

A Little Power and a Very Nice Antenna

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The Covid-19 lock-down got me day-dreaming about the places I've been and the places I would like to go back to visit. High on that list is Titan Missile Museum south of Tucson, Arizona.

Back in the 1960s, the United States and the Soviet Union had locked horns in a Cold War for world domination. As part of this "war," the United States Air Force built 54 underground silos for Titan Intercontinental Ballistic Missile (ICBM) deployment. Each Titan missile carried a 9 megaton thermonuclear warhead and was part of the mutually assured destruction (MAD) strategy intended to keep the cold war from ever turning hot. If one side ever started a nuclear war, even a surprise attack, the other side possessed sufficient weapons to render the earth uninhabitable except perhaps for cockroaches. It was all about deterrence.

Eighteen of the Titan missile silos were constructed around each of Little Rock, Wichita, and Tucson. As the Titan technology became obsolete and as part of nuclear disarmament, all of the Titan missile sites were eventually decommissioned in the 1980s. And all but one of these sites were literally blown apart so the "decommissioning" could be verified by Soviet spy satellites. That one remaining Titan silo is just south of Tucson and survives as a museum.

How does this relate to ham radio? Our good friends in the Air Force realized that in the wake of nuclear Armageddon, communications might be a bit of a challenge. So they equipped each of the underground missile silos with a handful of antennas with which to communicate with whatever command & control (or civilization) remained. And like the missile silo itself, one of those antennas remains: it's a dozy. Next to the visitors center at the Titan Missile Museum is an 80-foot high discone antenna. The discone is omnidirectional and inherently broadband across essentially all HF ham bands; and most fortunately the Green Valley Amateur Radio Club (GVARC) has an arrangement with the museum to allow visiting hams to use this antenna. The lure of that 80-foot discone was irresistible.

My first challenge, of course, was

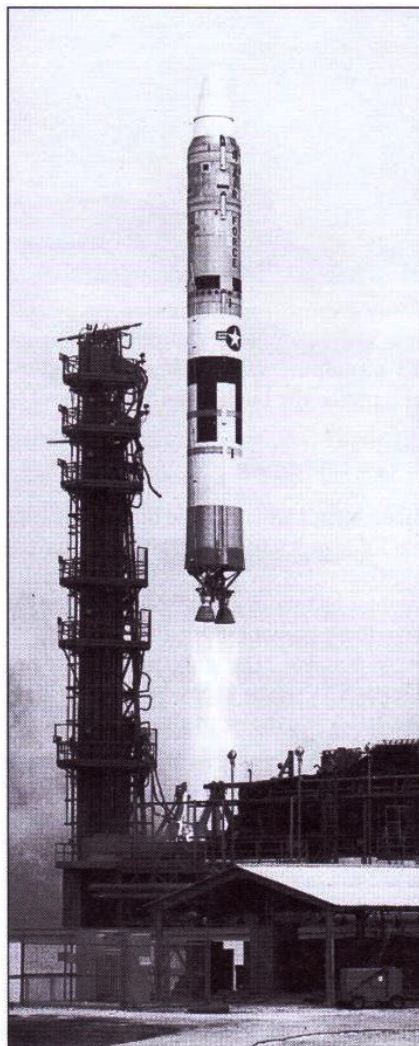


Figure 1—A Titan Intercontinental Ballistic Missile launches from the Air Force Missile Test Center on a test flight from an above-ground gantry. The Titan was later man-rated, that is, upgraded in reliability, to carry the Gemini astronauts into earth orbit. USAF Photo from the author's collection.

packing radios and equipment for the flight out from Atlanta to Tucson. QRP was the obvious answer. So into my suitcase went a Yaesu FT-817 ND, an LDG Z-817 auto tuner, paddle, and a power cord to run the transceiver from the rental car power accessory jack. I also packed a note to the

Transportation Security Administration (TSA) along with a copy of my license since I was pretty sure my suitcase would be opened for inspection (it was). That took care of the challenge. My fear was that the antenna was so old that it just might act as a dummy load and simply soak up my five watts without radiating any! There was only one way to find out....

Tours of the underground silo require reservations; my wife and I had reservations for 2:00 PM. Since there really isn't too much to see underground, I imagined that I'd have a couple of hours to play radio following the tour. It didn't exactly work out that way. Our tour guide was a former missile-man who had at one time been stationed at that site. He gave us a thorough tour. Although I ended up with just under an hour to operate before closing time and the end of access to the discone. But I have no complaints. It is quite a poignant experience to stand in the presence of such awesome destructive capability.

Once connected to the discone via the convenient PL-259, I started by calling CQ without any success and after a few minutes gave up on that. QRP stations often don't attract a lot of attention because our signals are usually on the weak side. It's usually more successful to answer someone else who is calling CQ. So that's what I did and that strategy worked. With my little 5-watt signal powering a really nice antenna I managed to work four stations; and with enough strength to actually rag chew a bit. From the southern border of Arizona I worked KA7RCN and WB7WNF in Washington State, NZ8C in Ohio, and NØR running a special event station in Iowa. These were all one-hop distances on 20 meters.

While it would have been nice to have had another hour of operating, I nevertheless judged this little adventure as a success. Not only did it work out to travel with a rig and make some contacts, it was also historically impressive to visit a site that was once top secret and highly classified, and to pump my little signal through a unique antenna that fortunately never saw its intended use for communication after the end of civilization. ●●



Figure 2—The sign by the 80-foot tall discone antenna reads, “DANGER: RF RADIATION” but that certainly wouldn’t apply to N4TRB’s 5-watt QRP signal. On the other hand, it does start one thinking about a mobile kilowatt!



Figure 3—The discone antenna at the TitanMissileMuseum in Sahuarita, Arizona, is available for amateur use thanks to the Green Valley Amateur Radio Club (GVARC). Just open the electrical box and roll out the coax. They even supply a picnic table (but bring your own shade!).