About the T2FD antenna type

**T2FD** is a folded dipole, terminated with a low-inductance 800Ω resistor. Feed impedance is high; use 1:16 balun with coaxial feed. The terminator is low inductance type; power handling up to 90% of transmitter power. The resistor must be cooled properly.

T2FD is a wide band antenna with low SWR over the full designed frequency range; tuner is optional. Antenna length is not critical: it works beyond the designed frequency range, with less radiation, however. Typical total length is 30% to 50% of the wave length of the lowest frequency to be used.

Structural Efficiency varies, in this case from 10% to 50%. The rest of power is burned in the load resistor. **Sophisticated dummy load?** Yes... T2FD might not be the first choice for QRP operations on the lowest frequencies.

T2FD is a non-resonant, traveling wave antenna, which is rather immune to local wide band noise. T2FD is a extremely quiet RX antenna with very high S/N ratio, _worth to try with digital modes._

The antenna works like standard dipole. Radiation pattern is similar to dipole with the similar dimensions. If you use vertical wire loop and a flat top dipole assembly with high altitude (15-20m), you get pattern similar to half wave dipole, with low takeoff angle... *However, the T2FD might not be the best DX antenna... Use the Force Luke...*_

This T2FD version

This omni-directional NVIS version was assembled as inverted-V at 5/9/5 m height. The low inverted-V configuration gives the best results for low band NVIS. We try to get the main radiation up... _The cloud burner effect..._ Antenna’s full length abt. 40m was fine-tuned to get some of high SWR slopes near some of common ham frequencies. Radiation efficiency should be highest near SWR peaks. Estimated input power range is now up to 100W using SSB/CW and up to 70W using RTTY/PSK. SWR is from 1.1 to 2.0 (full frequency range) with 30m feed line (RG213). We usually use this antenna with automatic coaxial antenna tuner. Antenna’s wire spacing is now 700 mm. 5/700 mm glass fiber spacers were used between the wires, distance between spacers is about 6 m. Nevada Kevlar 32D flexible antenna wire is used as the radiator element. Over dry grounds this antenna type may need counterpoise wires below the antenna. We tested it over average ground type; only minor changes were seen on simulations and SWR measurements.

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**Balun 1:16**

Balun type is 50Ω to 800Ω (1:16) ferrite tube transformer. Balun details on separate document on my web page.

**Terminator 800 Ω 120W**

Low-inductance TO-220 resistor set is fitted on a heavy heatsink, dimensions 40 x 66 x 100 mm. Thermal resistance 1.5 K/W. Serial connected resistors (4 pcs) are of type **MP930-200**, 200Ω 30W.

**Measured SWR:**

**Structural and Radiation Efficiency %, simulated with NEC:**

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**Total Antenna Length 15 to 56 m**

**Wire Spacing 0.3 to 1.0 m**

**Wire Size 0.5 to 2.5 mm?**

**Terminator 45Ω to 100Ω**

**Balun 1:9 to 1:16**

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