

## The 75 meter beam project

by Kent Miller, K4MK

I first starting working 75 meters in the Fall of 1956, with 50 watts of AM phone and an Inverted Vee at 35 feet. I was fascinated with the possibility of using the band to work DX, rather than 15 or 20 meters like most of my ham friends chose to do. So, I raised my transmitter power to 300 watts and raised the antenna up to 70 feet. With quite a bit of patience I managed to work about 20 countries in the 1956-57 winter DX season. The next couple of years of limited time operating brought in a few more countries and then other things like school, job, family, etc., took over and I didn't get back to it until 40 years later, in the late 1990's.

Upon returning to the 75 meter band, I quickly realized that my Inverted Vee and several other wire antennas were not doing very well for me. As I became more active after retiring, I had put up a TH-11 for the higher bands, and a 2 element yagi for 40 meters, so the idea of "why not a yagi for 75" came into mind. At the Charlotte hamfest in 2003, Gary, K4MQG, was checking some QSL cards for me and I remembered he had a yagi for 75, so I asked him about it. Not only did he tell me a bit about it, but he mentioned that he knew where another one like it was located, and that the owner wanted to sell it. Man !!! "That lit the fire," and started the one year long process of acquiring, moving, and installing the yagi.

Gary suggested I contact Theo - K4MO, as he had transported the antenna and accompanying tower from Texas to its present owner's QTH



*Let there be no misunderstanding - this is a L A R G E antenna.  
Don, K4ZA and Ken, K4DXA put the finishing touches to the installation.*

in western Tennessee. Information from Theo led me to contact Ellis - K5OTT, who, as the present owner, had the antenna and tower stored at his home. After several pleasant discussions with Ellis, we agreed on a price for the "whole works." Now - the next question was - How the heck do I get it from western Tennessee to central NC? Enter Dave - K4SSU, who offered to haul it with his pickup and trailer. On the afternoon of April 17, Dave pulled into my yard and he; Todd, W4WTB; my daughter Ann and I unloaded a huge pile of metal pieces and parts.

OK - now that it was here, so I had to get serious about where to put the tower. My first thought was to put it in the 2 acre field next to the house. This would be easy to get to, concrete truck accessible, crane accessible, no trees in the way of the guys, etc., but — !! — It would only be 150 feet from the road and it would stand out like the proverbial sore thumb. My next door





*Bruce and I brought the little tractor out to pull the heavy Rohn 45 tower sections up as we "built" the tower.*

neighbor on the south side is a church; the tower and yagi would dominate the surroundings more than their steeple; probably not a real good idea. So, in the interest of keeping the antennas less noticeable, I elected to place the tower back in the woods about 600 feet behind my house. On most days for the next several months whenever the weather was suitable, I cleared land. With the axe and chainsaw, I managed to clear enough ground for the tower and guy paths, as well as a rudimentary road through the woods for truck access. On the 24th of June, I took advantage of the unusually wet weather and dug the 5 x 5 ft. hole for the tower base. The post hole diggers and shovel really gave this old man a workout that day.

For the next 3 months, I alternated between clearing more land, assembling the antenna, and



*Butch, K4MGB, Kent, K4MK and Sid, KE4RIG get the top section of tower ready to go up.*

collecting hardware and guy wire for the project. Don-K4ZA donated much of the EHS guy wire and Sid-KE4RIG donated the HD anchor rods. Most of the other hardware items were ordered from a variety of suppliers. On the 15th of September, after one concrete supplier refused to try to get his truck down through my "road" into the woods, another more adventurous gentleman maneuvered his truck in and poured the tower base. 11 days later, we drilled the holes for the guy anchors, with me, Todd - W4WTB, and the tractor driver standing on the tractors drill support arm to weight it down so it would go down 4 feet + in the hard ground. That was like trying to ride a giant motorized pogo stick (Wish I had a pic-



*Todd, W4WTB rather enjoyed driving the tractor back and forth pulling the tower sections up.*

ture of it). Hams sure do some crazy things for our hobby, don't we? The next day, the anchors were concreted in at each of the six anchor holes. This time, no concrete truck, just many 40 # bags that I mixed in the wheelbarrow, hauling water from the house in 5 gallon buckets— another "workout" day.

On October 31, Don - K4ZA delivered 2 more sections of 45G tower to make up the needed sections to go to 130 feet, and plans were made for November 14 to be tower day. With a crew of 5 hams and one tractor, we finished erecting the tower with a minimum of problems. Installing the tower was, as we knew, the "easy" part of the project. At the end of the day, we had a nice looking tower with a mast sticking out of the top. It turned out that this would be its appearance for the next 4 months until the weather became suitable.



The next step would be to raise the antenna to the tower top and install it, but this had to be postponed because of the wet, snowy, windy, or otherwise impossible weather that seemed to dominate every weekend between mid-December and mid-March.



*Hardware...  
you have to have lots of hardware for a project like this.*

On March 20, the weather finally was reasonably good and the ground and tower crews were available, so off we went. Just before noon, we had an informal meeting at the base of the tower to discuss who was to do what and how, etc. This resulted in recognition of the need for a temporary mast to help keep the antenna and boom support wires spaced properly on the way up. A quick visit to the local Lowe's was made



*Don, K4ZA is the "leader" for installing the antenna.  
Here he gets ready to start the climb.*

to pick up a piece of large conduit. Upon returning with it, we quickly installed it. The plan was

to raise the yagi straight up the side of the tower, removing each set of guy wires as it was hoisted to that point, then replacing them as it went up past them. This was going to be a bit tricky, as they had to be detached at the guy anchors on the ground and the wires then passed over the boom and back down to be re-attached.

Ken- K4DXA, was on the tower waiting; now it was time for Don- K4ZA, to start up, guiding the antenna up with him as he climbed. We started out using my small lawn tractor, along with the strong arms of the ground crew, to pull the rope that would hoist the antenna up the tower. Before we got very far, the tractor tires started slipping and we knew that something larger and with better traction was going to be needed. Joe, my son-in-law, ran back up to the house, maneuvered their Chevy Tahoe back into the woods and looped the rope around the trailer hitch. Then we were all



*Getting everyone together to go over the "ground rules." before starting. There can only be ONE boss on a job like this.*

set and up went the yagi, slowly, slowly, slowly.....32 feet, 65 feet, 98 feet, 124 feet, 135 feet. This sounds pretty simple and easy, eh! Well, it took a bit over 4 hours of this to get the antenna to the tower top. Then, the hard work at the top of the tower for Don and Ken started. They now had to remove the temporary mast, get it moved out of the way, and get the antenna in position to mount it to the permanent mast in the tower. We had installed the mast and rotator in November when the tower went up. Although the antenna is small for an 75 meter beam, maneuvering 150 pounds of metal with elements that are 80 feet long, and with a little wind blowing, my daughter Ann, son-in-law Joe, and grandchild-





*Don, K4ZA guides the antenna up the side of the tower,*



*The ground crew of Wes, WJ4DX; Butch, K4MGB and myself had to keep a tight hand on the guys. They had to be loosened to allow the antenna to be raised over each guy point.*



*When we found that the little tractor could not pull the antenna up the tower, we got the Tahoe and used it.*



*Ken, K4DXA was waiting on top for Don. The two of them wrestled the antenna into place with the help of the ground crew and a couple of "tag" lines.*

dren Tanner and Emily were here to lend valuable aid and cheer us on.

This antenna project was a lot of work, but a lot of fun too, and perhaps the most fun was the great time this group of hams had together. What a great bunch of guys—thanks, fellows; see you on 75 meters.



*At the left, Kent listens on 75 with his new "toy". Above are a few of Kent's collection of vintage gear. On the shelf at the left is a Multi-Elmac pair AF-68/PMR-8. Beautiful gear from 40-50 years ago.*