



# MICRONETXX COMMUNICATIONS

## THV High Band VHF C/P Antennas



- **Single Channel C/P antenna**
- **One to ten bay models**
- **Up to 31 kW ERP**
- **Low Wind load, Lightweight**
- **All Stainless Steel**
- **Omni-directional Pattern**
- **Right hand C/P signal**
- **Low RFR on ground**
- **Easy to install**

**THV** series antennas are side mounted light weight antennas that produce an excellent Omni-directional right hand C/P pattern. They are available as a single bay, and in two bay increments, up to 10 bays. The antenna uses the time tested dual inverted vee design found on FM antennas. The single bay model is fed directly, while the multi-bay models are fed via a power divider. The bays are spaced  $1/2$  Lambda apart.

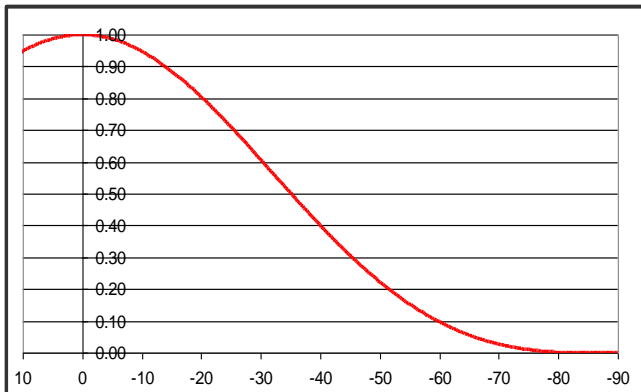
### THV Antenna Electrical Information

<b>Number of Bays</b>	<b>Antenna Gain (C/P)</b>	<b>Antenna Max Input Power</b>	<b>Maximum ERP</b>
<b>1</b>	0.49 (-3.1 dB)	1 kW (0.0 dBk)	500 Watts (-3.01 dBk)
<b>2</b>	0.69 (-1.61 dB)	2 kW (3.01 dBk)	1.3 kW (1.14 dBk)
<b>4</b>	1.30 (1.14 dB)	4 kW (6.02 dBk)	5 kW (6.99 dBk)
<b>6</b>	1.90 (2.78 dB)	6 kW (7.78 dBk)	11 kW (10.41 dBk)
<b>8</b>	2.50 (3.98 dB)	8 kW (9.03 dBk)	20 kW (13.01 dBk)
<b>10</b>	3.10 (4.91 dB)	10 kW (10.00 dBk)	31 kW (14.91 dBk)

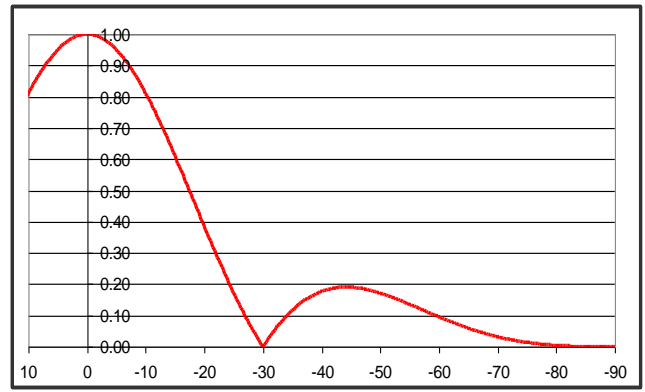
The 1/2 Lambda spaced models have much lower RFR at high depression angles, allowing them to be used lower on a tower or rooftop. The RFR hitting the ground is 15 to 25 dB less than standard spaced antennas.

A single bay **THV** is fed directly (7/16 DIN), while multi bay are fed with a power divider (1-5/8" EIA or 3-1/8" EIA. Input power ranges from 1 kW with a single bay to 10 kW with the 10 bay antenna. The maximum ERP of the **THV** is 500 Watts with a single bay and 31 kW with a 10 bay antenna. Since the multi-bay **THV**'s antennas are branch fed, there is no differential group delay across the channel, making this a perfect choice for ATSC 1.0 and 3.0 operations

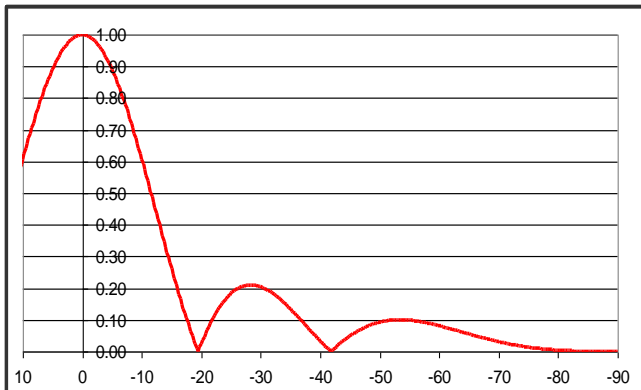
## Sample THV antenna elevation patterns



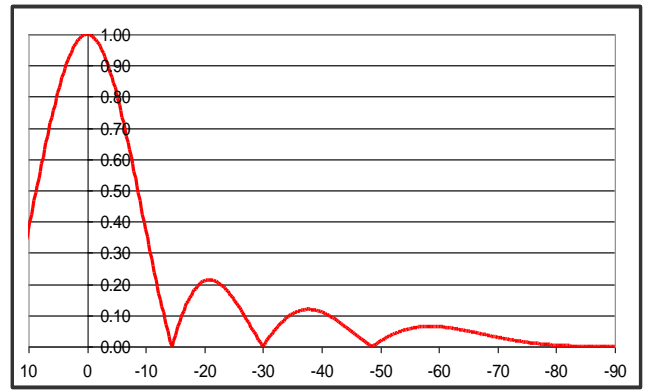
2 Bay elevation pattern



4 Bay elevation pattern



6 Bay elevation pattern



8 Bay elevation pattern

Four to ten bay **THV** antennas can have null fill and beam tilt added. The gain of the antenna will be reduced slightly.

We also offer the **THV** antennas in a broad cardioid configuration. The maximum ERP that these antennas can produce is 1.7 times the maximum ratings show in the chart on page 1.

For best operation the **THV** antennas should be top mounted on a small diameter pole (3.5 inch nominal), or outrigger from a tower face by a few feet with using an outrigger pole supplied by others

#### THV Antenna Mechanical Information

Number of Bays	Antenna Length	Reccomended tower space	Antena Weight	Antenna Load Area
1	2.0 ft. (0.61 m)	10 ft. (3.05 m)	15 lbs. (6.81 kg)	0.5 ft <sup>2</sup> (0.04 m <sup>2</sup> )
2	4.5 ft. (1.37 m)	12.5 ft. (3.81 m)	37 lbs. (16.1kg)	1.4 ft <sup>2</sup> (0.13 m <sup>2</sup> )
4	9.6 ft. (2.93 m)	19.6 ft. (5.97 m)	77 lbs. (35 kg)	2.4 ft <sup>2</sup> (0.22 m <sup>2</sup> )
6	14.6 ft. (4.45 m)	24.6 ft. (7.50 m)	97 lbs. (44.1 kg)	3.4 ft <sup>2</sup> (0.32 m <sup>2</sup> )
8	19.7 ft. (6.00 m)	29.7 ft. (9.05 m)	127 lbs. (57.7 kg)	4.4 ft <sup>2</sup> (0.41 m <sup>2</sup> )
10	24.7 ft. (7.52 m)	34.7 ft. (10.58 m)	157 lbs. (71.4 kg)	5.4 ft (0.50 m <sup>2</sup> )

Note: Mechanicals are for a channel 10 antenna

The **THV** antenna bays are made from schedule 304 stainless steel. The elements are welded in place and are all at DC ground for superior lightning immunity. The antenna has a basic wind speed rating of 125 M.P.H.

The **THV** antennas are perfect for applications from translators to standby or full power operations. The **THV** antennas have a small load profile, but deliver a perfectly launched right hand C/P signal to your viewers

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