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Author: John H. Dilks III, K2TQN

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OLD RADIO

W2DST—A Station Lost in Time

Joseph M. Hoffmann was born in 1878 in New York City. He was a bright teenager, studying chemistry and math. He was also interested in telegraphy and went to work for the New York Central Railroad and Western Union as a telegrapher. Sometime between 1898 and 1900 he became interested in wireless and built his own spark-gap ham radio transmitter. Operating as "JMH," he quickly became more knowledgeable and built bigger and better stations.

New York City was a hot bed for early radio. Hoffmann personally knew Tesla, Armstrong and had met Edison. In 1909 he was a charter member of the Wireless Institute along with such notables as Lloyd Espenschied of AT&T; Phillip Farnsworth; Alfred Goldsmith, director of the Radio Research Laboratory; Robert Marriott, Radio Inspector, Department Of Commerce; A. Parkhurst, superintendent of the Tropical Radio Telegraph Company; Greenleaf Pickard, vice president of the Specialty Apparatus Company; and Roy Weagant, design engineer for Marconi Wireless Telegraph Company. This organization of radio pioneers in 1912 became the Institute of Radio Engineers (IRE).

Joseph Hoffman's other hobbies were building motorboats and playing with automobiles. Around 1912, he took over his fathers coopeage business, building large water tanks for city buildings. He continued to expand the business and became financially well off. A researcher, he was one of the principal inventors of the modern spark plug. He manufactured spark plugs during the 1920s and 1930s until AC-Delco bought the patents.

In the mid-1920s Hoffmann designed and built a new home in the country for his family at 57 Grandview Ave, White Plains. There, Joseph M. Hoffmann, now W2DST, would enjoy his hobby of ham radio with his son, Joseph A. Hoffmann, W2DIJ.

Drawing on the knowledge of the IRE engineers and designers, and having access to machine and woodwork shops, he built increasingly advanced ham stations over the years. He would continue operating and building until December 7, 1941, the start of World War II. Then, he immediately went off the air, took down all his antennas, disconnected the power supplies and locked the door to his attic station.

It remained untouched for nearly 55 years.

The Discovery

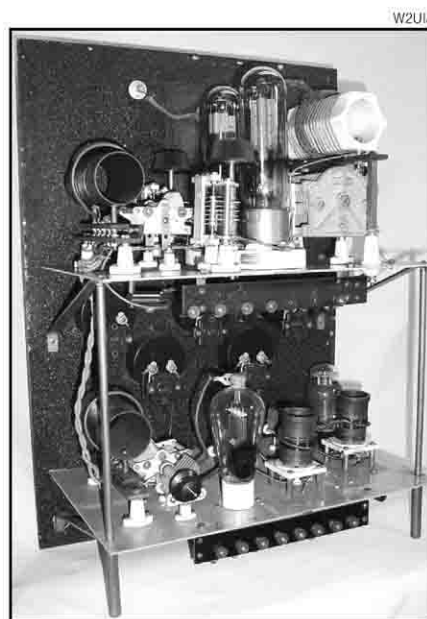
Sometime after his father died in 1964, Joseph A. moved south and rented out the family home. Eventually deciding to sell it, he wondered what to do with his and his father's beloved ham radio station. Some mutual friends in Florida heard about the problem and called Lou Leonard, W2UIJ. They knew Lou had been seriously collecting radios for about five years and lived near the Hoffmann

home. Of course, Lou was interested. He immediately telephoned Joseph A., now almost 80 years old, and made arrangements to see the station.

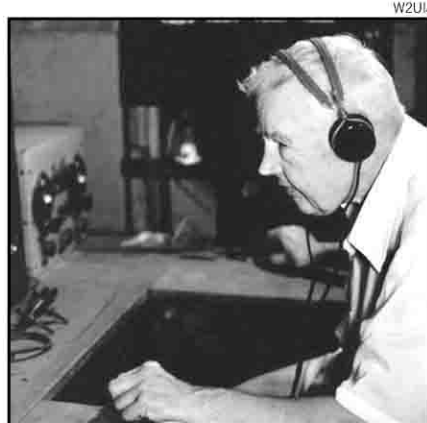
On July 15, 1996, along with his close friends, Bill Henneberry, KN2X, Bob Brannigan, W2EJG, and Bob Handel, WB2ICQ, Lou went to the White Plains home. Met at the front door, Joseph A. Hoffmann took them up to the second floor and pulled down the attic stair. Lou later said, "At the time, I wasn't sure what we would see." They entered the attic with flashlights and after pushing aside the 1869 steamer trunks of Hoffmann's grandfather, Augustus Hoffmann, the ham shack door was unlocked. Joseph A. said, "You are the first persons outside the family to see this since it was turned off in 1941." Then he added, "I'm selling the house in one month. So what are you going to do about it?"

It was a remarkable sight. For a moment, they all were speechless. Before them was an untouched 1920s-1930s ham radio station of significant size and beauty. Almost immediately they noticed the three large transmitters, electrical controls panels with large meters, power supplies built in wooden boxes on the floor, other radio chassis scattered around, and an assortment of homemade test equipment on shelves.

Anticipating a wonderful find like this, Lou had brought his 35-mm slide camera along. He plugged in a drop cord and turned on the floodlights. Joseph A. started to tell the visitors about his father and the history of the station. While this was going on, Lou took hundreds of photographs before anything was disturbed.



The elder Hoffmann's 40-meter transmitter.

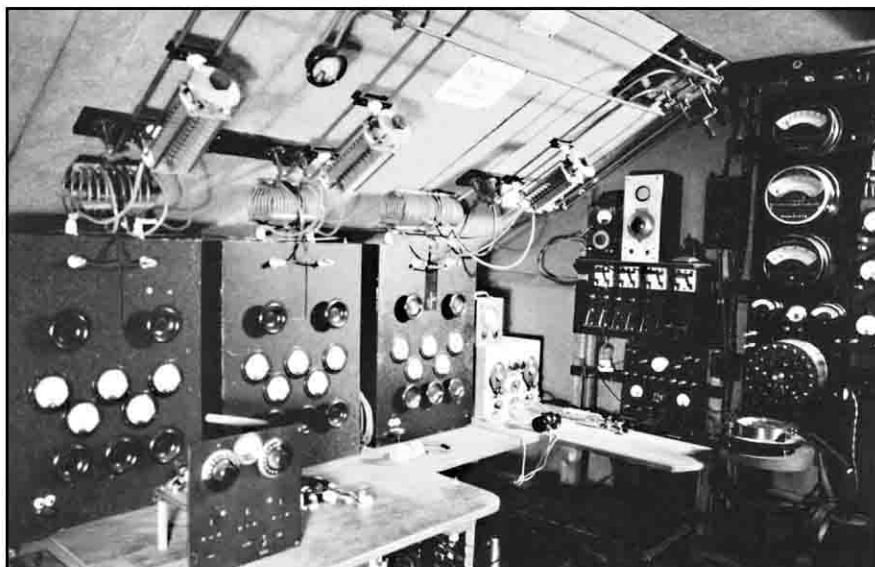


Joseph A. Hoffman, W2DIJ.

The Transmitters

The three large transmitters appeared identical. Upon closer examination, it was noted that they were for three different bands: 80, 40 and 20 meters. An engineer himself, Lou admired the work of this master builder. "This was a first-class job," Lou said, "He didn't use plug-in coils like many other hams, he switched transmitters instead."

In the late 1920s, when these were built, panel meters were very expensive. Most hams had only one, which they jacked in and out of the various circuits to take readings. These transmitters each had five meters, one for every important



The W2DST station. This photo was taken only minutes after opening the sealed attic door.

circuit. The operator could tell at a glance just how everything was performing and make adjustments as necessary.

All three transmitters have similar internal construction. All stages are loop coupled. The crystal controlled oscillator in the 40-meter rig is an RCA 6L6 driving a Taylor T-20. The finals can be viewed through a screened window. They are a pair of General Electric PR-3-B tubes (the GE version of the classic UV-203A). Wired in push-pull, they are link-coupled to the feed-through insulators near the top of the front panel and then to a large coupling coil on top of the transmitter for matching to the antenna lines.

Hoffmann modified the transmitters from time to time, always trying the latest tubes or circuits. The 20-meter rig had been modified in the late 1930s to use an RCA 813 in the final for higher output power.

The cabinets are actually large wooden boxes that have been very carefully lined with copper sheeting, making them well shielded. The front panels are made of heavy aluminum and have been painted black-wrinkle. The two custom chassis inside are carefully cut and bent from sheet aluminum. All of the parts used are top quality and the construction is very professional.

There were no modulators for this station because Hoffmann used CW almost exclusively.

There was quite a switching system for the power. Two large power supplies would provide the high voltage. The smaller one was used for moderate output of 100 W, or for higher power the larger could be switched in for 300 W. A very organized set of knife switches did the job. Everything was well marked and documented. Lou felt that if he wanted to, he could have

powered up the station and put it right on the air, if the antenna still existed.

The power supplies are also well built on sturdy wooden breadboards. They are placed into custom-made wooden boxes that open for inspection and to allow the operator to replace the two 866 mercury-vapor rectifiers.

The Receivers

All of the station's receivers had been earlier relocated to bedrooms or to the garage and cellar. A visit to the cellar revealed a "pile of Pilot Super-Wasps," which Hoffman cherished. Over the years a large number of early commercial and homebrew receivers had been used. In later years an RCA AR-88, as well as several Nationals were in use there.

Switching Antennas

A series of large "Trumble" knife switches, coupled by copper tubing, allowed each transmitter to be switched in or out of the feed line. An RF power meter was built into the feeders to help adjust each transmitter for maximum output. The feed line ended in yet another antenna matching device, mounted on the outside wall with two large brass feed-through rods to the antenna. Two large light bulbs were also in the circuit. They were probably used for tuning purposes or to act as dummy loads. Another knife switch allowed the antenna to be switched to the receiver while listening.

The Power Meters

The board with the large meters was a carryover from Hoffmann's early spark transmitters. Due to the noise and the smell that was generated, they were usually located in a cellar or some other re-

mote location. The speculation is that he brought this from his earlier home in the city. It was still functional and an accidental bump of one of the wall-mounted knife switches brought them quickly to life, surprising the visitors. Lou carefully disabled the ac on his next visit.

160-Meter Transmitter

In the garage, a carefully constructed breadboard 160-meter transmitter was discovered. It was dirty, but was all there and is restorable. Built by Joseph A., it was featured in *How to Become an Amateur Radio Operator*, by Lt. Myron F. Eddy, a *Short Wave Craft* Publication, 1933-1934. Joseph M. modified it for 160-meter use only.

Other Treasures

Uncovering layer after layer in the garage and cellar revealed rare and wonderful spark transmitter parts. Antenna resonators, sealed glass capacitors in wooden boxes, a 500-W spark coil, a Massie wireless key and slide potentiometers were found and are presently being restored. Many of these came from the E.I. Company, a well-known manufacturer of spark transmitters and parts. Early tubes were also discovered, such as the Western Electric 205-D and some very early Audions.

The attic revealed Joe's set of *IRE Journals*, starting with Volume 1, Issue 1.

In the station's 1885 oak roll-top desk, a pile of QSL cards were in place, as if waiting to be filled out. The drawers revealed a 1932 radiogram, scientific instruments, receiver plug-in coils and replacement parts for various radios. A Browning-Drake oscillator was on the top and used as a VFO.

A Millen transmitter, in the form of several chassis, was found on the floor. This was believed to be from Joseph M.'s city office. He would use this to contact Joseph A. at home during the week.

This station was truly a "time capsule."

In addition to those mentioned above, Lou Leonard would like to thank Tom Perera, W1TP, Pete Malvasi, W2PM, Stuart Mount, W2AO, and Jim Kreuzer, N2GHD, for their help in researching and identifying items from this station. Lou Leonard provided much of the information used in this article.

Conclusion

I own the Hoffmann 40-meter transmitter and have it in my Old Radio Museum. To see it, check my spring schedule on my museum page for hamfests I will be attending. Look for my call letters on my hat and say "hello." Also, for more photographs of the W2DST station visit: www.eht.com/oldradio/arrrl/index.html.—K2TQN

QST