

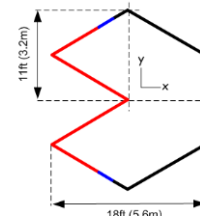
BUDDIHEX

Portable Six band Directional Hexbeam

ANTENNA TECHNICAL DATA SHEET

Features

- HF multiband directional antenna
- Pre-tuned for 20, 17, 15, 12, 10 and 6m bands
- Lightweight portable
- Full 1500W power handling



Description

The BuddiHex is a six-band hexbeam designed especially for portable operations. It consists of six nested antennas on a common structure enabling band switching without the need for retuning. Performance is similar to a two-element horizontal Yagi but with a much smaller turning circle. The product is color coded to simplify set up and the supplied custom wire winders streamline storage and setup. The innovative central support structure has built in storage for the sectional element spreaders and the complete antenna is packed in a custom carrying bag or optional hard carrying case.

Configuration

Antenna Type	Hexbeam directional
Bands	20, 17, 15, 12, 10, 6 m bands
Polarization	Horizontal
Connector Type	BNC tail

Mechanical Specifications

	US units	Metric units
Height (antenna excluding mast) ¹	37 in	0.94 m
Turning circle radius	11 ft	3.35 m
Weight	10 lb.	4.54 kg
Wind load area	4 sq ft	0.37 sq m

Electrical Specifications

Drive point impedance	50 Ω
Connector type	BNC
VSWR	<1.5:1 at band center
Forward gain	8dBi (30 ft elevation above average ground)
Front / back ratio	15 -20 dB
Beamwidth	93 degrees (azimuth)
Max Power	1500 W

¹ Including integral quick release MastWerks mast adapter

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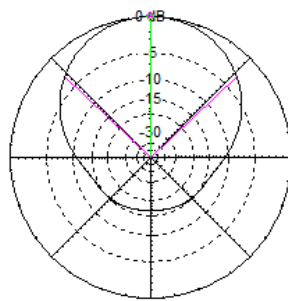
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Antenna Radiation Patterns

Radiation patterns are affected by environmental factors such as ground conductivity and proximity to the ground and other structures. These have some effect on the gain and front to back ratio as well as the feed point impedance. The patterns shown below represent the radiation pattern for a Buddihex at a height of approximately 30ft (10m) over a ground with average electrical properties.

Azimuth pattern 20m band

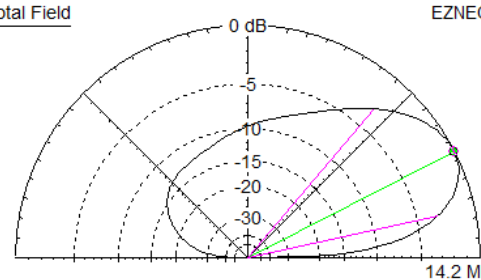
Total Field



EZNEC+

Elevation pattern 20m band

Total Field



EZNEC+

14.2 MHz

14.2 MHz

Azimuth Plot
Elevation Angle 27.0 deg.
Outer Ring 8.29 dBi

Slice Max Gain 8.29 dBi @ Az Angle = 90.0 deg.
Front/Back 16.75 dB
Beamwidth 93.6 deg.; -3dB @ 43.2, 136.8 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Cursor Az 90.0 deg.
Gain 8.29 dBi
0.0 dBmax

Elevation Plot
Azimuth Angle 90.0 deg.
Outer Ring 8.29 dBi

Cursor Elev 27.0 deg.
Gain 8.29 dBi
0.0 dBmax

Slice Max Gain 8.29 dBi @ Elev Angle = 27.0 deg.
Beamwidth 37.2 deg.; -3dB @ 12.5, 49.7 deg.
Sidelobe Gain < -100 dBi
Front/Sidelobe > 100 dB

Azimuth pattern at 27 degrees elevation

Elevation pattern at 90 degrees azimuth

Height considerations

The electrical height of an antenna is related to the physical height and the operating wavelength. The radiation patterns above show the performance on the 20m band. The minimum recommended height is typically regarded as one half of the operating wavelength. At shorter wavelengths (higher frequencies) the electrical height is effectively increased which typically reduces the takeoff angle. For example the 20m take off angle with a 10m mast is about 27 degrees on the 20m band but about 16 degrees on the 10m band.

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VSWR PLOTS

The plots below are representative of the Buddihex VSWR at a height of 10m above ground. VSWR is affected by height above ground and the electrical properties of the ground, so operating the antenna at a lower height may give different results.

