ample time for swapping and visiting and viewing the displays.

SATURDAY
EVENING
6:30 PM
West Faculty Lounge - Purdue Memorial Union - Room 250
ARMSTRONG BANQUET - Gracious dining, beautiful music by professional entertainers and a fine speaker in the lovely West Faculty Lounge of Purdue University.

SATURDAY EVENING FOLLOWING THE BANQUET

OPEN HOUSE at the home of Marshall Howenstein, 807 Elm Drive, West Lafayette, IN, Phone 1-317- 463-5864. A last chance to meet with some of your fellow collectors and historians before the day is over.

WE ASK THAT EVERYONE ATTENDING BRING AT LEAST ONE RECEIVER FOR DISPLAY AND FOR THE CONTEST.

The Antique Wireless Association



"An amateur organization devoted to the history of wireless"



OLD TIME RECEIVER CONTEST

1:00 P.M. Al.L equipment should be in Room 306 by this time. Contact Ross Smith for details if you have any questions.

CLASS I REGENERATIVE RECEIVER (BATTERY) (COMMERCIAL). Three tubes or less.

CLASS II REGENERATIVE RECEIVER (HOMEBREW) (BATTERY), Three tubes or less.

CLASS III CRYSTAL SET (PRE-1921) (HOMEBREW OR COMMERCIAL)
CLASS IV CRYSTAL SET (1921 & AFTER) (HOMEBREW OR COMMERCIAL).

First and Runner-up awards in each class.

Judging based on general appearance, rarity and unusual design.

Awards presented at the Banquet.

LADIES PROGRAM TO INCLUDE TRIP TO HISTORICAL BATTLE GROUND

A radio display contributed by local IHRS members in conjunction with Station WBAA may be seen in the Stewart Center near the Fowler Hall.

EXPLORE PURDUE EXPLORE THE MEMORIAL UNION AND STEWART CENTER

SECURITY PLANS WILL BE IN EFFECT THROUGHOUT THE PROGRAM FOR THE PROTECTION OF YOUR EQUIPMENT

This Is Purdue

For many years Purdue has awarded more engineering degrees than any other institution in the nation. More students study agriculture and science at Purdue than at any other college or university in the United States Purdue's schools of Home Economics. Incustrial Management, Pharmacy and Pharmacal Sciences, Technology, and Veterinary Science and Medicine are in the first ranks. As a balance to Purdue's reputation in science and technology, stands its School of Humanities. Social Science and Education, the largest school in the University.

Because we feel that Purdue has much to offer, wo'd like to introduce you to the University. John Purdue, who helped found the University just over 100 years ago, would himse'f need an introduction today.

Once it was Indiana farmland. Today its main campus in West Lafayette covers 643 acres with multistoried classroom structures and residence halfs, extensive library and research facilities, and well-filled theaters and playing fields.

Once its enrollment totaled 39, and its faculty numbered six. Today more than 35,000 people at four campuses have decided that what they want to learn is laught at Purdue, and over 2,200 highly trained instructors are prepared in teach it

Once Furgue University taught labels, fure and the mechanical arts." To favil tipes,that-light much more.

Memorial Union Stewart Center

"The corner of the campus, yet the center of activities" accurately describes the Memorial Union-Stewart Center, where thousands of people come and go daily.

In the Memorial Union, you'll find a variety of places to-eat—all open daily: Union Station cafeteria, a reminder of the railroad's past; the Sagamore Room, buffet dining with a touch of elegance—your parents may enjoy dinner here; the Sweet Shop and Stripe Shop, where you can pick up a hamburger or ice cream cone—and conversation with your friends. Here, too, are banquet rooms for special events.

The Union Club offers attractive and convenient overnight guest rooms for parents, alumni, and other University guests.

Office and work areas for student organizations are housed in the building, including the Student Union Board and the Student Union Hobby Clubs.

Want a check cashed? Watch the evening news on TV? Feel like bowling or playing billiards? Need to relax in an easy chair with a novel or listen to some music? All these services and facilities are in the union for you.

In addition, the union serves as a home for the Alumni Association and the Alumni Foundation offices. Some facilities and offices located there figure prominently in a student's life: the General Library and Audio-Visual Center, the University Placement Service, the Regional Campus Administration, the Continuing Education Administration which includes the Division of Conferences and Continuation Services, and the Calendar Office

You'll attend plays and lectures or hear chamber music in the center. It houses three auditoriums: Fowler Hall, Loeb Playhouse, and the Experimental Theatre, which supplement the large Elliott Hall of Music located elsewhere on campus.

Conference and meeting rooms for the use of students and faculty are found in the center, too. Over 14,000 sessions were held in them last year.





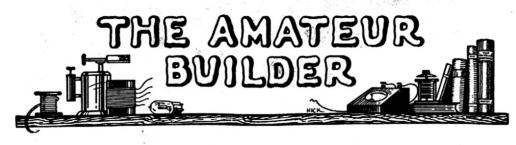


Amateur Radio
Stations



Calls Heard

Strays



FRIENDLY EXCHANGE

FOR SALE OR TRADE - Graybar 310 (uses Radiola 18) chassis, good condition. Radiola 18, fair condition. Also have Frost and Brandes phones for trade for other phones, Jack M. Bacon, Jr., 7700 36th Ave. N. Apt. 307, Minneapolis, Minn. 55427.

FOR TRADE - Melco (Amsco Products Inc.) battery radio cabinet with panel. good condition. Need parts for Crosley Band Box. Fred Prohl, 7257 Murphy Dr., Indianapolis, IN 46256.

FOR TRADE - Scott 800 B6 AM-FM radio in Chippendale cabinet. Plays on AM but not on FM. A little rust and bottom cover plate of tuner is missing. Trade for early battery set of equal value. Walt Sanders, 15 Todd Place, Terre Haute, IN 47803.

WANTED - Radio News Magazines, March 1943, May 43, Aug. 43, Sept 43, Oct 43, Nov. 43, and Jan. 44. Brent Dingman, Box 15370, Long Beach, CA 90815.

WANTED - Deforest and/or Remler Coil Mount, Crosley 50, Grimes or Bristol Equipment, and any Spark/early CW items. Rick & Chris Ammon, P. O. Box 104, Mt. Carmel, IL 62863.

WANTED - Supreme Radio Analyzer, Model 336 Deluxe, in good condition. Will trade old radios or pay cash, Mike White, 118 Countryview Dr., Naperville, IN 60540.

WANTED - Lighted radio advertising sign for my radio room. Also need one good WD-11. Gary Vierk, 2505 Kickapoo Dr., Lafayette, IN 47905.

FOR SALE OR TRADE: Sterling R-401 Tube Tester, \$5.00; Aero Shortwave Converter (1 good & 1 poor plug-in coil) at \$5.00; nice AK-33 with refinished panel, less tubes, \$35.00; Western Electric 540-AW speaker with damaged cone, but working, \$5.00 or trade me a good cone. Add postage for all. Geo. Hausske, 1922 F. Indiana, Wheaton, IL 60187.

FOR SALE OR SWAP - Battery radios, crystal sets, speakers, tubes. Send SASE. R. Lane. 2301 Indep. Ave., K. C. MO 64124



Factory and General Offices 1915 BROADWAY MENOMINEE, MICH.

TRY THIS POLISH

Use Simichrome polish for polishing metal parts, bakelite panels, etc. It works wonders and is available at motorcycle sliops for about \$1.10 a tube.

Jack M. Bacon, Jr.

ATWATER KENT

ELECTRICAL WORLD AND ENGINEER

October 14, 1899

Dynamo for Gas Engine Ignition.

The accompanying illustration shows one of two types of small generators made by the Kent Electric Manufacturing Company of Worcester, Mass., for the electric ignition of gas engines, which, we are informed, have been satisfactorily used for some months on a number of engines.

One is an enclosed waterproof type for marine work and the other is an open type for stationary engines. The field magnets are compound wound and can be relied upon to give the same



DYNAMO FOR GAS ENGINE IGNITION.

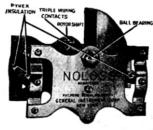
voltage at a certain speed. The coils are painted with waterproof varnish and protected by a covering. Both are solid machines and built for continued, long runs. The shafts are turned from the best of steel and the bearings are made from a very hard chemical bronze. The self-feeding woven wire brushes are prepared for elf-lubrication and wear the commutator to a polished surface.

Contributed by Alan Douglas

Made by the makers of Laboratory Equipment

TYPE 51

PYREX INSULATION



TYPE 56

ISOLANTITE INSULATION



T is now possible for the amateur to get results formerly reserved to laboratories.

The experimenter who requires every micro micro watt of energy to bring in heretofore inaudible signals must turn to General Instrument NOLOSS Variable Air Condensers.

They are constructed with laboratory methods, and insulated with laboratory insulations-Pyrex or Isolantite.

Products worthy of your purchase.

General Instrument apparatus costs a little more but is worth infinitely more.

General Instrument **JOP DOPA**

Manufacturers of Laboratory Equipment

423 BROOME STREET NEW YORK, U.S.A.

RADIO IN THE BIBLE

Bess: "What makes you think Salome was a radio fan?"

TESS: "Why she must have been. Didn't she ask for John the Baptist's head on a charger?"—Gleason Pease.

"Ballad of the Radio Collector"

As I sit and gaze at my collection, My memory fills with recollection, Of days spent travelling far & wide, Allowing fate to be my guide. Hunting that gem of misdirection.

A maze of wires, a burnt resistor, A sanded cabinet, a broken blister, Rub it down, don't lift that grain, I love you RADIO, but you're still a pain!

We leave the house at the crack of dawn.
Our women know that we're long gone.
While they stay at home & work & wonder.
We engage in our stupid blunder.
Of seeking our ever loving long lost plunder!

Speakers-Temple, Burns, Holzer-Cabot & Peerless, Most of these are nearly hearless, Scarce old tubes so hard to find. Put your project in a bind, But - on we forge - we're nearly fearless!

Atwater Kent, Radiola, Kemper & Grebe, It's about time I get a "free-by". I find one up in an attice, but all I get is a lot of static. For the owner, too, is a mild fanatic!

Come on boys, dig down in your pockets, For tubes & coils & four pin sockets, Head for that dingy off street dive, Where you can still buy an A.K. for one-ninety five. And the thrill of doing so keeps you alive!

But when we take our final ride. Out across the great divide, No more hunting, no more strain, Let the kids worry about RF Gain!

By Bob Bilbie



New

Broadcasters

CLASS A



VACATION I **RADIO**

PORTABLE SETS ARTS ACCESSORIES Send for Price List

NEW YORK CITY

The "Goode" Two - o - One





BY MAIL ONLY

Postpaid

AMPERE

GUARANTEED SATISFACTORY

The Goode Tube Corporation

FVANSVILLE Incorporated INDIANA KFQA-The Principles St. Lone KFQF-Donald A. Bouit, Min WDBP_State Normal School, Super-fror, Will.
WDBQ_Martin Radio Supply Co.
WDBQ_Martin Radio Supply Co.
WDBR_Normal Temple Bands 1990 294

| WDBR-Tenion | Lendor Baptis | 170 | 26 | KFQG S withern | 130 | 24 | KFQC The Time | 140 | 130 | 24 | KFQC The Time | 140 | 150 | 25 | 25 | KFQC The Time | 140 | 150 | 25 | 25 | KFQC The Time | 150 | 150 | 25 | KFQC The Time | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 1 1330 226 100 150 234 100 43.6 25. 10 WDBV The Onlinder Enterprises, The Strand Theore, Fort Wayner,

WDBS. S. M. K. Kodio Corp., Day, WJAB American Factric (15.), Fine-in, Neb. 140 (30)

TRANSFERRED CLASS C TO CLASS A THANSPERREL

Cold Drawn Radio Sleep, Develop

KFEL Whomer Radio Sleep, Develop

MARK Stranger

Mark 110 25 3

The Funoflex Circuit

Providex Editor:

I WAS operating a set using the Funcflex Great has highly and I found it
so selective that I can't time in all the
pieces in an orchestra at one time. Can pieces in an orchestra at our contest me how to broaden it a bit?

Anxiot s.

Funotlex Editor:

I see you are making a display of the set King George wears. Do I have to wear carphones to listen in or will an ordinary crown suffice? Jack.



Send 50c for best giving competer details of drilling, assembling, wiring and tuning 0 and 3 tube ULTRADYNE Receivers.

Phonis Radio Corp., 5-9 Brekman St., N. Y. C



349 FULTON STREET BROOKLYN, N. Y.

Send for our new CATALOGUE No. "B" The greatest radio bargain list in the Don't buy anywhere before getting our

EVERY RADIO FAN SHOULD HAVE



10 12 CAMPBELL ST.

NEWARK, N. J.

HEAR THE CONVENTION

7.00 316 Jan

THE GREATEST IN HISTORY

GUARANTEED SETS FROM \$25.00 UP TO \$275.00 STANDARD PARTS AT LOWEST PRICES.

MAIL ORDERS OUR SPECIALTY. WRITE FOR PRICES WHOLESALE RADIO SERVICE Church Street

RADIO WORLD'S QUICK-ACTION CLASSIFIED ADS.

D. 10 WORDS MINIMUM. TELEPHONE YOUR CLASSIFIED RADIO WORLD'S PHONE NOS. ARE LACKAWANNA 2062-6976.

PLAN. 50c. Place crystal detector inside of panel, adjust with dial. A. A. Stoll, 2-8 Bryant St., No. Tonawanda, N. Y.

BEST 2-TURE HOOKUP ever developed. Equals 5 tules! Latest invention! Not yet on market! Hookup and instructions, \$1.00 cash, on Radio Products, 128 B Street, S. E., Washing-ton, D. C.

51.8 - TUBES - 51.8 GUARANTEED NEW GENTINE RADIO-TRONS, ALL TYPES SENT POSTAGE, PRE-PAID, GENERAL SALES SERVICE, ONSET. MASS.

HAUNTINGLY WEIRD music similar to steel guitar played upon ordinary handsaw. No knowledge of music necessary. Mastered in three hoars. Simple instructions, \$1.00. Grady McPherson, Belleview, Tenn.

CRAM'S RADIO MAP IN TWO COLORS— Best map on the market, 13c. The Columbia Print, 1493 Broadway, N. Y. C.

BARGAIN: Freed-Eiseman neutralyne, factory onilt, Coast to coast on lend speaker. As good as new. Will sell let \$50.00, coas \$150.00. Lester J. Towle, 186 So. Gilpin St., Denver, Colo.

FULL LIST OF BROADCASTING STATIONS in Radio World dated May 17th. 1924, mailed on receipt of 15c or start your subscription with that number. RADIO WORLD, 1493 BROADWAY, NEW YORK CITY.

CET THOSE SUPERDYNE COPIES
THE Superdyne Circuit, brought up to date in
diagrams and text, in RADIO WORLD for
May 17, 24, 31. Per copy, 15c; the three copies, 45c,
or start your subscription with the first number,
RADIO WORLD, 183 Broadway, New York City.

MAGNAVOX R3-Latest standard models with modulator. Factory scaled carrons. Regular price, \$35.00. My price, \$24.50. Models M1 same price. C. Schantz, Dept. W., Wymore, Nebr.

HOOK-UPS FOR EVERYBODY—"Henley's 222 Radio-Circuit Designs." Mailed for \$1.00 post-pald, The Columbia Print, 1493 Broadway, New York City.

PATENTS—Write for free Guide Books and Record of Invention Blank before disclosing inventions. Send model or sketch of your invention control of the property of the state of the control of the charge for the above information. Radio, Liec-trical, Chemical, Mechanical and Tralemark experts. Victor J. Evans & Ca., 28 Ninth, Washington, D. C.

PATENTS—SEND DRAWING OR MODEL FOR EXAMINATION AND OPINION. Booklet free. WATSON E. COLEMAN, Patent Lawyer, 644 G Street, Washington, D. C.

MAGNOVOX R3—Latest nationally advertised reproducers; electrical modulator. List, \$35.00. Introductory, \$25.00. The factory sealed carton is your guarantee. Radio Central, Dept. W. Abliene, Kanasa.

RADIO WORLD'S CLASSIFIED DEPART-MEXT. If you want to buy, sell or exchange any-shing, use RADIO WORLD'S Quick-Action Clas-fied Department, 5 cents per word, 10 words antinuum, RADIO WORLD, 1403 Breadway, No. York City.