

The Big Kilowatt Beast

by Larry Woodworth WØHXS
Ensor Park and Museum Manager

Today, Sunday, January 2, 2011 at 1:32 PM, a remarkable event took place. A long silent electronic voice, listened to by many thousands of coast to coast radio hobbyists seventy or more years ago, who eagerly took radio training lessons from it's masterful instructor/owner/operator/, became alive and again spoke.--In Morse code, a language of popular use in radio communications since the early 19th century. This long dead historic powerhouse of a communicator awaited the day humans would resuscitate its vital circuits.

Though silent since 1972, and even longer since last used by it's deceased designer/ builder, Marshall H. Ensor, the Big Kilowatt Beast finally whispered weakly. Weakly, only because Doctor-like humans had not yet connected it to the essential final element of its life, —a radiating antenna. "Test test test test", I received clearly but weakly- in Morse code -barely overcoming natural background noise on the Ham band of 75 meters at 3.862 Mega Hertz.

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"This is"..., as Paul Harvey would say," the rest of the story."
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Way back in 1922, Marshall H. Ensor, an energetic, bright young 22 year old fellow in his 4th year as the Olathe, Kansas High School Industrial Arts Instructor, became federally licensed as an Amateur Radio operator. Years earlier he had operated a home built Spark Radio from 1916 until the beginning of the First World War in 1918.

Beginning in 1929, Marshall took up the effort to comply with a request by the American Radio Relay League, for a few volunteer operators to use their radio equipment to broadcast radio lessons to the listening public across America. The goal was to increase the number of qualified radio operators in our country. It had been proven during the First World War that radio was a valuable national resource in wartime.

As the 1930's passed, several other volunteer operators dropped from the list of stations around the country, but Marshall, whose call was W9BSP, persevered and his instructor skills proved him to be the leading station responsible for training listeners in Morse Code and electronic radio theory necessary to become federally licensed. Marshall's sister, Loretta, also became licensed as a 16 year old, and helped in the training and radio operation through the years. They taught "Radio by Radio" nightly, each year during December and January for more than 10 years becoming well recognized for their effort. The powerful radio transmitter was located in a small room off the kitchen of their parents' dairy farm home.

Until the United States entry in the Second World War on December 7, 1941, Marshall and his reliable radio transmitter taught unseen students across America. So widely known and respected was the W9BSP call and its operators that in 1940, Marshall was nominated to receive the coveted Paley Award for 'Distinguished Service to our Country by an Amateur Operator.' His contribution? He was responsible for helping create an estimated 10,000 new-licensed operators. Mr. Paley flew him and sister Loretta to New York City and the Waldorf Astoria for a formal presentation. The ballroom was packed with dignitaries and press as well as military leaders.

The transmitter still rests where placed when new, in 1937, in the corner of the small radio room on a console bench spanning the South and East walls. It is a beautifully designed and built brute with a kilowatt of power and is the result of several evolutions of improved design.

Marshall served in the Navy for 3 years as a Lieutenant Commander and returned to teaching for the last of his 46 years of being a respected instructor at the Olathe High School. He retired in 1965. He was married in 1930, two years before receiving a BA degree at Pittsburg State. In 1940 he earned a Masters Degree. His 168-page thesis is entitled "Teaching Radio by Radio". He and Loretta made plans to turn the dairy farm into a private museum, free by donation. After much labor it opened in 1975, 5 years after Marshall's 1970 death. Loretta continued using the transmitter until 1972 when she reached her 50th year of being licensed.

The kilowatt rig rested uncomfortably in the hot sunlight for the rest of Loretta's life, which ended in 1991. It continued being abused by the elements of sunlight and heat as wiring suffered disintegration of insulation. Some other components failed to allow any contemplated use.

My name is Larry Woodworth, WØHXS and I've had the pleasure of being the manager of Ensor Park and Museum since 2003 after being a volunteer to the previous manager who had a health issue and vacated the position. As a Ham operator since 1952 who discovered the museum in 2000, I have been hooked on seeing some things become better cared for. My admitted focus is on giving the public a fair and interesting tour of the museum. Beyond that, many other ham radio friends have joined in efforts to aid the museum by donations of money, labored effort and personal abilities to do worthwhile transformations.

Such a person is friend, Harry Krout WØYQG who as a youngster was in Mr. Ensor's 1940 classes and expanded the knowledge gained from Mr. Ensor into becoming an Electrical Engineer.

Harry kept in touch with Mr. Ensor through the years. He visited the museum a few years ago after years of retirement. We met when he looked longingly at the old radios he remembered being used in years gone by. Harry said that the radios could be made to operate again. I sensed that Harry had a goal. When I asked, "Are you offering to do the work?" "I would do it." Harry said, with a knowing smile. He became member #29 of the Marshall Ensor Memorial Organization radio club.

We all congratulated Harry when he restored a special Ensor radio. It had been used in the school for several years in the 1930's to aid students in getting a ham license. Loretta, W9UA, had been the Trustee of the school radio. It looked almost new but best of all, it worked again. We used it in December 2006 to contact hams around the country that were delighted to connect with the old antique transmitter.

Getting back to the Big Kilowatt Beast, - after several years of pro and con considerations of restoring the single most exotic and fascinating icon of our yesteryear radios, Harry and son Joe, member #80 and president of our MEMO club, all agreed that the restoration should be done with care and safety in mind. Work began in May 2010. Numerous steps would be performed and tested for correctness.

The work was to be done on site and in the kitchen of the 1891 farmhouse. The rig was put on a hydraulic lift to make repairing the multi-tier shelves easier to negotiate while testing and repairing. Original hand drawn schematic diagrams of each shelf were found in 2003 and copies made for such use. Several components were replaced due to damage done by sunheat. Lots of wires were found with brittle insulation. Some tubes were not good. No high voltage power supplies existed so Harry designed and built them to give the required output. Son Joe with engaging enthusiasm for the project learned much from Harry and became a ham in 2005. He tested for the Extra Class license within a year or so and does much of the hands on work directed by dad Harry.

Month after month, Harry and Joe came to the Ensor Museum with hours to invest toward the difficult restoration. On occasion, I came to check on the progress or to lend a hand in some way. Numerous photos and videos saved the progress for others to witness.

By the end of 2010, the end was in sight for the electronic makeover and only a single fault stood to be conquered. Harry redid some wiring in a power supply and the testing was done without my awareness on Sunday, January 2nd, at 1:30 PM.

Minutes into the successful final testing I got a phone call from Joe Krout. Joe said, "Listen closely, I'm holding my phone close to the receiver while dad is sending with the Morse key," "Fantastic!" I said, "What crystal is he using, is it

going out on the air?" "No, into the dummy load. At 3.863." "OK, and is it at full power?" I asked. "Yes into the oil can dummy load." "With that much power there is a chance the signal might be heard here in my receiver. I'm going to tune my radio to the frequency to see if it can be heard".

A moment later I tuned into the sound of Morse code coming 15 miles but still barely readable: "TEST TEST TEST TEST." "Can you hear it from my phone" I asked. "Yes, just as dad is sending it." Joe said.

"Wow! This is a special moment." I said. "Very special."

Some work is still ahead of us in this restoration. We are adding some safety features to the radio that were not usually done in the old days. There is a concern for innocent individuals unaccustomed to the danger of touching things that are harmful, like 2000 volts of energy to produce the high power in the KW Beast, or touching antenna wires that can burn flesh to a crisp. So beyond the safety issues, we intend to clean up the surfaces bleached out by sunlight over the years.

When you tour the Museum next time, we hope to surprise you with the revived "Big KW BEAST", looking its best and working again after over 40 years.

Our thanks and gratitude goes to volunteering technicians Harry Krout, WØYQG, and to Joe Krout, WØPWJ, "The Krout Boys"

