

# BLUE STAR ANTENNAS

## P1 PORTABLE VERTICAL SYSTEM

Weighs in at just 1 LB 8 oz.

But provides lots of radiating power

QRP - 150 Watts.

Ham Bands & Beyond 7 Mhz to 450 Mhz

Covers 60 and 80 Meters W/Optional Coil.

### Features

- Easily sets up in minutes!
- Easily tuned, **NO TUNER REQUIRED!**
- Great for the ARES Operator, Field Day,
- RV or Camper, Motel or Condo Owner!
- **SAR, Search and Rescue**
- Covers Public Service Frequency's.
- Shelter Operations
- Stealthy **Deed Restricted** This is your may be ultimate System!
- Easily hidden

*It will mount to almost any object!*

*Limited only by your imagination!*

- Tables
- Deck Railings
- Motel or Condo Railings,
- Fences, Wood, Chain link
- Camera Tripods
- BBQ Grills
- Many other locations!

### Options:

- Tripod Mount
- Dipole Mount
- 60-80 Mhz Coil
- 25 FT RG-58 A/U Stranded Coax
- Ground Mounting Stake

## P1 Portables' s Antenna Design:

The antenna is designed to provide 1/4 wave length for the Frequency/Band operated. Without the need for poles or trees to get the wire up.

There is a big misconception that "capture area" is related to antenna physical size even for short/small HF antennas. A small resonant antenna has more "capture area" than a longer nonresonant one, using a tuner to make resonance. It picks up more energy from the passing wave, and that is what defines capture area. Capture area itself has nothing to do with actual physical size or physical area of the antenna. There for it is not necessary to add longer whips to the coil.

VSWR's of [1.2:1 / 1.3:1] is not out of the question , with a little patience, depending on band and location.

The Counterpoise wire provides the other half of the Di-pole. There for it is critical for tuning more is not better.

### NOTE:

This Antenna System is for Portable use!

It is not Mobile Solution or for Permanent Setup it may be left outside but should not be left out for extended periods of time..

Feel free to join our Yahoo Group you may post pictures of your setup and operating locations, as well as hints and tricks, this a moderated group

<http://groups.yahoo.com/group/P1PortableAntenna>

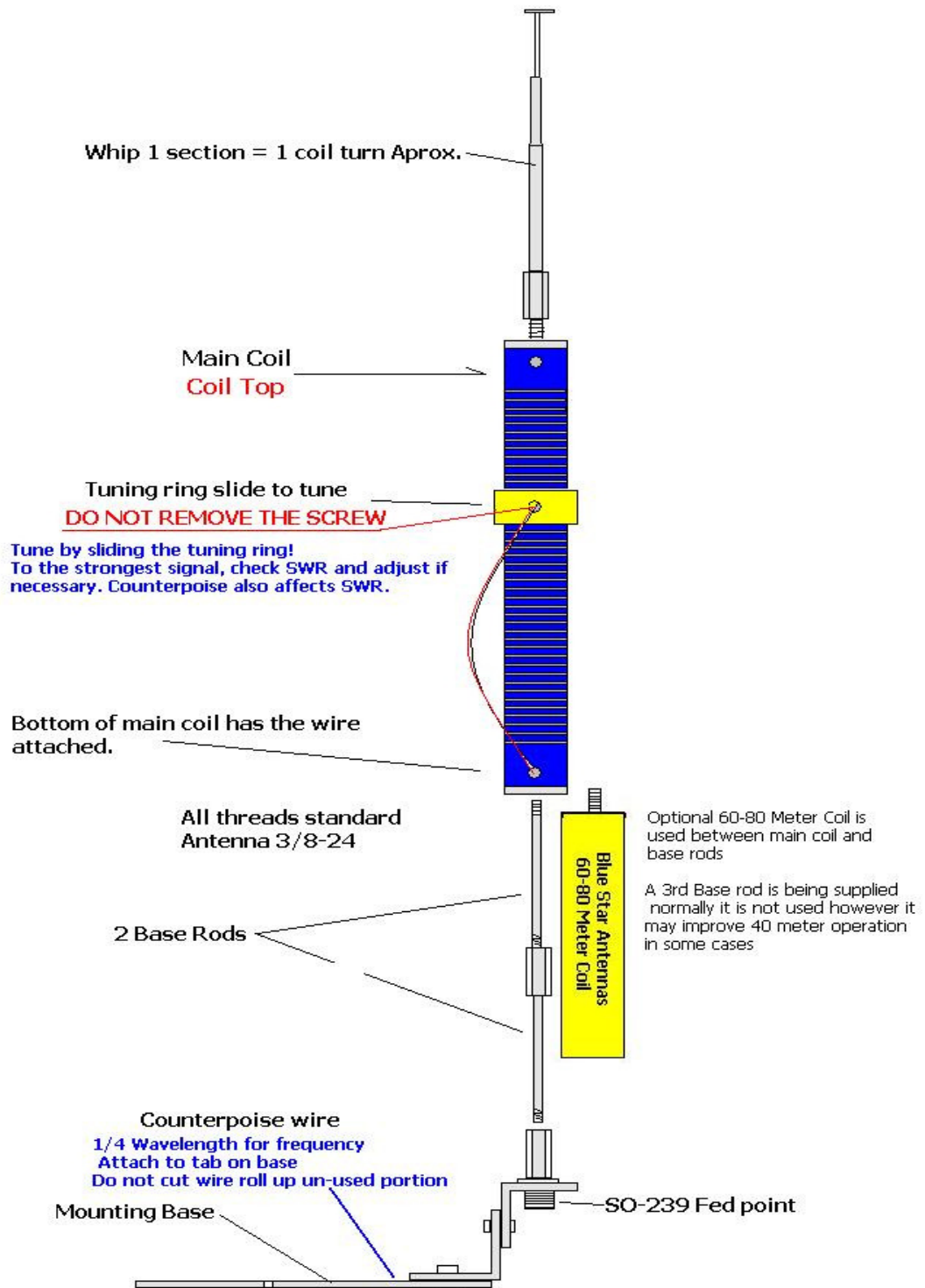
## Parts List

Main Coil, 3 Base Rods, 2 Coupling Nuts, Telescopic Whip, Universal Mount, 2" -"C" Clamp, Tape Measure, 50 ft Counterpoise wire and Instructions.

## Warranty

Your antenna was designed an built to last many years, should it need maintenance.

Blue Star Antennas Ltd Co. Will repair or replace any part that fails excluding misuse or obvious abuse, to the original owner. Just return the damaged part to use at Blue Star Antennas Ltd Co. - 2111 Alice Street - Palatka FL 32177. Any antenna damaged from obvious abuse may still be repaired, at no cost at our discretion.



## Instructions:

- Find a support for the universal mount.
- Attach it with "C" clamp.
- Adjust the universal mount to the P1 Portable in a vertical position.
- Assemble the antenna as shown in the drawing observe the correct **Top/Bottom** configuration.
- Attach the counterpoise wire, this is the other half of the dipole and is critical for tuning
- Connect 50 Ohm Coax from the rig to the antenna
- Adjust the Tuning Ring and whip and counterpoise wire to the frequency you want to operate.
- **Make adjustments in small increments** 1 coil turn = 1 Whip section Approximately.
- Do not over tighten the threaded components, Loose hand tight is good, use **NO TOOLS**. The threads are purposely cut over size to allow easy dissembling should the be contaminated in the field with dust or dirt. With out the aid of tools

## **DO NOT REMOVE OR LOOSEN THE SCREW FROM THE SLIDER RING**

## Frequency Chart:

This chart provides a starting point for you configuration. All measurement may vary with each location and setup. All measurements were taken with AEA HF Analyst. Measurements are made from the bottom of the main coil to the screw in the tuning ring.

- 6 Meter Band uses both base rods and whip
- 2 Meters, 220 1.25 CM, 440 70 CM Bands use the whip only.
- Adjust length for correct frequency and lowest VSWR.
- 28.300 = coil @ 6 1/4 " with whip fully extended
- 18.110 = coil @ 5 5/8 " with whip fully extended
- 14.200 = coil @ 5" with whip fully extended
- 5335 = 60-80 Meter Coil with whip extended 20"
- 5400 = 60-80 Meter Coil with whip extended 19 1/4"
- 3950 = 60-80 Meter Coil + Main Coil @ 3 1/4" Whip extended 30 1/2"
- 4000 = 60-80 Meter Coil + Main Coil @ 3 1/4" Whip extended 29 3/4"

Adjust Tuning Ring on **Main coil, Whip Length, Counterpoise** for lowest VSWR. With careful adjustment you should be able to get SWR below 1.6:1 with relative ease. **Make adjustments in small increments** 1 coil turn = 1 Whip section Approximately. Be patience and take your time it is very easy so do not get in a hurry. This is where most problems come from. You may mark the Coil & Counterpoise with Sharpie to make future setup easier.

When operating on 75-80 meters attach the 60-80 coil to the bottom of the main coil with the included 3/8-24 stud. Please refer to the diagram.

When operating on 60 Meters use only the 60-80 coil and tune with the whip as per the chart.

All Bands Start with approximately  $\frac{1}{4}$  wavelength of counterpoise for the band you are working, and adjust as necessary.

**The bottom of the main coil has the wire attached Refer to the diagram.**

Measurements are made from the bottom of the main coil to the screw in the tuning ring.

28.300	Mounting Base	2 Base Rods	Main coil @ 6 ¼ inches	Whip fully extended
18.110	Mounting Base	2 Base Rods	Main coil @ 5 5/8 inches	Whip fully extended
14.200	Mounting Base	2 Base Rods	Main coil @ 5 inches	Whip fully extended
5335	Mounting Base	2 Base Rods	60-80 Meter Coil	Whip extended 20 inches
5400	Mounting Base	2 Base Rods	60-80 Meter Coil	Whip extended 19 ¼ inches
3950	Mounting Base	2 Base Rods	60-80 Meter Coil + Main Coil @ 3 1/4"	Whip extended 30 ½ inches
4000	Mounting Base	2 Base Rods	60-80 Meter Coil + Main Coil @ 3 ¼	Whip fully extended

Counterpoise wire should be approximately. ¼ wavelength for the frequency being operated is a good starting point. Do not cut the wire just roll up the UN-USED portion.

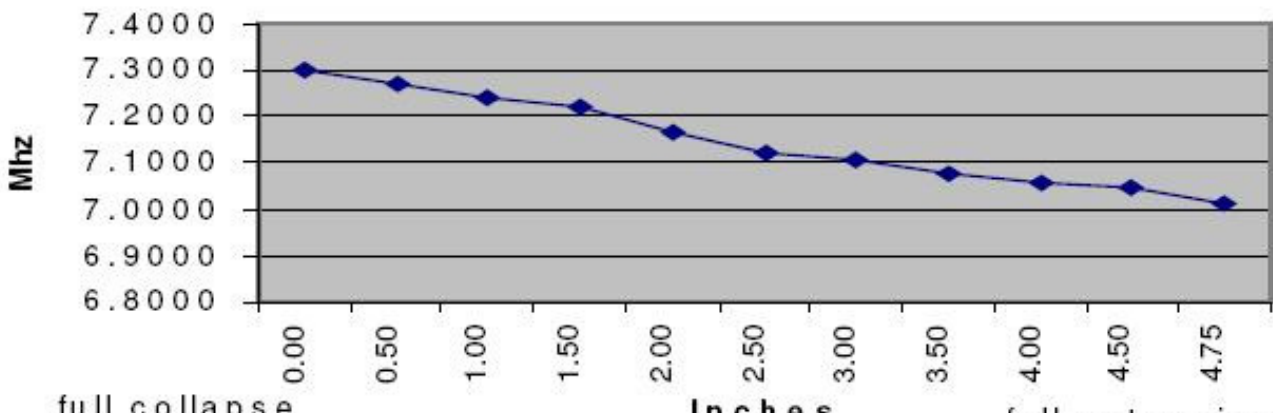
Freq. In MHz Length in Ft

3.500	70
4.000	61
7.000	35
7.300	33
10.100	24
10.150	24
14.000	17
14.350	17
18.070	13
18.170	13
24.890	9
24.990	9
28.000	8
29.700	8

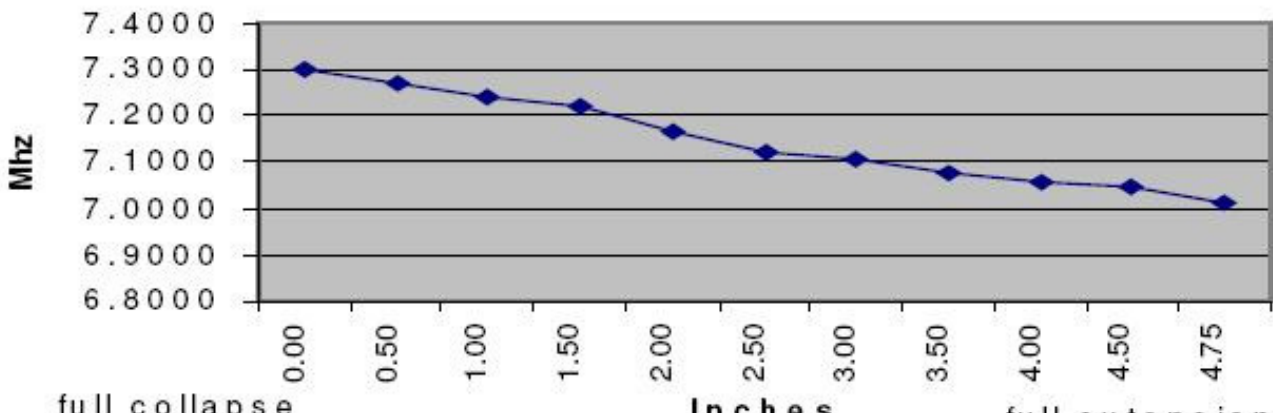
Freq. In MHz Length in Ft

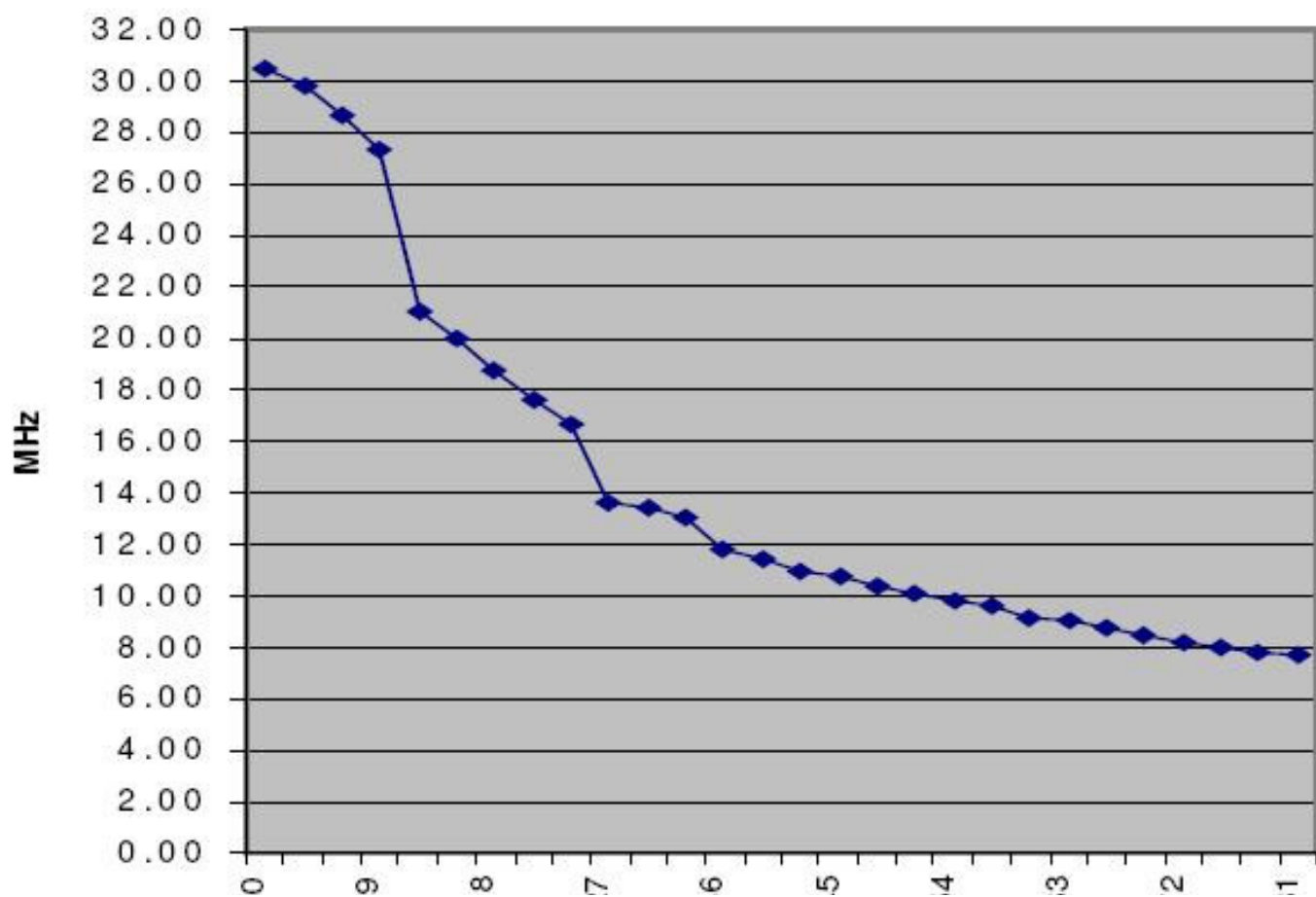
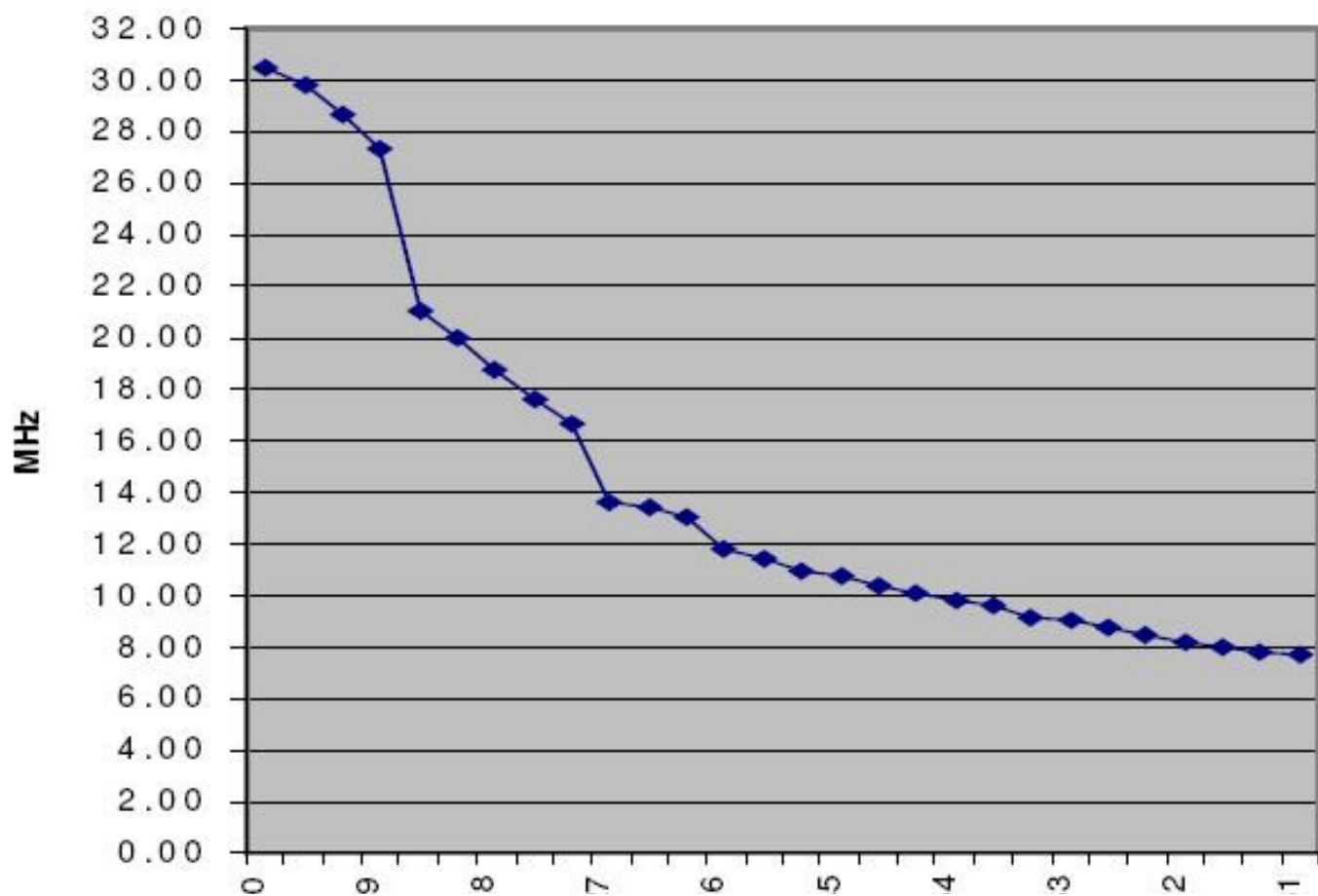
45.000	5.47
50.000	4.92
52.000	4.73
144.000	1.71
145.000	1.70
146.000	1.68
218.000	1.13
220.000	1.12
432.000	0.57

**P 1 Antenna 40Meter Tuning (Tuning coil at bottom, add additional rod above coil, fully collapse first lower whip section, second section extension in inches, all other sections at full extension)**



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Field Notes:



