

TERMINATED DIPOLE ANTENNA (BBTD)

Michael Lawn, K1FU

Terminated Dipole Antenna (BBTD) Inverted V Delta Wing Version

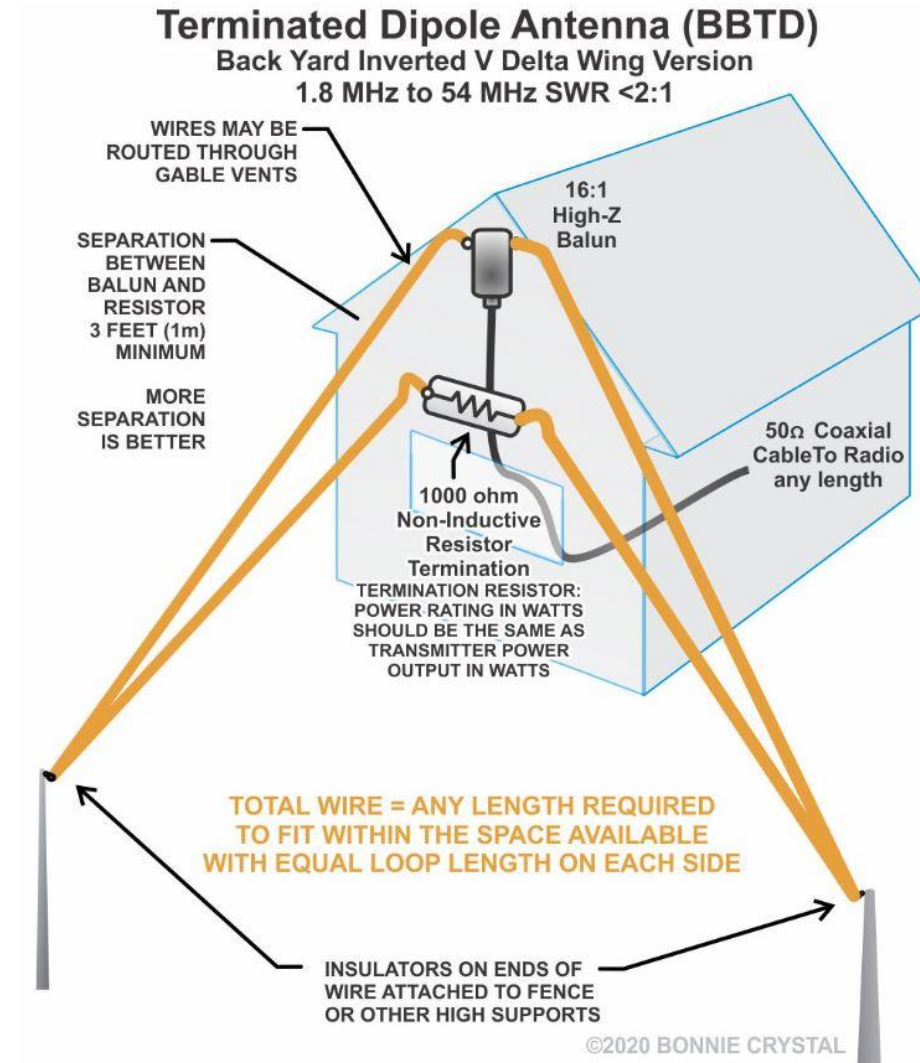
- Covers 160-10m
- Good for tight spaces
- Can vary wire length to fit your available space
- *Low SWR across all frequencies
- Good for ALE
- Good for NVIS on higher bands
- Low noise properties (good for areas with higher noise floors)
- Handles up to 600 w SSB, parallel resisters can increase rating (2 – 1,200 W, 3 – 1,800 W, etc.)

Note: Some wire lengths may result in resonance and varying SWR, especially with amplifiers. If this happens vary wire length to match your needs. Length as tested in this presentation results in some issues on 20 and 40 m; however, due to the shorter lengths of these bands and ease of putting up shorter dipoles it was chosen to maximize wire in the air for the author.

ANTENNA DIAGRAM

CREDIT - BONNIE CRYSTAL

- Simple design
- Forgiving of installation constraints
- Cost is around \$110 more than a typical dipole (resistor)



SIDE VIEW OF ANTENNA

- Balun is at top of antenna at approximately 25 ft. (can work lower)
- Resister should have approximately 6+ ft. of separation from Balun based on authors experience to prevent twisting at ends
- Ends as tested approximately 12 ft. above ground

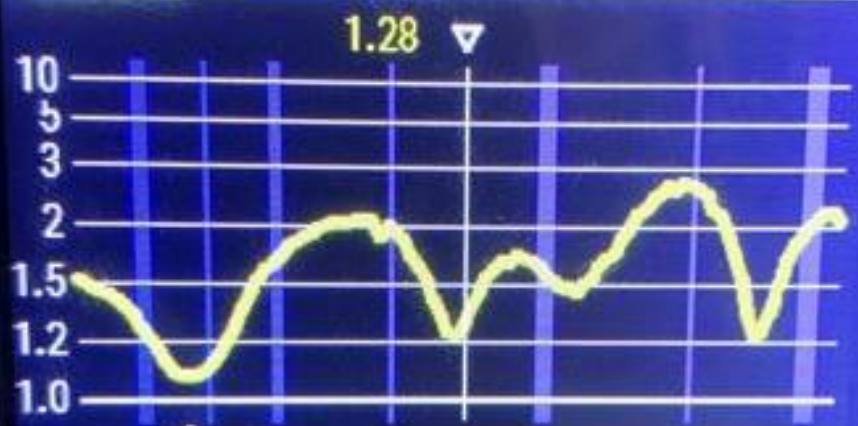


FITS IN A 60 FT BY 60 FT SPACE

- Tested design has two (2) 58 ft. legs (total of 116 ft. of wire each) allowing for entire setup to fit in under a 60 ft. by 60 ft. space.
- When space for only one antenna is available, this will allow for 160-10 M operation
- Legs don't need to be at 180 deg., especially for NVIS operation

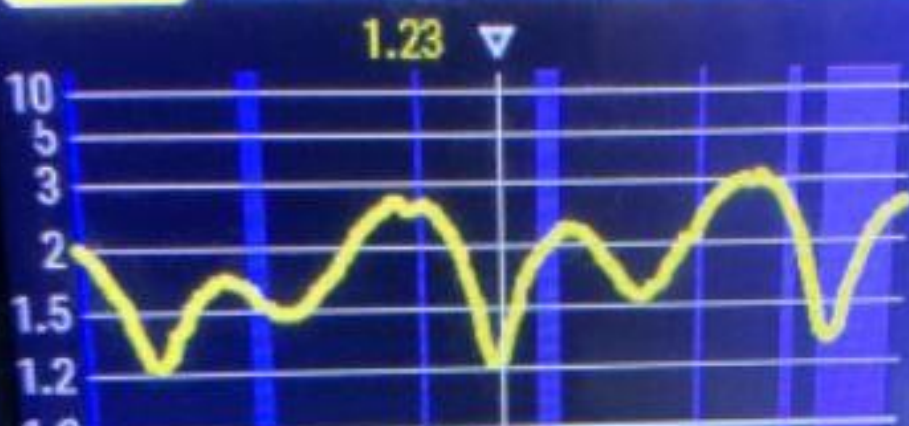


SWR 12028 ±10000 kHz



Min.: 1.07 at 4.8 MHz

SWR 20028 ±10000 kHz



Min.: 1.23 at 19.8 MHz

SWR across entire spectrum 160-10 m

- Most amateur radio bands fall under an SWR of 2 or less
- SWR of less than 3 across entire frequency bandwidth from 160-10 m
- Just about any internal antenna tuner can tune the antenna to a perfect match

Links to information and products:

- Concept for Antenna: <http://hflink.com/antenna/>
- 16:1 Choke Balun: <https://palomar-engineers.com/antenna-products/baluns-and-ununs/hf-161-impedance-transformers/Hybrid-16-1-Current-Balun-1-1-Current-Balun-in-one-enclosure-1-8-31-MHz-1-5KW-PEP-BBTD-T2FD-V-Beam-Antenna-p246270553>
- 1000 OHM Termination Resister: <https://palomar-engineers.com/rfi-kits/broad-band-terminated-dipoles/Termination-Resistor-1000-Ohm-Non-Inductive-for-T2FD-BBTD-Rhombic-1-61-MHz-600-Watts-PEP-p136245033>
- 14 Gauge PVC Wire (500 ft.): <https://palomar-engineers.com/antenna-products/Antenna-Wire-14-Stranded-PVC-Black-wire-500-Ft-Roll-p122854661>
- Common Mode Choke (before radio): <https://palomar-engineers.com/rfiemi-solutions/common-mode-noise-coax-filter/Coax-Jumper-Choke-RG-8X-RFI-Range-1-8-65-MHz-30-dB-Noise-Reduction-1-5KW-PEP-3-FT-Tail-p408707295>
- Insulators: <https://palomar-engineers.com/antenna-products/Dog-Bone-Antenna-Insulators-10-pack-p357427092>

QUESTIONS?

