



HF Broadband Antennas HD 520/HD 521

Terminated Folded Dipoles with frequency range from 1.5 MHz to 30 MHz (150 W/1 kW)

TFD (Terminated Folded Dipole) Broadband Antennas HD520/HD521 are operating as loop antenna which is loaded with a termination. Travelling waves are thus generated on the antenna

structure which largely contribute to the good radiation characteristics.

Both antennas have a broadband characteristic in the frequency

range from 1.5 MHz to 30 MHz. There is thus no tuning unit required at the antenna output to attain the required VSWR.



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Brief description

The antennas are configured as an inverted V so that only 1 antenna feed is required. Signal feed is at the highest point in the middle of the antenna via a transformer. The opposite sides of the loop are terminated by means of a resistor. This resistor is located in the shelter and connected to the antenna via a coaxial cable.

Corresponding to its radiator geometry the TFD antenna radiates horizontally polarised waves and is thus suitable for transmission via the ionosphere. Short, medium or long distances can be covered depending on the frequency selected.

Azimuth Coverage

The TFD antenna provides round coverage via the ionosphere using

high-angle radiation. With a 10-m mast, coverage is possible for frequencies of up to 10 MHz.

At higher frequencies, a directional effect perpendicular to the antenna axis becomes increasingly dominant. For this reason, the antenna has to be aligned for long-distance communication at high frequencies.

Specifications

Electrical Data

Frequency range	1.5 MHz to 30 MHz
Permissible transmitter power	150 W (HD 520), 1 kW (HD 521)
Impedance	50 Ω
VSWR	<2.4
Polarisation	horizontal
Azimuth diagram	suitable for round coverage with high-angle radiation; at high frequencies radiation at either side depending on height of antenna mast;
Vertical diagram	suitable for high-angle radiation at low frequencies and long-distance communication at high frequencies

Mechanical Data

Radiator length	30 m
Total length	approx. 90 m
Distance between parallel radiators	0.4 m
Mechanical interface	for 10-m tower from Geroh Co.;
	Type: 9KVR
Setup time	approx. 1 h

Environmental Conditions

Temperature	-40 °C to +55 °C
Humidity	100%
Vibration resistance	4 g, 10 to 150 Hz
Shock resistance	10 g, 10 ms
Max. wind velocity	108 km/h (without ice accretion)
Installation altitude	up to 2000 m NN
Lightning protection integrated	
Dust-proof (sand storm)	
UV-proof	

Ordering Information

HF Broadband Antenna (150 W)	HD 520	4050.2002.03
HF Broadband Antenna (1000 W)	HD 521	4050.1006.03
Antenna telescopic mast	9KVR	AKAD014



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