

BUXCOMM: Cat# 1TRA

The TRA Terminated Rhombic Antenna Parts kit

It is named after its "rhombic" diamond shape, with each side typically at least one wavelength (λ) or longer in length. Each vertex is supported by a pole, typically at least one wavelength high.

The Rhombic can be fed with coaxial cable through a balun transformer. It may also be fed with Window type ladder-line, it's a matter of personal preference.

The end opposite the feed-point end is terminated with a non-inductive resistor. It is directional towards the resistor end, so the termination end points towards the region of the world it is designed to serve. When the rhombic is not terminated, it is bi-directional.

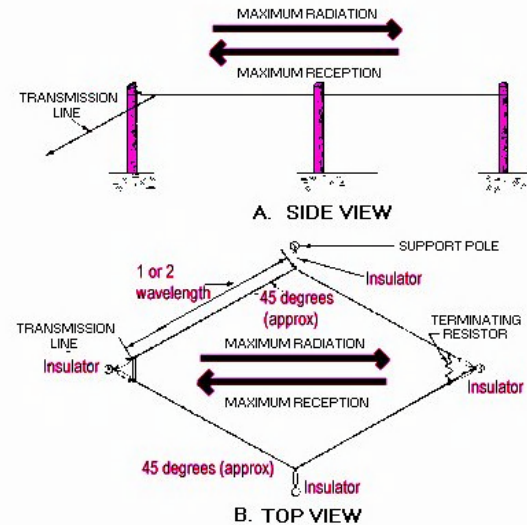
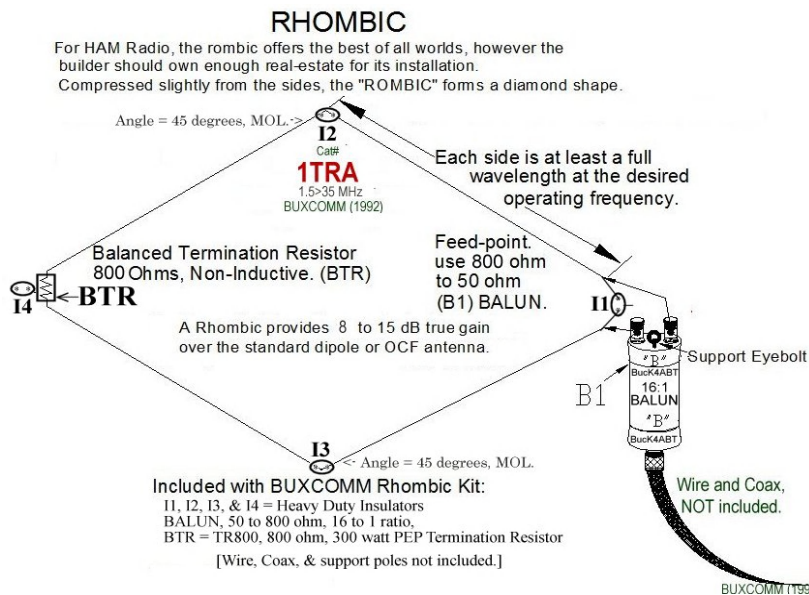
The best of the wire type antennas is the RHOMBIC ANTENNA. Each side (4) of the Rhombic antenna must be 1 or two wavelengths long. It is one of the best fixed-station wire antennas because it is very useful in point-to-point, Long DX communications. To determine the length for each of the four (4) sides of the Rhombic, use the formula $936/f = \text{feet}$. "f" = frequency in MHz, divided into the constant 936. The result is the length of one side, or one wavelength in feet.

To build a Rhombic for 80 meters, divide 3.7 MHz into 936. The result is 253 feet. 253 feet is the length of one of the four sides of the Rhombic. To determine the length of wire required to build your 80 meter Rhombic, is 253 times 4 or 1012 feet.

Advantages:

The Rhombic antenna (BUXCOMM 1TRA kit) is much easier to construct and maintain than other antennas of comparable gain and directivity. Only four supporting poles of common heights from 15 to 25 feet are required for the antenna. The rhombic antenna also has the advantage of being non-critical as far as operation and adjustment are concerned. This is because of the broad frequency characteristics of the antenna.

An even greater advantage is, the gain of the Rhombic is 12 to 16 dB greater than that of the common dipole, or OCF antenna. ***That's a lot of gain!*** The angles at I2 and I3 are set to 45 degrees, MOL. *The Rhombic provides the best signal in the directions of arrows shown in the illustrations.*



When attaching the BUXCOMM INSUL4WAY insulators, use the method that you feel will suffice with the ends, or corners. Notice that either *end tie-tail wires*, or *UV resistant rope* (BUXCOMM BUX316) can be used to attach the insulator(s) to a pole, mast or tree. Rope can easily glide through the satin finish of the insulators we provide with the 1TRA kit.

The BUXCOMM 1TRA BTR is built to handle 300 watts SSB/PEP transmitter power. 73 de Buck4ABT

Visit: www.BUXCOMM.com/catalog