

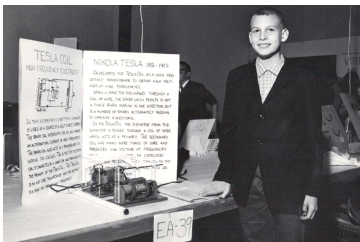
Dave's Ham Bio WB7ELY

From an early age, I was interested in science, and especially electricity. I had a friend in elementary school with the same interests. We'd order multitudes of catalogs from radio and electronics companies and go through them, examining radio equipment, antennas and what all else that was offered. In third or fourth grade we acquired a pair of surplus Kellogg telephone handsets that could be hooked together along with a battery and two people could talk. The problem was there are nine possible combinations to wire them and only one combination worked. I recall spending hours under the basement stairs trying to get the right combination.

My dad and I experimented with science projects and electricity, building some early batteries and electromagnets from books and it just took off from there. He'd come home from work and after dinner, instead of watching the news or relaxing, he and I would go to the basement workshop and try and build the latest project from an electronics hobby magazine. Of course it wasn't all that easy. Getting the transistors and other parts took multiple trips to local parts stores and supply houses and that was a job in itself.

I'd ride the bus to his office after school and he and I would hit the local parts house and surplus stores. In his office was a teletype machine and I was fascinated by it. On Saturdays sometimes I'd get to play around with it in local mode. It made this cool "buzzzt" sound when you hit a key. Later I realized it was a model 33 ASR with a paper tape perforator. Radio teletype (RTTY) later was to become the centerpiece of my ham radio interest.

One super evening project was a Tesla Coil. It generated several thousand volts and would jump sparks of an inch or more and light up nearby lightbulbs with an eerie purple light. I eagerly read all about



Nicola Tesla and his contributions to science, radio and especially AC power. I entered the Tesla Coil in a city-wide science fair and spent a fair amount of time taking photographs and making the presentation materials.

Unfortunately I was away from my exhibit buying a hot dog when the judges came around. Not sure if it would have won, the exhibit next to mine was a working model of Seattle's Ballard Locks. (with water)

A friend of Dad's gave me an old shortwave receiver and we put a wire antenna on the roof. I was fascinated tuning the dial and listening to all

the strange sounds; faraway broadcasts, shrieks and whistles, morse code and all matter of sounds. Turning off all the lights in the room with just the dial and tubes glowing was even better.

I didn't know it then, but this was the beginning of a lifelong interest in radio and communications and a deep seated curiosity of how all things work. Soon Dad and I built a Heathkit shortwave receiver and took a ham radio course at a radio store downtown.

Learning the morse code was more than I wanted to do at age ten. A few years later we became interested in CB Radio and installed a radio in our 66 Volvo and built a Heathkit transceiver for the house. It was all very serious in those first days of CB, everyone had a call sign and was very disciplined. We talked from the house to the car and it was fun. Since we lived on a hill we had coverage all over north Seattle.



By 1970, it was my senior year in high school, my dad was promoted and we had to move to San Francisco. It was a tough move. The California high school was cliquy and cold but the science dept did offer a basic electronics class. It was my first formal electronics training. It was easy, fun, and I loved it. Looking for a college that senior year, I decided on DeVry University in Phoenix. They specialized in electronics engineering. I moved there that summer and immediately began classes. My lack of advanced mathematics ability soon became glaringly obvious. No matter how hard I tried, calculus, differential equations and Fourier just killed me.

I elected to take the 2yr electronics technician path as a way to get started. Graduating, the Vietnam War was still raging and I was due to lose my student deferment. Several employers came to the school to interview graduates for jobs. Among them was the US Coast Guard. They offered an E4 petty officer rank to join for four years as an Electronics Technician (ET). It sounded good to me! After boot camp, I was sent to Monterey, Calif where I spent the next four years with three techs maintaining the electronics in Group Monterey's 200 mile stretch of coastline. We were tasked with looking after six automated lighthouses, two remote transmitter sites, two 95 ft cutters and several small boats. There was little redundancy, and all equipment and boats had to be operational 100% of the time.

That was a tall order and I ended up driving to go fix things in the black of the night and in awful storms. Working with Radar, HF and VHF communications equipment as a technician felt entirely natural and I had

a nice satisfied feeling after troubleshooting and fixing a tough problem. After discharge, I moved back to the Seattle area and began at the local community college on the GI bill. Decided it was time to get a ham license and see what it was all about.

When I got my ticket, call sign WN7ELY, a helpful ham-friend loaned me some good-used equipment. The same fascination was there, tuning the HF bands and listening to faraway stations --and now the satisfaction of a radio contact with a distant person.



Still in school, I moved on to amateur Technician license and also landed a part-time job as a bench tech at a local ham-radio store called C-Comm.

I bought a ten-channel VHF radio and had a blast working the local repeaters with a couple of watts.

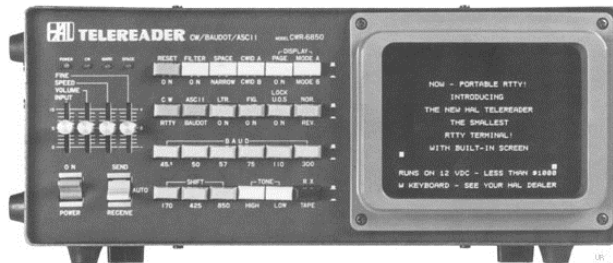
FM and repeaters were all very new in the seventies. There was a ton of surplus law enforcement equipment on the market and every mountaintop had a ham repeater. The big thing was to have a touch-tone keypad connected to your rig and join a favorite repeater with a donation and make a few phone calls over the repeater to see it work. I wanted to put one of my own on a mountaintop someday.

By 1982, my next goal was to get on the HF bands with a General ticket but I had to pass the 13 words per minute code test. I did it, but it wasn't pleasant. By this time I was working for the Boeing Co and had extra dollars.



I bought an Icom 740, a solid state microprocessor 100W HF transceiver and began to put together an RTTY station. Looking around at the state of radio teletype, it was obvious that

the industry was moving in the direction of computers and away from surplus electromechanical machines. I liked the equipment made by HAL and decided on a portable unit about the same size as the Icom radio. It was called a CWR-6850. It had a 5" green CRT and could save and play messages from a cassette recorder. It had a small keyboard and a printer port. With these two units, I had a ton of fun for the next ten years. I worked RTTY exclusively and had no desire to use a mike or morse code.



My antenna was a 40 ft wire from the 2nd story of my house to a long pole in the corner of the back yard. The wire formed an inverted L and

terminated in a manual antenna tuner in the basement. Right next to a cold water pipe ground, I could almost hear the tuner "hum" when the 1:1 match was achieved. I had a remote key button and ran up and down the stairs when changing bands.

In 1986, my next upgrade was twofold. I bought a very nice homebuilt 1KW amplifier and hooked it to a 2nd hand 4BTV trap vertical antenna. 1,000 watts on 20 meters made me a contender! By now it was 1996 and the shack sported a 386 computer. I upgraded to a "PK232", a box that ran off the PC serial bus. It did a better job of decoding RTTY and worked on some other modes. Then my interest waned. Raising a family and assorted career callings caused me to put everything on hold 1997-2005.

But I kept my hand in it working as a volunteer for the Boeing Co. as an emergency communications focal. Boeing had realized in the early 1990s that in the event of a huge natural disaster, the company would need to be able to communicate between its multiple sites in the Seattle area and that ham radio was probably going to work if all the other modes of communications failed.

To that end, the fire and security dept bought five or six complete ham stations HF, VHF and UHF along with antennas, amplifiers and all the extras, including batteries. A call for licensed hams was put out and I ended up leading a group of 15 volunteers at the Boeing Field operations center.

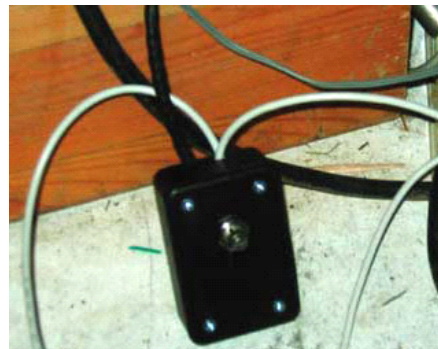
Since we didn't have any dedicated room or place for our equipment at Boeing Field, I designed a "station in a box" and had the carpenter shop build a very nice portable wooden cabinet with a fold-down front.

A few years later I was named to manage the entire Puget Sound group of about 150 guys while the rest of the Boeing sites around the country were organized with volunteers and stations. I never felt it worked out very well because the emergency operations fire and security people in Seattle looked down on the hams and their abilities and would nearly refuse to work with us.

It would have to wait for the "big one" but in the meantime we trained and practiced talking between the Puget Sound sites using HF VHF, and UHF.

In 2005 I read an article about PSK31, a new "phase shift" digital mode that was catching on like crazy. Talked to a couple of hams that I knew and they were enthusiastic too. I built a simple interface, dusted off the IC740 and got on the air. Living in a house with a small yard limited me to a wire antenna and this time I wanted an automatic antenna tuner.

After working on commercial aircraft, I was hooked on how easy it was to



change freqs, just "key the mike" and the little white box at the antenna achieved a match.



I also purchased a surplus UHF repeater and was granted permission to get it on the air using a repeater pair assigned by the local managing group. I got the repeater running but I didn't take it to the next step, putting it on the 900 ft hill behind the family property. I felt there were potential problems with theft, power usage and permissions.

Next up was a move to the

family property where I had been building my dream house since 2000. The Icom 740 wasn't as much fun and there were lots of newer rigs with DSP with many new features. Settled on an IC706 and bought a used multi-band radial-less vertical antenna. I had tremendous results and was forever hooked on verticals due to their low angle of radiation.



It helped living on a hill in a rural area. I was hearing stations from all over the planet and they were answering me! Using PSK31, RTTY and host of other new computer driven modes, I continued getting on the air a couple times a week. At the family property there was that 900 ft hill that I had access to and I became interested in VHF and UHF DX. I built a 4 element VHF Yagi and began heading up

there for field day and during VHF/UHF contests. It was a ton of fun and the yagi exceeded my expectations on both SSB and FM.

Looking Back

This hobby can be many things to many people. That is one of the draws. You can get awards for contacting someone in every country, you can be into building your own radios, high power, low power, big antennas, little antennas, bouncing your signal off the moon, there's a draw for almost any radio nut.

My draw was putting a system together using the best technical practice that I could achieve. My fascination still is mainly with antennas and I was always impressed that my station even flipping worked! Nowadays I am happy to get on the air once or twice a week and make a few contacts. The new JT65 modes and meteor scatter are piquing my interest anew and I expect to do more with VHF from the top of the 900 ft mountain.