

MAS-1



APPLICATIONS

The MAS-1 HF antenna is designed for installations where space is at a premium and the communication requirement is for simultaneous operation on short, medium and long range HF skywave circuits. The relatively small size and multifunctional operational capability makes the MAS-1 ideally suited for rooftop or similar limited space sites. A four arm pyramidal spiral is fed with a four port hybrid, providing two short range and two medium range omnidirectional ports. A rotatable log periodic provides a directional fifth port for a long range circuits. The MAS-1 provides full duplex operation on a short range and a medium range circuit simultaneously along with half duplex operation on a long range circuit.

FEATURES

The MAS-1 is capable of operating as five (5) separate antennas integrated into one structure. All inputs are isolated from each other permitting full duplex operation on two separate circuits, or three half duplex and one receive only circuit, plus an additional half duplex circuit on the rotatable log periodic. The rotatable log periodic is lightweight and composed primarily of aluminum. The antenna is foreshortened in both length and width to minimize the physical size and turning radius. The performance has been maximized consistent with its size. The spiral is a four arm equiangular design wound on a pyramidal structure formed by the center support tower and four catenaries. The catenaries are dielectric with prepositioned element attachment clamps. The elements are constructed from jacketed cables that provides protection from the environment. The support tower is a bolted, all aluminum structure. The antenna is protected under US Patent 5189434.

MULTIFUNCTIONAL CAPABILITY

HORIZONTAL AND VERTICAL POLARIZATION

SHORT, MEDIUM AND LONG RANGE HF SKYWAVE PROPAGATION



OPTIONAL EQUIPMENT Obstruction lights, erection kit, repair kit with winch, safety climbing equipment. Coaxial cable, connector adapters and mating adapters. Computer controller with RS-232 interface. A 230V 50Hz unit is also available.

PORTS	PORT 1	PORT 2	PORT 3	PORT 4	PORT 5
APPLICATION	Short Range NVIS	Medium Range Low Angle	Medium Range Low Angle	Short Range NVIS	Long Range RLPA
POLARIZATION	Elliptical	Vertical	Horizontal	Elliptical	Horizontal
FREQUENCY, MHz	2-30	4-30	4-30	2-30	6.2-30
IMPEDANCE, Ohms, UNBALANCED	50	50	50	50	50
VSWR	2:1	4:1	2:1	2:1	2.5:1
DIRECTIVE GAIN, dBi	7	7	7	7	9-12
INPUT POWER, kW	1	1	1	1	1
INPUT CONNECTOR	Type "N"	Type "N"	Type "N"	Type "N"	Type "N"
AZIMUTH PATTERN	Omni	Omni	Omni	Omni	Directional
DIMENSIONS	Height 48 ft; Length 40 ft; Width 40 ft				
WIND LOADING	100 mph with no ice				