

# PK's Loop Antennas ABN 76 271 051 082

*Clear & Long Range AM Radio Reception Everywhere*

## HF 1:1 Reiser Balun 2 KW+ Continuous Power Rating

CODE: C-TX-BALUN-HF1:1 1.8MHz – 30MHz



### Description:-

This balun is engineered for use in the HF Ham Bands from 160 through 10 Metres; using the Reiser design for minimum losses and a 2KW+ Continuous Power rating. It will remove stray RF current on the coax feed line and balance up the feed-point of; Centre Fed Dipoles, Inverted-V's and Verticals with elevated radials, including Loaded Verticals.

The radiation pattern of a typical Horizontal Dipole antenna will be more symmetrical and any radiation previously coming from the feed-line will be eliminated; preventing transmitter interference from a radiating feed-line and stopping RF coming back into your ham shack or equipment room !

Using the highest quality components available including; Silver plated Teflon hardline coax, 304 grade stainless steel binding posts, washers and nuts and Mounting Eyelet. High Power operation is assured, with the ability to handle the full US Legal Limit plus more... ( at least 2KW into a resonant antenna )

Available in various mount formats; Standard wall mount, Top plated eyelet, Top M6 304 grade S/S threaded post

### Mechanical Specifications:-

- Gainta 300 Series sealed ABS enclosure moulded in dark grey
- Dimensions H=115mm x W=90mm x D=55mm, excluding binding posts and mount options
- Operating Temperature: minus 20oC to plus 100oC
- Both lid and base incorporate a tongue and groove sealing system with a neoprene gasket
- Lid fixing screws are M-4 304 grade stainless steel into threaded brass inserts
- Antenna terminals are M-6 304 grade stainless steel with matching S/S Nylok nuts and washers
- Wall mount holes and lid fixing screws are outside the sealing area preventing ingress of moisture and dust
- Designed to IP65 of IEC529 and NEMS 4 (dust and rain and hose proof)

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### Technical Description:-

The C-TX-BALUN-MF1:1 and C-TX-BALUN-HF1:1 are 1:1 "Common Mode" or "Choke" Baluns using the Reisert Design, they are ideal to use for feedline isolation on resonant dipoles and Yagi antennas. Their use will provide the following technical advantages;

- Prevents unwanted RFI by eliminating feedline common mode currents and radiation.
- Ensures that maximum power is delivered to the antenna.
- Balances RF current in each half of the driven element of the antenna, improving radiation pattern symmetry.
- When used on vertical ground-plane antennas will prevent the feedline becoming part of the earth/counterpoise system, which would usually cause RF in the shack...
- When used in receive systems, provides a high level of isolation from unwanted ground currents in the shack, i.e. from conducted noise from electrical appliances and power grid hash, thus lowering the receive noise floor.

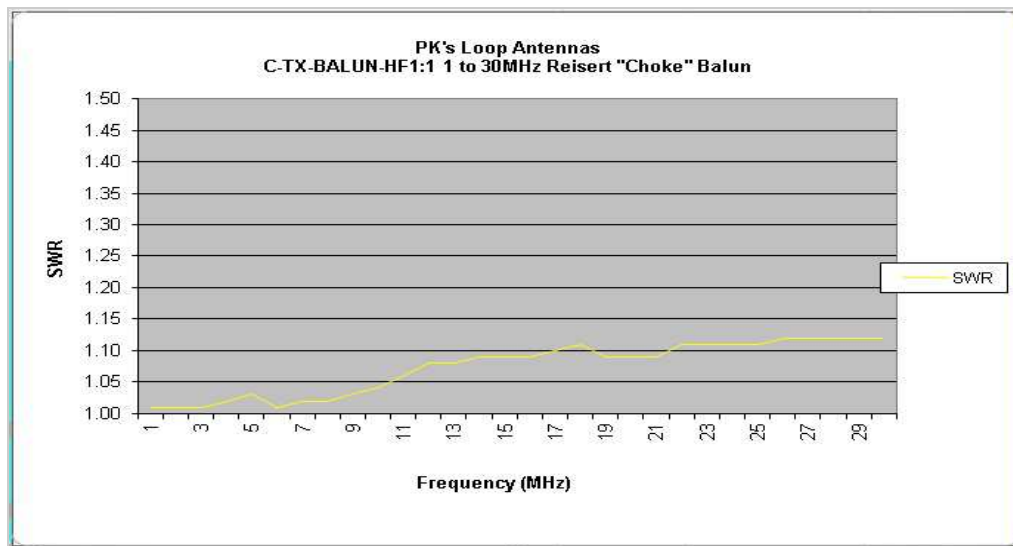
### Important notes:-

Warning, when using a 1:1 balun at the centre feed of a half-wave dipole, it should only be operated on the antennas resonant frequency or at ODD Harmonics as these are maximum feedpoint current nodes. For example a 7MHz antenna can safely be used at 21MHz.

NEVER use a 1:1 Balun on the Second or any EVEN Harmonic of a half-wave centre-fed dipole as these are maximum feedpoint voltage nodes as the feedpoint impedance will be in excess of 5000 ohms, this creates very high voltages which will cause voltage breakdown and/or excessive heating of the balun components. Such violations are; using an 80 meter dipole on 40 meters, and using a 160m dipole on 80m. In short, even though you may have an Antenna Tuner that will cause your antenna to "Resonate" off frequency this will break the EVEN Harmonic / High Voltage rule and cause failure !

When used with a Yagi, or multi-band beam, you typically will need to add "Pigtails" to connect your driven element to the S/S bolts on the Balun, you must shorten the length of the innermost sections of the driven element by the lengths of these pigtails, otherwise your antenna resonant frequency will be pushed lower because of the additional length in the driven element.

Feel free to contact us for advice on the use and applications of this product !



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