

# Hi, I am Tony IOJX

## A "minute maid" stealth antenna for apartment dwellers

What is described here cannot certainly be defined an invention or even a brilliant idea; it is just a possible arrangement that I am here illustrating with the main aim to stimulate the imagination of those who cannot afford a proper HF antenna, and then have to invent a compromise solution best suiting their particular constraints.

I occasionally spend short holidays periods in a small apartment located in a winter resort on the Apennines. Though I do not certainly need a DX-grade radio station there, nevertheless I still like to have the possibility of operating HF, 7 to 28 MHz.

I would not like to erect (or I should better say: I cannot erect) a fixed antenna for several reasons, e.g., no way to get access to the steep roof, possible snow storms, the need to explain to the other apartment owners what is that antenna for, etc.; on the other hand my staying periods there are relatively short, so, in the end, my motivation is not terribly high.

I then began thinking of an antenna which could meet the following requirements:

- once I get there, can be assembled in a few minutes;
- can be put in place and become operational in a matter of seconds (measured time: ten seconds);
- when I do not use it, can be brought back in the apartment in a matter of seconds (measured time: five seconds), so neighbours see nothing most of the time;
- once disassembled, can be easily stowed inside the apartment;
- has a very low cost, so no qualms about leaving it permanently;
- has a length of the order of 5 meters, this being an acceptable compromise across the whole frequency range of my interest.

I have used a zinc-plated telescopic mast for TV antennas, with a diameter of about 1-inch. The mast has two sections 2-meter long each, so, when fully extended, the mast is about 3.8 meters long. At one extreme of it I have drilled a hole through which a nylon rope was passed.

At this point, before going on with further descriptions, I prefer to show a picture where you can see the mast placed out of the window at an angle of about 30 degrees over the horizontal plane, and supported by the nylon wire.



I hammered two fairly big nails near the top of the window wooden frame, for supporting the nylon rope which acts as guy wires. There is no need for a base to support the mast, as this stays in place by itself, pressing against the bottom part of the window frame and the marble sill (both good insulators).

So, to bring the mast back in the apartment, I simply grasp it and take it inside. The nylon rope is not an obstacle for closing the windows shutters, so it can remain there until the antenna is disassembled. It is very easy to put the mast in place, as the nylon rope, running through the mast hole, makes it self-centering.

Now let us pass from mechanics to electronics.

Picture below shows my FT-100D on top of a Daiwa antenna tuner and a switching-mode 13.8 VDC power supply.



The yellow / green wire, about 1-meter long and actually forming part of the antenna, joins the antenna tuner out to the mast base (you can barely see the mast in the dark). A heavy brown wire connects the antenna tuner ground to the heating system radiator, acting as earth (you can see that wire adjacent to the radiator knob). It is very important to have a good counterpoise for the antenna, so the wire must be thick and as short as possible.

On-the-air results are better than I had expected, as I usually have no big difficulty to work DX stations, if not engaged in a pile-up. Overall, this stealth antenna suits my needs fairly well.

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