

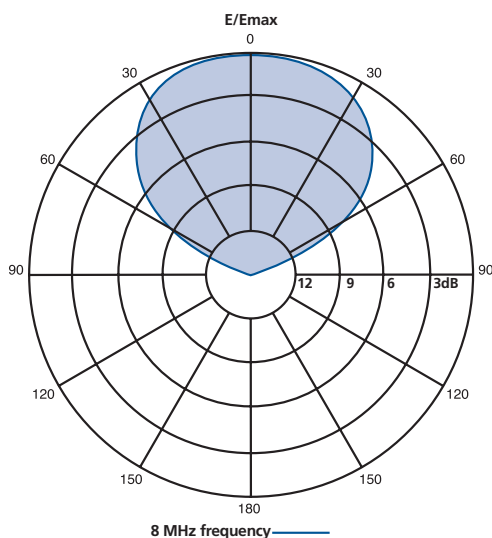
HLO Series

The HLO series are high performance, rotatable log periodic antennas designed to provide reliable link establishment over short, medium and long distances with mobile stations.

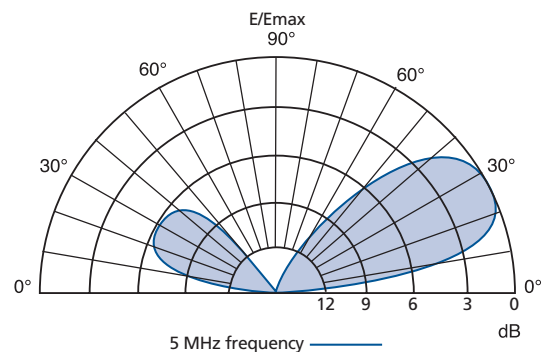
- Characterized by high gain performance while maintaining excellent front to back ratio, the HLO antennas are capable of providing coverage in excess of 5000kms
- The broadband feature enables transmission over 4-30MHz (HLO430) and 6-30MHz (HLO630) band. A high performance rotary joint enables continuous rotation with a complete 360° turn achieved in two minutes.
- A unique design feature of the HLO antenna series is the ability to raise and lower the antenna without the use of cranes or special erection towers.



HLO430 Antenna



Typical Azimuth Radiation Pattern



Elevation Radiation Pattern HLO430

Rotatable Log Periodic Antennas

2 - 30 MHz

HLO Series

ELECTRICAL SPECIFICATIONS

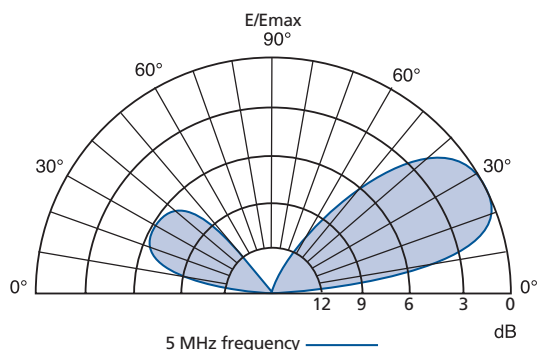
Model Number	HLO430	HLO630
Frequency Range, MHz	4 - 30	6 - 30
Power Rating, kW	10 Average, 20 PEP	10 Average, 20 PEP
Impedance, ohms	50 nominal	50 nominal
Polarization	Horizontal	Horizontal
Isotropic Gain, dBi	12 nominal	11 nominal
VSWR	2.0:1	2.05:1
Azimuth 3dB Beamwidth, degrees	72 nominal	72 nominal
Elevation Radiation Pattern	refer diagrams	refer diagrams

MECHANICAL SPECIFICATIONS

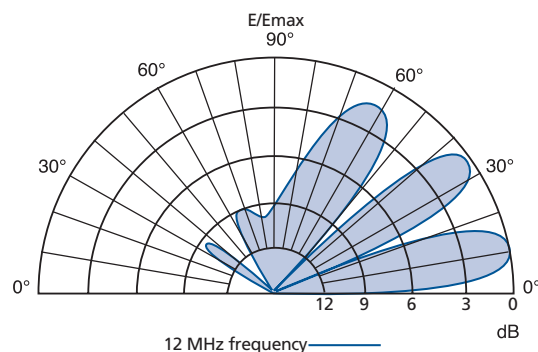
Mast/Antenna Height, m (ft)	34.5 (113.2)	16.5 (54.1)
Ground Dimensions, m (ft)	58 (190.3) diameter	25 (82) diameter
Boom Length, m (ft)	28 (91.87)	18 (59)
Dipole Span, m (ft)	36 (118.1)	24 (78.7)
Number of Dipoles	14	12
Rotation	continuous, 1/2 turn per minute	continuous, 1/2 turn per minute
Wind Rating (no ice), km/h (mph)	200 (125) Note#1	200 (125) Note#1
Packed Weight, Kg (lb)	7880 (17336)	7000 (15400)

Note 1

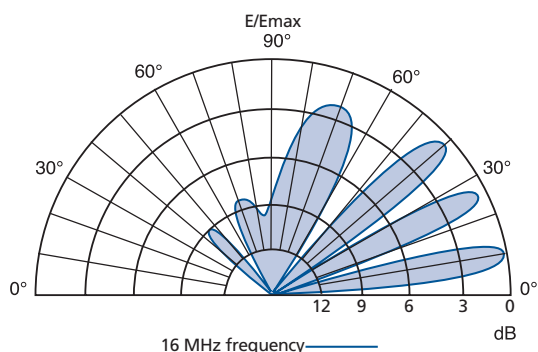
Wind ratings calculated in accordance with AS1170-1981: Part 2, "SAA Loading Codes, Wind Forces".



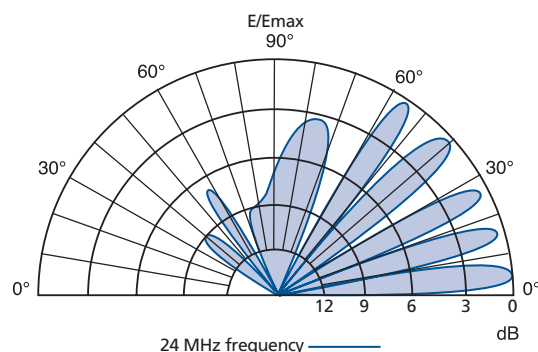
Elevation Pattern



Elevation Pattern



Elevation Pattern



Elevation Pattern

HLPR Series

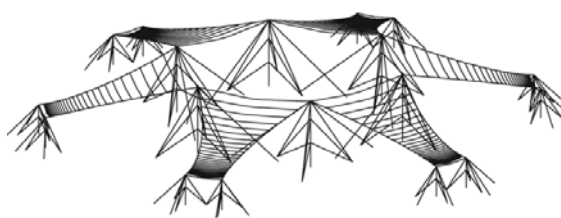
The HLPR series Log Periodic Antennas are high performance, directional, horizontally polarized antennas designed for long range communication circuits.

For detailed model specifications and ordering information please contact RFS.

- Designed specifically to meet customer requirements for very low VSWR and high gain system characteristics, the HLPR is the leading edge in log periodic designs.
- Although virtually ground independent and exhibiting radiation patterns consistent over the entire frequency band, take off angles can be tailored to suit various systems applications.
- Side lobes are extremely small over the entire frequency band providing good discrimination against interfering signals.
- The HLPR has been designed for incorporation within multi-element array and rosette configurations.
- The HLPR range is available for Receive or Transmit applications up to 10kW power rating.



HLPR Antenna



HLPR Rosette Array

ELECTRICAL SPECIFICATIONS

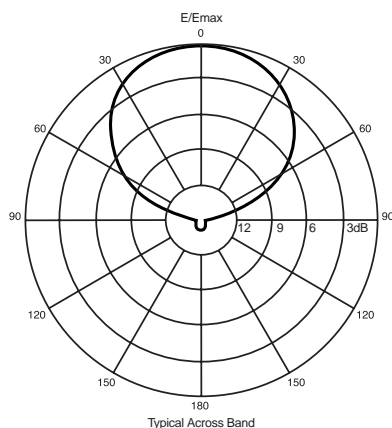
Model Number	HLPR
Frequency Range, MHz	3 - 33
Power Rating, kW	1 Average - 10 Average
Impedance, ohms	50
Polarization	Horizontal
Isotropic Gain, dBi	12 nominal
VSWR	1.8:1 max, 1.5:1 typical
Elevation Radiation Pattern	refer diagrams

MECHANICAL SPECIFICATIONS

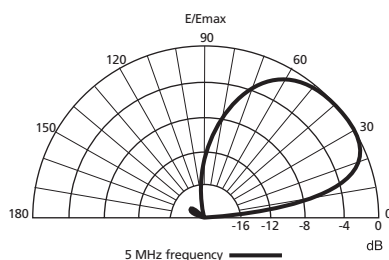
Mast/Antenna Height, m (ft)	33 (108.3) rear, 15 (49.2) front
Ground Dimensions, m (ft)	94 (308.4) width rear, 48 (157.5) width front, 120 (393.7) length
Wind Survival Rating, km/h (mph)	310 (193) Note#1

Note 1

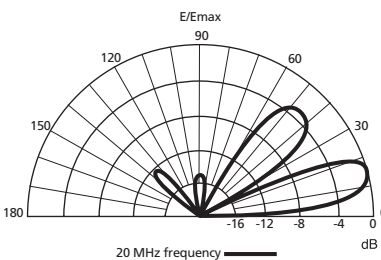
Wind ratings calculated in accordance with AS1170-1981: Part 2, "SAA Loading Codes, Wind Forces".



Azimuth Radiation Pattern



Elevation Radiation Pattern



Elevation Radiation Pattern

Sloping Triangle Antennas

3 - 30 MHz

ST Series

These simple, low cost, broadband horizontally polarized antennas are designed for medium to long range point to point or sectorized transmission or receiving applications.

For detailed model specifications and ordering information please contact RFS.

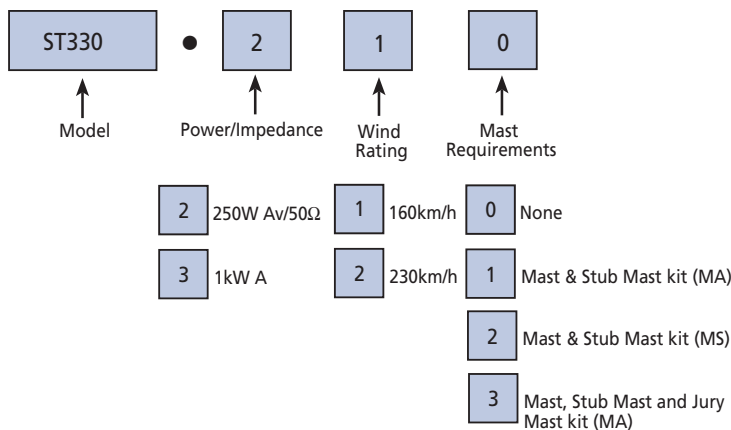
- Characterized by an increase in gain and directivity when operated within the higher frequency band, the ST series provides an economical option to a full horizontal Log Periodic Dipole design.
- The antenna is comprised of two sloping wires resistively terminated at the center point of the vee near ground level. The apex of the vee is supported by a suitable mast while the antenna is fed via a balun transformer at the mast head.
- The ST330 model is available as a ST330S version which has a much reduced footprint for applications where ground area may be an issue.
- The ST series is available with or without mast systems of which two versions are available: Tubular aluminum (MA): Triangular galvanized steel (for high wind loading) (MS)



Sloping Triangle Antenna

Ordering Information

1. Specify Model
2. Specify Power Rating (Av.)
3. Specify Mast Requirements



ST Series

ELECTRICAL SPECIFICATIONS

Model Number	ST330.xxx	ST330S.xxx	ST530.xxx
Frequency Range, MHz	3 - 30	3 - 30	5 - 30
Power Rating, kW	0.25 Average, 1 PEP, 1 Average, 4 PEP	0.25 Average, 1 PEP, 1 Average, 4 PEP	0.25 Average, 1 PEP, 1 Average, 4 PEP
Impedance, ohms	50	50	50
Azimuth Radiation Pattern	Directional	Directional	Directional
Polarization	Horizontal	Horizontal	Horizontal
VSWR	2.5:1 max, <2:1 typical	2.5:1 max, <2:1 typical	2.5:1 max, <2:1 typical
Elevation Radiation Pattern	refer diagrams	refer diagrams	refer diagrams
Input Connector	N type socket	N type socket	N type socket

MECHANICAL SPECIFICATIONS

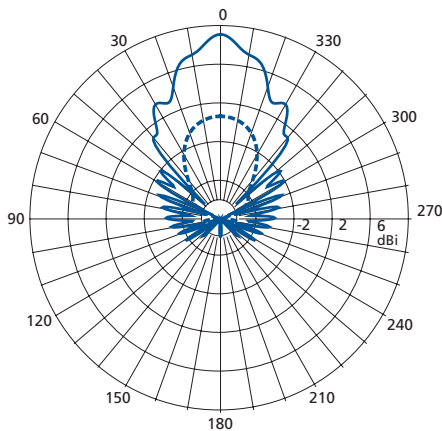
Mast/Antenna Height, m (ft)	19 (62.3)	15 (49.2)	15.5 (50.8)
Mast Guy Radius, m (ft)	14 (45.9)	11 (36.1)	11 (36.1)
Ground Dimensions, m (ft)	100 (328.1) Vee length, 80 (262.5) Vee width Note#1	50 (164.05) Vee length, 50 (164.05) Vee width Note#1	80 (262.5) Vee length, 63 (206.7) Vee width Note#1
Wind Survival Rating, km/h (mph)	160 (100) with RFS MA1 mast; 230 (143) with RFS MS3 mast Note#2	160 (100) with RFS MA1 mast; 230 (143) with RFS MS3 mast Note#2	160 (100) with RFS MA1 mast; 230 (143) with RFS MS3 mast Note#2

Note 1

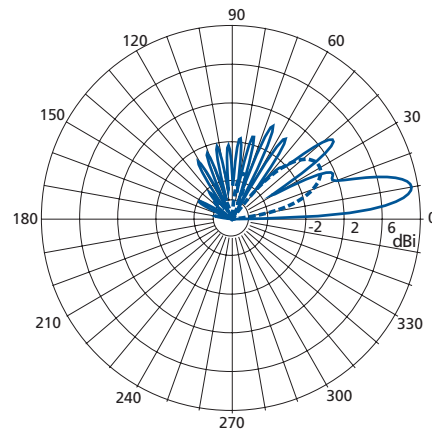
Additional space must be allowed for main mast guys

Note 2

Calculated in accordance with AS1170-1981, Part 2, "SAA Loading Code Wind Forces" and AS1664-1975, "SAA Aluminum Structures Code" and AS1250-1981 "SAA Steel Structure Code"



ST330 Azimuth Cut
Maximum Gain Curves
20MHz ———
5MHz - - - - -
Azimuth Radiation Pattern
Azimuth Pattern ST330



ST330 Elevation Cut
Maximum Gain Curves
20MHz ———
5MHz - - - - -
Elevation Radiation Pattern
Elevation Pattern ST330

Vertical Log Periodic Dipole Arrays

3.5 - 30 MHz

VLP Series

The VLP series can be customized or tailored to suit lower frequency operation and specific customer requirements or applications. The VLP series is available for Receive or Transmit applications from 1kW to 10kW power rating.

For detailed model specifications and ordering information please contact RFS.

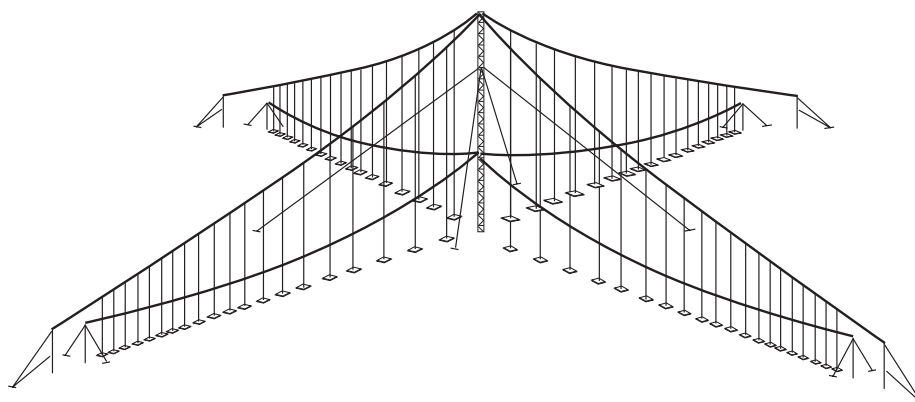
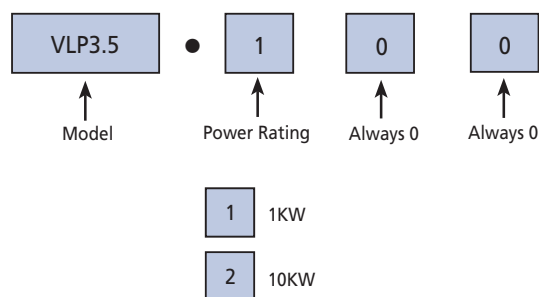
- They are characterized by a radiation pattern that is essentially constant at all frequencies.
- The rugged design of the VLP series ensures its suitability for wind velocities up to 230km/hr.
- Electrically steerable arrays, comprising of a number of antennas radiating from a common support mast can be supplied to suit customer specifications.



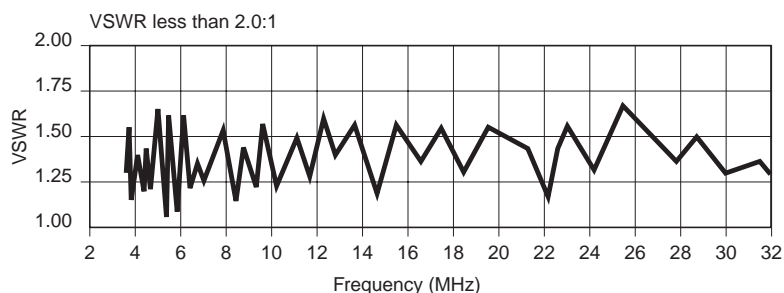
VLP Antenna

Ordering Information

1. Specify Model
2. Specify Power Rating (Avg.)



VLP Switchable array



VSWR VLP Series

VLP Series

ELECTRICAL SPECIFICATIONS

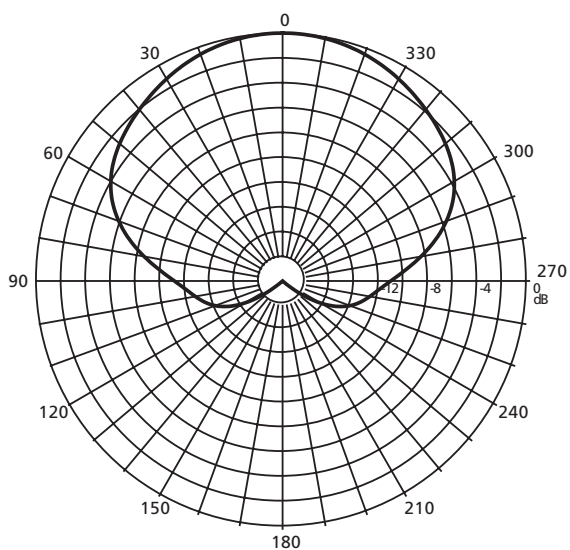
Model Number	VLP3.5.xxx
Frequency Range, MHz	3.5 - 30
Power Rating, kW	1 Average, 4 PEP, 10 Average, 20 PEP
Impedance, ohms	300 balanced; 50 unbalanced
Polarization	Vertical
Isotropic Gain, dBi	10 for 3.5 to 8MHz, 14 for 8 to 30MHz
VSWR	<2.0:1
Azimuth 3dB Beamwidth, degrees	90 typical

MECHANICAL SPECIFICATIONS

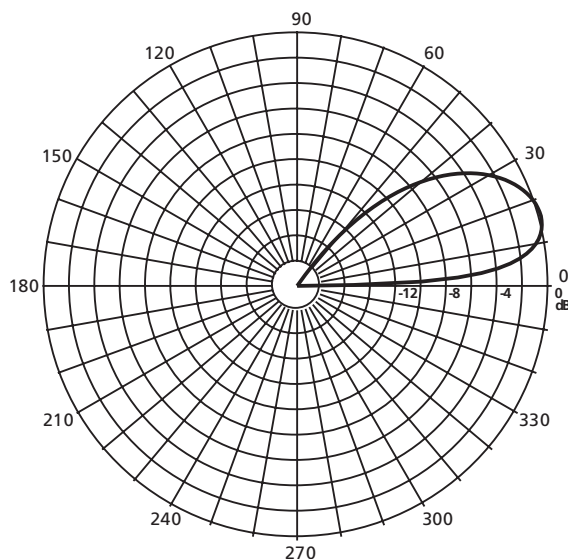
Mast/Antenna Height, m (ft)	48 (157.5) rear, 10 (32.8) front
Earth Mat Area, m (ft)	80 (262.5) x 50 (164.1)
Ground Dimensions, m (ft)	35 (114.8) width rear, 12 (39.4) width front, 98 (321.5) length
Wind Survival Rating, km/h (mph)	230 (143) Note#1

Note 1

Wind ratings calculated in accordance with AS1170-1981: Part 2, "SAA Loading Codes, Wind Forces".



Azimuth Radiation Pattern



Elevation Radiation Pattern