ELECTRIC RADIO

celebrating a bygone era

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ELECTRIC RADIO

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The Purpose of Electric Radio

Electric Radio is published for amateur radio operators and others who appreciate vintage radio equipment. It is hoped that the magazine will stimulate the collecting of, and interest in, this type of equipment.The magazine will provide information regarding the modification,repair and building of equipment. We will also work towards a greater understanding of amplitude modulation and the problems this mode faces.

Electric Radio Solicits Material

We are constantly searching for good material for the magazine. We want articles on almost anything that pertains to the older amateur equipment or am operation. From time to time we will also have articles and stories relevant to the C.W operator and the SWL. Good photos of ham shacks, home-brew equipment and A.M operators (preferably in front of their equipment) are always needed. We also welcome suggestions for stories or information on unusual equipment. For additional information please write us or give us a call.

EDITORS COMMENTS

The first issue of ER was a success. Despite its flaws, the many errors and the less than perfect print job it has been received favorably. It was most gratifying to tune around the a.m. frequencies and hear the positive comments. I also received many letters and phone calls. This is all very encouraging.

The big hit of issue #1 was the interview with Leo Meyerson, WØGFQ. We've followed that up this issue with the story of his war-time business, Scientific Radio Products. In future issues, in this same vein, we will have interviews with similar pioneers of amateur radio. Stuart Meyer, W2GHK, has agreed to an interview. He is an outstanding individual with an illustrious background in amateur radio. Most notably he was the president of Hammarlund from 1960 to 1966. He has held positions with Aerotron, RCA and E.F. Johnson. He has also been an officer in the Radio Club of America, a past president of the QCWA, and a past president of the IEEE Vehicular Technology Society. He is a charter life member of the ARRL. I may have this interview for the July issue.

Another story/interview we will be featuring is on Al Gross, W8PAL. Al is well known and highly respected in professional circles but I think not very well known amongst amateurs. He was first licenced- at the age of 15- in 1933. In 1936 he constructed (2) 300 mhz hand held, 1/2 watt battery operated transceivers. These units were refined by Al for the OSS (Office of Strategic Services) and used by spies in Germany during WW2.

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Cover:

Leo Meyerson receiving the E award from representatives of the Army and Navy, Oct. 2 , 1943. Pictured with Leo is Rose Paluka ,the editor of the "Crystal Gazer", the company newspaper. The E award was the highest award given to civilians for an oustanding contribution to the war effort. The story is on page 12.

THE GLASS MENAGERIE

Vacuum Tubes in the 80's - Where Do We Go From Here?

by Bill Kleronomos KDØHG

Edward J. Richardson

For antique electronics buffs, there's no one item more important than a continuing supply of vacuum tubes, for without them our prized equipment becomes nothing more than non-functioning assemblies of iron, copper, aluminum, and glass-pretty to gaze at, but with a permanently silenced voice. Without tubes, your prized 1955 Macintosh amplifier will never play the strains of Mozart, your '53 Wurlitzer jukebox might spin Jailhouse Rock-but you'll never hear it, and you could call CQ all night long with your Johnson Valiant, but you'll never get a response out of the ether.

Tubes in the 1980's, obsolete technology. So, where are they continuing to come from, who's still making them, and how long will they continue to be available? For answers to these questions I turned to Edward Richardson, chairman of Richardson Electronics, for answers. Richardson Electronics, based in suburban Chicago, had over $100 million in sales last year in tubes and semi-conductors, and is also heavily involved in the manufacture of tubes. Richardson was founded in 1947 as a distributor of tubes and other electronic parts, and until the early 1960's was still run as a two man shop. By hanging on to the idea that replacement tubes will always be needed while virtually everyone else abandoned the field, Richardson grew over the years and is now perhaps the world's largest combined distributor and manufacturer of vacuum tubes.

Q. Mr. Richardson, obviously there's still a market for tubes. So why did RCA and others discontinue the manufacture of receiving tubes?

A. Strictly the economics of scale and efficiency. In 1961 annual sales of receiving tubes amounted to some 300 million units, but by the last year of manufacture in 1981 sales had declined to some 15 million per year. There wasn't enough business to go around.

Q. Is there any truth to the rumors that before RCA closed down their Lancaster, PA assembly lines they made and stored millions of tubes for future sales?

A. Not really. While they did store a number of tubes, it was far from that.

Q. I understand Richardson has purchased several other manufacturers of tubes or their manufacturing equipment over the years.

A. Yes, we own parts of the RCA, Cetron (best known to hams as the company that made the 572B), GE, National and Amperex. We also are in a joint venture with a firm named MPD, formerly the GE Microwave Products Department of Owensboro, Kentucky, in the continued manufacture of receiving and small transmitting tubes. In 1988 we acquired the power tube line of Westinghouse and the Phillips transmitting tube line.

Q. Other than your firm, who else manufactures tubes in the U.S.?

A. Well, there's Varian (Eimac) with sales of some $220 million per year, Litton Industries and Burle.

Q. What about the manufacture of receiving tubes? Eimac and Litton specialize in big transmitting and other special purpose tubes.

A. No one, other than MPD in Owensboro.

Q. I take it that there isn't much interest in manufacturing receiving tubes.

A. Our growth in tube sales is in the large transmitting types, specialized military types, such as night vision devices, and CRT's such as those used in video display terminals. Receiving tubes are only a small part of our business, and sales are declining. Actually, it's almost not profitable to make any tube that costs less than $25 anymore.

Q. That doesn't sound real encouraging for those who need a continued supply of receiving types to keep old equipment up and running.

A. Actually, we import tubes from worldwide sources to keep the lines of supply open. We import tubes from India, Yugoslavia, Hungary, England, China and the Soviet Union.

Q. What about these Russian tubes?

A. Actually, they're not a major source for us. They did turn out to be manufacturing types similar to our 12AX7 and others, but tubes are becoming obsolete there for many applications also. They're not that far behind the times. What's more interesting is our Chinese sources of supply. In China, a worker can spend several hours assembling a grid structure by hand, welding each of the dozens of connections manually. The workers there view each assembly they create as something of an individual work of art, and consistency from tube to tube is something of a prob-

over

lem if we don't carefully maintain inspections and other quality control checks.

Q. Well, why not use automated assembly here in the States?

A. The cost of labor in China is so small, it's hard to beat. While it takes just a few seconds to wind a grid on a machine here, there are other costs involved.

Q. Since as you say the receiving tube market is declining, I suppose there is no longer any R&D going on to impove existing types or to bring new varieties on the market.

A. Actually, there is, believe it or not. There is, especially in Europe, a growing movement among audio buffs to bring back vacuum tube technology. Many there feel that tube equipment provides a better sound than solid state equipment, and several manufacturers are bringing newly designed tube equipment on the premium audio market. A manufacturer approached us to provide a premium replacement for the old KT-88 audio power amplifier tube, and our staff reverse engineered a tube to meet their specifications. They are planning to purchase several tens of thousands of these over the next few years.

Q. So what can you say to those of us who continue to need tubes to keep our equipment running?

A. Richardson Electronics is doing everything it can to keep supplies available. Not only do we have millions in stock, but we are constantly looking for new sources of supply worldwide.

The results of this interview should give us some basis to plan for the future of our hobbies or businesses, be it the operation or restoratin of audio, television, or amateur radio equipment. There are still plenty of tubes to go around, and many of the more common types continue to be manufactured. The bad news is that as supplies get tighter and price inflation continues costs are going up dramatically, especially for many transmitting types used by amateurs. For example, in 1984 a 4-400A went for $85 new, and today's price is about $200; an 8874 went for $180, and now it's $370. Fortunately, the prices of receiving tubes are holding the line, and are actually a bargain considering the labor involved in their manufacture. Additionally, since hundreds of millions were annually manufactured until the mid 1960's, there's going to be a lot around for many years to come.

I wish to sincerely thank Edward Richardson for graciously taking the time to contribute to this story, and wish both him and his business well in a field that everyone else gave up on.

Editors Comment:

Because tubes are such an integral part of vintage amateur radio ,we will have further articles in the future dealing with some of subjects touched on in this article.

One of the areas that particularly interests me is the renewed interest in tubes by the companies involved in the manufacture high quality audio amplifiers.

REFLECTIONS DOWN THE FEEDLINE

By Fred Huntley W6RNC

The interview with Leo, WØGFQ, in the first issue of this magazine hit a lot of resonant frequencies. Among others, was his mention of radio row (in Chicago), loop modulation, and the magic of early day radio.

I remember my first job in 1934, as office boy with an export firm at 50 Church St. in downtown New York City. That was a little over a block away from Radio Row on Cortlandt St., between Greenwich and Washington streets. Solid rows of radio stores on both sides of the street stocked with almost every imaginable type of radio sets, parts, tubes and surplus. The side streets were also solid with radio stores, plus scattered groups of still more such stores as far as several blocks away—as far as Canal St. Those were the days before flea-markets and swap nets and there was nothing more fascinating than wandering around Radio Row; looking at all the parts and gear in the display windows.

On Washington St., some stores had old bc radio chassis stacked out in front on the sidewalk. My first venture into radio was to buy one of these, a Neutrodyne receiver, for $ .50 and take it home, where I took it apart to see what it was made of.

Blan, The Radio Man's store, always had some fascinating electro-mechanical gadjet in operation in his front display window. There was Harrison, Harvey, Terminal, Sun, Leeds and a lot of other famous stores. Those were the hobbyists days of paradise, except we didn't know it then. Now, Radio Row doesn't even exist. The whole area was obliterated to make way for the gigantic World Trade Center skyscraper office buildings. But, the memory lingers on.....

Loop modulation was interesting to me. I never actually tried it, but the simplicity of the idea was intriguing. There were a few of these still operating on 160 meters in the late 30's. They were 50% voice, 50% RF noise and broad as a barn, but adequately readable for a local qso. Hats off to those experimenters and their burnt noses. Speaking of simplistic solutions to complex problems, I often wondered if Art Collins developed his mechanical filter device the same way I almost (?) did. I was using this old Brandes headphone set with my National SW-3 receiver. By loosening the bakelite screw-on caps a certain amount, a sharp resonant frequency peak appeared—in fact amplified to give a very strong, piercing sound to a cw signal. Unfortunately, that was as far as my inventive ability went.

In his interview " Globe King Leo" sort of lamented that the early day magic of amateur radio has disappeared. Maybe so, but there is still some romance and mystique left for the ham who uses glass vacuum tubes. Many a ham has had his imagination inspired by the sight of one of these big bottles—visualizing the super colossal transmitter that he would build to use it with.

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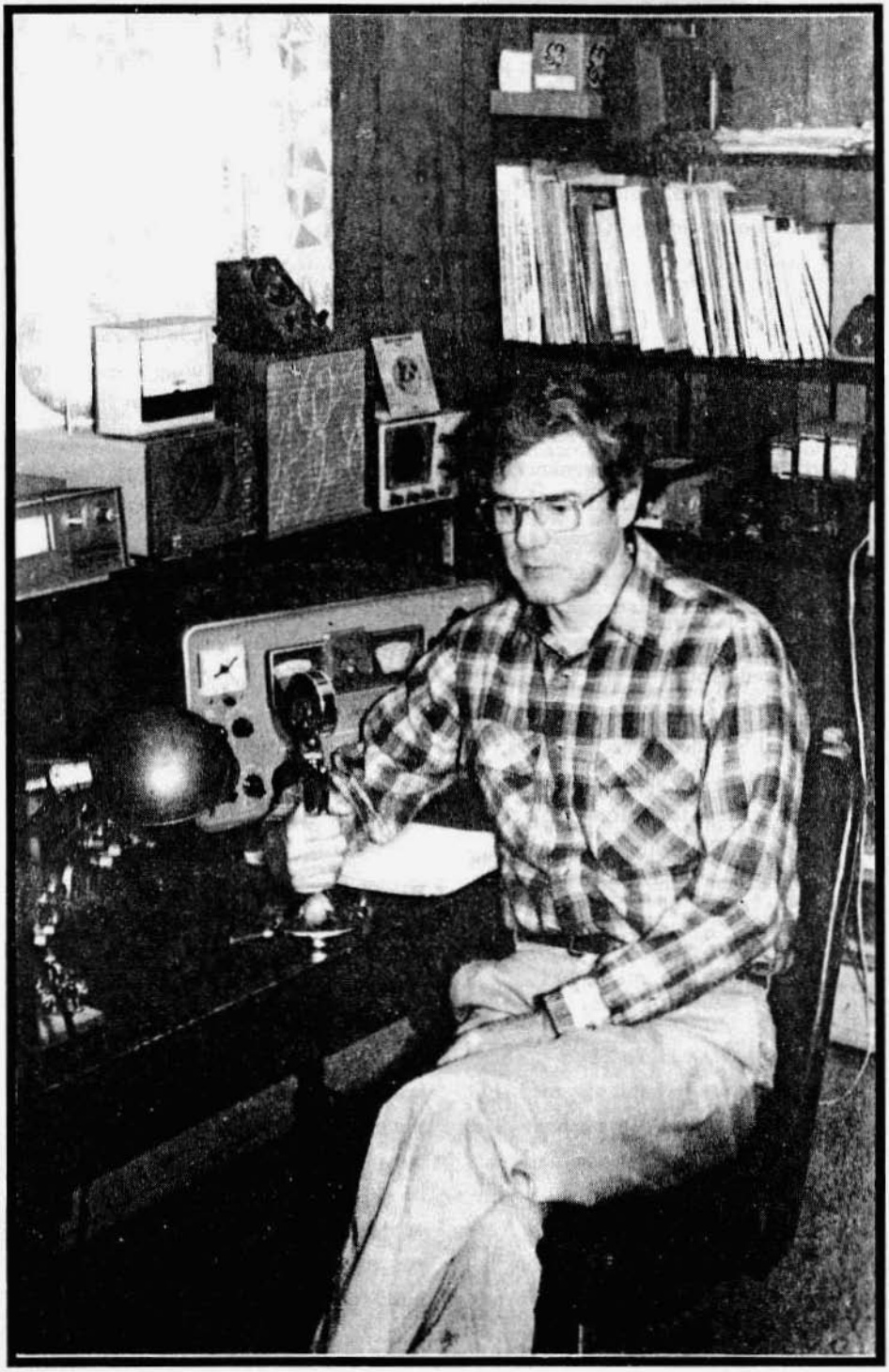

THE BUILDING OF A TRANSMITTER

By Bill Eberle K2EJX

The construction of the rig I am about to describe was the most enjoyable time I have had in amateur radio. I received my Novice ticket in 1953, and proceeded to build a crystal controlled CW 6L6 rig, with a 5U4 rectifier, which ran about 10 watts. After upgrading to General, I decided that I would like to run a little more power, so I decided to build an amplifier, using the 6L6 to drive it. About that time, the January 1954 QST arrived, which contained a cover article on a "Three-Control Six-Band 813 Transmitter".

My father, who was not a ham, but who introduced me to the hobby and who encouraged me to get my license, suggested that I build the rig, and offered to help me finance some of the parts. I had a part-time job which also helped pay for the components.

I was 16 years old when I started working on the rig in the middle of 1954. I tried to follow the construction notes in the article, with the aid of detailed photographs of both the top view and under the chassis. I sent away for two large 8 1/2 by 11 photographs of the pictures that appeared in the article. The rig was assembled in three sections, the high voltage, low voltage and RF sections. The schematics for the power supplies came from an ARRL Handbook, probably 1954.

Most of the parts were war surplus, and I remember getting parts from B&A in Missouri. Parts I couldn't send away for I purchased from my local ham supply store, Ft. Orange Radio in Albany, NY which was my home town. A number of the larger parts, such as transformers and filter chokes were given to me by several generous hams and my father gave me the tubes as a Christmas present, all but the 813 which I bought surplus from a ham.

In order to save money, I decided to rack-mount the rig into an old refrigerator which my father and I picked up in the front of an appliance store near where he worked. When we got the refrigerator home, I removed the front door and its hinges, the compressor section, which was in the lower part of the refrigerator, and the cooling section in the upper part. I then borrowed my uncle's sabre saw and carefully cut out the back of the refrigerator, through the laminated cardboard insulation and through the inside porcelain, which of course was hard to cut. This opening served as the mounting area for two steel 19-inch black crinkle painted panels. I then drilled sixteen 1/4 inch holes on either side of the opening to mount the panels. On the upper section of the opening I carefully soldered 1/4 inch nuts to the inside of the refrigerator because I couldn't get my hands between the RF section and the inside of the refrigerator to put the nuts on the stove bolts needed to install the RF section. After this was accomplished, I mounted four steel roller casters on the bottom so that I could roll the rig if necessary. I then sprayed

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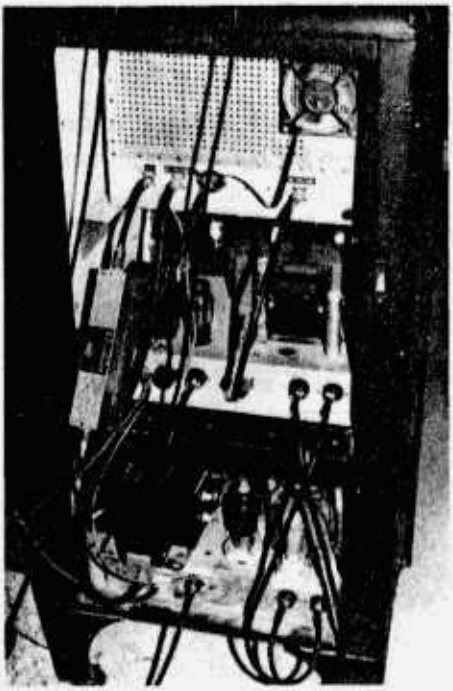


the entire cabinet with dull black Krylon spray paint.

I first built the high voltage power supply. I remember how large the high voltage plate transformer looked on the chassis. The secondary voltage was about 2800 volts, either side of center. At that time (before I burned up the transformer) I used a pair of 866's mercury vapor tubes and the filter capacitors were the old gray square oil filled type which probably contain PCB, which is thought to be a carcinogenic. I hope they will never explode spraying PCB all over. I remember the beautiful sight of the blue glow of the tubes, and the pleasing gentle hum of the transformer. In the supply, as per the handbook, I put a switchable electric heating element in series with the primary of the plate transformer. During tune-up the helical-shaped heating coil drops the plate voltage. During operation of the rig, the mercury tubes would intermittently arc over even though I was careful to let them warm up first. Eventually the plate transformer shorted out so I then located a used Stancor plate transformer which unfortunately didn't have sufficient secondary voltage, only about 1200 volts either side of center. I decided to change the supply to a bridge rectifier using four 3B28's which gave me the correct DC voltage, and then I placed the supply in the bottom of the refrigerator where the compressor used to be. I mounted a sheet of perforated aluminum to hide the opening. I used perforated aluminum so that air could circulate across the high voltage supply.

The low voltage supply uses a 5Z3 full wave rectifier, and the supply is located on the bottom of the refrigeration section of the refrigerator.

The RF section is mounted to one of the 19-inch panels with a number of 8-32 machine screws. It slides into place on two angled metal brackets bolted to the refrigerator with eight 1/4 inch stove bolts.

There are five switches on the lower 19-inch panel. The first four turn on the filaments, the low voltage supply, the low setting of the high voltage, and the high setting of the high voltage, while the fifth switch turns on the filaments of the external modulator. There are three 110 volt lamps which indicate filaments, low voltage and high voltage. Around the lamps were installed metal shields, which I con-

structed from ordinary tin cans, which served to keep light from an illuminated bulb from interfering with adjacent bulbs which might not be on at the same time. In the center of this panel is located a plastic Dodge automobile symbol which I removed from my father's 1950 Dodge dash after installing a car radio in its place. There was no electrical or mechanical reason for doing this, just thought it looked sharp.

To keep things cool, there are three fans: one blows air across the high voltage rectifier tubes and bleeder resistors, another circulates air under the RF section, while the third, a muffin fan, draws air from the tube compartment of the RF section. When I first built the rig, the RF section was cooled by a squirrel cage fan I installed just below the low voltage power supply and I directed the air to the back of the RF section through a flexible auto exhaust pipe which I cemented with auto body putty to a round hole I had made in the back of the RF section. Regrettably, turning on this fan sounded like hitting the ignition switch of a 747, so I decided to replace it with the muffin fan which was much quieter.

The tube line-up for the rig is as follows:

Oscillator		5763
Voltage Regulator		0A2
Cathode Follower		6C4
Buffer		5763
Multiplier		5763
Multiplier/Driver		6146
Amplifier		813
Low Voltage Rect.		5Z3
High Voltage Rect.	(4)	3B28

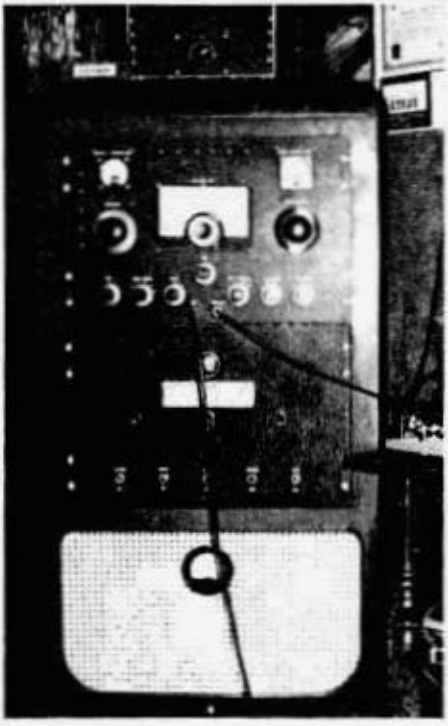
Control for Keyer	12AU7
Keyer	6BL7

(above from supplemental article)

The tube line-up for the external modulator is as follows:

Audio Amplifier		6SL7
Modulator	(2)	6Y6

There are three transformers in the RF section. They are mounted under the chassis, and one is mounted sideways on two perforated red metal platforms which I used from an old Erector set, which I had outgrown by this time. One transformer supplies the filament voltage for the 813 (10 volts), another supplies the filament voltage (6.3 volts) for the other tubes. The third transformer is a 6.3 volt filament transformer wired backwards, that is, the 6.3 volt output of the other filament transformer is wired to the secondary of the third filament transformer, and its output (110 volts) serves as the input to two bias supplies. The AC is rectified by two selenium rectifiers, one of which eventually burned out having that awful smell. One supply provided bias to the 6146 driver tube and the other biases the 813, and optionally cuts off the 6146. Two current meters were installed: one is a switchable 50 ma meter, while the other is a 500 ma meter. My neighbor, an electrician, lent me a large hole punch to punch holes in the panel so that I could mount



the current meters. It required all my strength to turn the cutting bolt through the 1/8 inch steel and I felt lucky that I didn't break the punch. At that time I didn't own chassis punches, and therefore had to ream all the chassis holes with two different size reamers and a rat tail file. Both meters are enclosed in metal boxes for shielding. Unfortunately the surplus meters I used do not look exactly alike. The final tuning capacitor is rotated with a National 5 to 1 gear reduction which really helps in dipping the final plate current.

The VFO is relatively stable, and operates in the 3.5 Mhz region, while the rig itself operates on 75, 40, 20, 15 and 10 meters. The variable capacitors and coil in the VFO are completely enclosed in a metal box bolted to the chassis. The screen of the oscillator is regulated with a voltage regulator tube. All covers were fastened with either 6-32 or 8-32 machine screws spaced about 1 1/4 inchs. To keep the enclosure really RF tight, I folded pieces of aluminum foil between the edges of the metal covers which form the enclosure. A number of holes had to be tapped since I couldn't get the nuts on the other side. Part of the final tank circuit required bending copper tubing into the shape of a coil which required a little experimenting. The 813 required no neutralization although on occasion the 813 took off and drew nearly 300 mills, instead of the nominal 220 mills I use to operate it on CW. Under full load the final operates at 2,000 volts, at 220 mills (440 watts).

Frequency multiplication takes place in the 5763 multiplier stage which drives the 6146 driver stage. Each tuned circuit contains two coils and a dual variable capacitor. Adjusting the rig requires tuning the grid circuit of the 6146 for the appropriate grid drive peak depending on the correct frequency multiple, either 1st, 2nd or 3rd harmonic of the fundamental, 3.5 mhz. Next the plate circuit of the 6146 is tuned for the appropriate plate current dip depending on the correct frequency multiple, either 1st, 2nd or 3rd harmonic of the frequency that the grid circuit is tuned to. The 813 grid drive is adjusted, and the plate is dipped for the correct band. By trial and error I determined the correct values for the tuned circuits and printed them on paper which I mounted under a piece of plexiglass on the front of the rig.

There were two supplemental articles (June 1954 & Oct. 1956 QST) on the rig which were very helpful. They described common problems, and included a modification to the rig for adding a two-tube differential keyer consisting of dual triodes, 12AU7 and a 6BL7. The author, Vernon Chambers, also described a method to neutralize the final. Since I didn't have a neutralizing capacitor, I tried to neutralize the final by running a stiff wire from the grid of the 813 up the side tube. I am not sure what happened, but it seems to me that wire arced over to the tube putting a hole in the side of the tube, which I had to replace with my second 813 which I am presently using. I added the keyer, and changed the 813 RF choke with a National R-175. The original choke was hand-wound as described in the initial article. When I first built the rig, I had trouble getting enough drive on the higher bands. I wrote to Vernon Chambers and he told me to look at two things. Lo and behold, I had reversed the wiring of the switch which selects the turns on the secondary of the final tank circuit. The low setting is for 75 and 40 meters, and the high is for 20, 15 and 10 meters. The 6146 driver is located horizontally under the chassis and is separated by a metal shield, shielding the tuning capacitors of the grid of the 6146 from the grid of the 813. I used shielded wire through this metal shield to the grid of the 813 which changed the capacitance of the tuned circuit. I rewired it with non-shielded wire and my drive went up. As it turned out a number of people had made the same mistakes I did.

I built the modulator about a year after I built the rig. It is external to the rig, and plugs into the front in the cathode jack which opens the cathode of the 813 placing the modulator in series with the cathode. It is a grid modulator which was described in the 1955 ARRL Handbook, in an aritcle entitled,"A Simple Grid Modulator". The modulator was quite easy to build, requires small components and does not require a plate supply since it derives its voltage by the voltage drop across the 6Y6's and its cathode resistor. I first built it with one 6Y6 but under high current conditions the plate started glowing red, so I decided to parallel it with another 6Y6. When placed in series with the cathode of the 813, the plate current drops to about 1/2 of the CW current. The cathode resistor is varied until the current drops to this value. The modulation of the rig sounds pretty good even though it is not quite 100% modulation. I use a preamp D-104 (Silver Eagle) to drive the modulator.

In conclusion, the rig, which weighs about 245 pounds, still works fine, and I operate it regularly on 10 meters AM. I get a lot of compliments on the audio quality. I would be interested if anyone else is still around who uses a rig of this design.

Editors note: I have worked Bill many times on ten meters. I think it would be true to say that he has one of the best a.m. signals on the band with his home -brew transmitter. His audio comes as close to broadcast quality as anything I have heard.

SCIENTIFIC RADIO PRODUCTS

The story of Leo Meyerson's war-time crystal manufacturing

by Leo Meyerson,WØGFQ, as told to Barry Wiseman

Last month , in an interview, we covered Leo's entire career; from his boyhood start in amateur radio, through the years of his various business activities-WRL, Globe, and Galaxy. In the course of the interviewl asked Leo about the war years. The following story is almost exactly the way Leo told it and as I recorded it on tape. Ed.

When the war started we got an edict from the government that all amateurs had to get off the air, take down all their antennas and box up all their equipment. That's what was facing me after just getting started in the amateur business. WRL was down to one employee taking a few orders for service parts. Clearly I had to look for some other way to survive the war years.

I had heard through the industry that the military was looking for quartz crystals and that they were having some difficulty finding them. I had fooled around with crystals in the late 20's and early 30's but I had never cut any quartz.However, I knew a ham named Al Shideler, who was working for a gas company in Fort Dodge, Iowa, who had a home-built gravity saw and was cutting quartz.

I called Al Shideler and told him about what I had heard. I asked him if he would be interested in coming to Council Bluffs and investigating it further with me.

He said,"Leo, I would love to but I'm a captain in the reserves and I could be called up at any time". I suggested to him that there might be a possibility that we could get deferments if the military needed the crystals bad enough.

He came in to Council Bluffs and we got in touch with the signal corps main officer. At that time he was in Philadelphia. We said that we had heard they were looking for quartz crystals. He said that they were and asked us what we knew about the process. We assured him we could make crystals. He said that in that case he would put us in touch with Motorola who was acting as the general distributor of all crystals for the military. At that point I told him that we didn't want to invest a lot of money getting set up if there was a possibility of being called up for service.

He said,"We need the crystals badly. If you fellas can demonstrate the ability to make crystals we will give both of you deferments".

So he gave us the person to get in touch with at Motorola. We called Motorola and went through the whole thing again,"Are you guys for real, can you make crystals?"

We said, "Yes", keeping our fingers crossed of course. They sent us 5 crystals. They wanted us to make 3 of each and get them back to them as soon as possible. Al and I worked night and day for about 3 days making up the crystals.We took very great pains to do a good job and get the crystals right on frequency. When we got them finished we took them up to Chicago to Motorola.

We left Council Bluffs about ten o'clock at night and got into Chicago about 7 in the morning. We then took a bus to the Motorola factory. We brought our crystals in and gave them to Professor Noble. He was the chief engineer in charge of all crystals the military bought. We sat around waiting for several hours.

About 2 o'clock in the afternoon he came out and said,"Your crystals passed very well,do you fellas think you can handle an order?"

We were delighted. We said," We can handle anything you can give us".

He handed us an order for 80,000 crystals at $8.53 each. We were dancing. We

were very excited.

We went back to Council Bluffs and started setting up the factory there. One of the things we did was convert drill presses to lapping machines.

We manufactured crystals there all during the war.We had a work force of over 500 employees and the factory operated on a 24 hour basis. We produced about 25,000 crystals a month.We also taught about 13 other companies our manufacturing techniques.

One of our more important innovations was the development of the ability to hear the crystals on the lapping machines. We could connect a receiver to the crystal while it was on the lapping machine and actually hear the crystal being ground. Previously the girls would have to remove the crystal from the lapping machine, clean it and so on and "mike" it to determine if they were near the desired frequency. This process saved about 8 hours of a 24 hour day.

We also got involved in sputtering with gold and silver. With a vaccum process we could put gold or silver on the crystals eliminating the need for electrodes.

Anyhow, all those things made us the "fair haired boys" in the crystal business during the war. We received the Army and Navy E award for our efforts. That was the highest award given to civilians for their contribution to the war effort.

At wars end I wanted to get back to building transmitters, so Al Shideler took over Scientific Radio Products. He moved the company first to Omaha and then out to Colorado. He operated it for many years-through the Korean War when crystals were again in big demand-and later sold the company to TRW.

There was a terrific pent-up demand for transmitters after the war. You can imagine all the guys returning from service with a great desire to get back on the air. I can remember the day that we were allowed to get back on the air. You couldn't believe the QRM or the amount of activity. I was very happy to be involved with amateur radio again.

AM PHONE QSO PARTY?

The perennial interest in operation of early CW transmitters has brought queries: how about early phone? To do this and have an annual AM Phone QSO party, there will be a need to determine interest and develop guidelines. Here are some suggestions: (1) have two classifications, (a) 1931 or earlier transmitters using Heising modulation and 10 watts or less input, (b) 1932-39 transmitters with Class B modulation and power less than 50 watts; (2) use only prewar receivers; (3) operate on the 75-meter band.

If you are interested in demonstrating this early type of transmission, write and let me know: Bruce Kelley, W2ICE, Main St., RD #3, Holcomb, NY 14469 [BK]

The above was taken from the Antique Wireless Association quarterly, The Old Timer's Bulletin. I think the publication is excellent. It's available only as part of AWA membership. To become a member mail a check for $10. payable to AWA, to Joyce Peckham, Box "E"Breesport, NY 14816

HE'S WORKING ON SOMETHING HE CALLS "SOLID STATE RADIO"

NORTHWEST AM'ERS

Photo taken at Puyallup,Wash. Hamfest March 12, 1989

Left to Right:

W7JKY, Barry Sims, Oregon City, Or.
Barry is a very active AM'er. His collection of gear includes a homebrew 4-400a amplifier,a Valiant, a Ranger and a B&W 5100. He's currently restoring an SX-28. He also has a National NC-300 and a HRO-60.

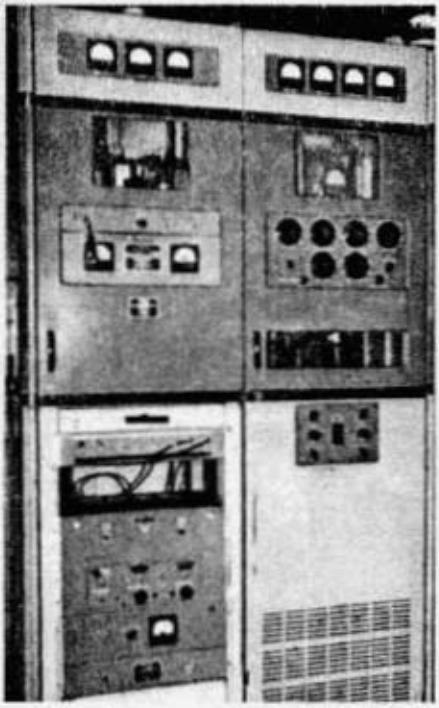
K7YIR, Pat Person, Bothell, Wa.
Pat is a major collector of vintage gear (over 150 pieces) and one of the most active AM'ers. His collection includes almost the complete Johnson line, many peices of Collins gear- like the T-440 on the opposite page-plus representations from all the old manufacturers. More on Pat on the opposite page.

W7OUI, Don Samuelson, Federal Way, Wa.
Don is a broadcast engineer. He is relatively new to the ranks of the AM'ers.

WA7AMI, Rod Sheffer, Seattle Wa.
Rod is also broadcast engineer and a very interested and active Am'er. He has a Valiant, a Ranger and an HQ-180. He also has a great deal of broadcast equipment including a Collins 20V-2 which runs a pair o;f 4-400A's in the final and is modulated with a pair. It runs about a kw.

N7MHI, Al, Seattle Wa.
Al is a new ham who is very interested in a.m .

The transmitter in the picture is a TCK wartime unit which runs a pair of 813's. Pat says it sold at the hamfest for $200. He also said it weighed about 600 lbs.



Pat , K7YIR , sent me the picture of the transmitter above. It's the Collins model T-440. The military designation was FRT-24. It has a single 4-1000A in the final and it's modulated by a pair of 4-400's. It's continuous coverage from 1.8 to 32 mc. It also has auto-tune. It weighs about 1500 lbs and stands over 6ft high. It was made in 1955. He says that now that he has it working he will be restoring it cosmetically.

Pat has other large broadcast transmitters and will be contributing an article on them in the future.

He also told me that two years ago he acquired a 200 ft.,rotatable, broadcast tower and is working towards erecting it. He says it's a big job for a private party and he would never have taken the project on if he didn't have the heavy equipment for the job.Pat will be supplying us with an article on the complete project with photos.

The tower weighs about 14, 000 lbs. It is triangular and the base is 14 ft. on a side. The bottom 50 ft. is stationery while the top 150 ft. rotates. It will be unguyed. The pilings required at the base will be 21ft. deep and 18 inches in diameter.

At this point Pat has completed the permit process and will be starting the actual erection as time becomes available to him.

I think the story and photos on this project should be very interesting to us all. We look forward to the article Pat.

AM FREQUENCIES

6 METERS 50.4

10 METERS.....29.0—29.2
Nationwide activity when band is open.

20 METERS.....14.286 6pm Ca. time nationwide. Called the 20 meter SPAM group it welcomes anyone operating a.m.. It's a daily net. Sometimes it doesn't get started until about 6:15. Check-ins number from half a dozen to a dozen and the net usally carries on until about 9. For any SWL people who want to hear some big a.m. signals with outstanding audio this is a frequency to note.

40 Meters.....7160, 7195.5 and 7290
The SPAM group meets on 7160 at 4pm Ca time every Sunday. There is usually a large number of check-ins, mostly from the west coast.
7195.5 is where you might here some late night activity. 7290 is another frequency that's used by Am'ers.

75 Meters.....3870..3880 ..3885
The westcoast SPAM group meets on 3870 Wed. at 9.00 Ca. time . Every night there is activity on or around 3880, 3885. These freqs. are used nation-wide.

160 Meters.....1885....1945
1885 kcs from 7 to 9 Ca. time. Mostly L.A. stations. Nightly activity on 1945 kcs, mostly north-central states.

COLLECTING THE HALLICRAFTERS

A LIFE SENTENCE !

by Chuck Dachis WD5EOG, "The Hallicrafter Collector"

If you had told me in 1974, when I began this collection, that I would still be collecting fifteen years later I would have said that you are nuts! I figured that they probably built a couple dozen radios, and that didn't seem too difficult a project. Well -- I was wrong -- about the number of products, and the project of collecting, restoring, and displaying them. One thing that has frustrated my efforts is not knowing what there is to collect! The original production records of the company were lost or destroyed many years ago and there has been little documentation on what was produced until I began compiling and organizing it in the form"product list".

Just when I think that I have it under control and that I have found all the items that Hallicrafters produced I invariably discover a new product series that I never knew existed, and thus must begin looking for it! I may never physically own one of each unit produced, but I at least want to include them in my chronicle of the company's production. To date I have found over 30 different major product series, each may contain as many as 200 models, and this does not include WW11 military gear! I really believe that this is a lifetime project.

The largest portion of this collection is Ham radio gear, which is what most of us think of when we hear the name

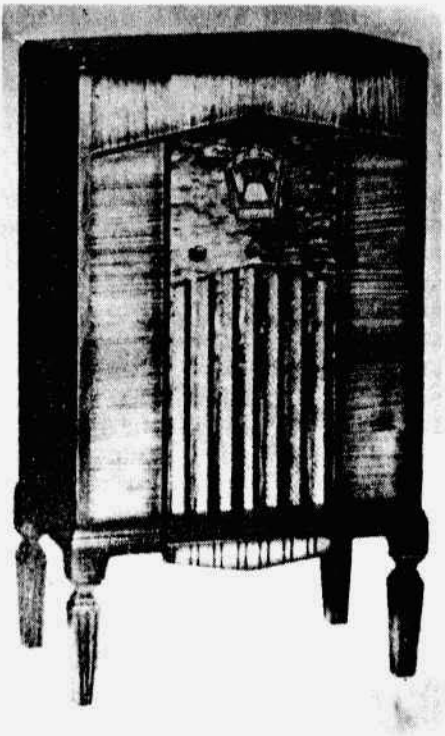
Hallicrafters. There is a lot more! For example a rather extensive product line of home entertainment equipment, including hi-fi and stereos, clock radios, TV's, protable radios, and even electronic organs, and there is no doubt in my mind that were Hallicrafters still in business I would be writing this article on a Hallicrafter computer!

This collection has over 260 different major units, not to mention another 130 or so duplicate and "parts" units. So - you say- where in the world do you find space for all this? Well, that's a real problem. Currently I wake up to the sound of a Hallicrafter clock radio on my night stand, drink my first cup of coffee at the writing desk of my DD-1 in the dinning room, watch "Good Morning America" on the T-54 in the den and, well, you get the point! They all live in my home with me, or perhaps I live in their home! The attached 2 car garage has never had a vehicle in it in the 13 years I have lived in this house. I use it for storage of non restored units and to do the restorations. The bulk of the collection is in one of the bedrooms, which is absolutly full, and then there are the closets!

My dream, and actually a necessity, is to open a museum to properly display the products and memorabilia of the company. I am looking for a sponsor for that project—any offers? There are many units that I want to find.

This list represents most of them, or at least what I am aware of at this time. My first priorities are the 1934"H" and Silver Marshall sets, some of which are pictured here, and the single digit Sky Riders. Any help in obtaining these items would be wonderful, and no doubt that in 2004 I"ll still be at it!

The want list follows on the next four pages.



Hallicrafter model 2-10 1934

HALLICRAFTER UNITS NEEDED FOR THE COLLECTION

MODEL	COMMENTS
S-1	SILVER" FRONT PANEL,"AIRPLANE" DIAL, "SKYRIDER"
S-2	SILVER" FRONT PANEL, "AIRPLANE"DIAL, "SKYRIDER"
S-4	"SILVER" FRONT PANEL, "AIRPLANE" DIAL, "SUPER SKYRIDER"
S-6	"SILVER" FRONT PANEL,ANE"DIAL, "SUPER SKYRIDER"
SX-6	SILVER" FRONT PANEL, "AIRPLANE" DIAL, "SUPERSKYRIDER"
S-7	SILVER" PANEL, "SILVER" METAL DIAL, "SUPER SKYRIDER"
SX-7	SAME AS S-7 BUT HAS XTAL FILTER
S-12	BLACK PANEL, SILVER DIAL, "SKYRIDER COMMERCIAL"
SX-12	SAME AS S-12 BUT HAS XTAL FILTER
S-19	LOOKS SIMILAR TO S-19-R, SINGLE TUNING KNOB (NO BAND SPREAD)
S-27-B	
S-27-FCC	"BUILT FOR FCC" WILL BE ON FRONT PANEL SOMEWHERE
S-30	RADIO DIRECTION FINDER WITH LOOP ANTENNA ON TOP OF CASE
S-33	TRANSCEIVER, 3 TUBES, BATTERY POWER, "SKY TRAINER"
S-35	PANORAMIC ADAPTOR CONSISTING OF SX-28 & PAN ADPT IN CABINET
S-38-EB	BLACK CASE
S-38-E MARK 11	
SX-38	NOT S-38, LOOKS SIMILAR TO SX-28
S-40-AU	WILL RUN ON 120 OR 240 VAC, VOLTAGE SWITCH ON POWER XFORMER
S-40-BU	120-240 VOLT AC, VOLTAGE SWITCH ON POWER XFORMER
SX-42-U	120-240 VOLT AC, VOLTAGE SWITCH ON POWER XFORMER
S-53-U	120-240 VOLT AC
S-53-AU	120-240 VOLT AC
S-56	AM-FM, 11 TUBES, CHASSIS ONLY (NO CABINET)
S-59	AM-FM, 8 TUBES, CHASSIS ONLY (NO CASE)
SX-62-U	120-240 VOLT AC
SX-62-AU	120-240 VOLT AC
SX-62-B	
SX-71-U	120-240 VOLT AC
ST-74	AM-FM TUNER, 7 TUBES, CHASSIS ONLY (NO CABINET)
S-76-U	120-240 VOLT AC
S-78	AM-FM, 11 TUBES, CHASSIS ONLY, NO FM-AFC (78-A HAS AFC)
S-81	152-174 MC, FM, "CIVIC PATROL"
A-85	HI-FI AUDIO PRE-AMP
S-109	AC-DC VERSION OF THE S-108
SX-112	
S-118 MARK 11	
SX-122-A	
S-125	"STAR QUEST"
S-129	
SX-147	
S-200	"LEGINNAIRE"
S-210	
S-214	
S-240	
HT-2	SAME AS HT-1 ONLY NO AUDIO MODULATOR

HT-3	MARINE RADIO TELEPHONE
HT-4	MUST BE HT-4, NOT BC-610
HT-5	MUST BE HT-5, NOT BC-614
HT-8	MARINE RADIO TELEPHONE "THE CRUSING"
HT-11	MARINE RADIO TELEPHONE "THE ENSIGN"
HT-12	MARINE RADIO TELEPHO
HT-14	MARINE RADIO TELEPHONE "THE COMMODORE"
HT-23	BASE STATION UNIT, "LITTLEFONE"
HT-25	MODEL RADIOTELEPHONE "LITTLEFONE"
HT-26	MODEL RADIO TELEPHONE "LITTLEFONE"
HT-32	NO LETTER SUFIX, JUST PLANE HT-32
HT-32-B	
HT-33	
HT-33-A	
HT-45	ALSO COULD BE "RADIO INDUSTRIES" "LOUDENBOOMER"
SR-34	NOT SR-34AC
SR-42	NOT SR-42-A
SR-160	
SR-400	"CYCLONE"
SR-400-A	"CYCLONE 111"
SR-500 CONSOLE	NEED CABINET ONLY, (IT'S NOT THE SR-500 "TORNADO")
SR-500	"TORNADO"
SR-540	NO NAME ON THIS ONE !
SR-750	ALSO CALLED "CYCLONE"
FPM-300 MARK 11	"SAFARI"
HA-1A	NOT HA-1
HA-11	NOISE SHIELD KIT FOR USE ON CB UNITS
HA-14	CARRING CASE & BATTERY CHARGER FOR CB-5
HA-15	SOME KIND OF CB ASSESSORY
HA-16	VOX ADAPTOR FOR SR-160, & HT-46
HA-18,18-A	CODE PRACTICE OSC.WITH BUILT-IN KEY
HA-32	ANTENNA ROTATOR BUILT BY "RADIO INDUSTRIES"
HA-36	AC ADAPTOR FOR CR-44, 44-A
AT-2	ANTENNA TUNER FOR HT-4
AT-3	ANOTHER ANTENNA TUNER FOR THE HT-4
P-20-A	BASE POWER SUPPLY FOR SBT-20 SERIES
BL-20	COOLING FAN FOR SBT-20 SERIES
RM-10	ACCESSORIE FOR FM-5 & FM-10 SERIES
RCM-100,RCB-100	REMOTE CONTOL "HEADS" FOR SBT-100
CT-2,CT-4	ACCESSORIE, TONE SQUELCH UNIT FOR FM SERIES UNITS
TS-20, TS-22	TEST SET FOR USE ON SBT SERIES UNITS
TS-201A	ANOTHER TEST SET FOR SBT SERIES
MC-401S,MC-412S	NI-CAD BATTERY CHARGES FOR HC-400, ALSO MC-412SR
CN-1	FM CONVERTER, CONVERTS OLD FM BAND TO PRESENT FM BAND
CRX-2	NOT CRX-2A
CRX-5	
CRX-101	
CRX-103	
CRX-103A	

CRX-104	
CRX-105-A	
CRX-106	
CRX-107	
SPEAKER,12" & 8"	TABLE TOP BLACK STEEL CABINET, "SPOKES" TYPE GRILL, 2 SIZES
R-8	8" PM SPEAKER IN WOOD CONSOLE CABINET WITH "h" FOR GRILL
R-12	SAME AS THE R-8 ABOVE BUT HAS 12" SPEAKER
R-44-B	SPEAKER, GRAY STEEL CASE, NOT R-44
R-45	SPEAKER, RACK MOUNT, "REPRODUCER", NOT R-42
R-49	SPEAKER, 4", IN SMALL STEEL CASE, MOUNTING BOLT ON TOP
CB-2	CITIZENS' BAND UNIT
CB-3	CB UNIT, NOT CB-3A
CB-4	CB UNIT, "LITTLEFONE"
CB-5	CB UNIT, PART TRANSISTOR, "LITTLEFONE"
CB-5A	SAME AS CB-5 ABOVE
CB-10	CB UNIT, ALL TRANSISTOR
CB-12	CB UNIT, ALL TRANSISTOR
CB-19	CB UNIT, TUBE TYPE
CB-21	CB UNIT, SOLID STATE, "REACTER 11"
CB-24	CB UNIT, SOLID STATE
HO-1	OSCILLOSCOPE, 5"
WR-600	LOOKS LIKE THE S-120, CASE IS DIFFERENT COLOR
WR-1500	SAME AS S-118 BUT HAS WOOD CASE
WR-2500	AM-FM-SW TABLE RADIO, WOOD CASE
TW-200-A	4 TUBE AM PORTABLE RADIO, TAN COWHIDE CASE
TW-201-A	SAME AS TW-200-A EXCEPT CASE IS GRAY
TW-202-A	SAME AS TW-200-A EXCEPT CASE IS GREEN
TW-2000	MULTIBAND PORTABLE RECRE SIMILAR TO ZENITH TRANSOCEANIC
5R10	NOT 5R10A, LOOKS SIMILAR TO S-38-D
5R31	SMALL AM-SW TABLE RADIO IN BRIGHT COLOR BAKELITE CASE
5R32	SAME AS 5R31 ONLY DIFFERENT COLOR CASE "CONTINENTAL"
5R34	SAME AS 5R31 ONLY DIFFERENT COLOR CASE "CONTINENTAL"
5R35	SAME AS 5R31 EXCEPT COLOR "CONTINENTAL"
5R36	SAME AS 5R31 EXCEPT COLOR "CONTINENTAL"
5R37	YOU GUESSED IT !
5R38	SAME AS ABOVE
5R39	SAME AS ABOVE
5R50	AM-SW TABLE CLOCK RADIO, BAKELITE, SAME AS 5R31 WITH CLOCK
5R51	SAME AS ABOVE EXCEPT COLOR, "CONTINENTAL"
5R52	SAME AS ABOVE EXCEPT COLOR, "CONTINENTAL"
H-5	THE FOLLOWING "H,Z,K,&J" SERIES BUILT BY SILVER-MARSHALL
H-6	IN 1934, MOST ARE BROADCAST TYPE IN VARIOUS WOOD CONSOLE
H-7	AND TABLE TOP CABINETS INCLUDING "CATHEDRAL" TYPES,AND
H-8	MAY SAY HALLICRAFTER ON THE DIAL.
H-8PA	
H-10	
H-12	
H-13	
Z-13	

Z-10	
J	CAR RADIO, SEPERATE CONTROL HEAD
K	CAR RADIO SIMILAR TO MODEL "J"
EC-1	"ECHOPHONE COMMERCIAL", NOT EC-1-A OR EC-1-B
EC-4	"ECHOPHONE COMMERCIAL"
EC-6	"ECHOPHONE COMMERCIAL"
EC-400,401,402	CHASSIS ONLY, 11 TUBES, AM-AM-SW
EC-403, 404	CHASSIS ONLY, 15 TUBES, AM-FM-SW
T-60	16x22" PROJECTION TV SET IN RACK TYPE CABINET
T-64	TV SET, STANDARD TUBE, CAME IN 10 OR 12", TABLE TOP,CONSOLE
T-69	SAME AS T-64 BUT 15" TUBE
505	7" ELECTROSTATIC TV IN WOOD TABLE TOP CASE, NOT T-54
AT-CL-7	TABLE TOP AM CLOCK RADIO
CA-4	AIR CRAFT TRANSCEIVER, 195 TO 410 KC, VIBRATOR SUPPLY
CR-44	LATE 60'S TYPE MULTI BAND PORTABLE RADIO, MADE IN JAPAN
CR-44-A	SIMILAR TO ABOVE
CR-50	SIMILAR TO CR-44, MADE IN JAPAN
CSM-30-2	30 WATT TWO METER "BUSINESS" TRANSCEIVER, MOBILE UNIT
CSB-30-2	SAME AS ABOVE EXCEPT IS "BASE" UNIT
CSB-100-2	SAME AS ABOVE EXCEPT 100 WATTS & IS IN "DESK CABINET"
OPS/FM-1B	HAND HELD TRANSCEIVER, 148-174 MC, MID 60'S VINTAGE
OPS/FM-1H	SIMILAR TO ABOVE
FM-2L	SAME AS FM-1A ABOVE BUT FOR 30-40 MC
FM-5G	PORTABLE TRANSCEIVER, 2 CHANNEL
FM-10	SIMILAR TO FM-5
FM-10-A	SIMILAR TO FM-5G
FM-56	ALL TRANSISTOR TABLE TOP AM-FM CLOCK RADIO,MADE IN JAPAN
HC-100H	HAND HELD 2 CHANNEL 2 METER HAM TRANSCEIVER
HC-170	SIMILAR TO ABOVE BUT HAS 6 CHANNELS
HC-400	SIMILAR TO ABOVE BUT FOR 450-512 MC
HC-450	SIMILAR TO ABOVE BUT IS FOR 406-512 MC
HC-500	SIMILAR TO ABOVE BUT FOR 450-470 MC
HT-1E	HAND HELD TRANSCEIVER, SIMILAR TO FM-1 SERIES
HT-2A	SIMILAR TO HT-1E
MHS-402	DIGITAL SIGNAL GENERATOR, 2.75-33.75 MC
PC-210	2 CHANNEL PORTABLE FM TRANSCEIVER
PC-210F	SIMILAR TO PC-210
OPS/RU-5A	REPEATER ADAPTOR FOR FM-1 SERIES
SBT-20	SIX CHANNEL, TUBE TYPE SSB TRANSCEIVER, EXTERNAL POWER
SBT-20B	SOLID STATE VERSION OF THE SBT-20 ABOVE
SBT-22	SOLID STATE 6 CHANNEL SSB TRANSCEIVER, PARAMILITARY TYPE
SBT-100	VERY SIMILAR TO SBT-20, BUT HAS 100 WATT OUTPUT
TR-5A,B,C	PARAMILITARY 1 CHANNEL TRANSCEIVERS, AM MODE
TR-9	SOLID STATE 6 CHANNEL AM TRANSCEIVER, PARAMILITARY UNIT
TR-20	SIMILAR TO TR-5 ABOVE
TR-88	6 TRANSISTOR AM PORTABLE RADIO, LEATHER CASE, 1955 VINTAGE
622	6 TUBE AM-SW TABLE RADIO, PLASTIC CASE, 1955 VINTAGE
R-44/ARR-7	MILITARY VERSION OF THE S-36, WWII VINTAGE
H2M-500	2 METER TRANSCEIVER, PLL, ALL MODE, 144-148 MC
H2M-1000	SIMILAR TO ABOVE BUT FM MODE ONLY

A LOVE AFFAIR..... or .... Notes on the BC-610

by Art Rideout WA6IPD

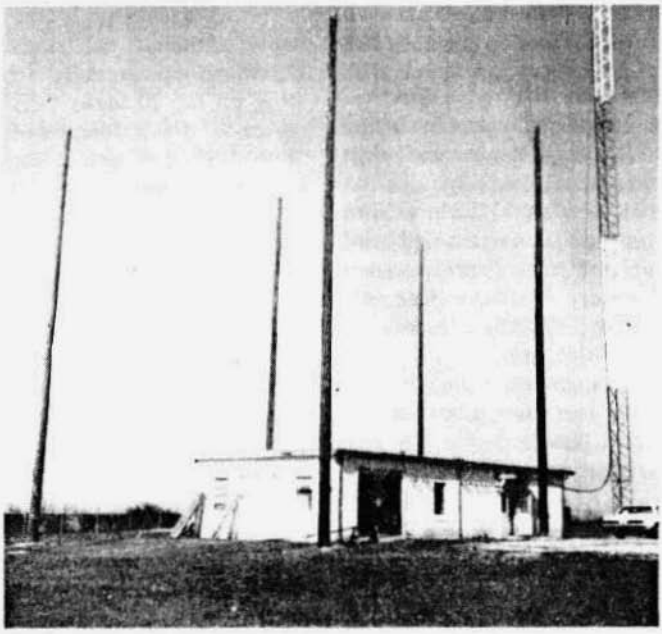
The very first time I fell in love was in 1949 when I saw my first BC-610E. To me it was the ultimate radio transmitter.

In 1952, during the Korean War, I had the honor of running cryptographic messages between Generals Van Fleet and Clark via BC-610s on each end. The BC-610s used the BC-939 Antenna Tuning Units running into whip antennas mounted on one end of the shelter in which the transmitter was located. Our power was derived from portable power units.

After the war I was selected to teach the BC-610 theory of operation and trouble shooting techniques at the Air Force Officer Communications School at Scott AFB in Illinois. Trouble shooting was always a fun day. Troubles would be introduced to the transmitter and it was then up to the students to identify possible problems which would match the symptoms. The most fun was not to put in a trouble at all, just install the wrong coil, the wrong crystal with the wrong tuning unit, loose cable connections etc., then just sit back and watch the fun. In addition to these duties I also ran field operation exercises.In these exercises students would operate mobile, in motion, communicating with other field units. Field units would also be interconnected with remote EE-8 field telephones.

Early models of the BC-610 were notorious TVI generators. The BC-610I model that I have generates less TVI than my Kenwood TS-130S. It has a manufacturing date of 1952. The only problem that one will find when operating this transmitter is that the modified Hartley Oscillator drifts excessively. Crystals are the best source of stable RF followed by an independent VFO plugged into the crystal socket, which is the way they were used by the military in later years.

Its been 40 years, who ever said love at first sight never lasts?



A.R.S. W5PYT, OZONA TEXAS more next month

Hoisy Hoisington, W4CJL

editor from page 1

After the war,in 1946, he formed Citizen Radio Corp. to develop citizens band (460-470 mhz) two way transceivers. In 1948 he received the first type approval for a citizen band transceiver. One of the first questions that came to my mind when I first talked with Al was,"Why was the citizens band located at 11 meters?" I'm sure the answer to this question will be of interest to all amateurs. There is much more to Al's career than what I've outlined here. I think it will be an interesting story.

All of us who operate a.m. or who collect vintage gear are into repair/restoration at some level. Next issue we will have an over-view article by David Shallenberger ,(Shelly) K6VHP. Shelly is well known for his knowledge on this subject and I think his article is going to be interesting and informative for everyone. Shelly operates Classic Radio in Eureka Ca. and specializes in the repair and restoration of vintage amateur equipment.

A picture is worth a thousand words. You will notice that this issue has very many more photos than issue #1. I think many of you thought that I was short on photos in issue #1 so decided to help out by sending them in. Thanks and keep them coming. I prefer black and white but can also use color. Polaroids are not very good. If any of you have old pictures of ham stations or gear or prominent individuals, I would love to see them. All photos will be returned.

Operations are smoothing out here. My wife and I are more familiar with the process of publishing a magazine and have overcome a lot of the initial hassle. I should give my wife, Shirley, some credit here. She is vital to the process of this magazine. She looks after all the business stuff plus she types all the stories and classifieds into the word processor for me. Another thing she does is keep me organized. Without her help in this regard I would be sunk.

I have a little more time for ham radio now. Although the bands have been in terrible shape recently, I have been getting on the 20 meter SPAM net (14.286, 6pm Ca. time) a couple of times a week. I've also been doing a little repair work; I got my AF-68 working. I have a big antenna project coming up: a rhombic for 10 and 20 meters. It will be 6 wave-lengths on 10 meters and 3 on 20. I will have it oriented east/west and have it unterminated for bi-directional capability. That should enhance my signal somewhat. Hi. I'm hoping to get a big antenna up for 160 meters by fall when the static levels subside. To go with that antenna I'm hoping to have a high power transmitter. I think I have a line on one; which reminds me of the classifieds.

I think the classified section worked out very well. I have received reports that most people got a good response to their ads. Please keep the ads coming in. That's one way everyone can help the magazine. If you have equipment to dispose of or if you're looking for something send me an ad. I want to see that section grow.

Something else I would like to see is reports on ham fests, swap meets and that sort of thing. I would like to know about the vintage gear you see at these events and what it was selling for. I wish there were more ham fests in this area. I really enjoy seeing all the equipment for sale and the anticipation of finding a peice of real neat old gear for my collection.

I've been considering sponsoring an a.m. contest in the fall. I would like to hear any comments on this idea. Perhaps it could be just on 10 meters or just on 160.It might be held in conjunction with one of the other contests. The rules could be the same except we would operate a.m. only. Let me know what you think.

Well it's on to issue #3 now. I'm going to be working very hard to make it the best one yet. N6CSW

SPREADING THE WORD

by Barry Wiseman N6CSW

In the course of our regular ssb schedules, a good friend of mine, Bob Alderisio, N5IOS, expressed an interest in my passion; a.m. operations with vintage equipment. Bob, who is a relatively new ham with a background in broadcasting, was particularly attracted to the high quality audio. Although interested he had the usual reservations: where to get the gear, how to keep it operating, the space required in his shack and the anticipated difficulty in operating a vintage station.

I decided that I would lend him the equipment, set it up for him and spend some time showing him how to make it work.

A couple of week-ends ago I loaded up a HQ-129X, a Viking 2, a Heathkit VF-1 vfo, a antenna relay, the manuals and a few spare tubes and took them over to Bob's qth at La Lama, New Mexico, near Taos. I had originally thought I would take an Elmac AF-68 transmitter because of its built in vfo ,its small size, and its easy tune-up, however when I was checking it out I detected a slight hum. I didn't have the time to get into it so I checked out the Viking 2. It was working just fine so I loaded that up. I would have taken Bob a better receiver than the HQ-129X but I didn't want to chance getting one of them scratched or dented. And it's also lighter than my other receivers.

Bob's operating bench was rather cramped so we stacked the Viking 2 on the HQ-129X. We put the speaker on the side with the vfo sitting on top of it. I took along a mike connector and we wired a D-104 he had up to that. After we connected the antenna relay the station was complete.

I think Bob was rather skeptical, particularly about using a receiver built in 1946. And he was rather anxious about all the knobs and controls spread across the front of the Viking 2. I think this is understandable, as the rig he uses normally is a TS-130S, one of those state of the art wonders. He also had another Kenwood, a Yeasu and a Sony receiver he uses for SWL ing.

After we hooked up to Bob's 80 meter dipole I turned on the receiver and lit the filaments on the transmitter. I think the yellow glow from dials on the HQ-129 and the green from the vfo were a sharp contrast to the usual digital display Bob was used to.

That evening the static crashes were bad and the band was not in the best of shape but after a few minutes of tuning around I heard an a.m. station out in Arizona calling CQ. I went back to him and we had about a half hour QSO. His signal wasn't strong but he was perfectly Q-5, and he gave our signal a good report. The rig was checked out, now to check out Bob.

After I had answered all the basic questions that Bob had we connected up to a dummy load and I went through the tune-up on the Viking 2 several times. Bob also made up a chart that he keeps by the transmitter. The chart lists the step by step instructions.

I told Bob that if he has a problem or further questions he can call me or ask some other AM'er he meets on the air. One of the wonderful things about a.m. operation is that everyone involved is eager to help a new-comer.

My wife Shirley and I and our 14 year old daughter, Tobi spent the week-end with Bob and his wife Peggy. We had a great time. The Taos area of New Mexico is absolutely beautiful ,particularly at this time of year when everything is so green from the spring rains.

over

Bob and Peggy live on the side of a mountain at an altitude of 8600 ft. in a log cabin they built themselves. It's a wonderful, peaceful atmosphere. Peggy, who is a very prominent artist, spends her time painting and with other artwork, while Bob occupies himself with music- he's a professional musician-and his particular interest in amateur radio; antennas. In future issues Bob will be contributing articles on antennas and possibly SW listening; another interest.

Since arriving back home I've worked Bob a couple of times on Am and he seems to be enjoying the new mode (to him) with the old equipment and he doesn't seem to be having the difficulty in tuning up that I had anticipated. One thing that he keeps remarking about is the HQ-129X. He just can't get over how well it works for a receiver built in 1946. He says for the first time he can enjoy music on the short-wave broadcast bands. He also says it's more selective and sensitive than anything else he's got. I wonder what his reaction would have been if I had taken over one of my better receivers like my SP-600 or the HQ-180 or the SX-101A?

I hope Bob enjoys a.m. operation and develops an appreciation for vintage equipment. If someone you know expresses an interest in a.m operation and vintage amateur radio gear you might consider doing what I did. I think that if there is an interest expressed, setting them up to try it may get them hooked. Wouldn't it be nice to see a.m. operation expand in these times when the overall interest in amateur radio is declining?

Reflections from page 4

As the saying goes: "Real radio glows in the dark", and there is a lot of beauty in an Eimac 250th with its filament serenely glowing while its plate shows subtly red. On 160 meters these days, WD6EWE always concludes his evening's transmission with the admonition:"Keep those filaments lit!" So, y'all hear?

LETTERS

Dear Barry,

Many thanks for the kind consideration expressed by you with the recent mailing of Electric Radio, issue #1, to me.

I am a stranger to neither AM phone or "hollow state", having retired my early 50's vintage Hallicrafters S-77A from daily duty a mere five years ago; my old Ranger-1 was put on the inactive list with the acquisition of another tube set, a "new/used" Heathkit SB 400- in 1975.

Interestingly enough (both to other hams, and my XYL, certainly!) as I upgraded my station over time, I never sold so much as even one piece of radio equipment during the course of my 18 year Amateur career; to do so, for me, would be akin to terminating forever an old and faithful friendship. Better the old rigs should sit in a corner of the basement, idle, than be cobbled up and/or cannibalized by those with a lesser appreciation of that which once was.

I owe my ham ticket, in no small part,to AM; back in 1969, as a short wave listener, I was lured into the world of DX'ing by my monitoring of the doings on 10-meter AM (the unstable local oscillator of my S-77A made ssb and cw reception willnigh impossible above the 40-meter band!). How many hams today stop to ponder the possibility that the swl of today (listening on an old AM type shortwave set) might become the Amateur of tomorrow?

Anyway, increased sunspot activity during the course of this past winter made 10 sound like the proverbial good old days, and so I gamely got into the fun yet again—with transmit capabilities this time!—courstesy of my Yaesu FT-980.

It is my opinion, that despite the nickname of "Ancient Modulation", AM'ers are actually more progressive and technically proficient than many of their counterparts on sideband; indeed, AM'ers can not afford to be "appliance operators" if those classics of old are ever to be made operational and put back on the air again! The spirit of inventive curiousity, which seems to permeate the AM scene, is infectious. Why just last week I found myself upping the 25-watts "stock" carrier output from the 980 to some 150 watts by judicious tweaking of the controls on my home-brew class B amplifier. What a blast to put the ol' gray matter to task again by researching past literature on AM amplifiers, calculating the parameters required to accomodate my particular situation, etc. And all of this says nothing, of course, about the sense of rising anticipation, and the lump which suddenly forms in the throat on the eve of that first AM QRO "CQ" call on 40 meters! It's really a great sum total of feelings/emotions and accomplishments.

If I might, Barry, I would like to state that while I appreciate your aims and objectives with regard to maintaining the "genre purity" of Electric Radio, I question the wisdom of restricting your ad section to hollow state equipment only. Many are the enthusiastic hams with IC-735's, FT-757's, etc whom I have worked on 10 meter AM; why penalize these fraternal AM'ers, should they elect to sell-out at some time for vintage gear, with a cliquish refusal to accept their advertisements? Somehow, it smacks me of the classic situation of cutting off one's nose to spite one's face....but then, that's just one opinion—mine—and you are, after all, the editor and publisher!

I shall continue to scan the bands for that rare, but familiar, whistle of a lonely heterodyne tucked in amongst the babble of sideband stations, looking forward to what inevitably ensues into a fascinating journey through living history for me. I wish you and your readers all the best in this endeavor, Barry, and remain, with kindest regards,

Yours truly,
Edward Swynar, VE3CUI

Editors reply: First of all Edward, I want to say that I enjoyed your letter very much. As regards my policy of not accepting ads for solid state rigs, I would like to say that I never intended this policy to offend anyone. I'm sorry if it has. Basically I think that this magazine would be a darn poor place to advertise a solid state rig. My readers are obviously not big on solid state equipment. I think that an ad in CQ, or QST or World Radio would be much more effective.

Dear Barry,

Thanks for the first issue, I enjoyed reading it cover to cover because it contained many items of interest and the kind of information I am looking for. It still is early days for your infant publication, but I have no doubt that you're on a winner. When you put out issue # 240 in May 2009 I will remind you I told you so. Electric Radio fills a void in amateur radio; if vintage radio and AM operation are not encouraged and preservered, future amateur radio operators will miss some important actual working (or operating) history.

Barry I feel you are a far-sighted individual and your publication, Electric Radio, has come out not a day too soon. You have my full support. I never like to miss the beginning of something important, so I am enclosing $18 for my subscription to start with issue # 2 for June.

I also want to let you know that the ad I put in issue #1 worked. I now have a manual for my Hammarlund Super Pro and a source of tubes listed. Thanks again.

Best 73,
Stan Stephens, WA6SKD

over

Dear Barry:

Thank you for the initial issue of Electric Radio. I think you did a fine job and know there will be many folks attracted to the new publication as subscribers.

I will be attending the ARRL Convention and QCWA Board Meeting next week and will take along the Vol. 1 #1 E.R.I hope that some of our other folks will also become part of the E.R. family.

It was a pleasure to write the QCWA article for your first issue and I hope to assist you whenever possible in the future.

Your article on Leo, WØGFQ was excellent.

73 and best of luck,
Esther Given, W6BDE
QCWA publicity Chairman

Barry:

First issue of Electric Radio is just fabulous-I read every word. You have done a terrific thing here and I wish you much success because we need a vehicle like this. There hasn't been anything like it in terms of dedication, content and scope.

I love this vintage ham gear and derive great enjoyment from collecting and restoring the marvelous tube equipment of the 40's,50's and 60's.

As time goes by I may be able to contribute an article or something of interest.

I wish you all the success in the world and pledge support to this worthy endeavor. Am looking forward to the next issue.

73 Alvin Bernard NI4Q

formerly WA2JTN
licenced novice
WA2JTN in 1960

Dear Barry:

Received first Electric Radio issue. Please start me with number 2.

Fine business. Great start. Like a novel once started the honey do's and grass can wait.

Thanks for putting AM on such a high pedestal. My first love , in 1938, as a pimply faced punk kid, was AM. My toys were 201A's, 27's, 56's, 2A3's et al.

I run a Viking 2 with a SX-28 receiver. I've tried all the antennas but the Windom is best: 15 over 9 to W6HDU and K6HQI on 20 meters.

I had some TVI and got a letter from the FCC. Not a pink ticket but a very nice letter with suggestions on how to clean up my act. They can be human.

Keep up the first class publication. I'll be watching the mail box for number 2.

73 Toggie, KB4YST

Dear Barry:

I enjoyed seeing a publication like yours. I have been a AM fan for years and everyone that promotes it is my kind of man.

It's too bad the ARRL doesn't mention it. It was their bread and butter and without it they wouldn't be where they are today.

I used to operate a home brew807 modulated with a 6L6 with Heising modulation in the early 40's. I used to be WØBCB. I moved to Florida in the 50's for the work and ended up with the call K4UJZ.

I gave your publication to a friend and if you will I would appreciate another copy of your first issue.

Good luck
Russ Olmsted, K4UJX

CLASSIFIEDS

Free Classified Ads

We will publish classified ads for vintage equipment or related products at no charge. Please limit the ads to 20 or 30 words. At this time there is no requirement that you be a subscriber. If your ad is not in by our deadline for that month's issue we will automatically include it in the one following. You can either send it by mail or phone it to us.

E.R.
Box 139
Durango, Co. 81302

Phone: 303-247-4935

DEADLINE FOR THE JULY ISSUE: JUNE 30

WANTED: Several good 75th tubes, several good 249B or 249C mercury vapor tubes. Want nice clean HRO-7 with speaker and full coil compliment. Sam Thompson, W6HDU, P.O. Box 101, Alameda, CA 94501. (415) 521-1429.

WANTED: Telegraph bugs, keys and old paddles for private collection. I need most models pre-1960. I also need old bugs for parts. Herb Spivey, NF5Y, P.O. Box 27, Baldwyn, MS 38824. (601) 365-5594.

FOR SALE : Antique and Ham radio tubes, parts, books, knobs, variable caps. Send LSASE with 5-25 cent stamps for 8 lists. Dick Dreher, W5VTJ, P.O. Box 691443, Tulsa, OK 74169. (918) 627-7481, evenings and week-ends.

WANTED: 2 each V7OD and 2 each 5514 tubes. Don Hillard, WØPW, P.O. Box 563, Boulder, CO 80306. (303) 497-3279 days.

WANTED: Hallicrafters HA-5 VFO. Hallicrafters speaker. SX-101A dial glass, main tuning knob. SX-101MK3 schematic. S. Sauer, WA9ASZ, 1274 Londonerry Ln., Greenwood, IN 46142. (317) 882-4598.

FOR SALE: Amateur radio receivers, transmitters, tubes, books and parts. Send SASE for list.**WANTED:** QRP modules, receivers, transmitters. Ten Tec, MFJ, etc. R Olmsted, K4UJZ, 608 W Thompson Ln, Murfreesboro, TN 37129. (615) 893-5344.

WANTED: Hallicrafters speaker model R-47 and speaker for Collins 75A-4. Mike O'Brien, 1031 E. University St., Springfield, MO 65807. (417) 887-0373.

SWAP: Have brand new 4-1000A, will swap for pair of 4-400 tubes in identical condition. Rick Miczak, K8MLV/Ø, 1802 W 17th St., Pueblo, CO 81003. (719) 543-2459, no collect calls please.

CLASSIFIEDS

WANTED
RADIO - WIRELESS
Pre-1925
ELECTRICITY - TELEGRAPHY
PRE-1900

Books, Magazines, Autographs,
Catalogs, Ephemera
One Item or Entire Collection

New Wireless Pioneers
6270 Clinton, Elma, NY 14059 USA
(716) 681-3186

WANTED: Very old or unusual Hallicrafter equipment, entire 1934 "H" & "Z" line of Silver-Marshall. Parts, memorabilia and manuals. Chuck Dachis,"The Hallicrafter Collector", WD5EOG, 4500 Russell Dr., Austin, TX 78745.

WANTED: SX 88 receiver; QST prior to 1927. **FOR SALE:** KWM2A/PM-2 - $650. Mike Palmer, K5FZ, 16707 Creeksouth, Houston, TX 77068. (713) 444-7737.

FOR SALE: Hallicrafters knobs; Collins knobs, Collins mech filters, 455-3.1, 300-6.0, 300-4; Radio News mags 1948-1951; 1956 CQ Mobile Handbook (mint); many Loctal & Pre-Octal tubes; Collins 353C-31 mech filter plug -in adapter for 75A-1 etc; 3.1 kHz with manual; National S-meter, late 1930's?; Loads of misc old parts. **WANTED:** 2 BPI or 2BPII CRT'S. Dallas Williams, WAØMRG, P.O. Box 1, Sedgwick, CO 80749-0001.

WANTED: BC-1031 panadaptor or Hallicrafters S-35 panoramic receiver (has 5" panadaptor with SX-28). Has anyone ever seen one? Sam, W6HDU, Box 101, Alameda, CA 94501.

WANTED: Old magazines; Radio and R/9. John Martin, W4KYL, RFD 2, Box 171-A-1, Montrose, PA 18801.

FOR SALE: Viking Ranger in good condition; National HRO 50T1 receiver with coils A,B,&C in excellent condition. **WANTED:** FYO paddle; bandspread coils for a National SW-3 receiver. Phil Rand, W7XK, Harriman Rt. Box 170, Klamath Falls, OR 97601. (503) 356-2381.

WANTED: Spinner/reduction knob for Collins 75A-4 receiver. Howard Mills, W3HM, Rt #3 Box 712, Harpers Ferry,WV 25425.

FOR SALE: Hallicrafters S-85, fair condition $45. **WANTED:** "Radio" mags. Wayne, NØTE, Rt 1 Box 114, Burlington, KS 66839. (316) 364-5353.

WANTED: 9 pin plug & 2 pin micr. plug for rear of chassis Viking Valiant/Ranger. W6RNC, P.O. Box 478, Nevada City, CA 95959.

WANTED: National SW-3, with tubes and some coils. Have low serial Collins 75A4 for negotiated trade. Leland Smith, W5KL, HCR-31, Box 147, Jasper, AR 72641.

WANTED: 75A4 for parts; manual for 75A2 and 75A3 Hallicrafters HT-20 transmitter. Bill Smitherman, KD4AF, Rt 4 Box 37, East Bend, NC 27018.

WANTED: Johnson KW Matchbox with directional coupler and indicator. Robert Green, WA6ICL, 14463 Astoria St., Sylmar, CA 91342.

FOR SALE: Collins KWS-1 xmtr. relay; SSB, CW ,AM, 75A-4 rcvr, 4 filt. spkr, $950; Hallicrafters HT-32B xmtr, $165; HT-33 amplifier $335. Dale Boggs, K7MJ, 22324 108th SE, Monroe, WA 98272. (206) 794-8376.

CLASSIFIEDS

FOR SALE: Harvey Wells Bandmaster with VFO and manual, best offer. Art Rideout, WA6IPD, 2235 Gum Tree Ln., Fallbrook, CA 92028. (619) 728-6834.

WANTED: Lafayette HA-410, V7OD, 5514, 811A, 4D32, Band switches for NC183D 2nd converter unit for GPR 90 6 kc filter for 75A4. Bob Hohertz, W5PYT, Box 1105, Ozona, TX 76943. (915) 392-2585.

WANTED: Looking for a Johnson Navigator, TR4CW and Argosy. KM4CH, (502) 884-3354.

WANTED: Looking for a National SW-3 or SW5 with coils, name price. Looking for a transformer 500 ohm pr. to class B grids, 15 watts or more. Albert Helzer, W6NRO, 11190 El Capitan, Madera, CA 93637. ( ) 431-3970.

WANTED: Meteor Model H cathedral radio; Zenith Royal 500 radio; Hammarlund MC series capacitor, MC 120B preferred. John "Hammie" Richardt, W2WIY, 94 Bald Eagle, Hackettstown, NJ 07840. (201) 852-7278.

FOR SALE: New Phillips 4-125A-$35; AR88, good condition-$75; Manual for Viking Ranger- $12. Pete Orobko, VE7FY, 12347 Davison St., Maple Ridge, BC V2X 5N5, Canada. (604) 463-4904.

WANTED: Front panel in good condition from a junked DX 100 or DX 100B transmitter. No scratches and good paint job please. James Schliestett, W4IMQ, P.O. Box 93, Cedartown, GA 30125.

WANTED: Coils for Heath SB-620. Need coils so it will work with all of Heath SB gear. Marty Drift, WB2FOU, 108 Hickory Ln, Hickory Creek, TX 76205.

WANTED: SX-88 Owners, former owners, enthusiasts interested in formation of a SIG for this breed and its lore and TLC are invited to drop a line to : Bob Forman, W9RJH, Box 68, Monmouth, IL 61462.

FOR SALE: Antique radios, tubes & parts. Also service. Contact, Olde Tyme Radio Co., 2445 Lyttonsville Rd. Suite 317, Silver Spring, MD 20910. (301) 585-8776, 10am to 10pm local time.

WANTED: "Allbander" converter for Clegg Interceptor receiver. John Morehead, N9HRS, 1415 Volkamer, Elk Grove, IL 60007. (312) 351-8593.

WANTED: Early spark equipment and books. Also QST before 1927. Edward White, WA3BZT, (302) 475-3355.

CLASSIFIEDS

WANTED: HA5 VFO, R48 speaker. **FOR SALE:** NC 105 receiver $50. Ed Sauer, KC9SP, 787 N Peterman Rd., Greenwood, IN 46142. (317) 881-1483, evenings.

WANTED: Hallicrafter SX-88 receiver working or not. Victor Gregowski, WD8DWR, 3635 Orvall Dr., Port Huron, MI 48060.

WANTED: Elmac AF-68, Globe DSB-100, Hallicrafters S-29, Knight Span Master; manual for a Lafayette HA-410. Alvin Bernard, NI4Q, P.O. Box 690098, Orlando, FL 32869-0098. (407) 351-5536.

WANTED: A set of coils for the Meissner Deluxe Signal Shifter that I can rewind for 30 meters. Herb Spivey, NF5Y, P.O. Box 27, Baldwyn, MS 38824. (601) 365-5594.

BUY, SELL, COLLECT & RESTORE ea-tube equipment? Early receivers, tubes and telegraph gear? Join the Antique Wireless Association which sponsors old-time "meets", flea markets, museum and journal with technical aritcles and free want ads. Membership and annual dues only $10. Write for information and Museum hours: Bruce Kelley, W2ICE, Rt 3, Holcomb, NY 14469.

WANTED: Johnson 500 transmitter. Also would like old Collins and broadcast equipment catalogs. Rod Sheffer, WA7AMI, 16009 7th SW, Seattle, WA 98116.

WANTED: The manual for the Technical Materials Corp. Tuner model TAC-1. Bob Alderisio, N5IOS, P.O. Box 424, El Prado, NM 87529. (505) 586-0309.

WANTED: A copy of the Allied Radio catalog #1. Will pay for copying and postage. Gordon Bachand, W5ERJ, 3318 Rhode Isl. NE., Albuquerque, NM 87110. (505) 299-5167.

WANTED: Swan 140 or Heathkit 40 meter SSB monobander. Stan Stephens, WA6SKD, 2112 Sandra Dr., Midwest City, OK 73110. (405) 732-7189.

FOR SALE or SWAP: QST, 1920-1980's; CQ, 1940-1970's; 73 and HR, 1960-1980's; Callbooks, 1930-1980's; Old license manuals and other ARRL publications. All queries answered. Bob Grinder, K7AK, 7735 N Ironwood Dr., Scottsdale, AZ 85253. (602) 948-2743.

CLASSIFIEDS

FOR SALE: New 100ths-$50; used but good-$25; good used 4X150A's-$20. **WANTED:** Collins 75-A or 75A-1. Bill Kleronomos , KDØHG, P.O. Box 1456, Lyons, CO 80540. (303) 823-6438.

FOR SALE: Mostly tube type transformers. Approximately 100. Mostly new, boxed. Power, output, mike filament, 12/24 volt, small modulation, many UTC commercial grade, Stancor, Thordarson. Want to sell all together for less than half individual prices-$295; early 250 watt broadcast transmitter tube-$50; QST, approximately 80, 1925's & 50, 1933's-$60; Ham Radio, most from start to present-$250. All plus UPS. Paul C. Crum, W9LC, 6272 N. Cicero Ave., Chicago,IL 60646. (312) 282-3033.

WANTED: 7360 tube; EICO 753 xcvr, any condition; schematic for Drake SSR-1. Glenn Durant, KBØBHN, Box 416, Firestone, CO 80520.

WANTED: National NTX-30 transmitter for restoration and to write article for the "Old Timers Bulletin" of the Antique Wireless Assoc. William Fizette, K3ZJW, RD 1, Box 55, Henryville, PA 18332. (717) 629-0637 evenings.

FOR SALE: 68 yrs collection: 10,000+ items; antiques, radios, televisions, phonos, sound, military, ham, catalogs, books,flyers, brochures. 48 page list-$1 refundable. F. Yonker, W2IBH, 7 Old Farms Rd., Saddle River, NJ 07458. (201) 825-1895.

WANTED: 304TL sockets; pre-1935 receivers and transmitters with plug-in coils. S.T. Carter 11, W4NHC, P.O. Box 033177, Indialantic, FL 32903-0177. (407) 727-3015.

FOR SALE: Drake 2A receiver-$60; Hallicrafters SX100-$50; National 155 receiver-$35; Heath DX 60B + HG-10B VFO-$40; tube tester-$20. Dennis Hastle, AA4JT, 2904 97th Ave E, Parrish, FL 34219. (813) 776-2072.

WANTED: EH Scott radios wanted by collector/historian. Also seeking original Scott literature. Jim Clark, "The Scott Collector",1292 Starboard, Okemos, MI 48864. (517) 349-2249.

WANTED: Telegraph bugs & wireless keys sought for private, non-profit collection. Amateur seeks early telegraphic devices, a vintage amateur station, and early photographs or correspondence. Donations of telegraphic parts, inoperable keys or paddles and memorabilia appreciated. John Hensley, WJ5J, (QCWA,ARRL), 5054 Holloway Ave., Baton Rouge, LA 70808.

WANTED: HT-45 linear; HT-20 xmtr; Drake 2B rcvr; Johnson Viking Courier linear; Knight T-400 xmtr. Greg Richardson, WA8JPC, P.O. Box 405, Gallipolis Ferry, WV 25515.

WANTED: Collecting National regenerative receivers, parts and accessories. Glad to correspond with other "Thrill Box" owners. Dean Showalter, WA6PJR, 36308 Panorama Dr., Yucaipa, CA 92399. (714) 797-1782.

CLASSIFIEDS

WANTED: SW3 and/or bandspread coils, other plug-in coil ham receivers or transmitters; factory or home-brew pre WW11 vintage parts. Neil Wiegand, WA5VLZ, 911 N Bend, Austin, TX 78758.

WANTED: Early receivers; Howard, Patterson, McMurdo and Sargeant. Send info, description and price. Larry Flegle, N4TMW, 210 Wylie Ln., Woodstock, GA 30188. (404) 928-3022.

NEW AMATEUR RADIO CENTER: BUY, SELL, TRADE new and used amateur equipment. Call for buying or sales quotes. Expert service shop available for all major brands. We locate equipment. (703) 430-5555 or P.O. Box 267, Sterling, VA 22170.

FOR SALE: Early books & magazines on radio, television, telegraphy and electricity. To get on our mailing list, please let us know what your specific wants are. **New Wireless Pioneers,** James Kreuzer, N2GHD, Box 398, Elma, NY 14059. (716) 681-3186.

WANTED: KØCRX "collects radios exclusively", specializing in 50's/60's amateur radio transmitters, receivers, accessories, manuals and periodicals. Mike Sewell,KØCRX, 35795 Oriole Ave., Lindstrom, MN 55045. (612) 257-1675.

WANTED: Modulation transformer for Ranger 1 transmitter. Paul Fritsch, W3HHC, 11 Oakleigh Rd., Allentown, PA 18104. (215) 395-2180.

FOR SALE: Twenty year collection of better amateur radio gear (some pre-WW11). 2-B&W 5100B transmitters (1 mint, 1 vy gd); 1-Hallicrafters S19R SkyBuddy, 1-HT37 transmitter, 1-S41G, 1-S40A, 1- SX62, 1-S95 (150-175 khz), 1-SX99, 1-S106 (45-55 khz), 2-SX110 (one for parts),1- SX111; 1- Hammarlund HQ129X, 1-HQ140X, 1- SP600JX14 (SN 9342); 1-Heath DX100B transmitter; 1-Apache transmitter (with SSB adapter), 2-DX20 transmitters (one needs a power supply); 1- E.F. Johnson Adventurer transmitter, 1- Viking 11, 1-Viking Valient 1, 1-Viking Valient 11; 1- Collins 51J4; 1-R390A (Collins); 1-R390URR (Motorola--this one is very rare). NEED; "S" meter for HQ 129X, Manuals and schemtics for National HRO 46080/CNA (6.3 volt tubes). There is much more, so if its not listed, send SASE to: N9IDF RADIO COLLECTION, 719 Arlington Ave., Des Plaines, IL 60016. (312) 824-2292.

"REAL RADIO GLOWS IN THE DARK" Bumper Stickers-$1 each with a #10 SASE. We service American made amateur radio equipment, circa 1940, 50, 60 & 70's. Collins, Drake, Swan, Hallicrafters, Hammarlunds, National, B & W, Johnson, Gonset, WRL, Millen, Technical Materials Corp., Harvey Wells and so forth. QRP to QRO. Call or write for a quote on your servicing. **CLASSIC RADIO,** P.O. Box 3486, Eureka, CA 95502. 24 hr phone (707) 444-3911. K6VHP.

CLASSIFIEDS

100's of Manuals
MILITARY, COMMERICIAL
AIRCRAFT RADIO' S & RADARS
1935 --1965
Send SASE for List " RADMANS"
Rainy Day Books
44 Bertwell Rd.
Lexington, MA 02173
(617) 861-8656

WANTED: Johnson 500 with-in 1 day pick-up of Buffalo. Ken McArtney, N2BAU, 194 Royal Parkway W, Williamsville, NY 14221. (716) 634-9533.

WANTED: Serviceable VHF 2-way radios for donation to Salvation Army vehicles & emergency communications. Also inexpensive service monitor. IRS credit receipts & shipping UPS available. S. Scott Lee, W9NSR, Central Communications, Coon Valley, WI 54623. (608) 452-3230.

WANTED: Pre-war communications and ham receivers, especially RME equipment, literature and advertising. Ed Gable, K2MP, (716) 621-6692.

WANTED: ARRL (or other) Amateur Handbooks; 20's thru 60's. MacKnight, WK7U, 3414 Keir Ln., Helena, MT 59601. (406) 475-3355.

FOR SALE: Stancor 20P transmitter, all coils. 807 modulated by 6N7. **WANTED:** Collins 32V 1-2-3 working or for parts. Hallicrafter HT6 working or parts. I have list of old items and tubes. R. Olmsted, K4UJZ, 608 Thompson Ln., Murfreesboro, TN 37129.

WANTED: Recently I inherited from the estate of W6AOR, a Collins MBF transceiver used by the Navy in WW2 for ship to ship comm. It was modified to be tuneable on 10 meters (every control originally was screw driver adj) with knobs as per an article in QST around 1947. Sure could use info on that QST issue no. or a schematic of the MBF. That rig is 7 watt output and I have it on 29 a.m. now. John Oliver, 5909 Abernathy, Los Angeles, CA 90045.

FOR SALE: Hammarlund HQ 100AC-$110; Johnson Ranger 1-$125; Collins 75A3 with AM filter and matching speaker-$300; Dynaco Stereo 70 amp-$100. Pat Keogh, WB9GKZ, 2511 Memorial Dr., Green Bay, WI 54303. (414) 499-1336.

WANTED: CMS-3 modulation xfmr; WRL meteor xmtr. Darrell Brooks, WA5VGO, 7707 Magnolia, Houston, TX 77023.

FOR SALE: Eimac 8877 tube, SK-2216 chimney, SK-2210 socket. Never used, all-$500. **WANTED:** Front panel for Collins 51J4 receiver. William Thissell, K7VZP, 3333 W sunnyside Ave., Phoenix, AZ 85029. (602) 942-6352.

WANTED

TRANSMITTING TUBES
FOR MUSEUM

Do you have any old amateur or commercial transmitting tubes worthy of saving for posterity? If yes, help us do same. Contact:

Al Jones K6DIA
Ye Olde Transmitting Tube Museum
P.O. Box 97, Crescent City, CA 95531
(707) 464-6470

CLASSIFIEDS

FOR SALE: Used untested 460 octal tubes from late 1930's to 1950's, plus 95 lock in tubes. Asking $138 plus postage. Fothe, 10 Jackson St., Sloatsburg, NY 10974. (914) 753-2090.

FOR SALE: National Radio Manuals and NCL-2000 factory parts lists. SASE. Max Fuchs, 11 Plymouth Ln., Swampscott, MA 01907.

FOR SALE: Technical Manual for BC-610 - $9. Have many other Gov't and commercial T/M's. What are you looking for? SASE. Complete TM (op, service, schematics) for Zenith Transoceanic receiver (original) $8 each. Manual sent post-paid. Large surplus Electronics catalog-$1. D. Testa, Box 9064-ER, Newark, NJ 07104.

WANTED: Historian seeking data and equipment on 1930's television. Also Electronics magazine of the 30's. R. Brewster, 454 Diable Dr., PGH, PA 15241.

WANTED: HQ 180A, HQ 140X, SX-88, HRO, NC 183D, NC 400, main tuning knob for SX-71. **FOR SALE:** Two 2 meter Azden 4000 transceivers-$200 each. Works and looks good. Lee Bahr, WØVT, 914 Golden Bear Ln, Kingwood, TX 77339. (713) 780-4360, wrk; (713) 359-5284, home.

FOR SALE: RME unit, mod. 2166. Has 3-6J6, 3 controls, says 10, 15, 20 and 8 meters. Preselector? Converter? Has input, output screw terminals. $20. including UPS. Jim and Nadiene Farago, P.O. Box 6313, Minneapolis, MN 55406

For Sale: Ham building parts of 1940's-coils, switches , condensers, transformers, tubes, sockets, chassis and cabinets. Everything! F. Yonker, 7 Old Farms Rd. Saddle River, N.Y. 07458 (201) 825-1895

SPAM

THE SOCIETY FOR THE PRESERVATION OF AMPLITUDE MODULATION

TO JOIN

SEND $1. TO: SPAM
BOX 27
POTRERO, CA 92063

PLUS: The names and callsigns of 3 Spam members you have worked on a.m. The names and calls will be checked against the SPAM roster and then the membership certificate will be issued.

(619) 478-9347

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