



Magnetic Loop Antenna  
Power Compensator  
(CHA PC)  
Operator's Manual

California - 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™ Magnetic Loop Antenna Power Compensator (CHA PC). The CHA PC, see Plate (1), is built exclusively by Chameleon Antenna™ and increases the power handling capability of all Chameleon Antenna™ magnetic loop antennas by 2 ½ times. It will also work with other brands of magnetic loop antennas that use a radiator loop with a UHF Connector (PL-259/SO-239). It is easy to install and will increase the utility of your portable magnetic loop antenna. Products built by Chameleon Antenna™ are versatile, dependable, stealthy, and built to last.



Plate 1. Chameleon Antenna™ Magnetic Loop Antenna Power Compensator.

## Parts of the Power Compensator

The CHA PC is comprised of the following components, see plate (2):

- a. Power Compensator Canister
- b. Power Compensator Bracket
- c. Tuning Unit Connection (UHF Socket/SO-239)
- d. Radiator Loop Connector (UHF Plug/PL-259)

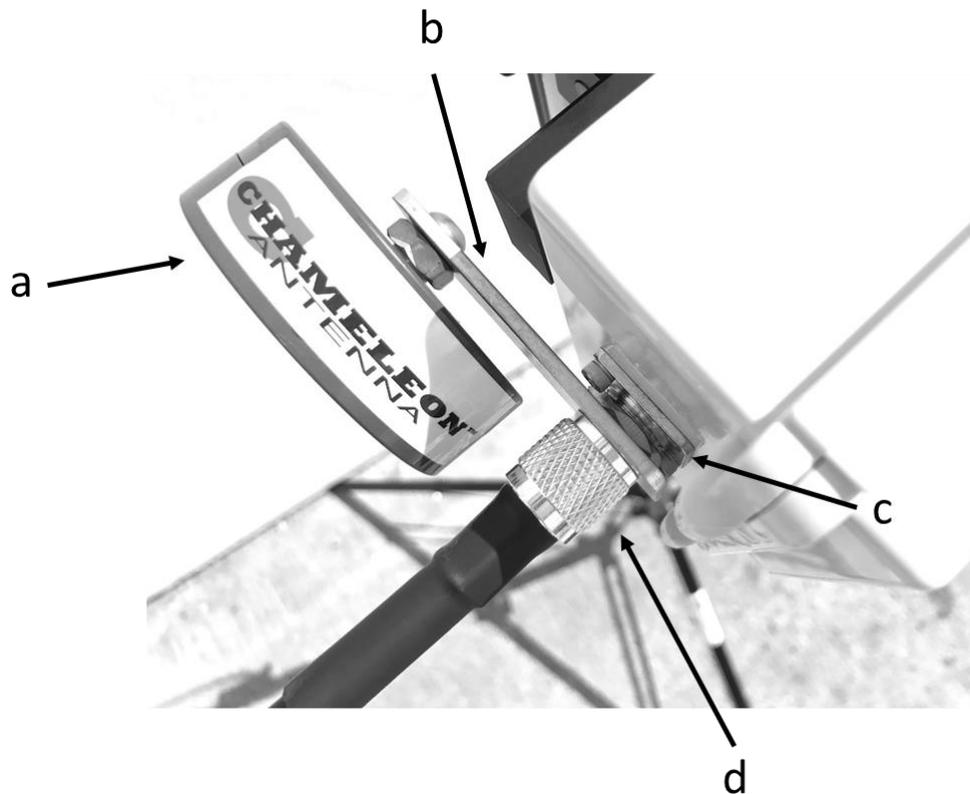


Plate (2). CHA CP Installation Details.

## Installation

The CHA CP is easy to install. See Plate (2) and follow the procedure below to install:

1. For CHA F-LOOP or CHA P-LOOP antennas, disconnect the left (when facing the antenna) Radiator Loop Connector (d) from the Tuning Unit Connection (c). You may have to experiment which side to use for other brands of antennas.
2. Place the hole in the Power Compensator Bracket (b) over the Tuning Unit Connection.
3. Reconnect the Radiator Loop Connector to the Tuning Unit Connection. As you tighten the connector, position the Power Compensator Canister as shown. The Power Compensator Bracket will be sandwiched between the Radiator Loop Connector and the flange of the Loop Connector. The Power Compensator must be secured tightly. If loose when fully tightened, you will need to install a washer or nut to use a spacer (*not supplied*).
4. Tune the antenna using 5 Watts or less using manufacturer's procedure.
5. While constantly monitoring the SWR, gradually increase power to desired level (not to exceed the specified limits). The operator will know if the power level is too high because the SWR will rapidly fluctuate, indicating arcing in the internal components of the magnetic loop tuning unit - REDUCE POWER IMMEDIATELY.
6. This completes installation of the CHA PC

7. The operator must constantly monitor SWR and power levels during operation to ensure they are at proper levels to avoid damaging the Power Compensator or the internal components of the magnetic loop tuning unit.
8. If SWR increases above 2.0:1, retune, go back to step (4) to retune the antenna to achieve a lower SWR.

Caution:

1. When using the Power Compensator, exceeding the specified power limits or operating with a high SWR will permanently damage the internal components of the Power Compensator. *This damage is not covered by the warranty.*
2. Dropping or rough handling the Power Compensator will permanently damage the internal components. *This damage is not covered by the warranty.*

## Specifications:

- Frequency: Not frequency dependent (guaranteed 3.5 to 29.7 MHz)
- Power: (for SWR 2.0:1 or less).
  - 60W intermittent duty cycle (SSB telephony),
  - 30W continuous duty cycle (CW, AM, FM, RTTY, and SSB-based digital)
- Dimensions:
  - Diameter: 4 inches
  - Depth: 1 ¼ inches
- Weight: 0.5 lbs
- RF Connection: UHF Socket (SO-239)
- Ingress Protection comparable to IP42 standard (*not tested*). Ingress protection from most wires, screws or similar objects and from vertically dripping water when device is tilted at an angle up to 15 degrees

## Chameleon Antenna™ Products

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

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

**CHA MPAS** - The Modular Portable Antenna System (MPAS) is a concept allowing the radio operator to configure and deploy the antenna system in a variety of configurations. Some of the possible deployment configurations: Vertical, Horizontal, Sloper, Inverted "V", Inverted "L", NVIS, Balcony, Vehicle (Stationary), or Man-Pack.

**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 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 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 HYBRID Vehicular Base** - The CHA HYBRID Vehicular Base is designed to enhance the capabilities of the common HF radio application by allowing faster tuning operation across the HF bands

including MARS/CAP frequencies. This antenna base has an integral broadband impedance matching network allowing broadband antenna tuning. The CHA HYBRID can be used mobile with the CHA V1L and V2L mobile antennas or stationary with the provided 30' wire.

**CHA V1 Mobile Antenna** - The CHA V1 antenna is our first and classic broadband HF mobile antenna that we designed. It has been updated from fiberglass to 7075 alloy and stainless steel.

**CHA V1L Mobile Antenna** - The CHA V1L antenna is a rugged multiband HF mobile antenna that can be erected in a minimum of time and space.

**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 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 (transformer 5:1) and will greatly reduce the VSWR at the load for the following antennas: V1, V1L, V2L and MIL.

**CHA Hybrid Micro - Portable HF Antenna Base** -

The CHA HYBRID-MICRO is a lightweight highly portable broadband antenna system designed to offer maximum portability and performance. The antenna weights about 1 lb. 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. The antenna will work successfully supported by trees, masts, the tops of vehicles or any convenient

object or structure. The antenna works most effectively when elevated at a reasonable height.

**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 P-LOOP 2.0.

**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 primary. 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 is a complete multi-configurable HF broadband antenna system 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. No masts or guying are required. 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.

**FT-817 Brackets 2.0.** The CHA FT-817 BRACKETS 2.0 CHA are a military-style pair of precision fabricated aluminum brackets and high quality carrying strap for the popular Yaesu FT-817 series portable QRP transceiver. The brackets have built-in folding legs to tilt the front panel of the FT-817 toward the operator during use. There is also a custom-made microphone holder.