



## The Amateur in You, Part 1

*What have you been pondering?*



### Indoor antennas

We've learned from experience that using an HT (handheld transceiver) inside the house can make it difficult for others to hear our transmissions, even if theirs are coming in clearly. This prompts us to get our antennas outdoors, but walking outside in triple-digit heat or freezing temperatures can dampen one's amateur radio enjoyment rather quickly. So, it seems the best thing to do is to [install a rooftop antenna](#).

It turns out that many of us aren't able to install a rooftop or other outdoor antenna, for one reason or another. Some of us live in antenna-restricted neighborhoods, like [HOAs](#). Some have family members who would rather not see an antenna mounted outside their homes at all. For these good folks, getting a good signal out to another station could be challenging, but there are solutions.

#### Handheld antennas

Replace your rubber duck (stock antenna) with a [Nagoya whip](#), a [Signal Stick](#), or a [telescopic Smiley](#). Depending on your location, you might just find that's all you need. For most of us, however, we typically need something a little better when operating inside our homes.

#### Mobile antennas

Place your [magnetically mounted mobile antenna](#) on a metal filing cabinet or refrigerator to really improve your signal. Or install a [hole-mount NMO antenna](#) on a [cookie sheet](#), which will allow you to transmit from many places in your home, as you take your pan with you while moving around.

#### Rooftop antennas inside

Connect your HT to a [Pockrus J-pole](#) by coax, then lean the antenna against a sliding glass door or tall window. Because of the high-

performing antenna alone, your contacts might be fooled into believing your antenna is way up on your roof.

#### Attic VHF antennas

Install a [Pockrus J-pole](#), [Ed Fong antenna](#), or even an [N9TAX roll-up J-pole](#) in your attic, permanently or otherwise. While not as high up as a rooftop antenna, it can often be higher than most things in your home. Be sure to mount it several feet from ductwork, flashing, metal siding, stucco, metal conduit, and electrical wires. If your roof is metal and your [gabled ends](#) are covered in stucco, your attic is not likely your best location for an antenna.

#### HF antennas

If you plan to operate HF, you can still run an antenna indoors, but depending on your house, you might find yourself facing extra difficulties. Many attics are too small to run a long-wired dipole or [end-fed antenna](#), but you can still use them if you shorten them with [loading coils](#). Avoid looping the wire elements back on themselves, which will drastically alter the antenna feed point impedance. The attic is probably not the best location for a [vertical HF antenna](#).

You might consider the use of a so-called "[magnetic loop](#)" antenna, which tends to receive really well, although sometimes difficult to tune for equally good transmissions. One thing to watch out for is the high voltages on the loop, generated by the tuning capacitor near resonance, so keep it clear of children.

Finally, you can run an HF loop around the ceiling along the walls if you have an older home. If your home is newer or is a condominium or town home, looping a wire indoors might not work as well for you. In any case, be sure to install an [RF choke](#) on the coax near the antenna feed point.