A highly efficient yet very HD 20m/14MHz rotating dipole

Description

Available through WiMo Germany and DX Engineering in the USA - for Direct factory supply, Email us for pricing and time lines.

www.dxengineering.com **-** www.wimo.com

The DXD-120 DX Dipole is a super HD 20m rotating dipole which is just 27' (8m) wide - Get the edge with this super monobander!

The DXD-120 has a number of unique benefits over other rotating dipoles. First it covers the whole 20m band **without** an ATU with an SWR of less than **1.5:1 from 14.0MHz to 14.35MHz** being typical , this is **not a characteristic that most 'short' dipoles provide.** Time in development has been spent ensuring the radiating efficiency remains at high as possible. Short falls which reduce radiating efficiency typical in short dipoles are ask follows:

- Over-shortened element - More than 27% physical reduction
- Traps or coils being deployed to 'load' the antenna
- Loading methods too close to the centre of the dipole
- Multiband

Over-Shortened Element

To maintain radiating efficiency, as much length as possible is needed in the radiating element itself. In and efficient, end-loading method is used, physical element length reduction can be as much at 27% with just a few tenths of a dB being lost. Once this boundry is crossed, radiating efficiency drops very quickly and this is why the DXD-120 performs as well as it does, as it does not cross this size reduction boundry.

Trap and Coil Loading

Coil loading is a required aspect of many lower HF antennas but is not by any means efficient. Additionally, due to **mechanical restrictions** (tube diameters being smaller than ideal) these loading coils are placed close to the centre/feed point which drastically **reduces radiating efficiency and usable bandwidth**. Ideally, **any form of loading should be in the last thrid of the antennas length** with the best placed being at the element tips. However, this requires the antenna to be sufficiently sized in terms of the material used to support its own weight and that of any end-loading. Most dipoles are not sized sufficiently to support that. **Capacity loading** is the most efficient loading and adding these capacity 'hats' at the far ends of the dipole **ensures the radiatig effiency remains as high as possible**.

Justin G0KSC has combined the use of high-efficient, wide-spaced coils and capacity loading to produce a 12m wide 40M rotating dipole with a radiating efficiency of just over 89% along with all-band coverage without the need for an ATU.

MonoBand or Multiband

As bands are added to an antenna, compromises start to come into play. With mutiband dipoles such as the InnovAntennas DESpole, efficiency remains high as independant band elements are used. However, this in turn adds weight. If you are limited in your stations handling capacity in terms of the antennas physical size and weight yet want something that will stand up to the hard winter weather, then the DXD-120 is for you.

 NO GUYS NEEDED!

This Antenna is Seriously HD. Centre dipole section is almost 32mm (almost 1"1/4) Diameter with 1.2mm wall and the antenna has a

fast taper to the end sections which are still a full 16mm (5/8") diameter where the capacity loading is.

The DXD-120 has avoided the narrow-banded mistakes of other competitive products by NOT reducing physicla length too much and by deploying capacity loading at the antenna tips. This detailed electromagnetic design consideration is combined with a very high quality mechanical package that uses marine grade stainless steel components and an in-element taper schedule that has been proven over many years as a part of our XR-C Range of HF Yagis.

If you want the very latest in highly efficient, short-dipole technology look no further than the InnovAntennas DXD-120.

Specifications:

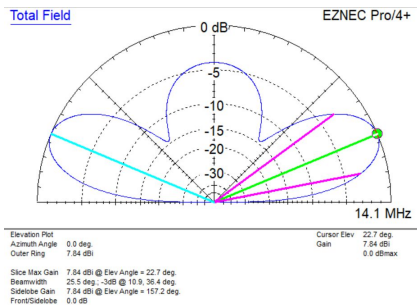**Freepsace Gain:** 2.13dBi (full sized dipole 2.15dBi)

12m above average ground: 7.84dBi

Antenna width: 8m

Turing Radius: 4m

Effective Wind area: 0.2M2 (2.2 Square Feet)

Antenna Weight: 3.5 Kilos

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