The Superflex

A Publication of the Alabama Historical Radio Society June 2019

NOTE FROM PRESIDENT DAVE

Greetings !!
May at AHRS did not see any big events. However, a few of our members attended the world's largest international hamfest near Dayton, Ohio, sponsored by the Dayton Amateur Radio Association. The attending members report kindling relationships with officers of the Antique Wireless Association (AWA) and the Japan Amateur Radio League (JARL), the equivalent of the American Radio Relay League (ARRL) here in the U.S. We will have more details on this exciting development, next month.

Attendance at the Shop has been good and work continues on many projects. As reported last month, Stewart Welch picked up his Zenith console radio and was very pleased with the way it turned out. We hope to get some good exposure for the Society from this project.

At the next AHRS business meeting on June 24 we will have another membership auction. Please plan to attend the meeting and bid on the items for sale.

The Society will participate in the Shelby County Amateur Radio Club in Helena on June 14 and 15, as covered in our previous email. If you are available, we need help loading and transporting the items we have for sale and display. Please be at the shop at 1:00 P M Friday, if you can help. We also need help manning the booth at the hamfest. However, for those who can not attend the hamfest, Dee Haynes will open the Shop, as usual, on Saturday morning.

The electronic classes have continued on schedule. As you may be aware, Instructor Joe Minor has issued a new schedule for upcoming classes. Please check the Schedule later in this newsletter for dates.

Mike Royer with WVUA, channel 23 in Tuscaloosa visited the shop and interviewed several members for a story. The story will air on Friday, June 21, 2019 at 5:00 PM and 10:00 PM.

Thanks to all who have helped with Society programs and projects.

See you at the shop!

Dave

WHAT'S HAPPENING AT THE SOCIETY

The Rest of the Story…….

Submitted by the Steven Westbrook

The beautifully restored Zenith console radio, featured in the last newsletter, is now living happily in the foyer of the offices of The Welch Group with owner Stewart H. Welch III. Mr. Welch is also the mayor of Mountain Brook, Alabama.

Feedback: Tube Room Rules

Submitted by the Editor.

A professor friend of the editor supplied invaluable information I have since forwarded to Steven Westbrook, author of the Tube Room Rules. The feedback pertained to the use of the word "cludder" as pertaining to trash and other materials left about the tube room. It appears that a "cludder" is defined as a bunch of cats. Steven continues to insist he was simply using the southern intonation of the word "clutter". Member Ed Boutwell first brought this to our attention, but offered no information as to what the word "cludder" actually meant. The editor thanks Professor Dexter Alexander, W4DLA for helping us clear up this matter. The editor accepts no responsibility whatsoever for not questioning the use of the word "cludder" and has declared the matter closed.

Frank Roberts' Cleartone 110 Radio Project

Submitted by the Editor.

Frank purchased this absolutely spotless Cleartone 110 radio receiver here pictured with Frank and Dee Haynes.

This radio came on the scene at a time when 115 VAC was readily available and people were no longer satisfied with battery powered radios. Hence the Cleartone 110 was powered by 115 VAC with the exception of the bias supply which was supplied by a 40V battery according to the tube speciifications.

The Tube complement of the radio was five McCullough 401 triodes in a three stage TRF configuration coupled to two audio stages. The ausio output was transformer coupled to a headphone jack and one assumes a suitable horn speaker. B+ was present on the headphones so magnetic headphones with their higher impedance reproducers would be a requirement.

The power supply is of a conventional transformer, full wave rectified by an 80 tube, capacitor input filtered design. A bleeder resistor composed of a 10K resistor and a 25K resistor in series offer up the two levels of B+ voltage used to power the receiver. 3V AC was supplied to power the filaments of the five McCullough 401 tubes. Maurice Lovelady assisted Frank In checking the power supply for proper operation. Further study will be required to provide a source for the bias supply (C-).

We should take a moment here to describe the McCullogh type 401 tube. The tube had a traditional 4 pin bas as found on many hot cathode triode tubes of the day such as the type 30 tride. However, the McCullough sported a "cold", indirectly heated cathode. McCullough solved the problem by capping the tube with a bakelite cap sporting two connections for applying the voltage to the filaments, leaving one large pin of the 4 pin tube base unconnected. A limited number of these 401s were produced. The editor did find that Spartan-Cardon Tubes of Jackson, MI did manufacture a direct replacement for the McCollugh tube, with the 4 pin base, with the filament connection pins protruding from the base close to the glass.

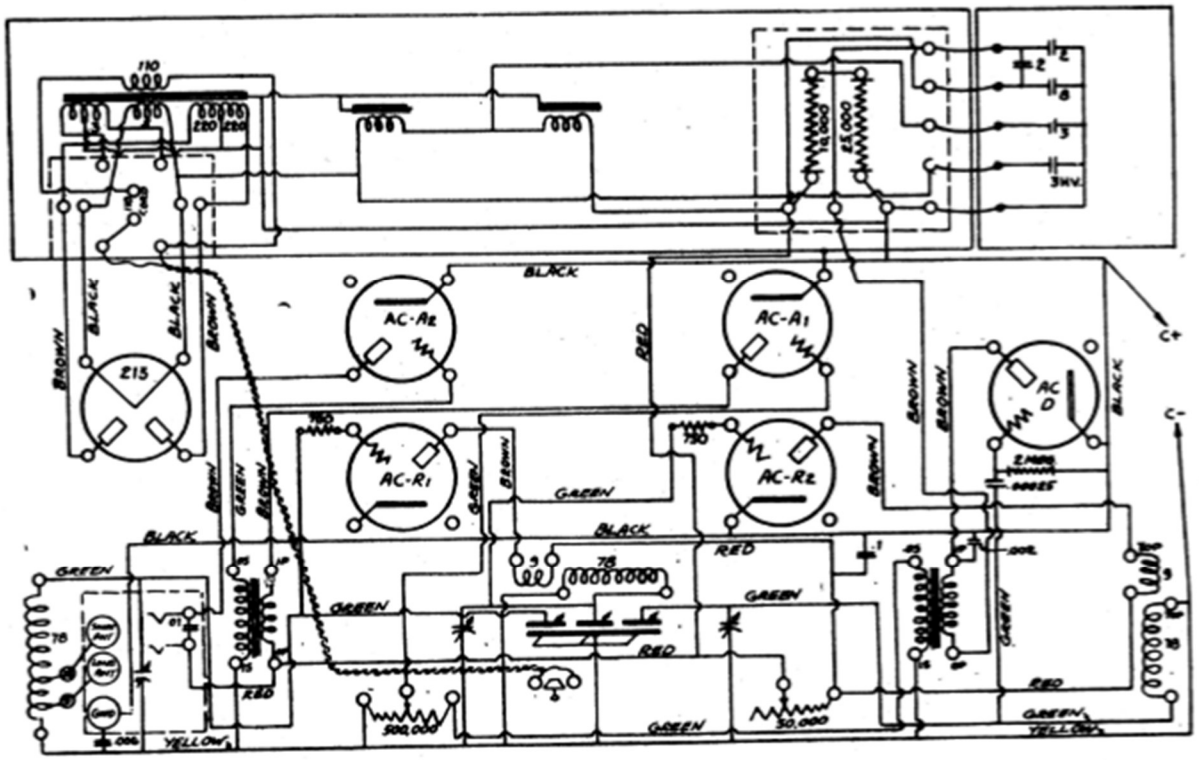
The radio was received by Frank with a tab caveat describing the tube complement as being for display only, the original 401s having been removed. No source could be found for the 401s. Research suggest substituting a type 27 tube for the 401s. The type 27 has a 5 pin base. Frank ingeniously modified tive 4-pin base removed from discarded tubes to provide a socket for the five pin 27 tube and connections for the external filament voltage. The 401 tube requires 3V AC on the filaments at 1.35A while the 28 requires 2.5VAC so some method of reducing the 3VA from the Cleartone supply will be required.

Interestingly, the schematic diagram for the Cleartone 110 from Rider publications showed the tube connections a viewed from the top, rather than the more conventional view from the bottom. The schematic was more of a pictorial X-ray view of the chassis and was difficult to read. See the article on schematic diagrams below.

Restoration of this radio will be an ongoing team project we will follow closely here in the "Superflex".

Early Schematic Diagrams

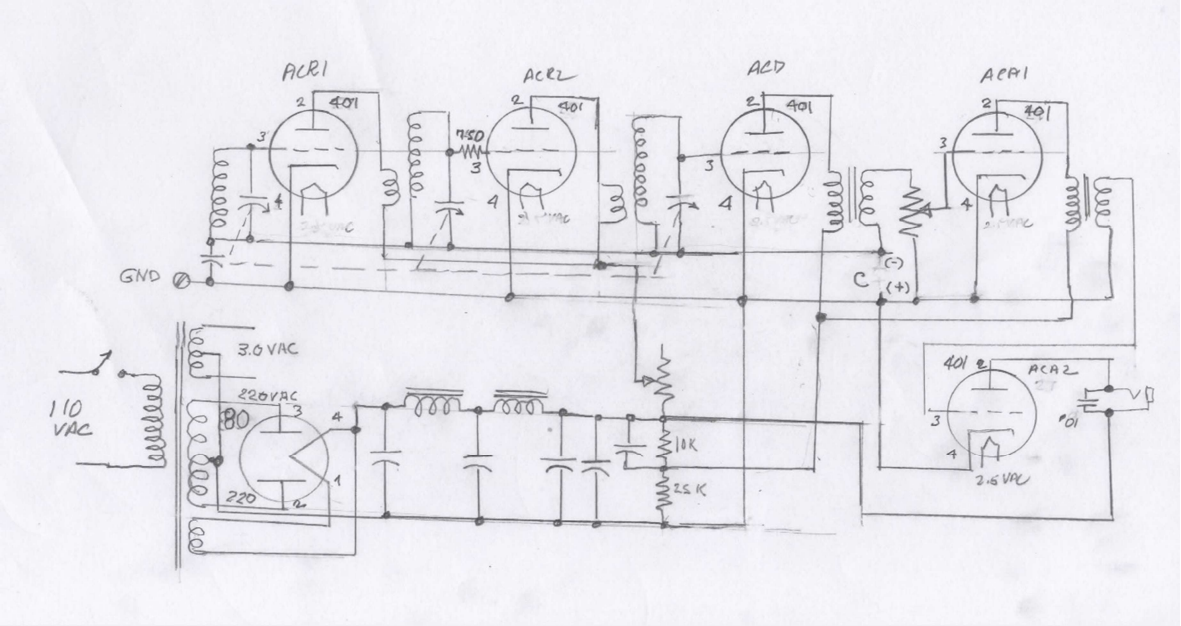
Early schematic diagrams may prove difficult to interpret and lack information. For those of us involved in the restoration of an early radio these early diagrams can be a barrier to ou success. For instance take a look at the Rider pubs presentation of the schematic for Frank Roberts' Cleartone 110.



Model Cleartone 110

One look at this diagram and noticed several things right away. The symbols used are not what we would expect. For instance look at the AC plug, if you are having trouble finding it follow the twisted wire from the power supply down to the lower center of the diagram between the two variable resistances. A quick look at the base diagram for the McCullough 401 tube will instantly reveal to you that the schematic shows the tube sockets from the top, not the bottom and there are no pin numbers. Tube ACR1, has an open cathode and that surely will not work, no electron flow there. If you want to see the power supply filters go all the way over to the left side of the diagram. The wiring seems to take a myriad of paths through the diagram. The engineer responsible did label the wires as yellow brown and red etc.

Drawing another diagram using modern symbology can be a help.



And even then, more and more questions……

To be continued.

New Library Additions

Submitted by David Cisco

At the Dayton Hamfest, David Cisco in his on going search for new things for our library procured nine bound copies of the Amateur Radio Handbook dated 1932 to 1940. These copies have the “Measurements Corp.” across the bottom of the spine and it is believed these custom bound editions of the handbook came from the desk of Harry W. Houck. Dave did a bit more research and provided a biography of Mr. Houck.(1.) In this biography you will see many familiar names of pioneers in radio and radio broadcasting.

“Harry William Houck was horn on April 11, 1896 in New Cumberland, Pennsylvania and was brought up there. It is not recorded that he was born with a silver telegraph key in his hand, but at the age of thirteen, in 1909, he built a

crystal radio receiver set, a 3000 watt spark transmitter, and connected them to a high multiple wire antenna through a send-receiver switch. With this equipment he was in contact with a wide circle of other [[Amateur Radio|amateurs]] over considerable distance. The set, though silent now for over 50 years, is still one of Mr. Houck's treasured possessions

The amateur period came to an end with our entry into World War I. Mr. Houck's proficiency at [[radio]] had come to someone's attention in the military (the Navy had at times asked him to interrupt his transmission) and late in 1917 Sergeant Houck reported to Captain [[Edwin H. Armstrong|E. H. Armstrong]] who was in Paris to develop some of his radio ideas for the Signal Corps. Houck's trip to Paris involved being in a French hospital, escaping AWOL from the confinement, being reported dead, but making it to Paris very much alive. Armstrong was developing his [[Superheterodyne Receiver|superheterodyne method of radio reception]] and he found in Houck a collaborator whose drive, craftsmanship and originality were invaluable. They became life-long friends and frequent coworkers in after years.

After the war the association continued in Armstrong's laboratory at home and at Columbia University with the enthusiastic support of such men as Professors [[Michael Pupin|Pupin]] and [[John Harold Morecroft|Morecroft]]. Here, with Houck as co-inventor, an improved superheterodyne circuit was developed to serve the new broadcast radio field. This second harmonic superheterodyne circuit as designed by Houck was the basis of a large commercial production of broadcast receivers.

In the years 1923 to 1931 Houck was chief engineer of the Dubilier Condenser and Radio Company, and here his inventiveness and research on capacitors led to the "battery eliminator", enabling receivers to operate on straight A.C. house current. In this period, and through the 1930's, Houck was also associated as consultant for or other of a number of other organizations such as Federal Telephone and Telegraph Company and Micamold Radio Corp., and he maintained his close contact with Armstrong working with frequency modulation. By the age of 35 he had contributed widely to the radio field.

In 1940 Measurements Corporation was formed with Houck as president. The goal of this organization was to supply instruments of high accuracy for measurements in the high frequency field of radio. This started a long line of ever improved high quality instruments. In 1953 Measurements Corp. became a division of Thomas A. Edison Industries with Houck as Vice President and General Manager. The same arrangement was maintained when in 1958 a further merger made the McGraw-Edison Company the larger parent organization. Under Mr. Houck's supervision and his active participation in the design and developmcnt the line of instruments was always al the forefront of the art, with many original contributions by himself and his co-workers. The list of his patents grew towards 90. He retired from Measurements at the beginning of 1967.

Among the many awards given him he treasures the Armstrong Medal

of the Radio Club of America (1941) and the Marconi Medal of Achievement of the Veteran Wireless Operators Association (1955). He was a Life Member and [[IEEE Fellow Grade History|Fellow of the IEEE]] and a Fellow of the Radio Club of America.

Mr. Houck was married in 1920 to Maud Stailey, who died in 1969. On his Silver Spray Farm he read extensively in technical literature and follows his other hobby of photography."

1. Retrieved from "https://ethw.org/w/index.php?
   Title = Harry W. Houck&oldid=172365

From The AHRS Archives

Submitted by Steven Westbrook

My Hobby

By Don Kresge, Founder of the Alabama Historical Radio Society

As a youngster, in 1922, I became interested in them, what was called “wireless”. I became intrigued with the idea that perhaps someday people could talk around the world. The idea that I might be able to instantly talk with someone in Europe was absolutely fascinating. Consequently, I read everything I could find on the subject and decided to try my hand at “listening in”.

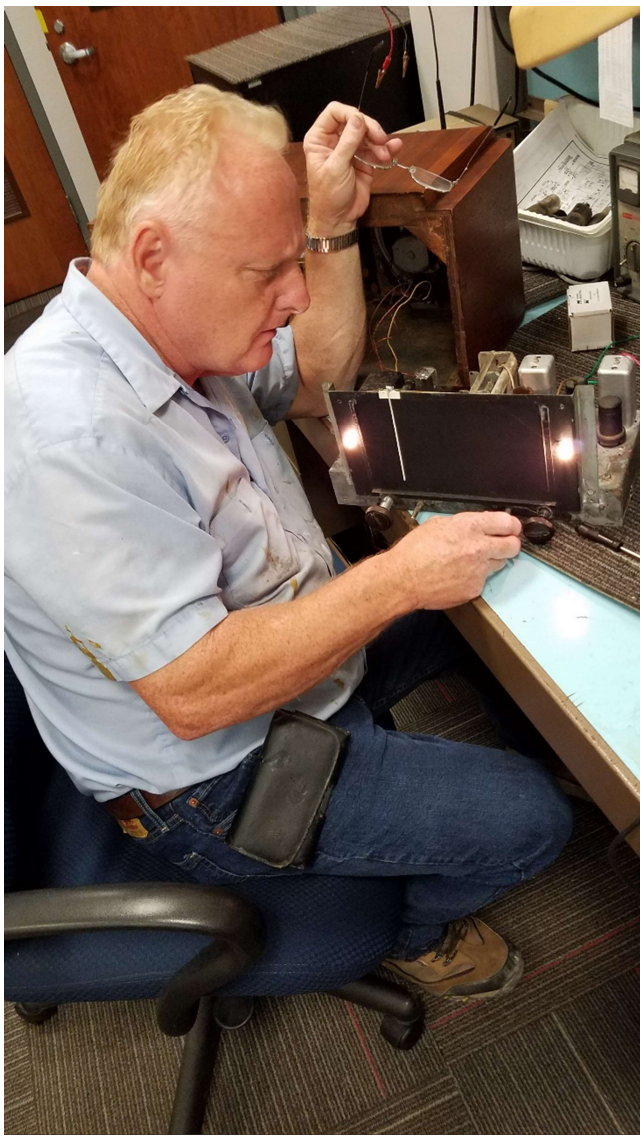
Don Kresge in his basement shop on the southside of Birmingham, Alabama

Walking Through The Shop

Submitted by the editor.

Bob Freeman and Ed Boutwell working on a cartridge tape.

President Dave Johnson and Frank Parker bringing an Echophone back to life.



New member Knox Sharp working on his project..

Will Henderson and Rick Curl making instant ice cream and dippin’ dots with some liquid nitrogen.

President Dave Johnson getting interviewed by Mike Royer for a WVUA presentation on AHRS to air on the 21st of July at 5:00 and 9:00 PM. After the shoot Mike walked through shop.

SATURDAY MEETINGS

We meet every Saturday (unless a Holiday weekend) at 9:00 a.m., at the one-story AHRS Shop at the corner of 8th Avenue North and 18th Street, (1801 8th Avenue North, Birmingham, AL 35203). Birmingham, AL 35203). Use the rear (Southeast) entrance.

TUESDAY MEETINGS

The Shop is open on Tuesdays at 9:00 a.m. until around 11:30 a.m. when we go to Marilyn's Deli and Dog for lunch next door. Note that parking can be a problem on Tuesdays, so you may have to find street parking occasionally.

REGULAR MEETINGS

We meet on the fourth Monday night of each month, too, at 7:00 p.m. Please come join us!

FREE ELECTRONICS CLASSES

One more great benefit from becoming a member of AHRS--free Electronic classes!
Classes are taught the first Saturday of each month (except when something special is taking place, then we agree on what Saturday).
We start from the beginning Ohms Law, inductors, resistor and Capacitors color codes, as well as what each component does within the radio circuits. We also teach how to use test equipment used in the repairing of radios. We teach troubleshooting radio troubles, as well as how to read a radio diagram. There are coil winding classes, and one-on-one repair help. Come join these classes!

Schedule for AHRS Electronic Classes for the Remainder of 2019

July 13, Second Saturday

August 3rd First Saturday

September 14 Second Saturday

October 5th First Saturday

November 16th Third Saturday

December 7th First Saturday

MEMBERSHIP DUES

Membership dues are $25 a year, payable beginning in January. If you have questions about your dues, you can contact Treasurer Mike Woodruff at 205-823-7204. Dues can be mailed to AHRS at P.O. Box 131418, Birmingham AL 35213.

WEBSITE

Be sure and check out our website at https/www.alabamahistoricalradiosociety.org, which has copies of all newsletters from 2006 to the present (click on News), videos, photo galleries, museum, Old Time Radio columns, Projects, Reading Rooms, Archives, and Contact Information

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