



Portable Vertical Antenna  
Counterpoise Kit  
(CHA COUNTERPOISE KIT)  
Operator's Manual

Nevada - USA

[WWW.CHAMELEONANTENNA.COM](http://WWW.CHAMELEONANTENNA.COM)



***VERSATILE – DEPENDABLE – STEALTH – BUILT TO LAST***

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## Introduction

Thank you for purchasing and using the Chameleon Antenna™ Portable Vertical Antenna Counterpoise Kit (CHA COUNTERPOISE KIT), see plate (1). The CHA COUNTERPOISE KIT will create the ground plane needed for the MPAS or CHA HYBRID MINI/MICRO vertical antenna. The kit contains four 25' radials on line winders and four tent stakes for superb portability and good performance from 3.5 to 54 MHz. Each radial has an isolation ring on one end and a terminal lug connector, compatible with the CHA SPIKE MOUNT and Dipole Jaw Mount, on the other end. The system will greatly increase the efficiency of any ground mounted portable vertical antenna over just a single counterpoise wire. The CHA COUNTERPOISE KIT is an essential accessory for the MPAS and CHA HYBRID MINI/MICRO vertical antenna systems.

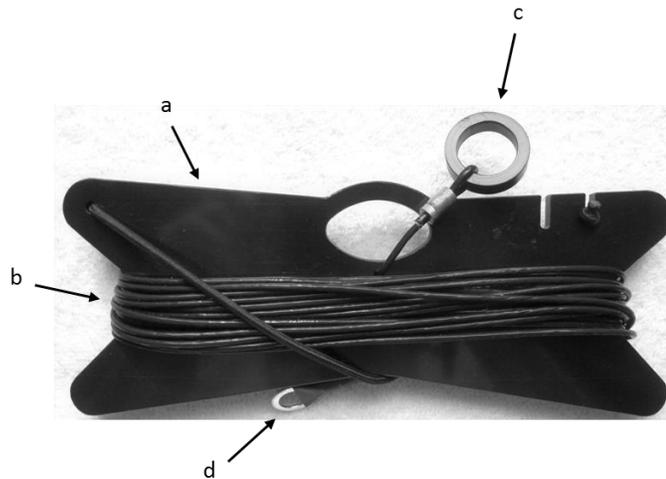


Plate 1. Chameleon Counterpoise Kit.

## Parts of the Counterpoise Kit

The CHA COUNTERPOISE KIT is comprised of the following components, see plates (2) and (3):

- a. **Line Winder** – Plastic winder used to store counterpoise wire.
- b. **Counterpoise Wire** – 25 foot wire for use as antenna counterpoise.
- c. **Isolation Ring** – insulates Counterpoise Wire (b) from Tent Peg (e) and ground.
- d. **Terminal Lug** – used to connect Counterpoise Wire to antenna mount ground connection.
- e. **Tent Peg** – 9" steel wire tent peg used to hold the far end of the Counterpoise Wire to the ground.

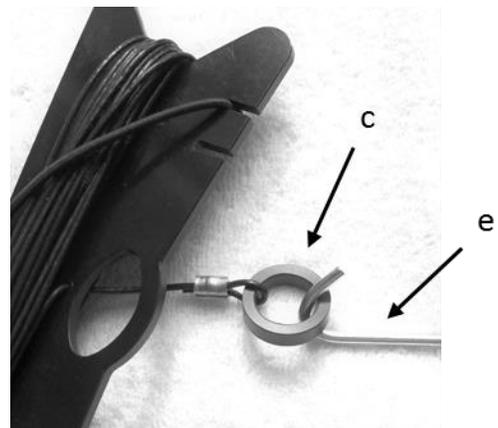


**Plate (2). CHA COUNTERPOISE KIT Components.**

## Counterpoise Installation

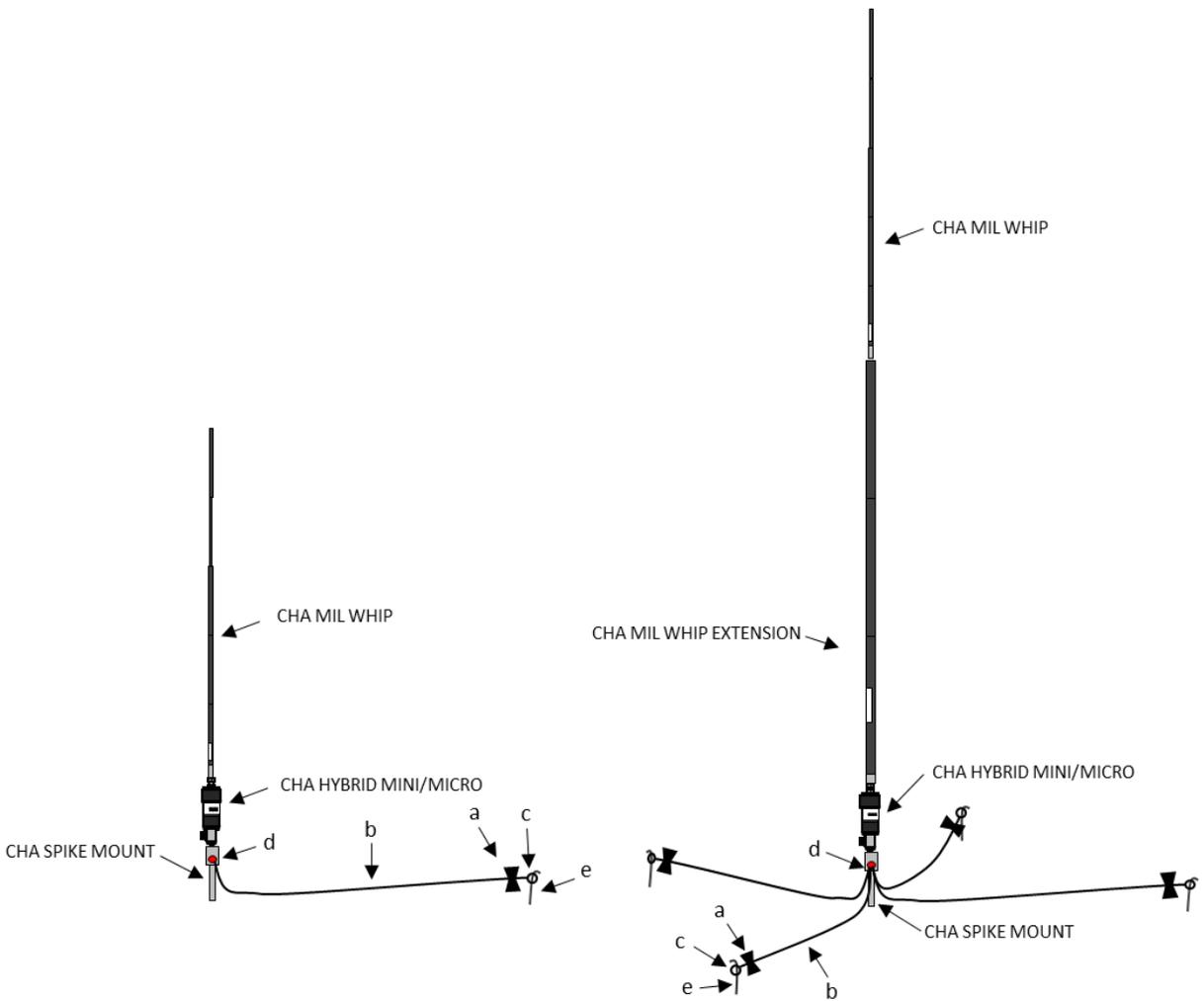
The CHA COUNTERPOISE KIT is highly portable and easy to install. Two configurations are possible: a single counterpoise wire for use in a hasty deployment and a high efficiency four radial wire ground plane. Follow the instructions below to install the CHA COUNTERPOISE KIT. You will need a plastic tent peg mallet or a rubber mallet (although a plastic or rubber mallet is best, a metal-faced hammer or camp axe is also acceptable).

1. Select a reasonably open area; free from large rocks, tree roots, and overhead obstructions or hazards.
2. Connect the Terminal Lugs (d) to the ground of the antenna mount.
3. Extend the Counterpoise Wires (b) by unwrapping the wire from the Line Winders (a) and positioning them into one of the two configurations shown in plate (4). Note: The Line Winders are permanently attached to the Isolation Ring (c) end of the Counterpoise Wire.
4. Push the end of the Tent Pegs (e) into the ground near the end of the Counterpoise Wires.
5. Firmly strike the top of the Tent Pegs repeatedly with the mallet until they are around 7 inches into the ground (depending upon the firmness of the ground).
6. Hook the Isolation Rings over the bent end of the Tent Pegs, as shown in plate (3).



**Plate 3. Tent Peg Attachment to Isolation Ring.**

7. This completes installation of the CHA COUNTERPOISE KIT.



**Plate 4. Counterpoise Configurations - Hasty Deployment (left) and High Efficiency (right).**

## Preventive Maintenance

After use, detach the Counterpoise Wires (b) from the antenna mount and Tent Pegs (e). Wind the Counterpoise Wires back on the Line Winders (a). Remove dirt and grit from the Tent Pegs and Line Winder assemblies. Inspect Terminal Lugs and Counterpoise Wires for signs of damage or excessive wear. Repair or replace, as necessary. Store components together, ready for next deployment.

## Recommended Accessories

The following accessories are recommended:

1. CHA SPIKE MOUNT – Available from Chameleon Antenna™. The CHA SPIKE MOUNT is an innovative new product built exclusively by the skilled machinists at Chameleon Antenna™. It is a precision fabricated heavy-duty stainless-steel stake with a fitting for attaching the CHA Hybrid HF antenna base and a counterpoise. It is rugged and highly portable and enables easy ground mounting of the Chameleon

Antenna™ HF Modular Portable Antenna System (CHA MPAS) or Hybrid Portable HF Antenna (CHA HYBRID MINI/MICRO).

2. Dipole Jaw Mount - – Available from Chameleon Antenna™. The Dipole Jaw Mount has been designed and manufactured to offer portable antenna versatility for Chameleon Antenna™ owners. The Dipole Jaw Mount will work with all Chameleon Antenna™ vertical antennas with a 3/8" x 24 stud (CHA MIL WHIP, CHA MIL WHIP EXT, V1, V1L, and V2L). The Jaw Mount has a spring-loaded clamp and a 3/8" x 24 antenna mount. It can clamp to most objects up to 3", depending upon the shape.
3. Coaxial Cable Assembly - Available from Chameleon Antenna™. A 50' coaxial cable assembly made from RG-58A coaxial cable. The cable has PL-259 connectors at each end and an integrated RFI isolation choke. It will improve the performance of the MPAS or CHA HYBRID MINI/MICRO antennas by ensuring the shield of the coaxial cable is not part of the counterpoise system.
4. Plastic Tent Peg Mallet – Available from almost any store selling camping gear. A lightweight solution for driving the CHA SPIKE MOUNT into the ground.

## Chameleon Antenna™ Products

The following products are available for purchase at Chameleon Antenna™.

Go to <http://chameleonantenna.com> for ordering and more information.

**CHA P-LOOP 2.0** - The CHA P-LOOP 2.0 was designed with portability, ease of use simplicity, ruggedness and high performance in mind. Unlike any other similar antennas on the market, the CHA P-LOOP 2.0 is made with premium materials that are precisely manufactured and assembled in the USA! This is an exciting new product from Chameleon Antenna. Easily deployable HF magnetic loop antennas, also called small transmitting loops, have been routinely used for many years in military, diplomatic, and shipboard HF communication links, where robust and reliable general coverage radio communication is a necessity. Covers 7.0-29.7 MHz.

**CHA F-LOOP 2.0** – The CHA F-LOOP 2.0 was designed with portability, ease of use simplicity, ruggedness and high performance in mind. Unlike any other similar antennas on the market, the CHA F-LOOP 2.0 is made with premium materials that are precisely manufactured and assembled in the USA! Easily deployable HF magnetic loop antennas, also called small transmitting loops, have been routinely used for many years in military, diplomatic, and shipboard HF communication links, where robust and reliable general coverage radio communication is a necessity. Covers 3.5-29.7 MHz.

**CHA WINDOM 40** – The CHA WINDOM 40 Antenna is designed for 40, 20, and 10 meters. Amateur Bands from 60 through 10 meters can be operated using an antenna tuner. Built with the portable operator in mind, it is very light weight, easy to set up, and comes with a military-style pouch.

**CHA EMCOMM II** - The CHA EMCOMM II Antenna has been specially designed for backup emergency HF system or permanent installation. The integral broadband impedance matching network allows broadband antenna tuning.

**CHA SKYLOOP** - The CHA SKYLOOP is a 250' full wave loop antenna cut for 80M. With the help of an antenna tuner, the CHA SKYLOOP will cover all the bands between 80M and 6M.

**CHA Hybrid Mini – Portable HF Antenna Base** - The CHA HYBRID-MINI Base is the portable version of the regular HYBRID. The unit can be differentiated by the color of the lid and the base connector, which is black instead of gray. The HYBRID-MINI is also smaller and about 50% lighter than the regular HYBRID. An external antenna tuner is required to provide a low VSWR. The connector provided with the antenna is a SO-239 sealed. The entire unit is

also waterproof. The HYBRID-MINI will serve as impedance transformer matching network and will greatly reduce the VSWR at the load for the following antennas: V1, V1L, V2L and MIL.

**CHA V2L Mobile Antenna** - The CHA V2L is a rugged multiband HF antenna designed for smaller vehicles.

**CHA VHF/UHF Magnetic Mount Mobile Antenna** - The CHA VHF/UHF is a simple but great dual band antenna for 2M and 70CM.

**CHA MIL Whip** - The CHA MIL whip is a broadband (28 to 54 MHz) monopole antenna designed for portable or man-pack radios requiring compact but rugged antenna systems. Its design has been borrowed from similar antennas utilized by many armies all over the world. The CHA MIL is very hardy, sturdy and portable (being collapsible). Un-mounted the entire antenna length is less than 29". The 5 aluminum sections are hold together by a piece of 1/8th inch US GI MIL SPEC shock cord. The CHA MIL Whip and a CHA HYBRID-MINI Base perfectly complements the capability of the CHA HYBRID - MINI / MICRO.

**CHA MIL EXT Whip Extension** - The CHA MIL EXT whip has been designed to offer maximum portability and performance for those already using the portable CHA MIL whip for man-pack antenna system. This collapsible antenna extension needs to be used with the CHA MIL to create a 17'4" long portable antenna. When combined with any HYBRID series antenna bases the CHA MIL EXT will operate at all frequencies in the 1.8-54 MHz band without any adjustment with most modern external antenna tuners.

**CHA TD Tactical Dipole LITE** - The CHA TD LITE (Tactical Dipole LITE) is a HF broadband antenna specially designed for portable HF communication where rapid deployment and simplicity of operation is essential but compactness is a primary consideration. The antenna will operate at all frequencies in the 1.8-54 MHz band without any adjustment with most modern external antenna tuners. No masts or guying are required.

**CHA TD Tactical Dipole** - The CHA TD (Tactical Dipole) Antenna is a HF broadband antenna specially designed for portable HF communication where rapid deployment and simplicity of operation is essential. The antenna will operate at all frequencies in the 1.8-30 MHz band without any adjustment with most modern internal antenna tuners. It is ideal for use in conjunction with modern, digitally configured, HF communication transceivers where features such as ALE and frequency hopping require true broadband capability. The antenna will work successfully supported by trees, masts, the tops of vehicles or any convenient object or structure. The CHA TD can also be used without antenna tuner, as the SWR will stay under 2.5:1 between 10M and 80M and under 2.75:1 on 160M.

**CHA FT-817 BRACKETS 2.0** – CHA FT-817 Brackets are built exclusively by the skilled machinists of Chameleon Antenna™. It is a military-style pair of precision fabricated brackets and high quality carrying strap for the popular Yaesu FT-817 series portable QRP transceiver. The CHA FT-817 Brackets will ruggedize and help protect your FT-817 from the many hazards of field operations.