

LPDAs: 111 Models

The collection of LPDAs includes both log periodic dipole arrays and log-cell Yagis, which use LPDA structures for their drivers. Models are in both the .EZ (EZNEC) format and in the .NEC format for use with NEC-Win Plus/Pro and generic NEC-2/-4 cores. The EZNEC-format models use a wide variety of dimensional units, but the .NEC-format models are virtually all metric. The filenames are roughly descriptive of the kind of antenna, the frequency band, and any features that discriminate between models of the same general kind and frequency. As well, models with a known designer identify the person in the filename.

The log-cell Yagi models (labeled LC) are mainly on the very wide 10-meter band, where I did most of my design work. The LPDAs proper (labeled LP) cover a very wide frequency range beginning at 3.5 MHz and ending at about 2 GHz. There are 3+ octave models (3-30 MHz or 100-1000MHz, for example), but most examples cover a 1-octave (2:1 frequency) range. The HF region is subdivided into 3 segments--3.5-7 MHz, 7-15 MHz, and 14-30 MHz. Models for one range scale easily and correctly to any of the 3 ranges. Models also vary widely in size, with a preference for relatively high-performance LPDAs. Many include performance-enhancing modifications including Tau-tapered elements, circularization, and added parasitic elements.

The collection also includes some special purpose or non-amateur range models, including 3 FM LPDAs, some single-band LPDAs, and some government and commercial communications band versions. The LPDA is apt for complete 80-75-meter coverage and has several versions. As a sample of a special purpose LPDA, there is a 2-meter LPDA that permits monitoring of most of the VHF services from 125 to 170 MHz. In some cases, I have included adequate and inadequate model designs for comparative purposes, such as the set of 100-1000-MHz antennas. A few of the largest designs require well over 500 segments. Finally, there is one LPMA (M=monopole) that uses a buried radial system and hence requires NEC-4.

Although many of the designs may be directly built from the models in this collection, the models themselves are for study purposes. Perfecting the design to a level that permits construction of an antenna that is both electrically and mechanically sound is your responsibility.

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