

## Early Radio Days

by W9OIB, Bob Beattie

I got started in ham radio in 1933, during the Great Depression. After I came home from college, I was not able to find work. My elder brother, John, came home one day and told me that a friend of his was building a short wave receiver with which he hoped to hear Europe. I thought I would like to do that. The only catch was, that I would have to learn Morse code. I found an old buzzer, a door pushbutton and an old electric train transformer and started to practice the code myself. My younger brother, Frank, a first year high school student, asked if he could practice with me. When my brother John friend saw what we were doing, he gave me a copy of Short Wave Craft and a B battery. With that and with parts of the 1920-30 years of early home made radios, given to me by friends, I built my first regenerative receiver. The first European station I heard was DNB. (The German short wave broadcast station.) They were giving the election results between Adolph Hitler and Von Hindenberg for the President of Germany.

At the time I did not know how to go about getting a ham ticket. My father told me that his boss's son was a ham. I went over to his home and saw his radio station (W9IPK). He told me I would have to be able to copy 10 WPM Morse code, and pass an essay test that would take about an hour. The test would be given at the Federal Radio Communications building in downtown Chicago and I would have to have the license notarized for a cost of 25 cents. At the time, Frank, my younger brother, was already able to copy about 10 WPM; I was not. We both went downtown to the FRC in Chicago and took the code test. I failed it, but Frank passed. He eventually became a major in the Army Air Corps, because of his ability to copy code. He took the theory and passed it too. In about a month he became W9MLA. Because of the FRC rules, I had to wait for 3 months before taking the test again. Then I became W9OIB. When Frank's license came in the mail, he went on the air on CW on the 80 meter band. When he made his first contact, the ham told him he was out of the band. We then readjusted the transmitter.

I soon found out that I could use radio phone, so long as Frank was there to turn on and off the transmitter while I was using the radio. I found out I could go on radio phone by using loop modulation. Loop modulation was to put a standard telephone mike, connected to a loop around the tank coil, and talk. There was a ham I talked to who would send high speed code. I tried to send code back to him and he could not copy. I soon found out that he was a bootlegger. I had one call sign, but he had to change his from time to time. In three months I passed my test and became W9OIB, but I never used my call sign, because we continued to use Frank's, and nobody ever knew the difference. When Frank moved away, I then used W9OIB.

One receiver we used was a 3 tube regenerative circuit using three 201A tubes, powered with batteries. The transmitter was a one tube transmitter. It used the Hartley circuit, using a 245 tube and a 250 Volt power supply. The 250 Volt power supply had a 280 tube as a rectifier. The antenna was an 80 meter zeppelin. A zeppelin was an antenna invented by Germans to use during WWI on the zeppelins. It was a half wave antenna fed by a 600 Ohm feed. The transmitter output power was about 15 Watts peak inverse voltage. DX was a few local states. Most of our QSOs were a few hams around the south of Chicago.

The only phone bands we could operate on were 160 and 10 meters unless we had an extra phone license. We soon found out that the TRF receivers (TRF stood for Tuned RF, and it was one of standard broadcast receivers at the time) could copy the 160 meter band and we had an audience. We were able to use phonograph records for test purposes, so we had a lot of fun. My brother Frank was 14 years old and was beginning to like the girls and he had a nice radio voice so he found out ham radio had other advantages that he did not expect to get. There were also some risks. One day he began describing to another ham over the air two girls that were very nice, but not too good looking. I reminded him about the nature of the radio wave, and he did some fast talking now describing the girls as beautiful.

As technology and our operating practices improved, this type of thing did not happen as often. However about 40 years later I met an old high school friend name Roy, when we moved from Chicago to New Lenox. Roy happened to be a ham, W9VYB. He and his family lived across from the Methodist Church, where his wife, Laura, was a member. Roy was not much a churchgoer, but his XYL, Laura was. On Sunday mornings he would go on the air while Laura was attending service. One Sunday he was in QSO with a ham on 10 meters, when the fellow he was talking with asked him why he was not in church. Roy replied that he did not like "that windbags sermons." Apparently the new electronic organ made a good 10 meter receiver, but poor Roy caused a little QRM to the preacher. About a month later Laura began speaking to Roy again.

In 1934, one band that we operated mobile was the 5 meter band. While I was attending a second year physics class I saw a demonstration of the Lecher wire experiment for measuring the length of the radio wave. I built a 5 meter transmitter from a diagram out of the handbook, with junk parts. I used the 201A tube with excessive filament voltage to make it oscillate. It lasted about 20 minutes, but I had plenty of spares. (I had a bushel basket full of 201As, given to me by a friend.) I stretched two wires side by side five meters long and coupled my transmitter to one end. I then used a 14 volt Christmas tree bulb that would light up at the crests and nodes of the wave. I changed the frequency of the transmitter until the distance measured 2 ½ meters. I knew I was in the band. I connected my 5 meter transmitter to the modulator on the low band equipment and went on the air. My first contact on 5 meters was Si Reed, W9AA, the first

licensed ham in the in the 9 district. He came back and asked me how did I find 5 meters. When I told him, he said that he worked for NBC and he had used their wave meter. I was using a home brew 5 meter super regenerative receiver for my receiver. I was fortunate to have six people in my family so I had plenty of coil forms, (Toilet paper rolls made good coil forms.) As we had two call signs in the family, we had our own net like the one Ed and Irene have now.

Just after the war (WWII), there was plenty of surplus equipment, so I got a command set and modified it for 160 meters using a dynamoter for a power supply. I tuned my car receiver to copy 160 meters. I used a center loaded whip for an antenna and I was on 160 meter mobile. I was teaching at the Chicago Vocational School (electronics shop, of course), and the school was over 30 miles from where we lived in New Lenox, Illinois. I would call my XYL about every 10 minutes to tell her where I was. When I got within one mile of home I would ask her to open the garage door for me. She was the best garage door opener I ever had because the new ones do not smile at you when you press the opener. My mother, who was living in a trailer at the side of our home, said to me one day, "Son, I do not understand how that door opens about a minute before you get home." This was before automatic garage door openers.

I was also interested in television. Just after WWII, used RADAR sets appeared on the surplus market. About 1946, QST had a diagram of a home brew television set. I bought a twenty dollar RADAR set. I think it was the one that should have been paid attention to, by the officer at Pearl Harbor. It had an acorn tube in the front end, and standard IF tubes for the IF stages. I had a home brew cathode ray oscilloscope in my low band transmitter that I had built before the war. I modified the front end to copy WBKB TV Chicago on channel 4. I wired the sweep circuits in, and for a day we got a negative picture. I was working as an electrical testing engineer at the time at US Steel, and all the engineers were extremely interested in my home brew TV. The chief engineer saw what I had done wrong and said to reverse the polarity of the second detector. I then saw my first television picture. The CRT screen was 3 inches in diameter and was green, so we didn't have black and white, we had green and white TV. It was installed in a 6 foot Western Electric Relay rack. I used a delta match antenna for a receiving antenna from instructions given to me by the chief engineer of WBKB. He was very interested in my radio conversion to a TV set. The Fair Store in Chicago, sent us a membership certificate in the TV Pioneer's Club. We were number 16.

WBKB TV was only on the air 10 hours per week and for a sports game on Saturday if one was available. Mostly they showed wrestling matches, and my brother-in-law, Dave, would walk three miles each way just to see the matches. Both my wife and Dave got very excited during the matches. My daughter, Cathy, used to watch Kulka, Fran and Ollie, a children's puppet show. They sang Happy Birthday to her for her fifth birthday.