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QST Issue: Oct 2002
Title: Ham TV in 1930
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Ham TV in 1930

Nicholas Bozzay (SK) helped form the radio club at the Grover Cleveland High School in Caldwell, New Jersey, around 1928. Even though there were no licensed amateurs there, he and his friends studied all about ham radio. He graduated in 1932, still without a license. It was about this time he picked up his first television receiver.

Mechanical TV was the big thing in radio back then. Everyone wanted to see moving pictures in their home. Living near New York City provided him with several sources of broadcasted experimental video. He constructed a radio receiver and hooked it to his model "T-3 Pioneer Scanner," as it was called.

He was successful and had many exciting evenings viewing the small objects that were broadcast. He also found others, hams, who were doing the same. By 1938 he held the license W2LVD.

Nick joined the Navy when war broke out. He was a radio technician aboard the USS *Manila Bay* when a Japanese suicide plane struck it. That crash knocked out the ship-to-ship communications. He was later cited for his resourcefulness and quick thinking for hooking up a plane's radio on the deck with special extension cables he used for working on them in the shop. This allowed the *Manila Bay* to continue in the battle instead of retreating.

Pioneer was a local company to Nick, based in Jersey City. They advertised the T-3 in early radio magazines for $8.50, less tube. The special "Neon" type tube sold for about $3.

The T-3 consisted of a series wound brush type synchronous 1200 r/min motor. It had an on-off switch (bottom) and a special switch (top) to open the brushes, allowing the motor to coast until it could be synchronized with the incoming picture. See Figure 1, a close-up view of the motor. One had to be careful, as a misplaced finger would result in an electrical shock.

The 16-inch black-painted aluminum disk had two series of 60 holes, cut in a spiral. This allowed the tube to be moved up and down to also adjust the incoming picture, once the speed was set. It took 60 holes to spin past the tube to make a picture. The light emitted from the holes formed a 1 × 1½-inch, 60-line picture. The picture viewed was made up of either orange light or dark spots, making the two tones. The resolution was poor, but great for the time.

A complete set-up is shown in Figure 2. Here is a 1928 Silver-Marshall Around the World Four receiver. The audio output feeds the Mutter three-tube amplifier. The amplifier raised the signal voltage to about 200 V, which fires the neon tube. The tube has a large 1-inch-square plate that glows when the signal is right, then goes dark for the black part of the picture. All this happens at a high rate of speed, allowing the eye to see a moving picture.

By changing the neon tube to a bright bulb and using a photocell, a ham could send pictures to his friends. The photocell output was hooked to the ham's AM modulator causing a buzzing sound to be transmitted.

Visit my Web page, **www.eht.com/oldradio/arrl/index.html**, for more on mechanical TV. I will have two great Web sites listed, each with many examples of early television. There will also be a demonstration picture to help you visualize exactly what it looked like back then.

My thanks to Robert Bozzay, WB2UXA, for his father's interesting story, Tom Genova at the Television History site and Steve at the Early Television Foundation for providing information for this column.—*K2TQN*

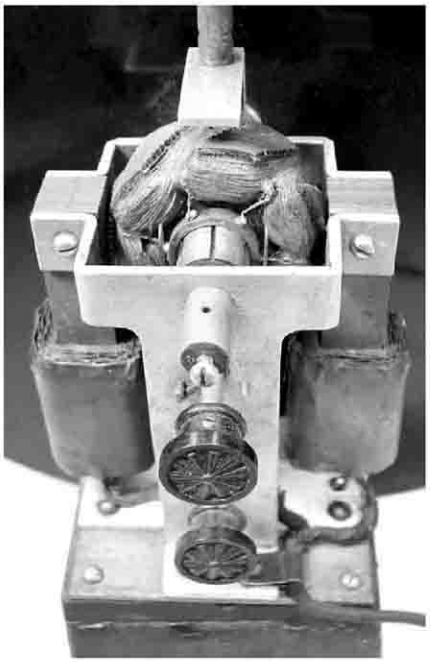

Figure 1—A close-up view of the motor.

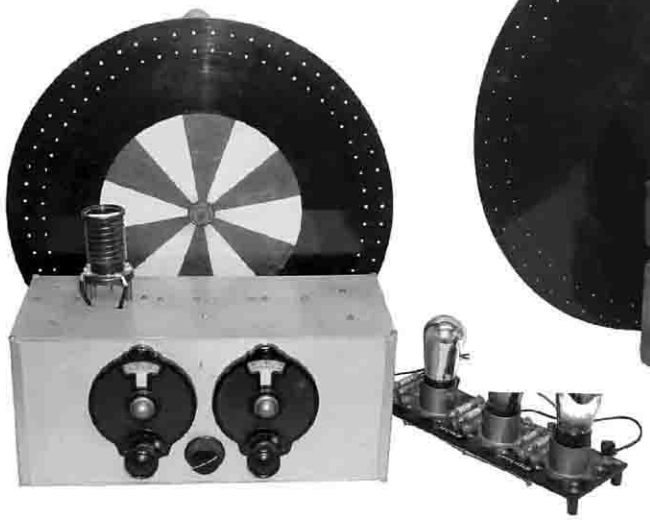

Figure 2—An operating station to receive 1930-era TV. The three main parts are the radio, the scanning disk and the three-tube amplifier.

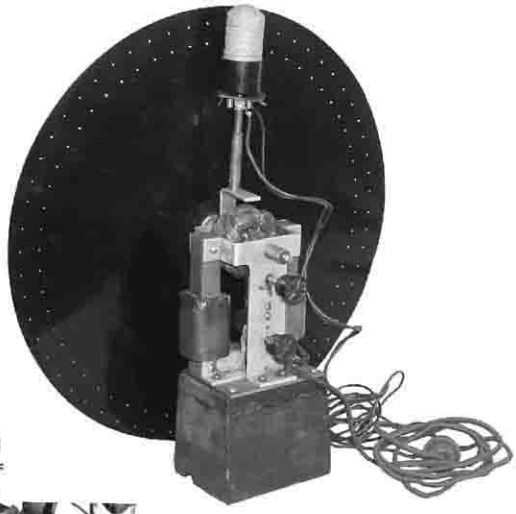

Figure 3—The mechanical side of the scanner.

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