

## Some photos of my model 404-UL antenna installation.

**This page will be updated further, when some on-air experience has been gained.**

Following items are from Spiderbeam:

- [12m \(40-ft\) heavy duty fiberglass pole](#)
- [Model 404-UL 40m OCFD 7-band antenna](#)
- [Stainless-steel clamp set](#)

**I followed all the assembly and installation instructions as closely as I was able to do so.**

I initially wanted to fix the 12m pole to the chimney. I built a wooden frame and got some steel straps to fix it to the chimney. After several hours working out on the roof I decided that this approach would have a high risk of failure: the next strong winds would either rip the antenna off the chimney, or rip the chimney off the roof.

Instead I decided to mount the antenna to an upstairs balcony. This sacrifices some height but has a much greater probability of survival and is safer to work on.

### Assembly and mounting

The following photos show the assembly and mounting of the pole and antenna. The bottom section (50mm diameter) of the pole is secured to the balcony railings using 3mm lightweight marine rope. I will inspect it frequently. For now, it seems very secure. The Spiderbeam clamp set prevents the antenna sections sliding down into each other. I assembled the clamps as per the instructions and there were no difficulties. I have fixed the antenna matching unit to the 11m point of the pole (bottom of the 12th element) as prescribed by the instructions. A small loop of rope was used.

Four guy ropes were tied to the bottom of the 8th element (7m from the pole base) as prescribed by the instructions. The 5th photo below shows the antenna looking up from below,

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before the guy ropes were tied to convenient points, and before the antenna wires are hung. Due to the proximity of the antenna to the edge of the property, it is not possible to install the guy ropes at the ideal 90-degree angles; however they are not very far off and I believe it will be adequate; probably very few installations are perfectly optimal.

At the 5m point, I have attached a rotating cup anemometer and wind direction vane. These are not yet connected to anything. I hope to be able to measure wind speed and direction. At least if it all falls down, I would like to know what wind speed caused it.

{gallery}404ul/1{/gallery}

The antenna ends are tied to 15lb fishing line. One end (the short end of the antenna) is thrown over the neighbour's roof with a small weight. The other (the longer of the two antenna wires) was thrown over a tree in the corner of the garden. The apex of the antenna is at an estimated 14m above ground.

More photos, from left to right:

Far-Left: View of the pole from the front of the house

Center-left: View from some distance down the street, past the neighbour's house

Center-right: Standing on top of my roof, looking West at the antenna

Far-right: From the street; with yellow lines drawn to indicate the antenna wires

{gallery}404ul/2{/gallery}

## SWR measurement

These SWR measurements are made using a Hamradio 360 K6BEZ antenna analyzer (AD9851 DDS with Arduino controller); slightly modified firmware since the original as I received it (a gift) did not work properly for me. The accuracy of this instrument is unknown.

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The SWR plots below show a sweep from 5 to 30MHz, and zoomed in sections on 40m, 20m, 15m and 10m. These are the four HF bands that the manufacturer claims the antenna will work without a tuner. Broadly speaking the SWR results seem to be consistent with the SWR plot shown by the [manufacturer](#) .

I will be happy to use this antenna without a tuner, on 40, 20, 15 and 10m bands. I will update this page after I have some experience using it.

{gallery}404ul/3{/gallery}

### 1 day on WSPR, 20m and 40m

I ran 200mW WSPR on a 10 minute cycle on both 20m and 40m for 24 hours starting 02-Jan-2019 at 0722Z... then minus about 3 hours when I was doing the antenna SWR sweep and forgot to plug the coax back into the TX afterwards; and minus another hour where I was trying a sked on 40m this morning. A total of 184 stations copied the WSPR, including US on both 20m and 40m; Antarctica (40m), South Africa (20m), Canary Islands (40m), Iceland (20m), Faroe islands (40m) and all around Europe. Safe to say, I think: **the antenna WORKS!**

I also had the good fortune to suffer a power outage during my attempted 40m QSO this morning. "Good fortune" because it allowed two important observations:

- 1) Noise generated by my Uninterruptible Power Supply was not detectable on 40m.
- 2) When the power to the whole town went off, the drop in 40m noise floor down was noticeable but not extreme; I'd estimate less than one S-point. I could hear the noise floor come up again when the neighbourhood power was restored 15 minutes later.

What this says is that the combination of my uninterruptible (linear) bench power supply, QCX transceiver, this antenna isn't very vulnerable to suburban noise; either that, or there isn't much suburban noise here to start with; either way is good news :-)

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Call:  Band:  Count:  Time:   Auto:

