

THE GRAY HOVERMAN

ANTENNA

If you live in an apartment and can't put up a rooftop or tower mounted antenna for UHF TV DXing, you may have noticed that it's hard to get very good results with a built-in loop or single bowtie. If you have a decent amount of height above ground, it may help, but for decent long-haul UHF DXing, you need high antenna gain.

Some DXers have tried using parabolic dish antennas inside, and even if you are somehow able to fit a 5- or 7-foot UHF dish in an inside room, you may be in for a big disappointment. Parabolics never seem to really work well inside. It would seem that in order to work effectively, a dish has to be above roof level, as high and as in-the-clear as possible.

Most UHF yagis are pretty well out of the question for indoor antennas. They often have very long booms, and tend to work well only on a small portion of the UHF TV spectrum. It's too bad, because they usually offer very deep nulls and high directivity, second only to a large dish.

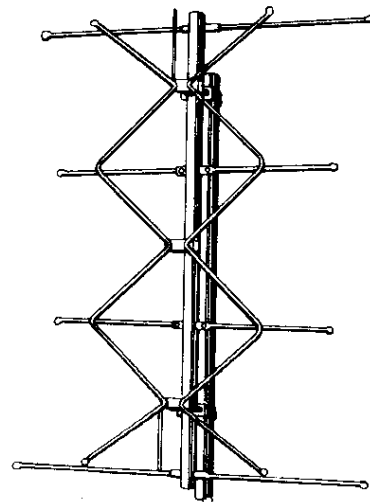
But how can you have high antenna gain for DXing, and still have an antenna that easily can fit in a small apartment—say one that's easy to put away in a closet when not in use? The best approach to use is to go with a stacked-bay bowtie.

This type of antenna has long been overlooked by the TV DXer since they were more or less 'replaced' by parabolic dishes in the 'deepest fringe' classification in the catalogs. Many experimenters will be shocked to learn this fact: stacked bay antennas will outperform parabolics, in terms of gain, on the low end of the UHF TV spectrum. In fact, a well designed 4-bay has significantly higher forward gain than a 5 foot dish on the lower UHF channels. The dish will have much deeper nulls however, and the front-to-back ratio will generally run rings around the 8-bay. And, when you get up to the translator channels above ch 50, it's no contest—the dish is far superior.

However, there is one type of 4-bay that really isn't a classic 4-bay, but an interesting variation on the design—and it is relatively cheap, as well as a very high performer. The Hoverman design seems superior to the standard 4-bay configuration, as it offers greater gain over a larger bandwidth. Unlike the individual stacked bays in a conventional 4-bay, the driven section of the Hoverman is actually a pair of aluminum wires which seem to be able to maintain resonance over a large chunk of spectrum. The reflector section, instead of being the usual grid-type screen, is a collinear array of four pairs of reflectors—actually eight half-wave segments.

This approach to a 4-bay antenna results in higher average gain over the range of the mid ch 20's to the mid ch 50's, resulting in an antenna that is ideal for DXing the most active part of the UHF TV range, with higher gain-over-size than any other UHF antenna in that range. With dimensions of 30" x 30" x 6" it can easily fit into a small space. Also, it is very light, at less than 1.5 lbs. Thus, it's also easy to take with you on a trip, if you have the space.

The 4-bay Hoverman is made by the Antennacraft (actually, Winegard company) and sold as the G-1483. They also manufacture it for Radio Shack, which sells it as the model 15-1627. As of this writing it was selling for less than \$12 at US at most of their outlets. Dealer price for the antenna from the Antennacraft factory should be less than \$9—but availability may be

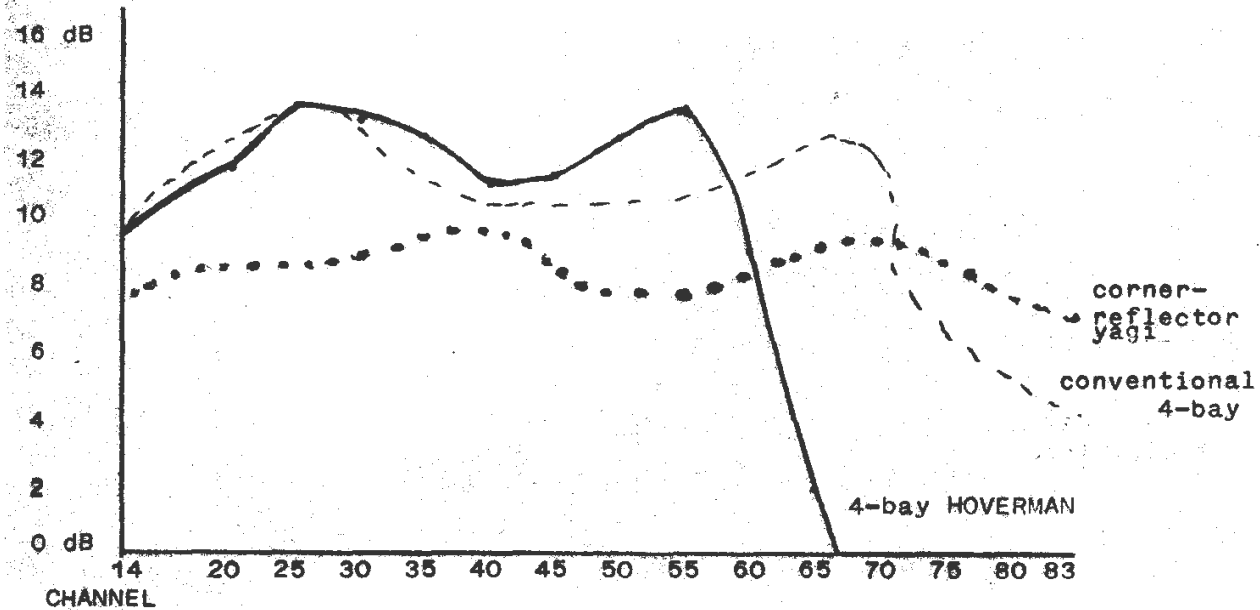


The Gray Hoverman Hi-Def Antenna System

limited. Since Wineaard actually controls the antenna's production, it may not be available from any other source except Radio Shack, as it is not currently a popular antenna design. In fact, RS used to offer an 8-bay version of this design several years ago, but apparently dropped it in favor of various overpriced yagi designs. It would not be too surprising if they drop the 4-bay Hoverman soon, as such national chains tend to phase out designs that are not profitable, despite their performance.

The graph below can assist you in evaluating the Hoverman's performance. It's based on actual measured forward gain, as performed by the author of an excellent antenna reference text, M.J. Salvati. The curve is our own, based on Mr. Salvati's published measurements and the measurements done by an FCC study on antennas.

Graph Showing Gray Hoverman Antenna System



- As you can see, this antenna will not be effective for DXing above about ch 50 but below that channel, will far outperform a typical conventional 4-bay or a corner-reflector yagi for general UHF TV DX purposes. Keep in mind one major drawback; front-to-back ratio on this type of antenna is very low. However, you can live with this on UHF, although the channels are becoming quite crowded.

When used with a hot UHF TV preamp such as the Winegard AC-4990, this antenna will give you excellent indoor UHF DXing results. In fact, it can work so well, you may want to sneak up on the roof when your landlord isn't looking! Try the Gray Hoverman Antenna System for your HiDef HDTV System