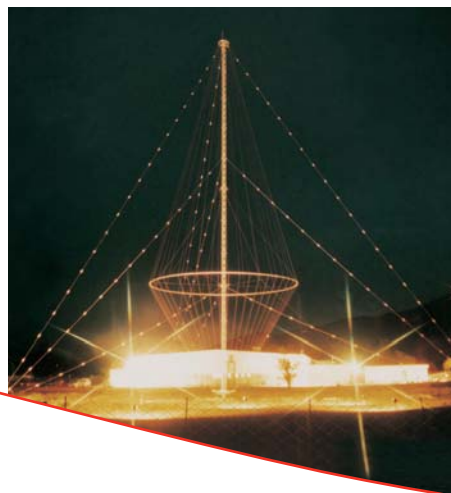


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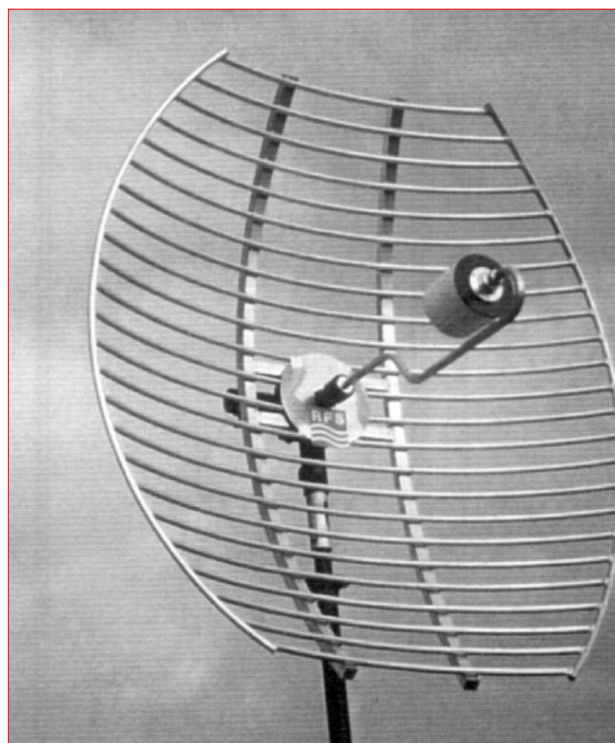
Tactical and strategic products
backed by exceptional design
and implementation services

Tactical Wideband Microwave Antennas APL Series, 1350-2700MHz
Product Description

The tactical microwave antenna APL-4T operates in the 1350-2700MHz frequency band and can be installed at the top of a vertically erected mast.

Features & Benefits

- The antenna covers the full frequency range 1350-2700MHz and operates in linear polarization. The choice between horizontal and vertical polarization is achieved by the choice of orthogonal fittings at the rear of the antenna.
- The parabolic reflector is illuminated by a primary feed which is fitted to the center of the assembly with a quick fastener system.
- The antenna assembly is protected by an highly resistant coating of TAN X army green IR NATO 24X5.
- In addition to its radio-electrical performances, its main features are:
 - Light weight and rugged design.
 - Ease of deployment and reduced drag.
 - Installation is quick and requires only one operator.


Specifications
Electrical

Product Line Antenna,	Tactical
Product Type Microwave Antenna -	Grid Parabolic
Frequency Range, [MHz]	1350 - 2700
Power Rating, [kW]	0.15
Impedance, [ohms]	50
Polarization Horizontal;	Vertical
Isotropic Gain, [dBi]	28
VSWR	<2:1
Half Power Beamwidth E-Plane, [degrees]	7
Half Power Beamwidth H-Plane, [degrees]	7
Input Connector	N type socket
Front to Back Ratio, [dB]	>30
Side Lobe (max), [dB]	>15 for 0 to 20 degrees, >25 for 20 to 115 degrees, >30 for 115 to 180 degrees
Cross Polarization, [dB]	>30

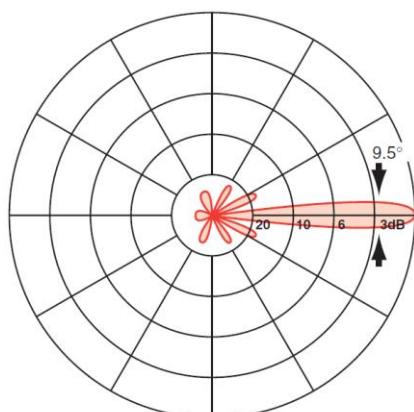
Mechanical

Weight, [kg(lb)]	14 (30.8)
Mounting (Standard), [mm(in)]	on 40mm(1.6) spigot (H or V)
Effective Area Front (full antenna), [sqm (sq ft)]	1.04 (11.20)
Material	Duralinox
Coating	TAN X
Colour	Army green (IR NATO 24X5)

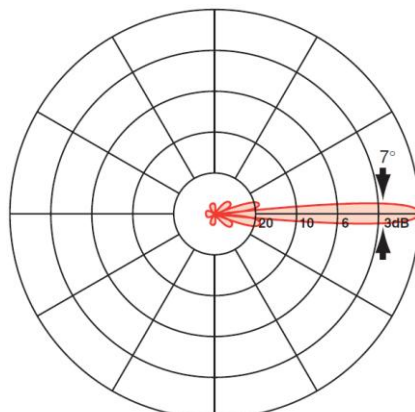
Tactical Wideband Microwave Antennas APL Series, 1350-2700MHz

Radiation Patterns

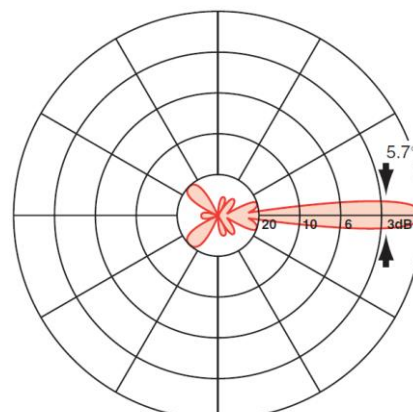
Vertical and Horizontal



Vertical or Horizontal polarization
(H or E plane)
1350MHz Frequency

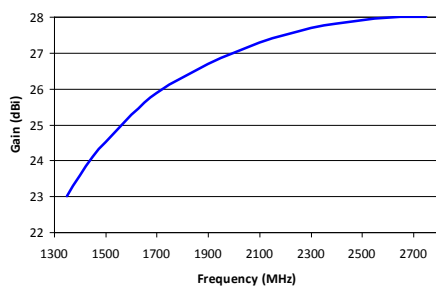


Vertical or Horizontal polarization
(H or E plane)
2000MHz Frequency

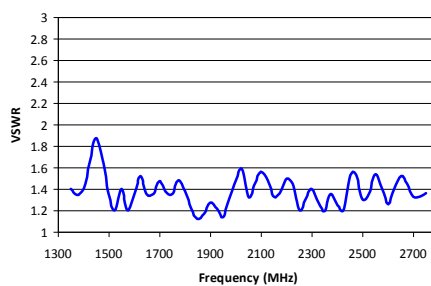


Vertical or Horizontal polarization
(H or E plane)
2600MHz Frequency

Gain



VSWR – over average ground



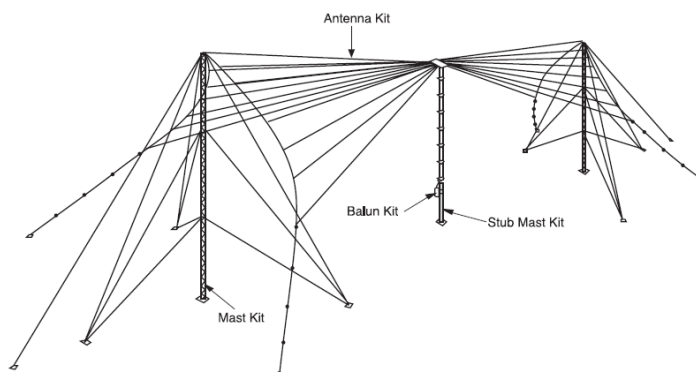
Broadband Biconical Dipoles 2 - 30MHz

Product Description

This broadband series of antennas covering 2.3 to 30MHz is designed for short to long range (depending on frequency) transmitting or receiving applications. Polarization is horizontal and pattern essentially omnidirectional.

Features & Benefits

- These antennas, being broadband, do not require tuning, thus eliminating the need for any form of antenna tuning unit (ATU) with its associated losses.
- No terminating resistors are employed and so full power is available for radiation.
- The broadband feature is ideal for multi-channel or frequency agile synthesized HF radio equipment.
- The antenna comprises two horizontal conical sections, the elements of which are connected in the centre to a common feed line. Either a 300 ohm balanced line, or a 50 ohm coaxial feeder with a balun option may be used to feed the antenna.
- Average power rating of the standard antenna is 10kW with higher rating to special order.
- Baluns are available with average power rating of 1kW and 10kW. Higher ratings are also available.
- Supplied complete with all masts



Specifications

Electrical

Frequency range, [MHz]	2.3 - 30
Gain, [dBi]	6-8 typical (see gain curve)
Polarisation	Horizontal
Horizontal pattern	Essentially omnidirectional
Impedance, [ohms]	
Balanced	300
Unbalanced (with balun)	50
Input connector	
1kW (50 ohms)	N-type
10kW (50 ohms)	1 5/8" EIA
Maximum input power, kW	1kW Average (4kW PEP), 10kW Average (40kW PEP) with balun option
VSWR	2.0:1 typical, 2.5:1 Max (see VSWR curve)

Mechanical

Mast Height, [m]	21.4
Mast spacing, [m]	58
Ground Area, [m]	44 x 105
Wind Rating survival no ice, [km/h]*	205
Wind Rating survival 1cm radial ice, [km/h]*	130

Shipping information

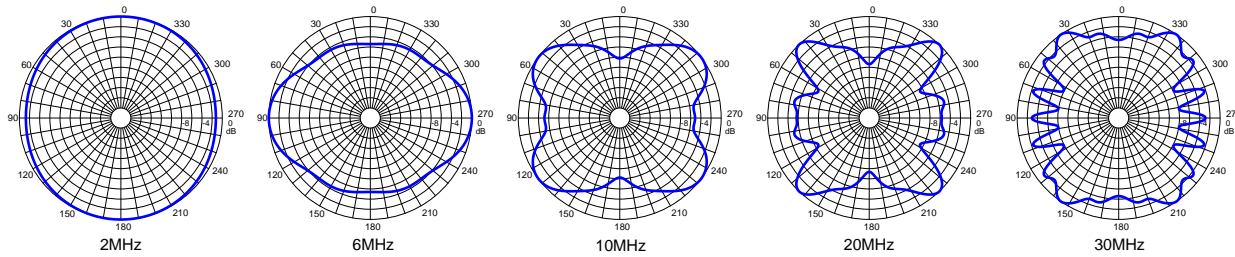
	Packed weight [kg]	Packed size [mm]
BDH230	230	950 x 950 x 700
MS3-30/21 Mast (21m)	550	600 x 1700 x 3040
SMBDH Stubmast	18	2800 x 100 x 120
T1000-530 balun	4	included with antenna
T10K-530 balun	70	920 x 660 x 570

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

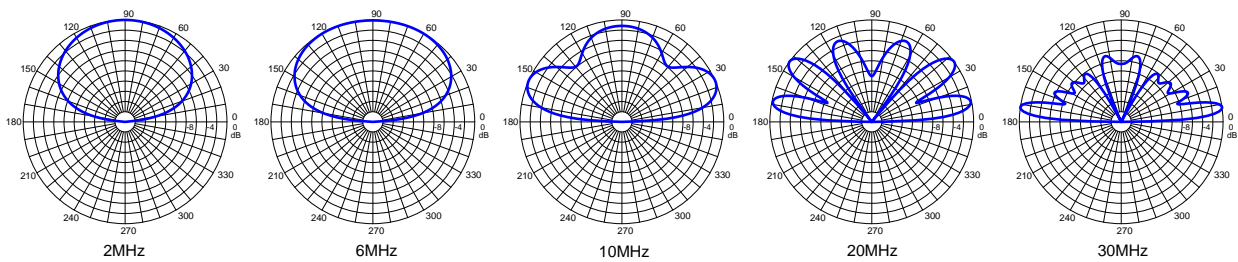
Broadband Biconical Dipoles 2 - 30MHz

Patterns over average ground

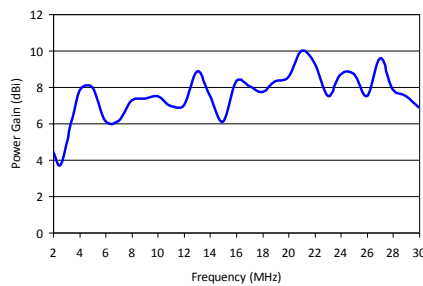
Azimuth Radiation Patterns



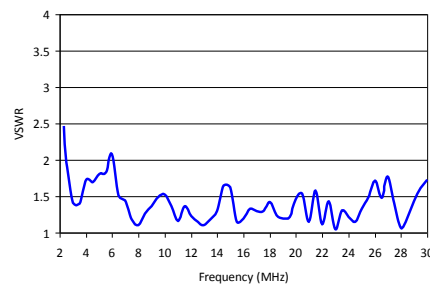
Elevation Radiation Patterns



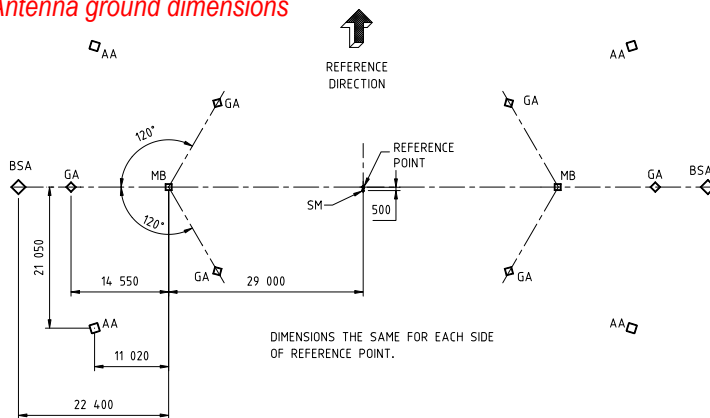
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

BDH230

Model

0

Input Impedance & Power

1

Always 1

0

Mast Requirements

0 300 / 10kW (no balun)

2 50 / 1kW

3 50 / 10kW

0 None

3 Mast & Stub Mast Kits

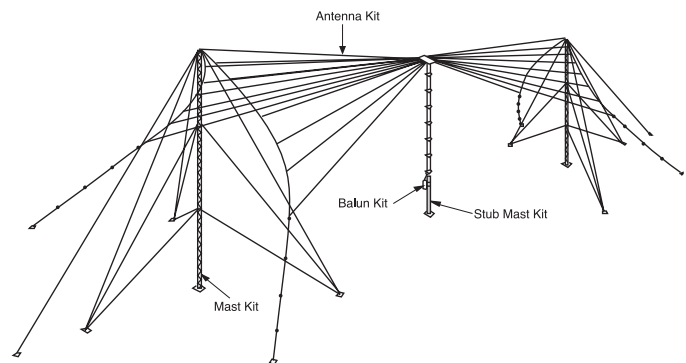
Broadband Biconical Dipoles 3.1 - 30MHz

Product description

This broadband series of antennas covering 3.1 to 30MHz is designed for short to medium range transmitting or receiving applications. Polarization is horizontal and pattern essentially omnidirectional.

Features & Benefits

- These antennas, being broadband, do not require tuning, thus eliminating the need for any form of antenna tuning unit (ATU) with its associated losses.
- No terminating resistors are employed and so full power is available for radiation.
- The broadband feature is ideal for multi-channel or frequency agile synthesized HF radio equipment.
- The antenna comprises two horizontal conical sections, the elements of which are connected in the centre to a common feed line. Either a 300 ohm balanced line, or a 50 ohm coaxial feeder with a balun option may be used to feed the antenna.
- Average power rating of the standard antenna is 10kW with higher rating to special order.
- Baluns are available with average power rating of 1kW and 10kW. Higher ratings are also available.



Specifications

Electrical

Frequency Range, MHz	3.1 - 30
Gain, dBi (Above perfect ground)	6-8 typical (see gain curve)
Polarisation	Horizontal
Horizontal pattern	Essentially omnidirectional
Impedance, ohms	
Balanced	300
Unbalanced (with balun)	50
Input connector	
1kW (50 ohms)	N-type
10kW (50 ohms)	1 5/8" EIA
Maximum input power, kW	1kW Average (4kW PEP), 10kW Average (40kW PEP) with balun option
VSWR	2.0:1 typical, 2.5:1 Max (see VSWR curve)

Mechanical

Mast Height, m	15.4
Mast spacing, m	39.2
Ground Area, m	33 x 75
Wind Rating survival no ice, km/h*	205
Wind Rating survival 1cm radial ice, km/h*	130

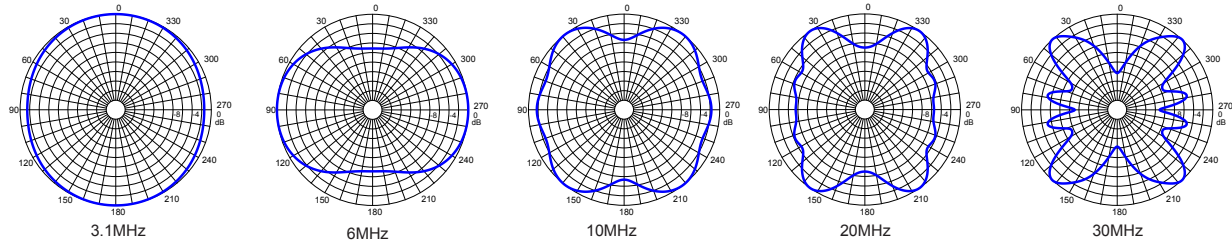
Shipping information	Packed weight (kg)	Packed size (mm)
BDH330	180	900 x 900 x 600
MS3-30/21 Mast (21m)	400	600 x 1200 x 3040
SMBDH Stubmast	18	2800 x 100 x 120
T1000-530 balun	4	included with antenna
T10K-530 balun	70	920 x 660 x 570

* Wind ratings are calculated to Australian Standards AS1170.2:2011

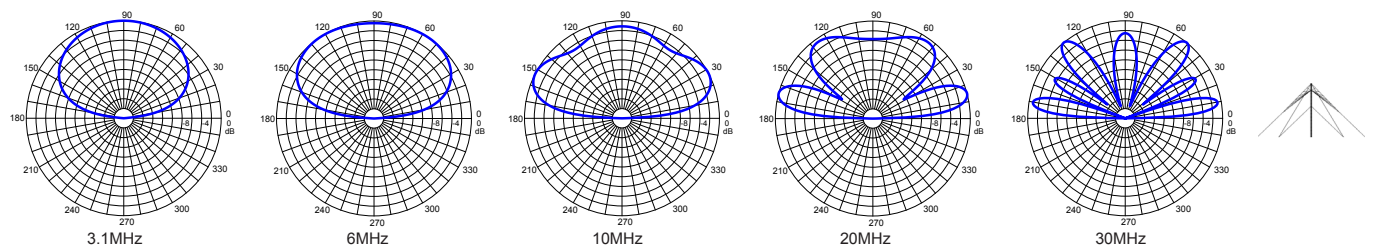
Broadband Biconical Dipoles 3.1 - 30MHz

Patterns over average ground

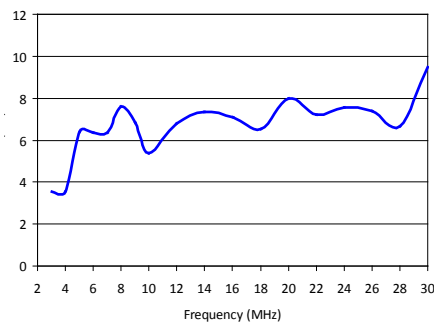
Azimuth Radiation Patterns



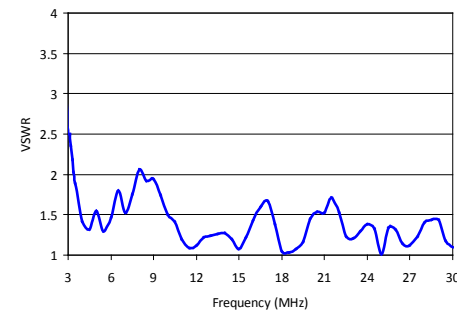
Elevation Radiation Patterns



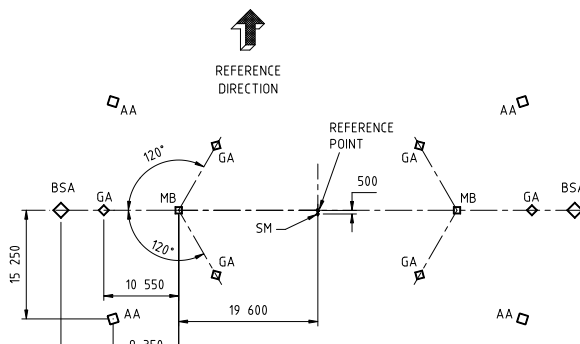
Gain



VSWR - Average ground



Antenna ground dimensions



Ordering information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

BDH330

Model

0

Input Impedance and Power

- 0 300 / 10kW (no balun)
- 2 50 / 1kW
- 3 50 / 10kW
- 4 50 / 1kW suspended balun

1

Always 1

0

Mast requirements

- 0 None
- 3 Mast and Stub Mast Kits

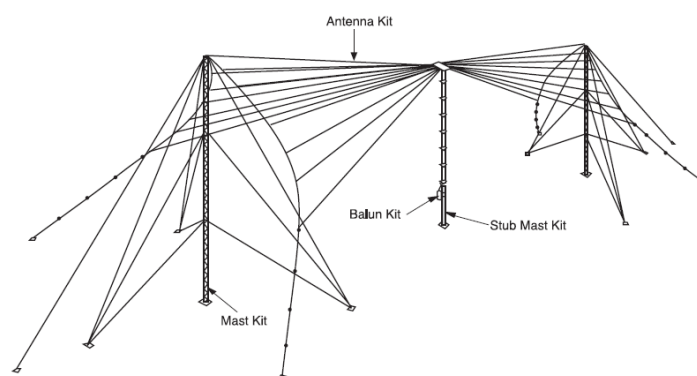
Broadband Biconical Dipoles 3.5 - 30MHz

Product Description

This broadband series of antennas covering 3.5 - 30 MHz is designed for medium range transmitting or receiving communications. Polarization is horizontal and the radiation pattern is essentially omnidirectional.

Features & Benefits

- These broadband antennas do not require tuning eliminating the need for any form of antenna tuning unit.
- No terminating resistors are employed so full power is available for radiation.
- The broadband feature is ideal for multi-channel or frequency agile synthesized HF radio equipment.
- The antenna comprised of two horizontal conical sections, the elements of which are connected in the centre to a common feed line. A 300 ohm balanced line is required to feed the antenna.
- Average power rating of the standard antenna is 50kW.



Specifications

Electrical

Frequency range, [MHz]	3.5 - 30
Gain, [dBi]	6-8 typical (see gain curve)
Polarisation	Horizontal
Horizontal pattern	Essentially omnidirectional
Impedance, [ohms]	300 Balanced
Maximum input power, kW	50kW Average (200kW PEP)
VSWR	2.0:1 typical, 2.5:1 Max (see VSWR curve)

Mechanical

Mast Height, [m]	15.4
Mast spacing, [m]	40.5
Ground Area, [m]	33 x 75
Wind Rating survival no ice, [km/h]*	205
Wind Rating survival 1cm radial ice, [km/h]*	130

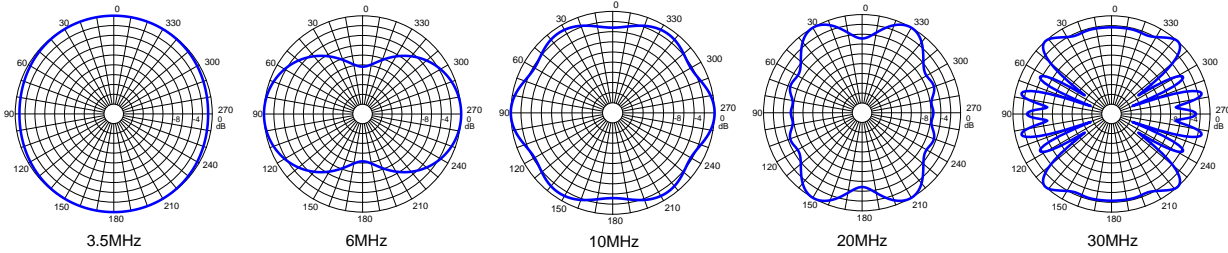
Shipping information

	Packed weight [kg]	Packed size [mm]
BDH230	190	900 x 900 x 600
MS3-30/21 Mast (21m)	400	600 x 1200 x 3040
SMBDH Stubmast	18	2800 x 100 x 120

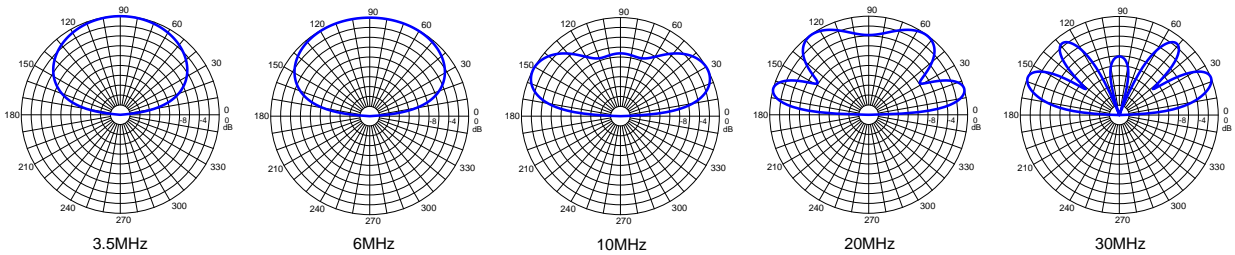
Broadband Biconical Dipoles 3.5 - 30MHz

Patterns over average ground

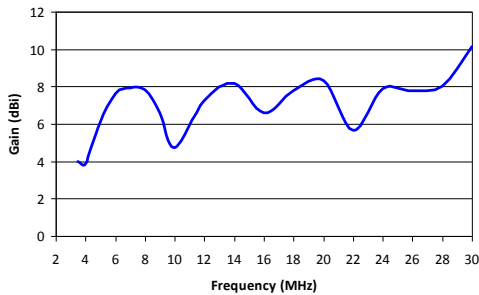
Azimuth Radiation Patterns



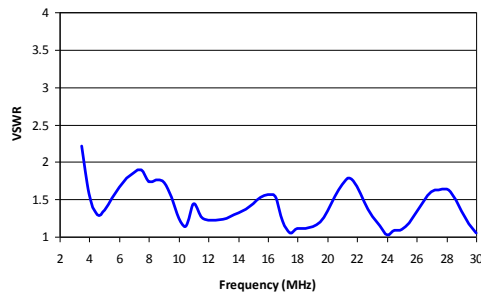
Elevation Radiation Patterns



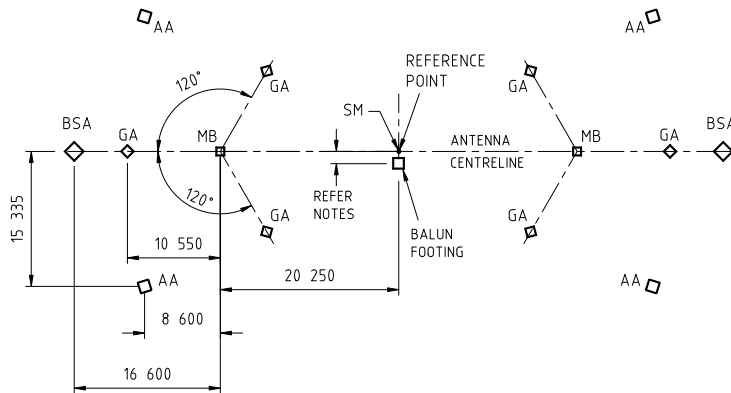
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

BDH330-HP

Model

• 0

Always 0

1

Always 1

0

Mast Requirements

- 1 Stubmast
- 3 Mast & Stub Mast Kits

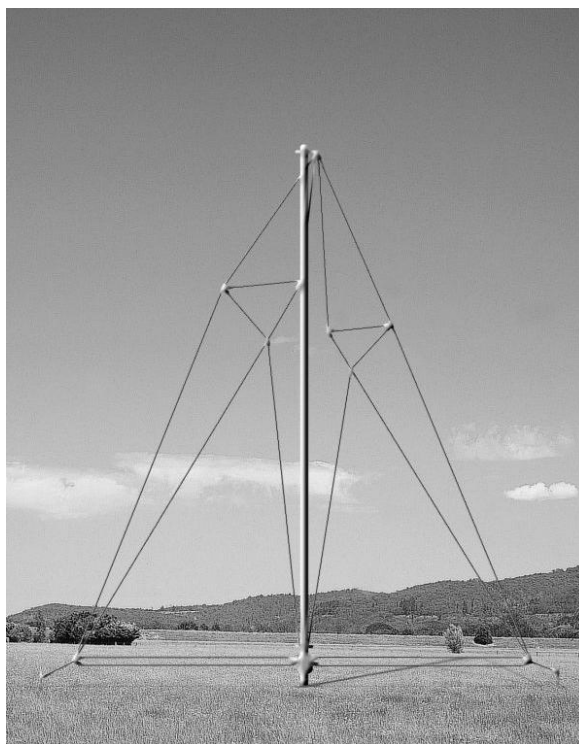
Delta Antenna D Series 1.5 - 30 MHz

Product Description

Delta antennas are designed for coverage over short to medium distances and exhibit essentially a omni-directional, high angle radiation pattern. Radiation results from a wave travelling upwards to a resistive termination at the apex of the antenna.

Features & Benefits

- Each antenna is available with or without a support mast and is supplied complete with the appropriate balun and termination. When masts are supplied they include all installation hardware.
- The oblique elements on this antenna type are fed by above ground open wire. Within the range of delta antennas are other models where the oblique elements are fed by coaxial cables that can be installed over or underground.
- With these omnidirectional models, antenna elements are in a single plane with the feed distributed from a central balun transformer, through horizontal feed "wings", to the bottom of the oblique elements. Each element is fed anti-phase to the other.
- Ground anchors secure wings and oblique elements in position.
- Two of these omnidirectional deltas can be attached to a single mast and operated as separate transmit antennas. Isolation between the two is 30dB. A dual antenna variant, for circular polarisation, can also be supplied.



Specifications

Electrical

Frequency Range [MHz]	1.5 - 30
Impedance (Nominal)	50 ohms
Gain [dBi]	Refer chart
VSWR Less than	2.0:1
Power (Max)	1kW Av. 4kW PEP
Radiating Conductors	Marine grade stainless steel

Mechanical

Mast Height [m]	22
Antenna Width (W) [m]	58
RFS mast guy radius [m]	14.5
Wind Rating* (with suitable RFS mast) [km/hr]	230

Shipping Information

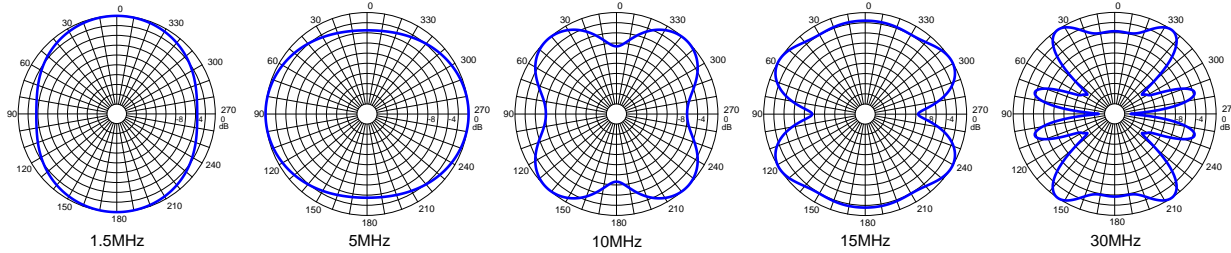
Packed Weight (less mast and balun) [kg]	35
Packed Size (less mast/balun) [mm]	900 x 650 x 350
Packed Weight (mast) [kg]	185
Packed Size (mast) [mm]	450 x 200 x 4800

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

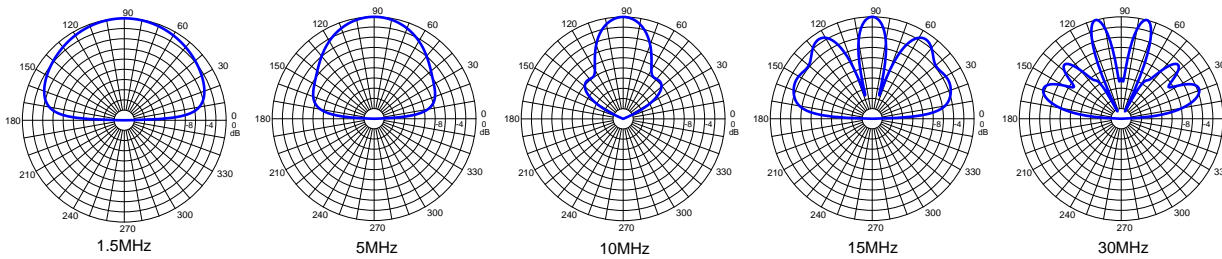
Delta Antenna D Series 1.5 - 30 MHz

Patterns over average ground

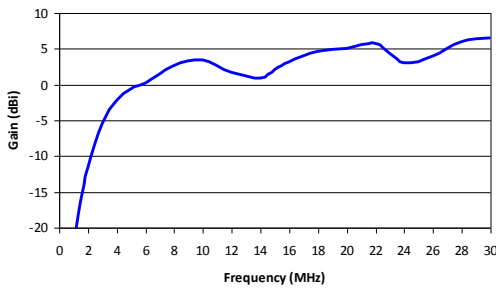
Azimuth Radiation Patterns (at 30deg EL Angle)



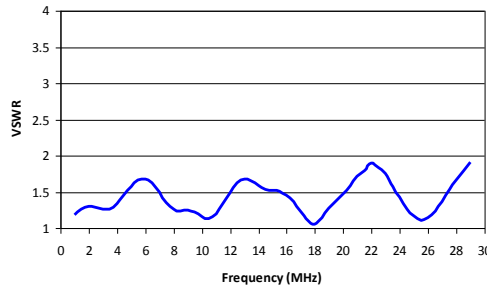
Elevation Radiation Patterns



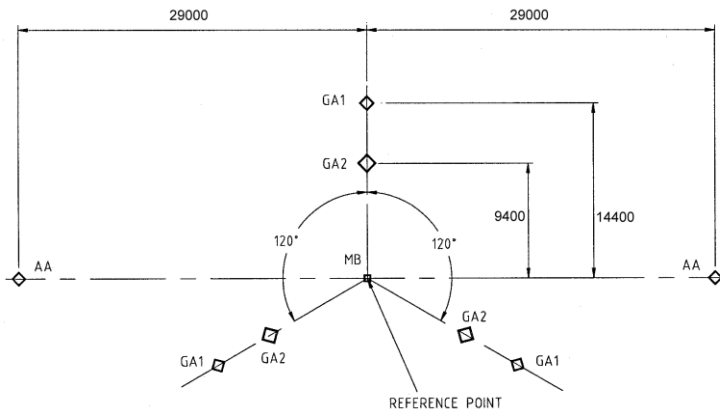
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

D130	•	3	1	0
↑ Model		↑ Power Rating	↑ Always 1	↑ Mast Requirements
		3 1000 W Av		

- 0** None
- 3** Mast, Halyard & Stub Mast Kit
- 5** Mast, Halyard, Stub Mast Kit & Jury kit

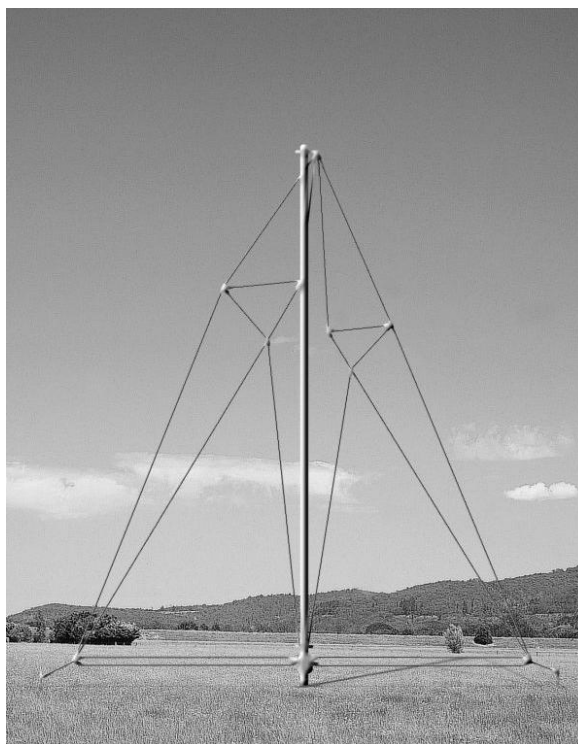
Delta Antenna D Series 2 - 30 MHz

Product Description

Delta antennas are designed for coverage over short to medium distances and exhibit essentially a omni-directional, high angle radiation pattern. Radiation results from a wave travelling upwards to a resistive termination at the apex of the antenna.

Features & Benefits

- Each antenna is available with or without a support mast and is supplied complete with the appropriate balun and termination. When masts are supplied they include all installation hardware.
- The oblique elements on this antenna type are fed by above ground open wire. Within the range of delta antennas are other models where the oblique elements are fed by coaxial cables that can be installed over or underground.
- With these omnidirectional models, antenna elements are in a single plane with the feed distributed from a central balun transformer, through horizontal feed "wings", to the bottom of the oblique elements. Each element is fed anti-phase to the other.
- Ground anchors secure wings and oblique elements in position.
- Two of these omnidirectional deltas can be attached to a single mast and operated as separate transmit antennas. Isolation between the two is 30dB. A dual antenna variant, for circular polarisation, can also be supplied.



Specifications

Electrical

Frequency Range [MHz]	2 - 30
Impedance (Nominal)	50 ohms
Gain [dBi]	Refer chart
VSWR Less than	2.0:1
Power (Max)	250W Av. 1kW PEP or 1kW Av. 4kW PEP
Radiating Conductors	Marine grade stainless steel

Mechanical

Mast Height [m]	22
Antenna Width (W) [m]	58
RFS mast guy radius [m]	14.5
Wind Rating* (with suitable RFS mast) [km/hr]	230

Shipping Information

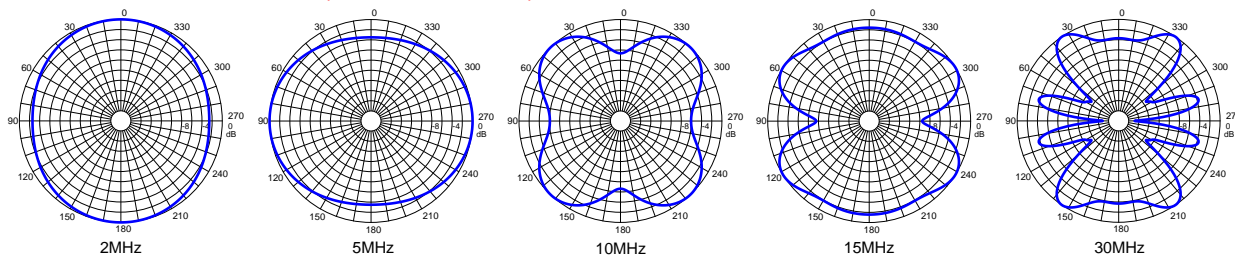
Packed Weight (less mast and balun) [kg]	35
Packed Size (less mast/balun) [mm]	900 x 650 x 350
Packed Weight (mast) [kg]	185
Packed Size (mast) [mm]	450 x 200 x 4800

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

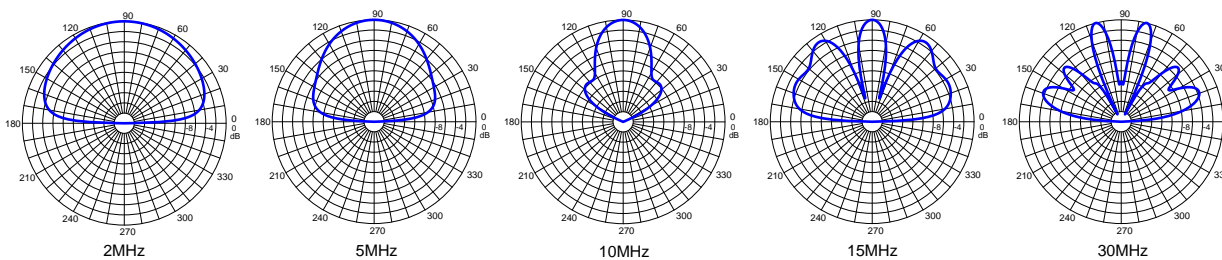
Delta Antenna D Series 2 - 30 MHz

Patterns over average ground

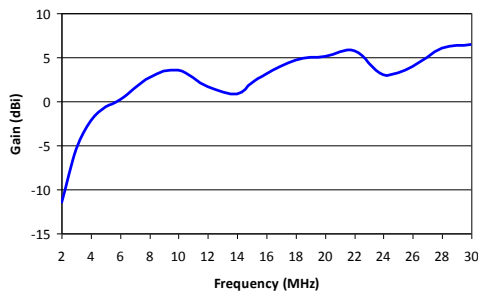
Azimuth Radiation Patterns (at 30deg EL Angle)



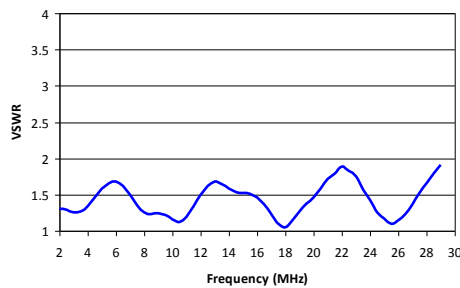
Elevation Radiation Patterns



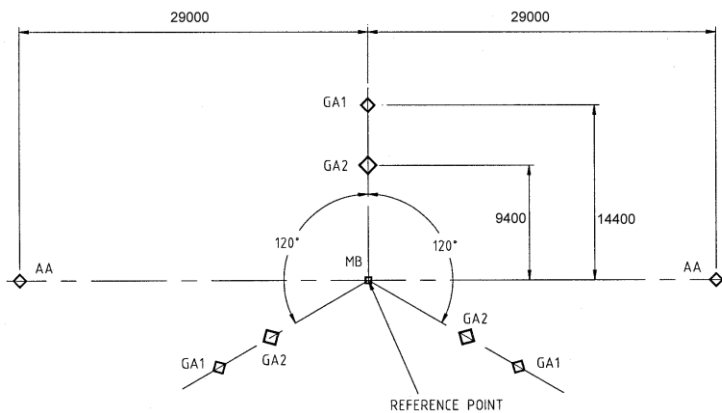
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

D230	•	2	1	0
Model		Power Rating	Always 1	Mast Requirements

2	250 W Av
3	1000 W Av

0	None
3	Mast, Halyard & Stub Mast Kit
5	Mast, Halyard, Stub Mast Kit & Jury kit

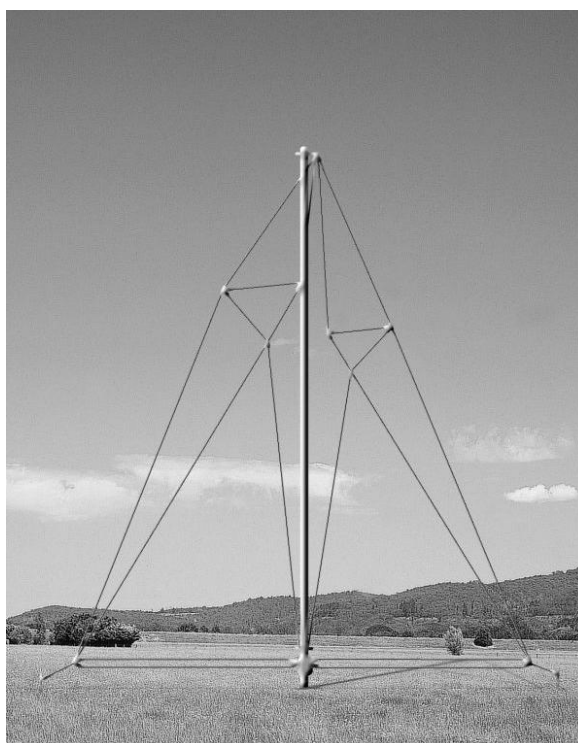
Delta Antenna D Series 3 - 30 MHz

Product Description

Delta antennas are designed for coverage over short to medium distances and exhibit essentially a omni-directional, high angle radiation pattern. Radiation results from a wave travelling upwards to a resistive termination at the apex of the antenna.

Features & Benefits

- Each antenna is available with or without a support mast and is supplied complete with the appropriate balun and termination. When masts are supplied they include all installation hardware.
- The oblique elements on this antenna type are fed by above ground open wire. Within the range of delta antennas are other models where the oblique elements are fed by coaxial cables that can be installed over or underground.
- With these omnidirectional models, antenna elements are in a single plane with the feed distributed from a central balun transformer, through horizontal feed "wings", to the bottom of the oblique elements. Each element is fed anti-phase to the other.
- Ground anchors secure wings and oblique elements in position.
- Two of these omnidirectional deltas can be attached to a single mast and operated as separate transmit antennas. Isolation between the two is 30dB. A dual antenna variant, for circular polarisation, can also be supplied.



Specifications

Electrical

Frequency Range [MHz]	3 - 30
Impedance (Nominal)	50 ohms
Gain [dBi]	Refer chart
VSWR Less than	2.0:1
Power (Max)	250W Av. 1kW PEP or 1kW Av. 4kW PEP
Radiating Conductors	Marine grade stainless steel

Mechanical

Mast Height [m]	16.5
Antenna Width (W) [m]	46
RFS mast guy radius [m]	12.5
Wind Rating* (with suitable RFS mast) [km/hr]	230

Shipping Information

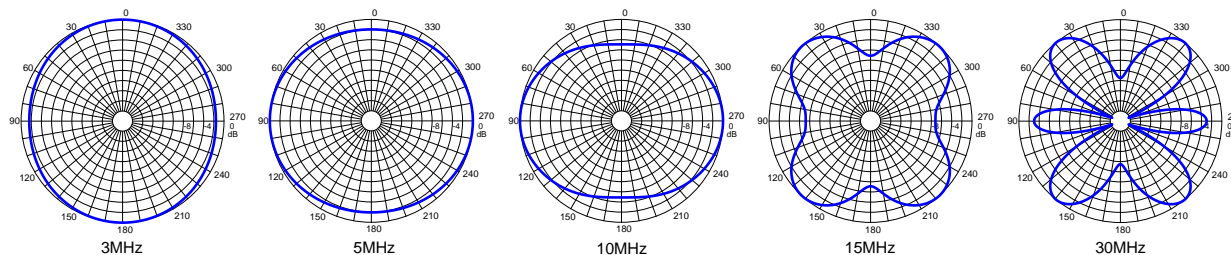
Packed Weight (less mast and balun) [kg]	30
Packed Size (less mast/balun) [mm]	900 x 650 x 350
Packed Weight (mast) [kg]	155
Packed Size (mast) [mm]	380 x 200 x 4800

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

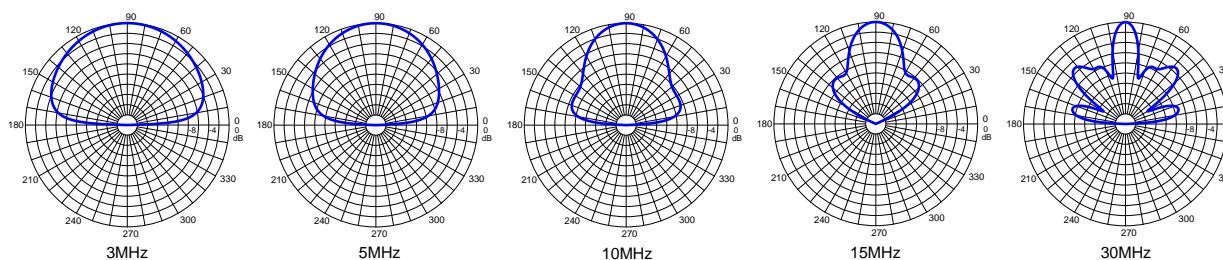
Delta Antenna D Series 3 - 30 MHz

Patterns over average ground

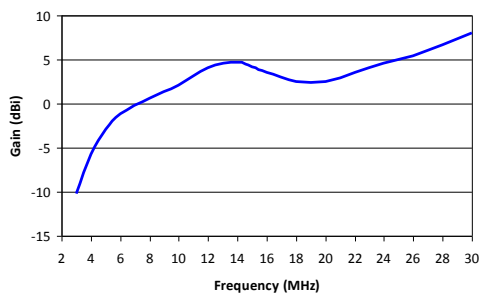
Azimuth Radiation Patterns at 30 deg Elevation



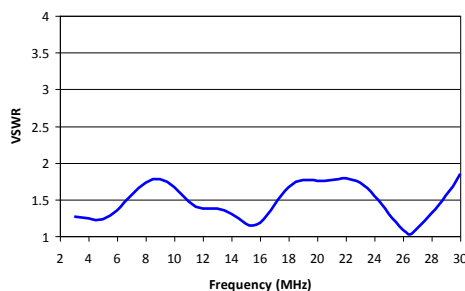
Elevation Radiation Patterns



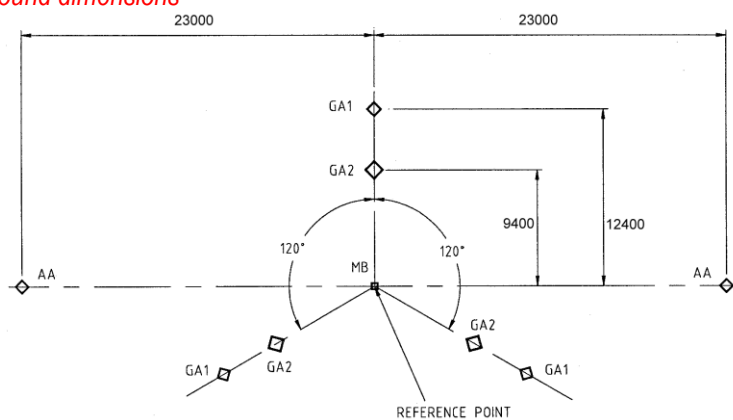
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

D330	•	2	1	0
Model		Power Rating	Always 1	Mast Requirements

2	250 W Av
3	1000 W Av

0	None
3	Mast, Halyard & Stub Mast Kit
5	Mast, Halyard, Stub Mast Kit & Jury kit

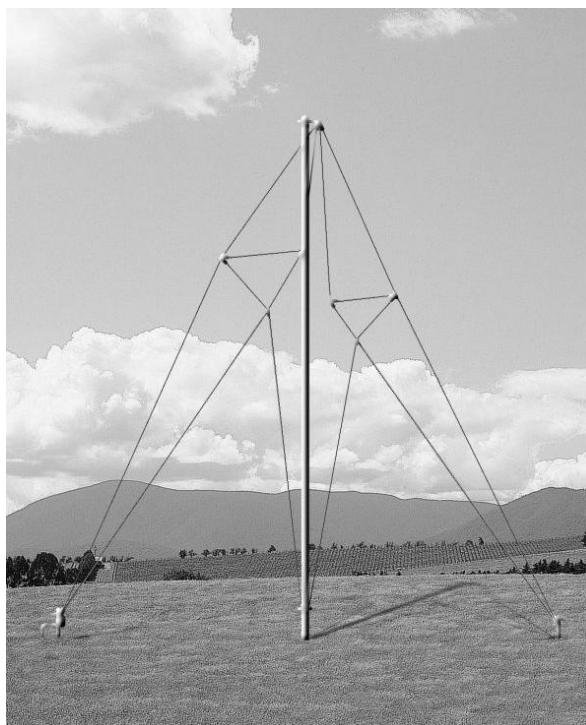
Delta Antenna DC Series 2 - 30 MHz

Product Description

Delta antennas are designed for coverage over short to medium distances and exhibit essentially a omni-directional, high angle radiation pattern. Radiation results from a wave travelling upwards to a resistive termination at the apex of the antenna.

Features & Benefits

- Each antenna is available with or without a support mast and is supplied complete with the appropriate balun and termination. When masts are supplied they include all installation hardware.
- The oblique elements on this antenna type are fed by coaxial cables that can be installed over or underground. Within the range of delta antennas are other models where the oblique elements are fed by above ground open wire.
- The lack of overground wings offer advantages where personnel safety and peculiar site features are an issue.
- A central balun supplies anti-phase signals to the bottom of the oblique elements via underground coaxial cable lines and secondary balun transformers.
- Two of these omnidirectional deltas can be attached to a single mast and operated as separate transmit antennas. Isolation between the two is 30dB. A dual antenna variant, for circular polarisation, can also be supplied.



Specifications

Electrical

Frequency Range [MHz]	2 - 30
Impedance (Nominal)	50 ohms
Gain [dBi]	Refer chart
VSWR Less than	Less than 2.0:1
Power (Max)	250W Av. 1kW PEP or 1kW Av. 4kW PEP
Radiating Conductors	Marine grade stainless steel

Mechanical

Mast Height [m]	22
Antenna Width (W) [m]	44
RFS mast guy radius [m]	14.5
Wind Rating* (with suitable RFS mast) [km/hr]	230

Shipping Information

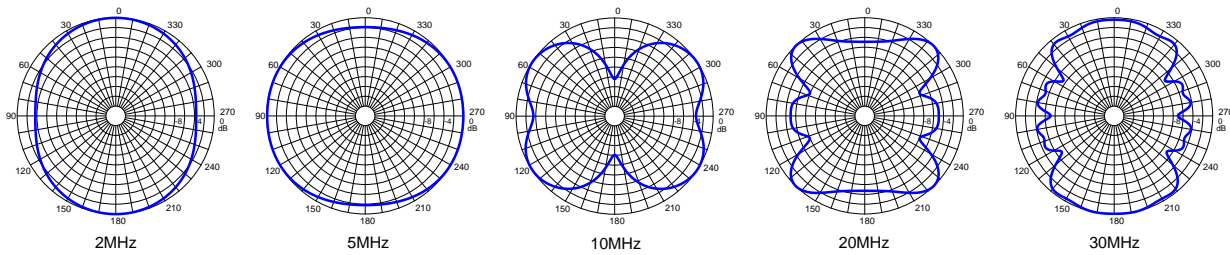
Packed Weight (less mast and balun) [kg]	49
Packed Size (less mast/balun) [mm]	900 x 650 x 350
Packed Weight (mast) [kg]	185
Packed Size (mast) [mm]	450 x 200 x 4800

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

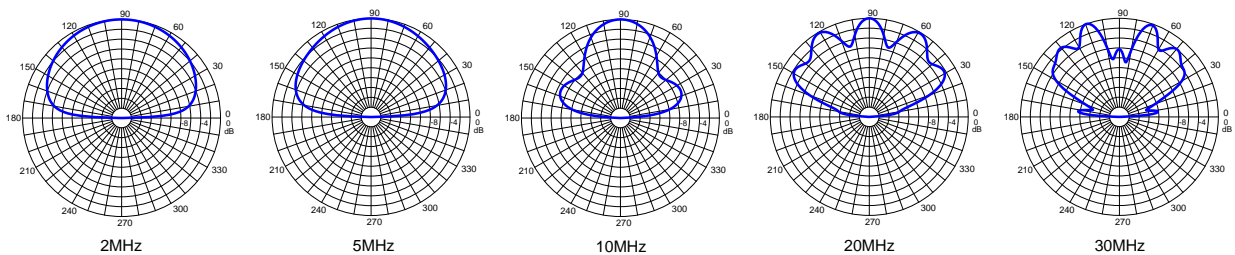
Delta Antenna DC Series 2 - 30 MHz

Patterns over average ground

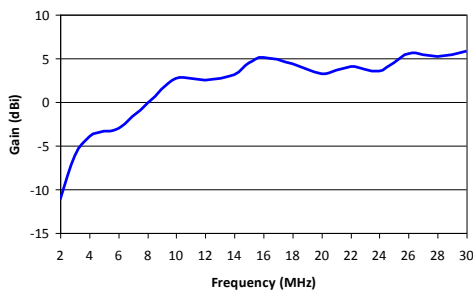
Azimuth Radiation Patterns (at 30deg EL Angle)



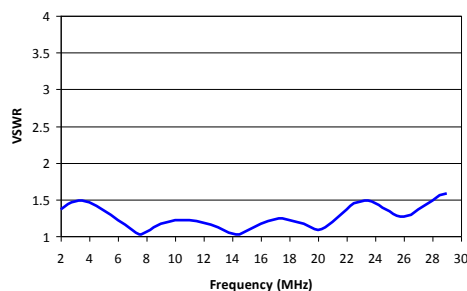
Elevation Radiation Patterns (at 45deg AZ angle)



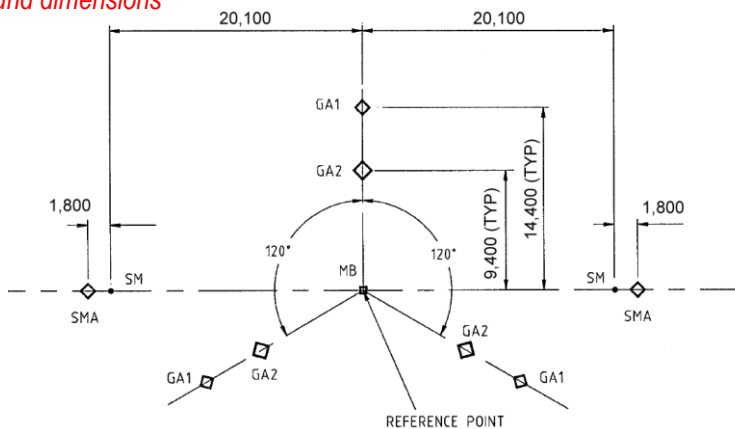
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

DC230	• 2	2	0
Model	Power Rating	Antenna Cable Type	Mast Requirements

2	250 W Av	2	LCF ½"	0	None
3	1000 W Av			3	Mast, Halyard & Stub Mast Kit
				5	Mast, Halyard, Stub Mast Kit & Jury kit

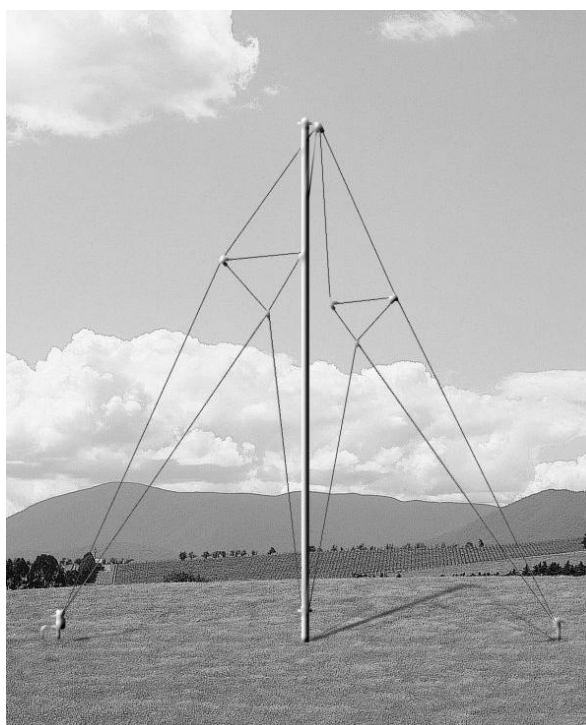
Delta Antenna DC Series 3 - 30 MHz

Product Description

Delta antennas are designed for coverage over short to medium distances and exhibit essentially a omni-directional, high angle radiation pattern. Radiation results from a wave travelling upwards to a resistive termination at the apex of the antenna.

Features & Benefits

- Each antenna is available with or without a support mast and is supplied complete with the appropriate balun and termination. When masts are supplied they include all installation hardware.
- The oblique elements on this antenna type are fed by coaxial cables that can be installed over or underground. Within the range of delta antennas are other models where the oblique elements are fed by above ground open wire.
- The lack of overground wings offer advantages where personnel safety and peculiar site features are an issue.
- A central balun supplies anti-phase signals to the bottom of the oblique elements via underground coaxial cable lines and secondary balun transformers.
- Two of these omnidirectional deltas can be attached to a single mast and operated as separate transmit antennas. Isolation between the two is 30dB. A dual antenna variant, for circular polarisation, can also be supplied.



Specifications

Electrical

Frequency Range [MHz]	3 - 30
Impedance (Nominal)	50 ohms
Gain [dBi]	Refer chart
VSWR Less than	Less than 2.0:1
Power (Max)	250W Av. 1kW PEP or 1kW Av. 4kW PEP
Radiating Conductors	Marine grade stainless steel

Mechanical

Mast Height [m]	16.5
Antenna Width (W) [m]	32
RFS mast guy radius [m]	12.5
Wind Rating* (with suitable RFS mast) [km/hr]	230

Shipping Information

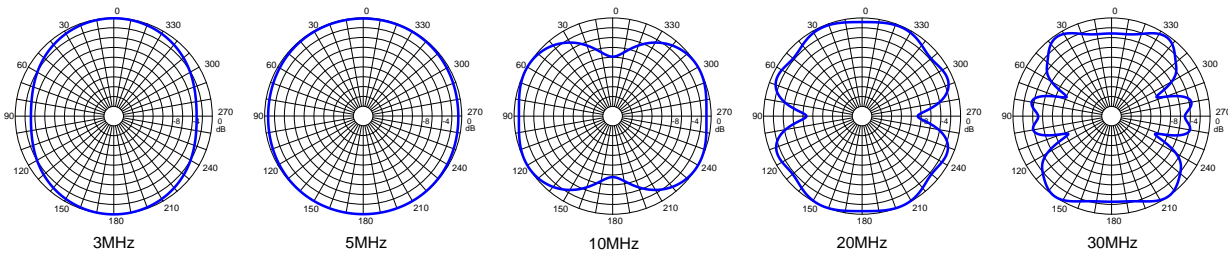
Packed Weight (less mast and balun) [kg]	44
Packed Size (less mast/balun) [mm]	1000 x 700 x 350
Packed Weight (mast) [kg]	155
Packed Size (mast) [mm]	380 x 200 x 4800

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

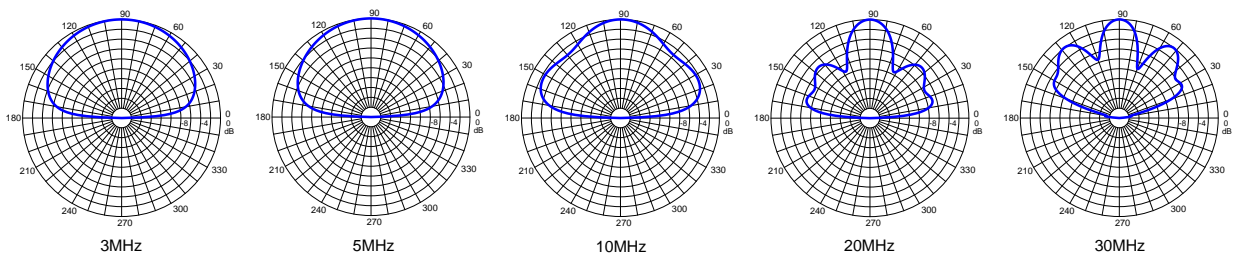
Delta Antenna DC Series 3 - 30 MHz

Patterns over average ground

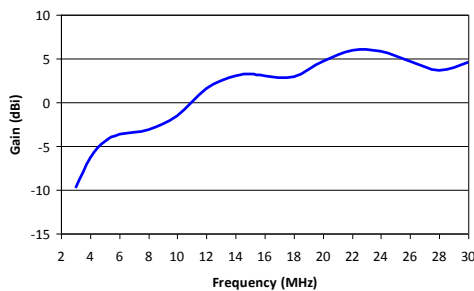
Azimuth Radiation Patterns (at 30deg EL Angle)



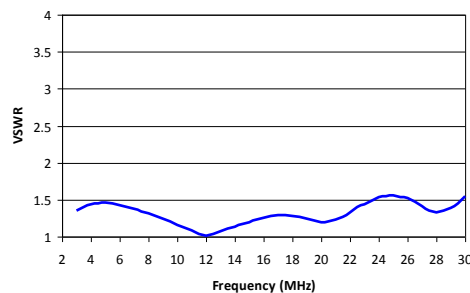
Elevation Radiation Patterns (at 45deg AZ angle)



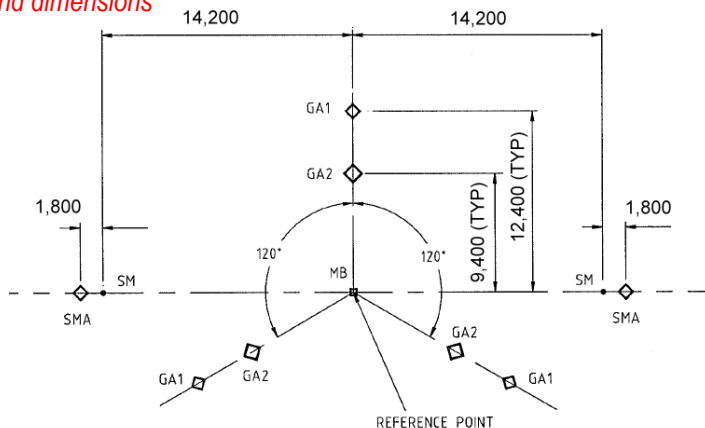
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

DC330	•	2	2	0
Model		Power Rating	Antenna Cable Type	Mast Requirements

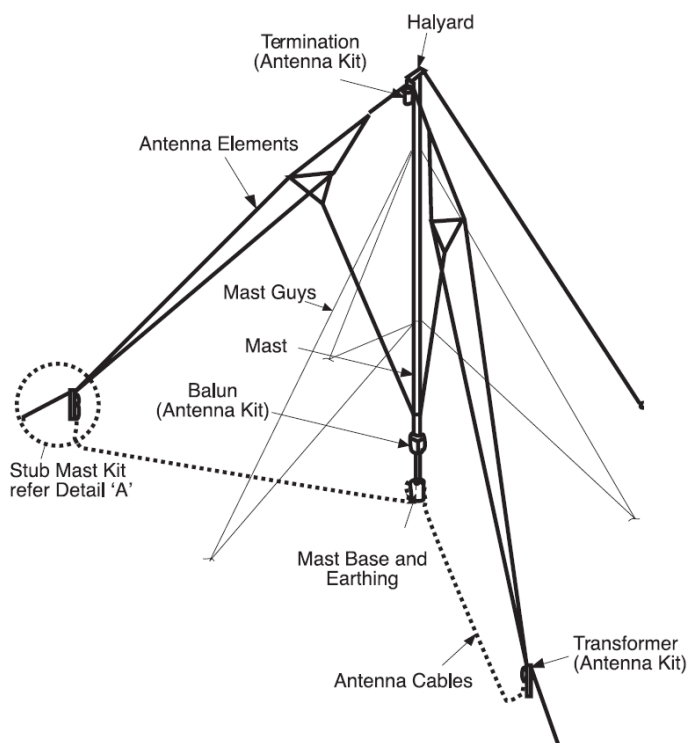
2	250 W Av	2	LCF ½"	0	None
3	1000 W Av			3	Mast, Halyard & Stub Mast Kit
				5	Mast, Halyard, Stub Mast Kit & Jury kit

Delta Antenna DDC Series 3 - 30 MHz
Product Description

This Delta antenna is designed for coverage over short to medium distances and exhibits a slightly directional, high angle radiation pattern. Radiation results from a wave travelling upwards to a resistive termination at the apex of the antenna.

Features & Benefits

- Each antenna is available with or without a support mast and is supplied complete with the appropriate balun and termination. When masts are supplied they include all installation hardware.
- The oblique elements on this antenna type are fed by coaxial cables that can be installed over or underground.
- The lack of overground wings offer advantages where personnel safety and peculiar site features are an issue.
- A central balun supplies anti-phase signals to the bottom of the oblique elements via underground coaxial cable lines and secondary balun transformers.
- These semi-directional antennas have two oblique elements set at an angle to each other supported by a common mast which creates a slightly directional pattern. Arrangement of the feed is similar to that used with the DC Series.


Specifications
Electrical

Frequency Range [MHz]	3 - 30
Impedance (Nominal)	50 ohms
Gain [dBi]	Refer chart
VSWR Less than	Less than 2.5:1
Power (Max)	250W Av. 1kW PEP or 1kW Av. 4kW PEP
Radiating Conductors	Marine grade stainless steel

Mechanical

Mast Height [m]	14
Antenna Width (W) [m]	32
RFS mast guy radius [m]	12.5
Wind Rating* (with suitable RFS mast) [km/hr]	230

Shipping Information

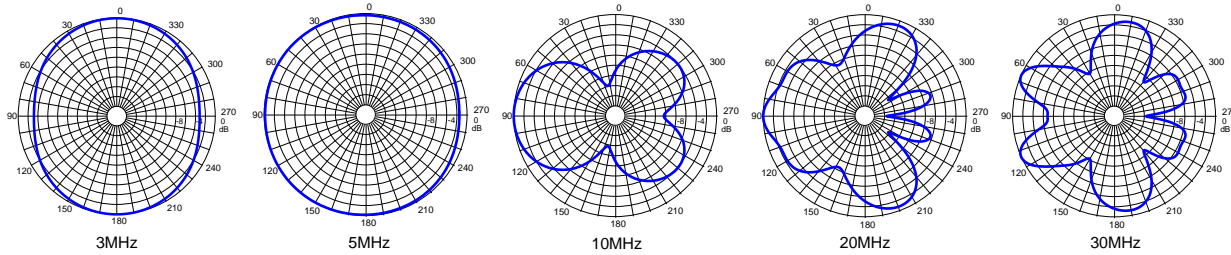
Packed Weight (less mast and balun) [kg]	44
Packed Size (less mast/balun) [mm]	1000 x 700 x 350
Packed Weight (mast) [kg]	155
Packed Size (mast) [mm]	380 x 200 x 4800

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

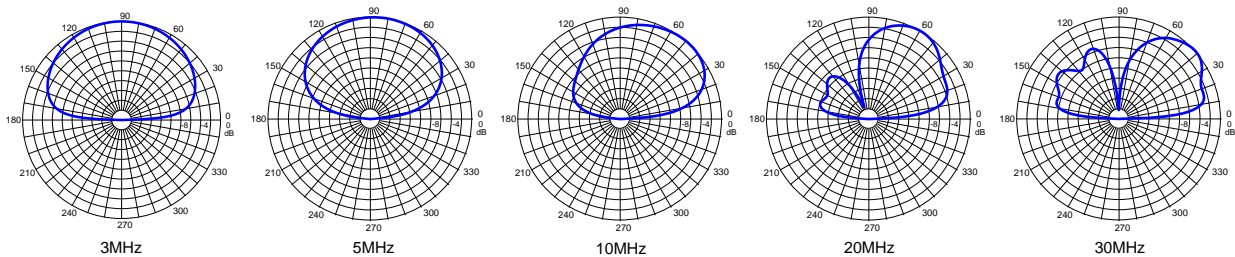
Delta Antenna DDC Series 3 - 30 MHz

Patterns over average ground

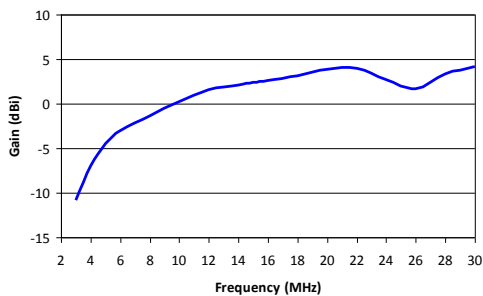
Azimuth Radiation Patterns (at 30deg EL Angle)



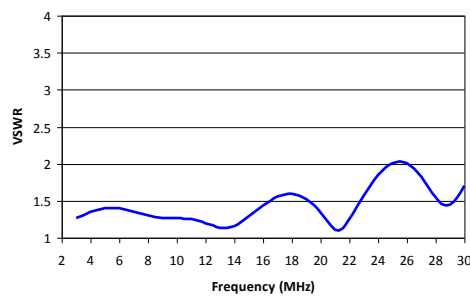
Elevation Radiation Patterns



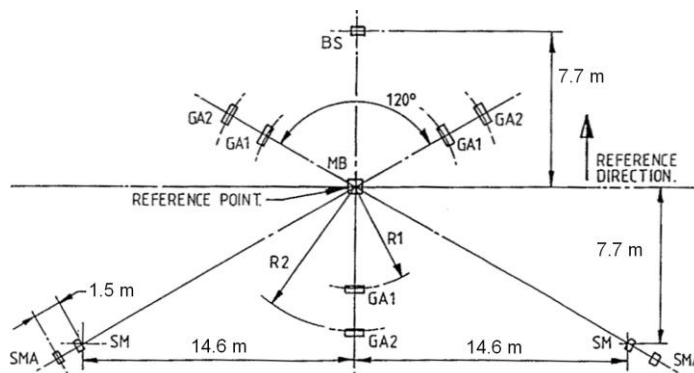
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

DDC330

Model

2

Power Rating

2

Antenna Cable Type

0

Mast Requirements

2 250 W Av

3 1000 W Av

2 LCF 1/2"

0 None

3 Mast, Halyard & Stub Mast Kit

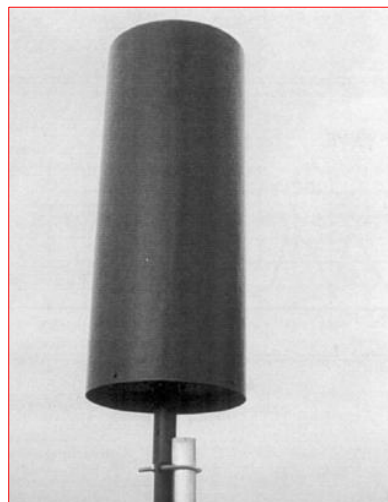
5 Mast, Halyard, Stub Mast Kit & Jury kit

VHF/UHF Dipole Antennas DTLB Series 115 - 500 MHz
Product Description

The DTLB115 is a Tactical crossband antenna covering the VHF and UHF aeroband frequencies from 115 to 500MHz. This antenna is used extensively for ground-to-air communications from control towers or shelters as well as for counter-measure operations. For detailed model specifications and ordering information please contact RFS.

Features & Benefits

- The DTLB115 antenna is made of aluminium alloy and wrapped with a polyester radome, providing excellent protection against the harshest conditions of rain, icing, sand storms, marine corrosion and industrial pollution.
- The antenna connection is via a coaxial cable which exits from the lower mounting tube: Length - 1.00m, Connector - N socket.


Specifications
Electrical

Product Line Antenna,	Tactical
Product Type	VHF/UHF Omnidirectional - Tactical Dipole Antenna
Frequency Range, [MHz]	115 - 500
Power Rating, [kW]	0.4 cw
Impedance, [ohms]	50
Polarization,	Vertical
Isotropic Gain, [dBi]	2.5
VSWR,	2:1
Half Power Beamwidth E-Plane, [degrees]	90
Half Power Beamwidth H-Plane, [degrees]	Omnidirectional
Input Connector	N type socket
Coaxial Tail Length, [cm (in)]	100 (39.4) length of RG213U

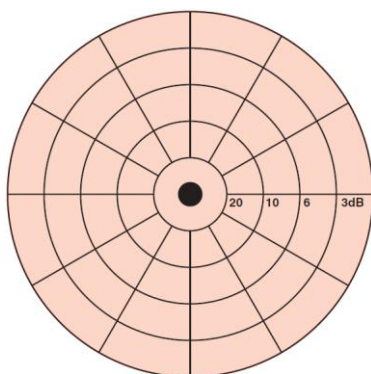
Mechanical

Operating Temperature Range, [°C (°F)]	-30 to +70 (-22 to 158)
Weight, [kg (lb)]	11.5 (25.3)
Dimensions (Height/Length), [cm (in)]	135 (53.1)
Radome Height, [cm (in)]	95 (37.4)
Radome Diameter, [cm (in)]	36 (14.2)
Mounting (Standard), [mm (in)]	Fastening by 2 rings for mast 60 - 95 (2.4 - 3.7)
Effective Area Front (full antenna), [sq m (sq ft)]	0.4 (4.30)
Wind Rating (no ice), [km/h (mph)]	220 (137)
Wind Rating (2cm Ice), [km/h (mph)]	140 (87)
Material	Aluminium alloy
Material - Radome	Polyester
Colour	Army green (IR NATO 24X5); White; Grey

VHF/UHF Dipole Antennas DTLB Series 115 - 500 MHz

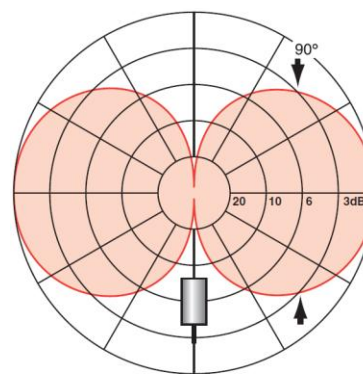
Patterns over average ground

Azimuth Radiation Patterns



Horizontal pattern
(H plane)
140MHz Frequency

Elevation Radiation Patterns



Vertical pattern
(E plane)
140MHz Frequency

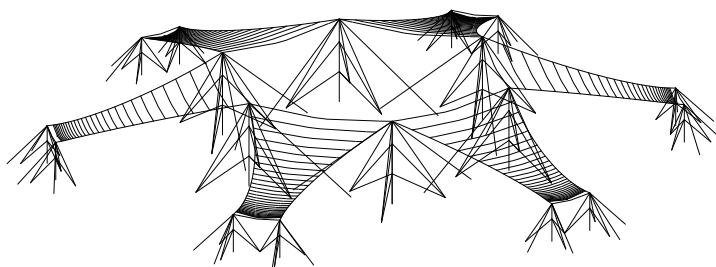
Horizontal Log Periodic Antenna 3 - 30 MHz

Product Description

The HLP Log Periodic Antenna is a high performance, directional, horizontally polarized antenna designed to provide reliable communication circuits over short, medium and long distances.

Features & Benefits

- Characterized by high gain performance while maintaining excellent front to back ratio, the HLP antennas are capable of providing coverage in excess of 5000kms.
- The broadband feature enables transmission over 3-30MHz band.
- 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.
- The HLP has been designed for incorporation within multi-element array and rosette configurations.
- The rugged design of the antenna ensures its suitability for wind velocities up to 306km/hr.



Specifications

Electrical

Frequency Range	3 - 30MHz
Input Impedance Unbalanced [ohms]	50
VSWR	< 1.8:1 Max,
Antenna Gain [dBi]	up to 12.0 (See Gain Curve)
Polarisation	Horizontal
Horizontal Pattern	Directional
Maximum Input Power [kW]	1 Average, 4 PEP, 10 Average, 20 PEP

Mechanical

Mast Height [m]	33 rear, 15 front
Antenna Ground Dimensions [m]	94 x 120
Mast & Guy Material	Galvanised Steel
Radiator Material	Copper

Environmental

Survival Wind Speed (No Ice)	306 km/hr
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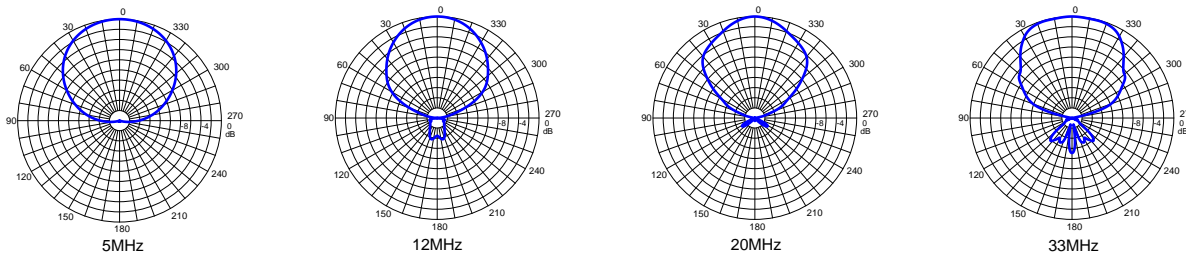
Shipping information

	Packed weight	Package Size (mm)
Antenna	TBA	TBA
Mast	TBA	TBA

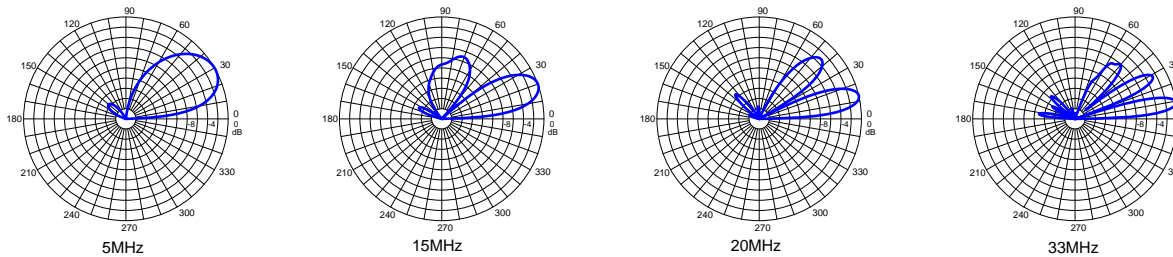
Horizontal Log Periodic Antenna 3 - 30 MHz

Patterns over average ground

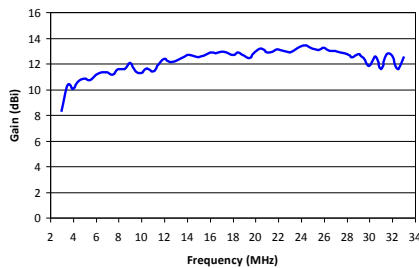
Azimuth Radiation Patterns



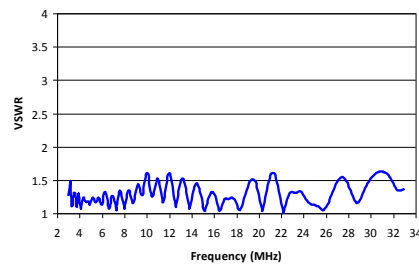
Elevation Radiation Patterns



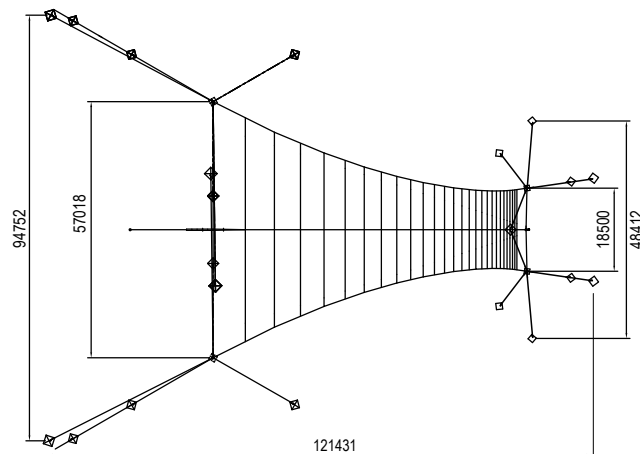
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

HLP330	•	1	0	1
Model		Input Impedance & Power	Always 0	Mast Requirements
		1 50 / 1kW		0 None
		2 50 / 10kW		1 Mast

Rotatable Log Periodic Antenna 3.8 - 30 MHz

Product Description

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

Features & Benefits

- Characterized by high gain performance, the HLR antennas are capable of providing coverage in excess of 5000kms.
- The broadband feature enables transmission over 3.8-30MHz .
- A high performance rotary joint enables continuous rotation with a complete 360° turn achieved in two minutes.
- A unique design feature of the HLR antenna series is the ability to raise and lower the antenna without the use of cranes or special erection towers.
- The rugged design of the antenna ensures its suitability for cyclonic wind velocities.



Specifications

Electrical

Frequency range, [MHz]	3.8 - 30
Gain, [dBi]	8.5-12 (see gain curve)
Polarisation	Horizontal
Azimuth Beamwidth	72 degrees typical
Impedance, [ohms]	50
Input connector	
1kW (50 ohms)	N-type
10kW (50 ohms)	1 5/8" EIA
Maximum input power, kW	1kW Average (4kW PEP), 10kW Average (25kW PEP)
VSWR	1.5:1 typical, 2:1 max (see VSWR curve)
AC Power Supply	3 phase. 115/230 V 50/60 Hz
AC Power	2kVA
Antenna Rotation	360 deg continuous

Mechanical

Mast Height, [m]	30
Mast Guy Radius, [m]	25
Wind Rating survival no ice, [km/h]*	289 and 306 (two different models)
Temperature range [deg C]	-30 to +60

Shipping information

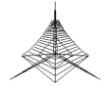
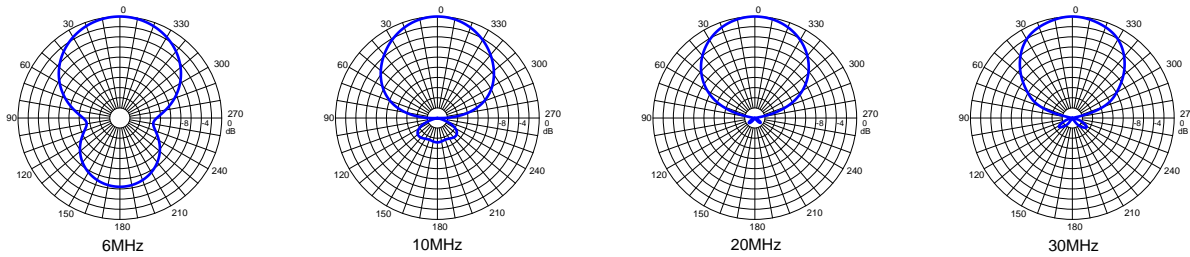
	Packed weight [kg]	Packed size [mm]
Antenna	TBA	TBA
Mast	TBA	TBA
T1000-520 balun	4	included with antenna
T10K-520 balun	70	920 x 660 x 570

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

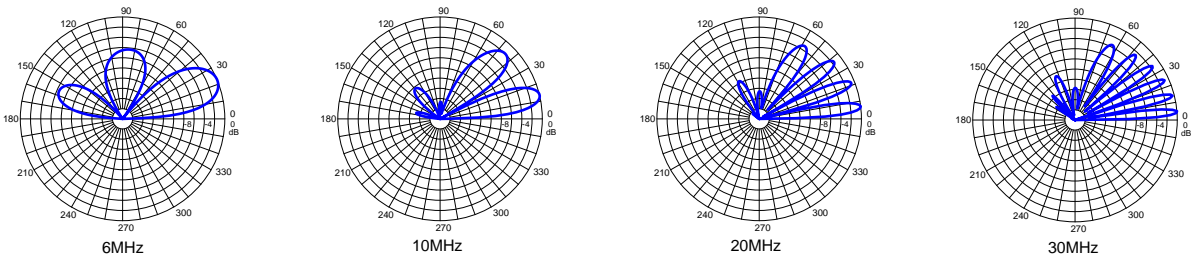
Rotatable Log Periodic Antenna 3.8 - 30 MHz

Patterns over average ground

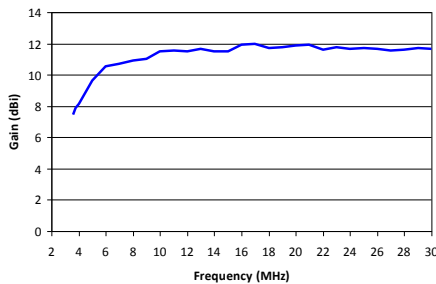
Azimuth Radiation Patterns



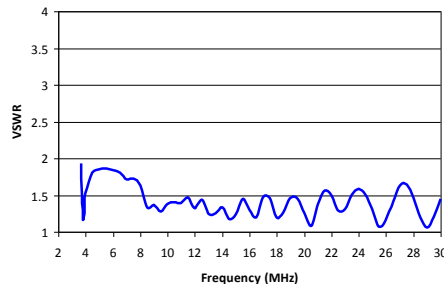
Elevation Radiation Patterns



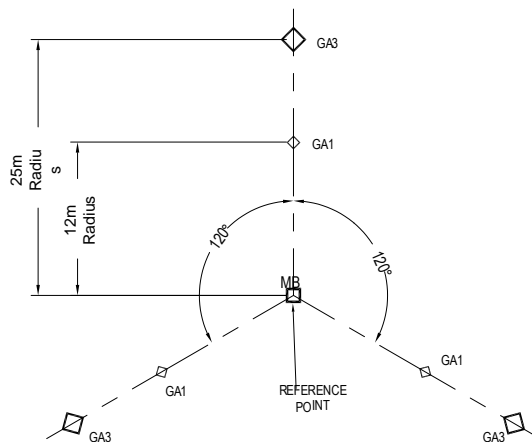
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

HLR430	• 1	0	1
Model	Input Impedance & Power	Always 0	Mast Requirements
	1 50 / 1kW		0 None
	2 50 / 10kW		1 Mast

Semidelta Antenna SD Series 2 - 14 MHz

Product Description

An economical, broadband, omni-directional travelling wave antenna, the SD214 is designed for coverage over short to medium distances and exhibit essentially an omni-directional high angle radiation pattern. Two versions are available, one rated at 100W average, the other, 500W average.

Features & Benefits

- The SD214 is simple to install and erection can be carried out by unskilled personal within 30 minutes.
- A halyard is incorporated for ease of erection and enables the antenna to be deployed from a wide range of support structures.
- A simple metal stake or pipe is required to secure the lower end of the antenna provide a ground connection and affix the supplied input balun.



Specifications

Electrical

Frequency Range [MHz]	2 - 14
Impedance (Nominal) [ohms]	50 - unbalanced
VSWR (Average Ground)	2.0:1 - typical, 2.5:1 maximum
Power Rating [W]	100 Av 400 PEP or 500 Av 2000 PEP
Radiating Conductors	Marine Grade stainless steel
Radiation Patterns	See diagrams

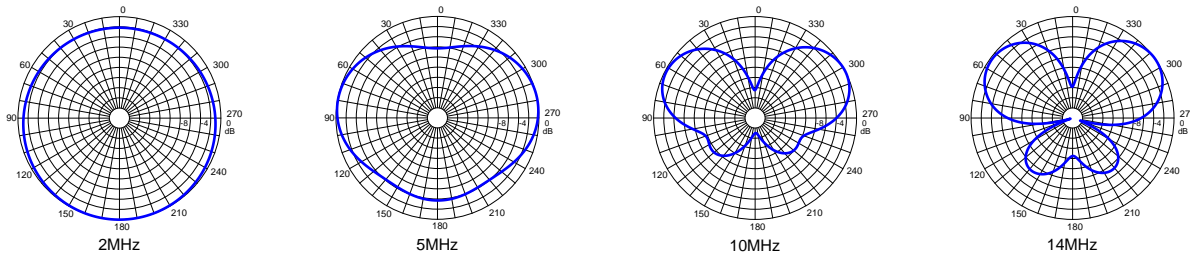
Mechanical

Connector	N-type socket
Packed weight [kg]	7

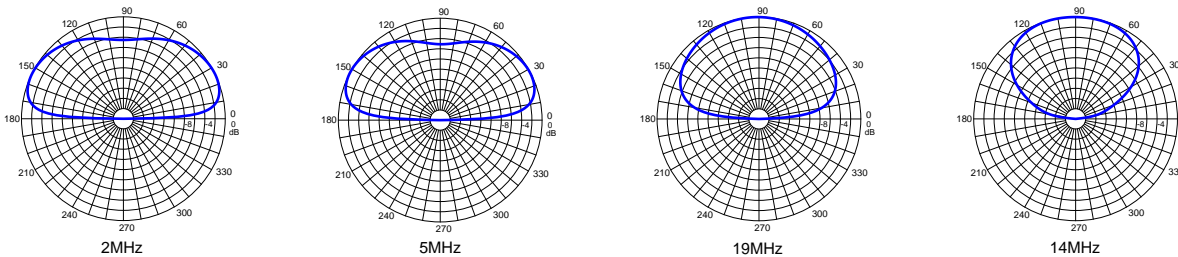
Semidelta Antenna SD Series 2 - 14 MHz

Patterns over average ground

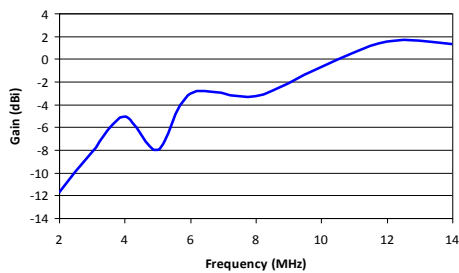
Azimuth Radiation Patterns (at 30deg EL Angle)



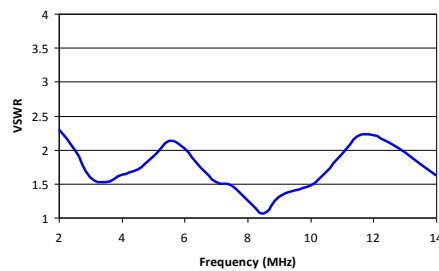
Elevation Radiation Patterns



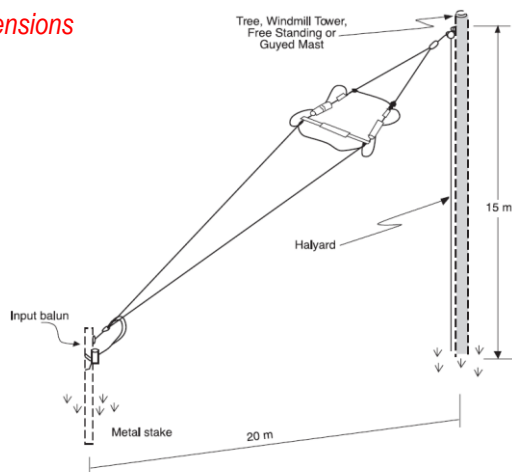
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

SD214	•	0	0	0
Model		Power Rating	Always 0	Always 1
		0 100 W Av		
		1 500 W Av		

Tactical Semidelta Antenna 2 - 30MHz

Product description

The RFS Model SD230T antenna is a transportable, broadband, lightweight, traveling wave antenna for short to medium range ionospheric communications.

Features & Benefits

- Designed specifically for use by the defense forces or emergency services, this antenna can be erected within 20 minutes on an existing mast.
- Supplied in a canvas carry bag, the SD230T antenna comes complete with wire elements, balun transformer, terminations, halyard and pulley assembly, stub mast and counterpoise earth system. Normally a user supplied item, the main mast is available as an option if required. A counterpoise earth system is provided for use when the antenna is erected over soil with poor conductivity or over concrete.
- To aid in the rapid deployment of the SD230T antenna, the wire elements are made of a plastic coated, highly flexible copper braid reinforced with Kevlar fibers. These wire elements are wound on formers for ease of storage. The balun transformer and terminations are sealed to prevent the ingress of moisture and to reduce the possibility of damage to these components during normal usage.
- The SD230T is also available with stainless steel wire elements



Specifications

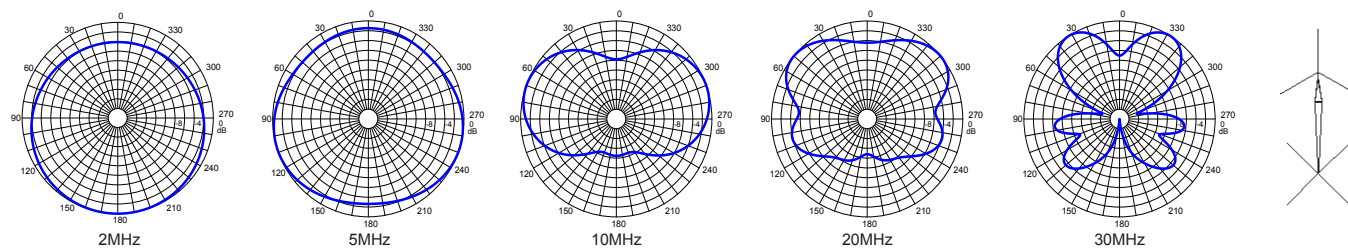
Frequency Range, MHz	2 - 30
Power Rating, kW	0.2 Average 0.6 PEP, 1.0 Average 3.0 PEP
Impedance, ohms	50 unbalanced
Azimuth Radiation Pattern	Non-directional
VSWR	<2.5:1 for 2 to 30MHz
Input Connector	N type socket
Mast/Antenna Height, m (ft)	12 (39.4) +/- 1.5 (4.9)
Ground Dimensions, m (ft)	22.5 (73.8) x 2 (6.6) ¹
Packed weight, kg	17
Packed dimensions, cm	70 x 43 x 32

Note¹: Ground area excludes mast guys and counterpoise

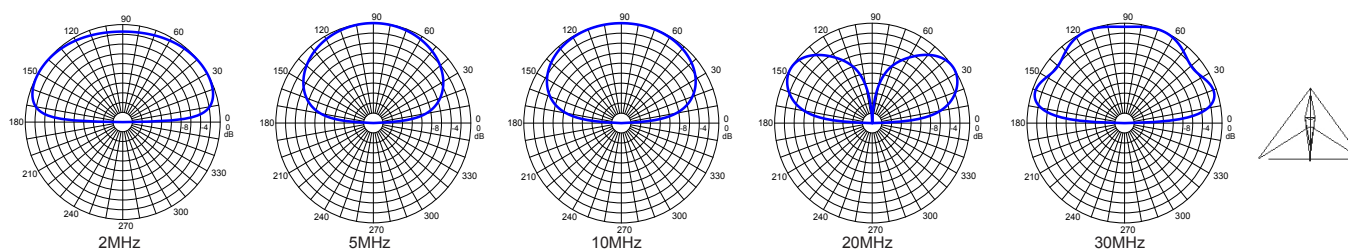
Tactical Semidelta Antenna 2 - 30MHz

Patterns over average ground

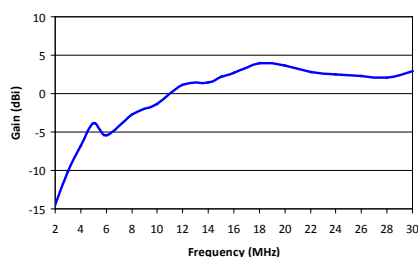
Azimuth Radiation Patterns



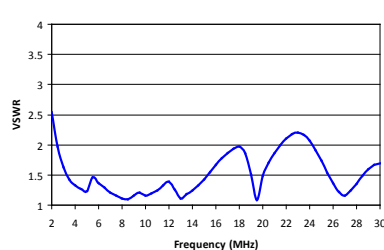
Elevation Radiation Patterns



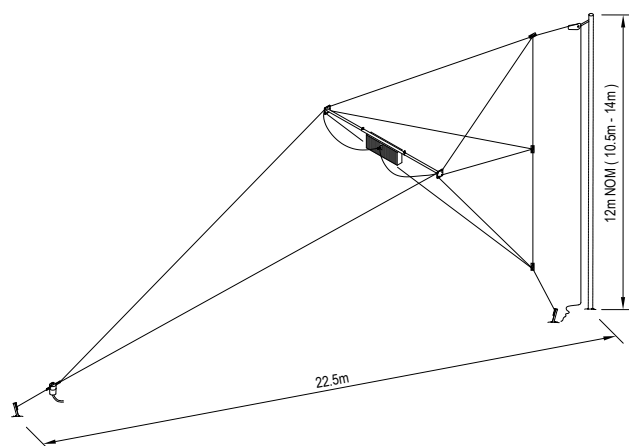
Gain (dBi)



VSWR - Over average ground



Antenna ground dimensions



Ordering information

1. Specify Model
2. Specify Power requirements
3. Wire element material

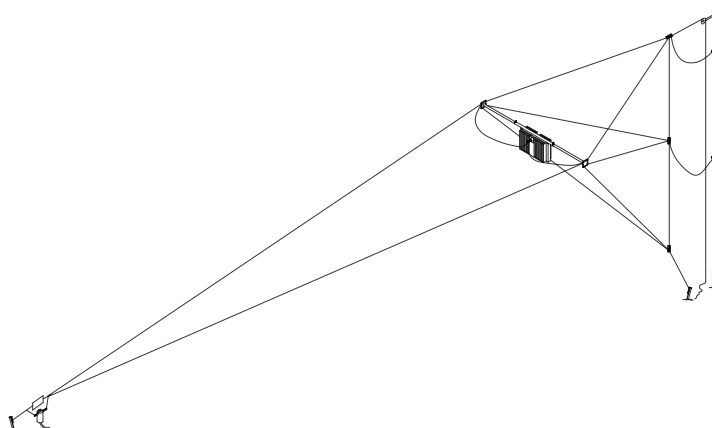
SD230T	•	0	1	0
Model		Input Power	Always 1	Wire element material
		0 200W		0 Copper braid
		1 1kW		1 Stainless steel

Tactical Semidelta Antenna 0.5 - 30MHz
Product Description

The SD0530T series of antennas are transportable, broadband, lightweight, travelling wave antenna for short to medium range ionospheric communications. Polarization is horizontal and pattern essentially omnidirectional.

Features & Benefits

- Designed specifically for use by the defence forces or emergency services, this antenna can be erected in a short amount of time on an existing mast.
- Supplied in a canvas carry bag, the SD0530T antenna comes complete with wire elements, balun transformer, terminations, halyard and pulley assembly, stub mast and counterpoise earth system. The main mast is normally a user supplied item. A counterpoise earth system is provided for use when the antenna is erected over soil with poor conductivity or over concrete.
- The wire elements are made of stainless steel wire. These wire elements are wound on formers for ease of storage. The balun transformer and terminations are sealed to prevent the ingress of moisture and to reduce the possibility of damage to these components during normal usage.


Specifications
Electrical

Frequency Range	0.5 - 30MHz
Input Impedance	300 ohms
VSWR	2.5:1 max, 1.6:1 average
Antenna Gain	Up to 3dBi (See Gain Curve)
Horizontal Pattern	Non directional
Maximum Input Power	200 W Average (600 W PEP)

Mechanical

Mast Height [m]	12
Ground Dimensions [m]	39 x 14 (not including mast and guys)
Radiator Material	Stainless Steel

Environmental

Temperature	-20 to +60 deg C
Survival Wind Speed (No Ice)	130 km/hr

Shipping information

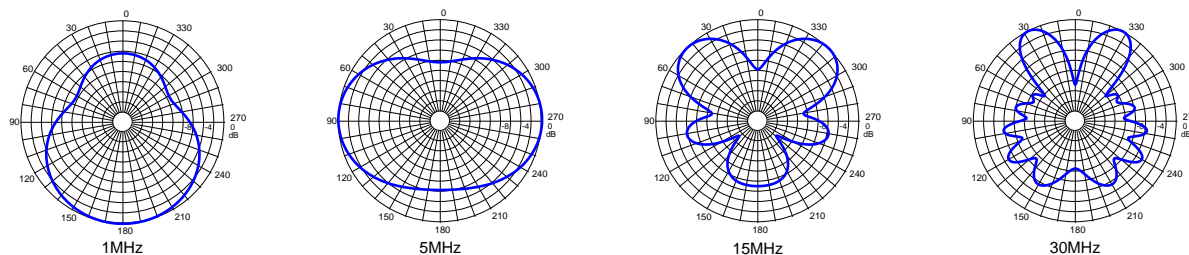
	Packed weight	Package Size (mm)
Antenna and carry bag	TBA	TBA

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

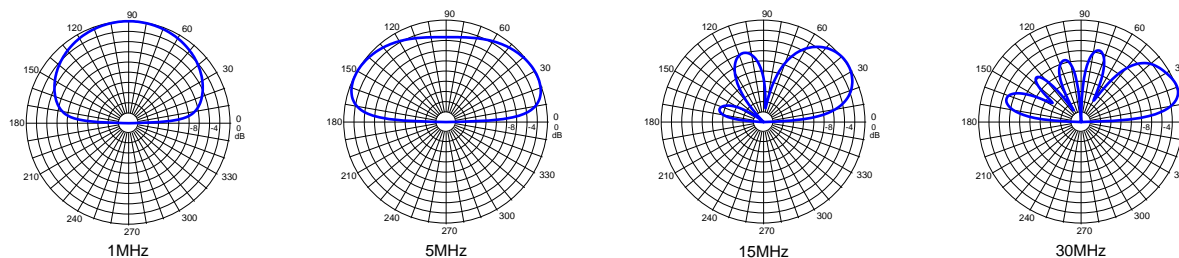
Tactical Semidelta Antenna 0.5 - 30MHz

Patterns over average ground

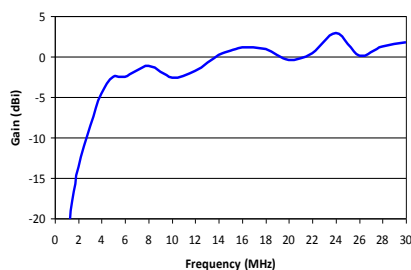
Azimuth Radiation Patterns



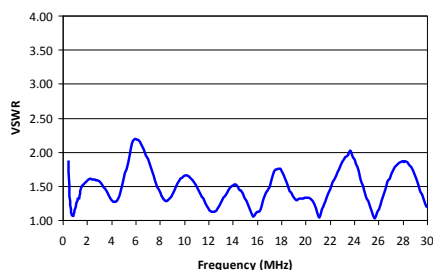
Elevation Radiation Patterns



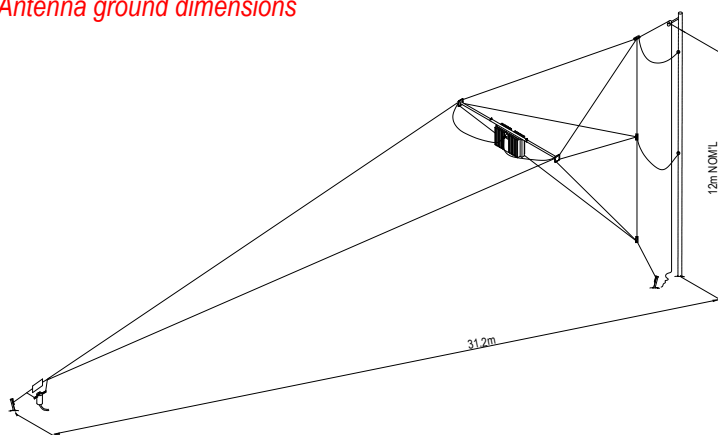
Gain



VSWR – over average ground



Antenna ground dimensions



Sloping Triangle Antenna 3 - 30MHz

Product description

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

Characterised 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.

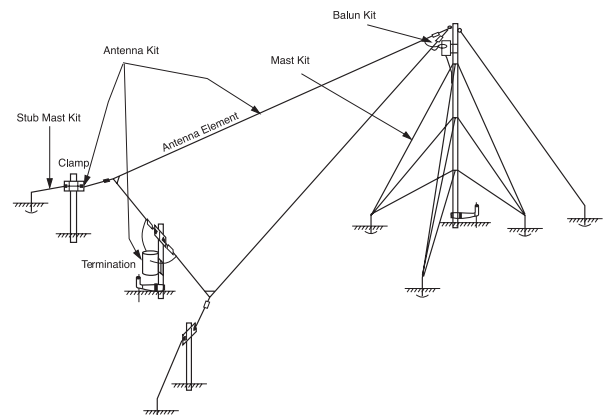
The antenna comprises two sloping wires resistively terminated at the centre point of the vee near ground level. The apex of the vee is supported by a suitable mast whilst the antenna is fed via a balun transformer at the mast head.

The ST series is available with or without mast systems of which two versions are available:

- Tubular aluminium (MA)
- Triangular galvanized steel (for high wind loading) (MS)

Features & Benefits

- Broadband 3-30MHz, ideal for multi-channel or frequency agile synthesized HF radio equipment.
- 250W and 1000W versions available
- Directional pattern



Specifications

Electrical

Frequency Range [MHz]	3 - 30	
Polarization	Horizontal	
Power Rating-Average	Optional to 1kW	
VSWR	Typically less than 2:1, Max. 2.5:1	
Power Gain	Refer Figures	
Radiation Pattern	Directional	
Connector	"N" Socket	

Mechanical

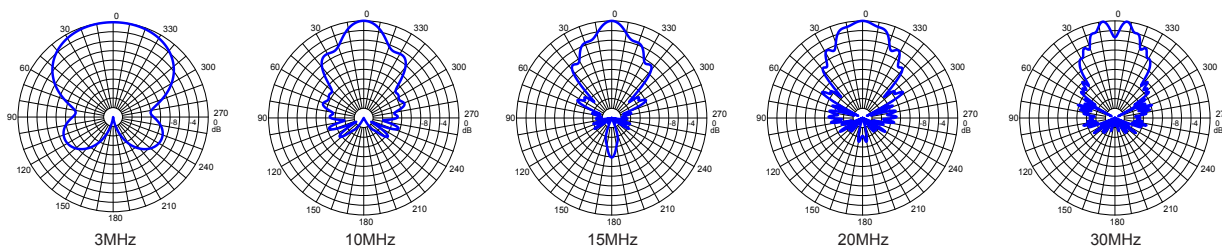
Mast Height [m]	19	15.5
Mast Guy Radius [m]	14	11
Ground Dimensions*		
Vee Length [m]	100	
Vee Width [m]	80	
Wind Rating		
With RFS aluminium tubular Mast (Series MA1)** [km/hr]	160	
With RFS Steel Lattice Mast (Series MS3)*** [km/hr]	200	

* Additional space must be allowed for main mast guys.
Wind ratings are calculated to Australian Standards AS1170.2:2011

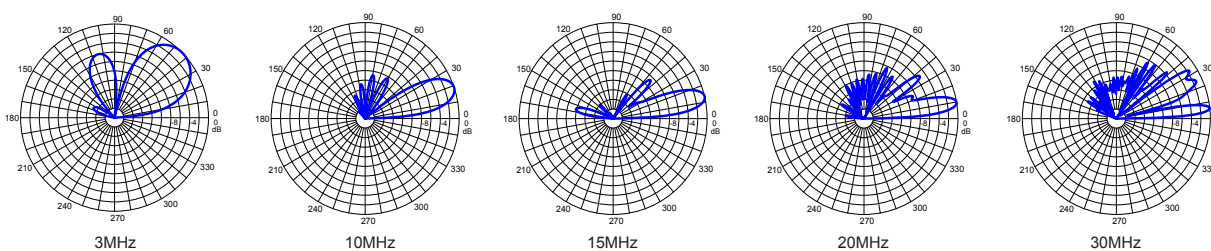
Sloping Triangle Antenna 3 - 30MHz

Patterns over average ground

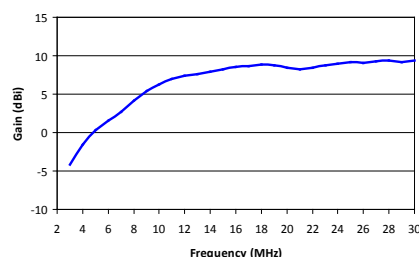
Azimuth Radiation Patterns



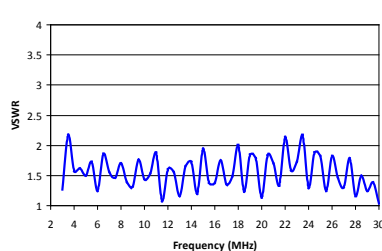
Elevation Radiation Patterns



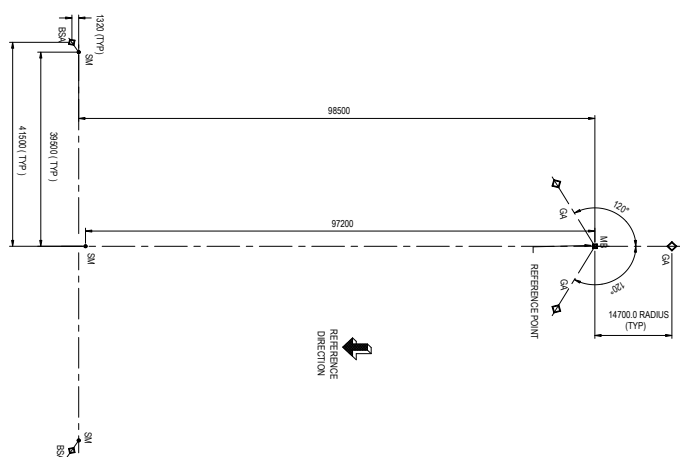
Gain (dBi)



VSWR



Antenna ground dimensions



Ordering information

1. Specify Model
2. Specify power rating (Av)
3. Specify Mast Requirements

ST 330

Model

1

Power/
Impedance

1

Wind
Rating

0

Mast
Requirements

2

250W Av./50Ω

3

1kW Av./50Ω

4

1kW Av./600Ω

1

160km/h

2

200km/h

0

None

1

Mast and Stub
Mast kit (MA)

2

Mast and Stub
Mast kit (MS)

4

Stub Mast

Sloping Triangle Antenna 5 - 30MHz

Product description

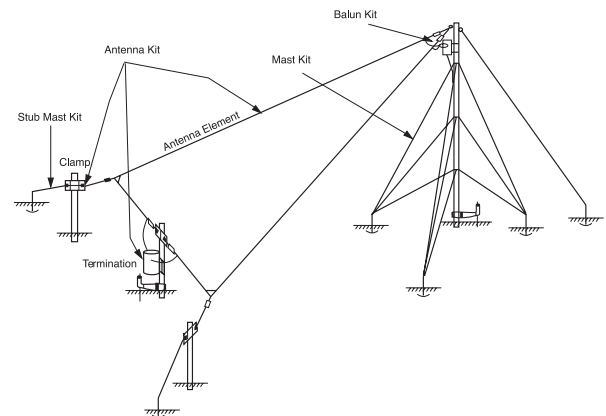
These simple low cost broadband horizontally polarized antennas are designed for medium to long range transmission or receiving applications.

Characterised 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 comprises two sloping wires resistively terminated at the centre point of the vee near ground level. The apex of the vee is supported by a suitable mast whilst the antenna is fed via a balun transformer at the mast head.

The ST series is available with or without mast systems of which two versions are available:

- Tubular aluminium (MA)
- Triangular galvanized steel (for high wind loading) (MS)



Features & Benefits

- Broadband 5-30MHz, ideal for multi-channel or frequency agile synthesized HF radio equipment.
- 250W and 1000W versions available
- Directional pattern

Specifications

Electrical

Frequency Range [MHz]	5 - 30
Polarization	Horizontal
Power Rating-Average	Optional to 1kW
VSWR	Typically less than 2:1, Max. 2.5:1
Power Gain	Refer Figures
Radiation Pattern	Directional
Connector	"N" Socket

Mechanical

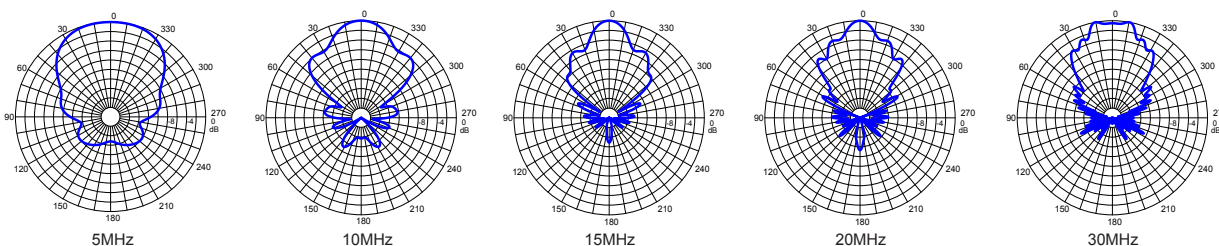
Mast Height [m]	15.5
Mast Guy Radius [m]	11
Ground Dimensions*	
Vee Length [m]	80
Vee Width [m]	63
Wind Rating	
With RFS aluminium tubular Mast (Series MA1)** [km/hr]	160
With RFS Steel Lattice Mast (Series MS3)*** [km/hr]	230

* Additional space must be allowed for main mast guys.
Wind ratings are calculated to Australian Standards AS1170.2:2011

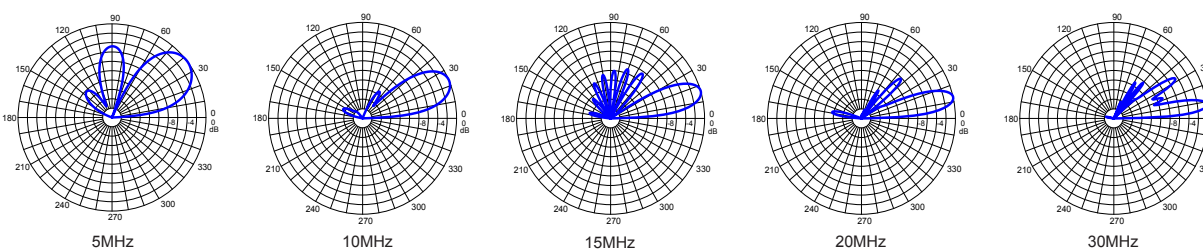
Sloping Triangle Antenna 5 - 30MHz

Patterns over average ground

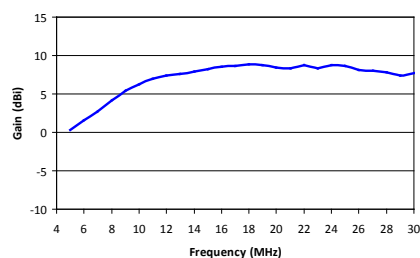
Azimuth Radiation Patterns



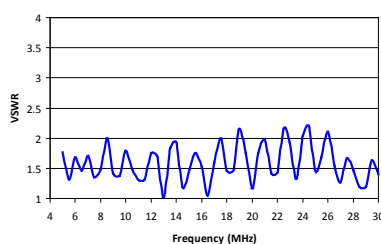
Elevation Radiation Patterns



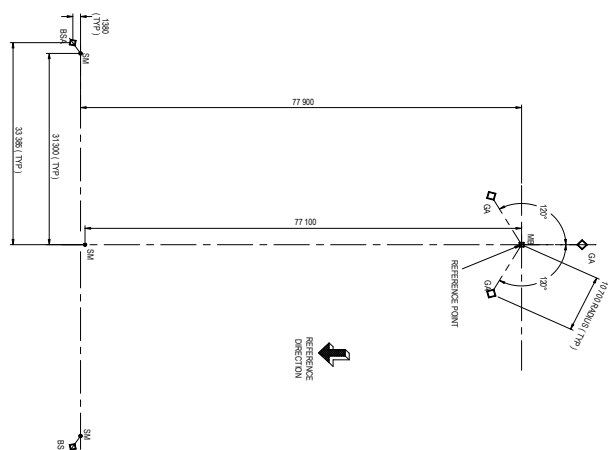
Gain (dBi)



VSWR



Antenna ground dimensions



Ordering information

1. Specify Model
2. Specify power rating (Av)
3. Specify Mast Requirements

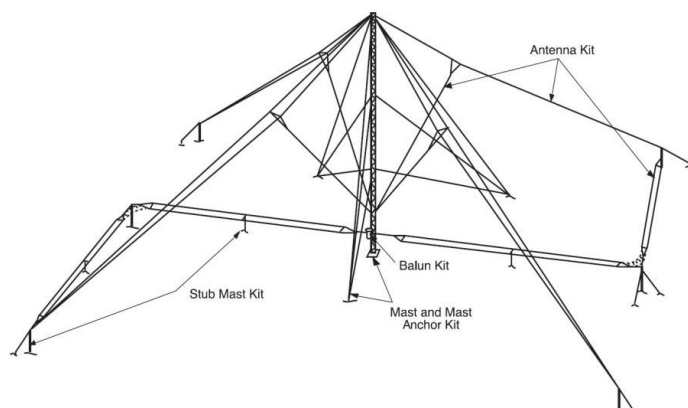
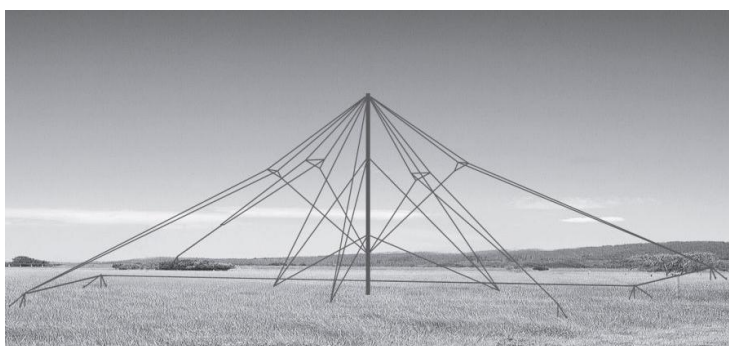
ST 530	1	1	0
Model	Power/ Impedance	Wind Rating	Mast Requirements
	2 250W Av./50Ω 3 1kW Av./50Ω 4 1kW Av./600Ω	1 160km/h 2 230km/h	0 None 1 Mast and Stub Mast kit (MA) 2 Mast and Stub Mast kit (MS) 4 Stub Mast

Tandem Delta Antenna TDG Series 2 - 30 MHz
Product Description

A high angle radiating antenna designed for ionospheric propagation over short to medium distances. Specifically designed for ground to air systems utilising high performance and reliability

Features & Benefits

- The Tandem Delta is a derivation of the RFS series of delta antennas.
- Unlike the standard delta or other travelling wave antennas, where radiation results from a wave travelling upward to a resistive termination at the apex, the Tandem Delta does not incorporate a terminating resistor. All input power is therefore radiated and, in consequence, these new antennas have a higher gain than the standard delta. Furthermore, removal of the terminating resistor means that higher power ratings are more readily achieved.
- Because of its high radiation angle characteristics, the Tandem delta antenna is less prone to long distance interference and local electrical noise. It is strongly recommended for high grade communication networks.
- Tandem Delta antennas operate completely independently of ground conditions. Their polarisation is elliptical.
- RFS masts, and stubmasts for this antenna, are available as options.


Specifications
Electrical

Frequency Range [MHz]	2 - 30
Gain [dBi]	See gain curve
Impedance [ohms]	600 balanced, 50 unbalanced with balun
Power (Max) [kW]	1.0 AV 4 PEP or 10 AV 40 PEP
VSWR	2.5:1 max
Radiation pattern	Refer charts
Polarization	elliptical

Mechanical

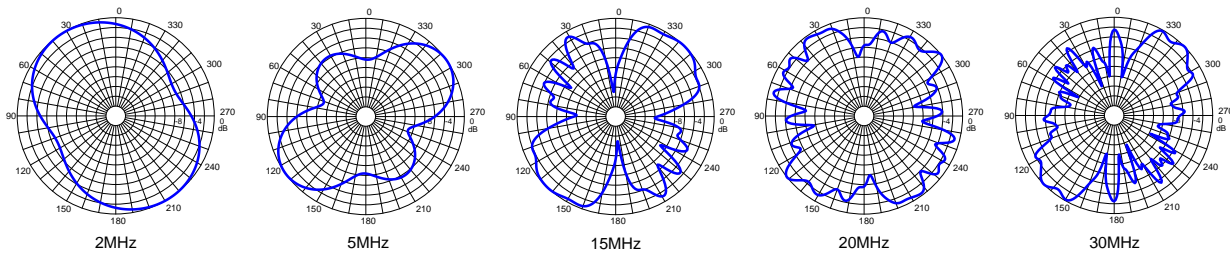
Radiating Conductors	1 kW - Marine grade stainless steel, 10 kW - Copper
Mast height [m]	30.5
Ground dimensions [m]	92 x 92
Wind rating* [km/h]	160
Packed weight [kg]	1300
Packed volume [m3]	8

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

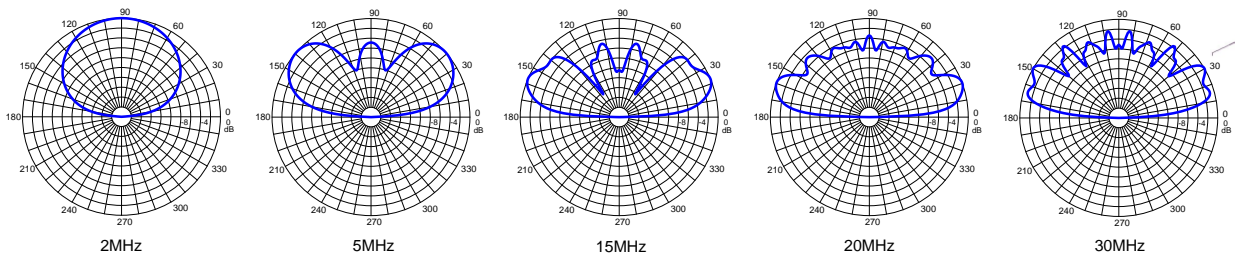
Tandem Delta Antenna TDG Series 2 - 30 MHz

Patterns over average ground

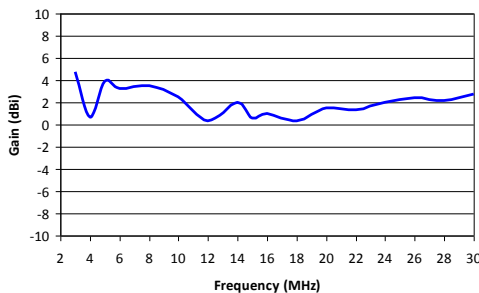
Azimuth Radiation Patterns (at 30deg EL Angle)



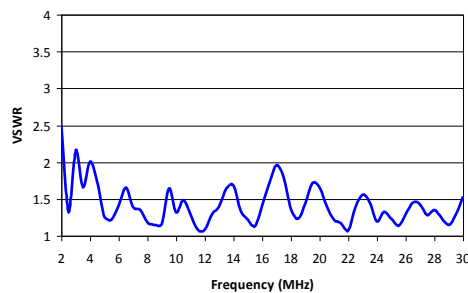
Elevation Radiation Patterns (at 36deg AZ Angle)



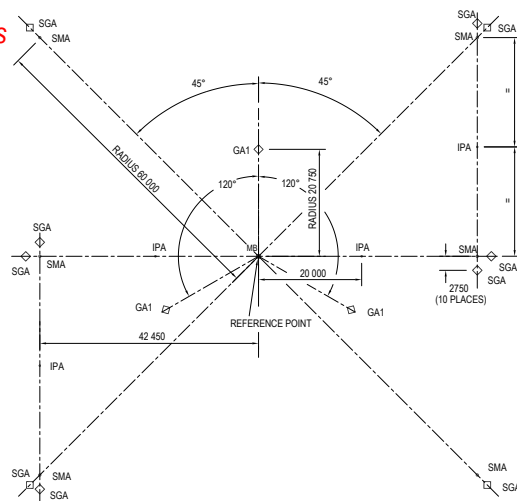
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

TDG230 • 1 1 0
Model Input Impedance / power Always 1 Mast Requirements

0 600 ohm/10kW
2 50 ohm/1kW
3 50 ohm/10kW

0 None
3 Mast, Anchor & Stub Mast Kit

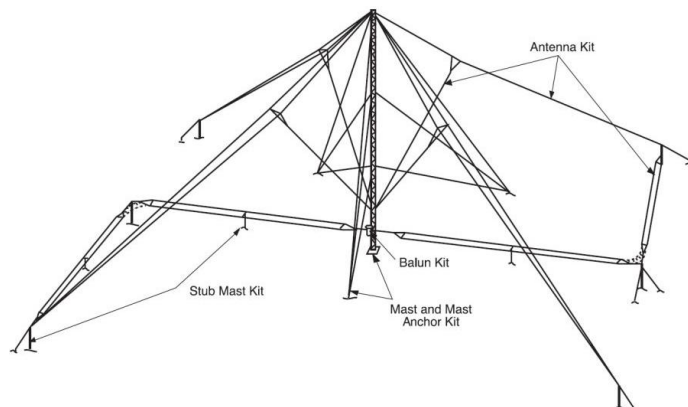
Tandem Delta Antenna TDG Series 3 - 30 MHz

Product Description

A high angle radiating antenna designed for ionospheric propagation over short to medium distances. Specifically designed for ground to air systems utilising high performance and reliability

Features & Benefits

- The Tandem Delta is a derivation of the RFS series of delta antennas.
- Unlike the standard delta or other travelling wave antennas, where radiation results from a wave travelling upward to a resistive termination at the apex, the Tandem Delta does not incorporate a terminating resistor. All input power is therefore radiated and, in consequence, these new antennas have a higher gain than the standard delta. Furthermore, removal of the terminating resistor means that higher power ratings are more readily achieved.
- Because of its high radiation angle characteristics, the Tandem delta antenna is less prone to long distance interference and local electrical noise. It is strongly recommended for high grade communication networks.
- Tandem Delta antennas operate completely independently of ground conditions. Their polarisation is elliptical.
- RFS masts, and stubmasts for this antenna, are available as options.



Specifications

Electrical

Frequency Range [MHz]	3 - 30
Gain [dBi]	See gain curve
Impedance [ohms]	600 balanced, 50 unbalanced with balun
Power (Max) [kW]	1.0 AV 4 PEP or 10 AV 40 PEP
VSWR	2.5:1 max
Radiation pattern	Refer charts
Polarization	Elliptical

Mechanical

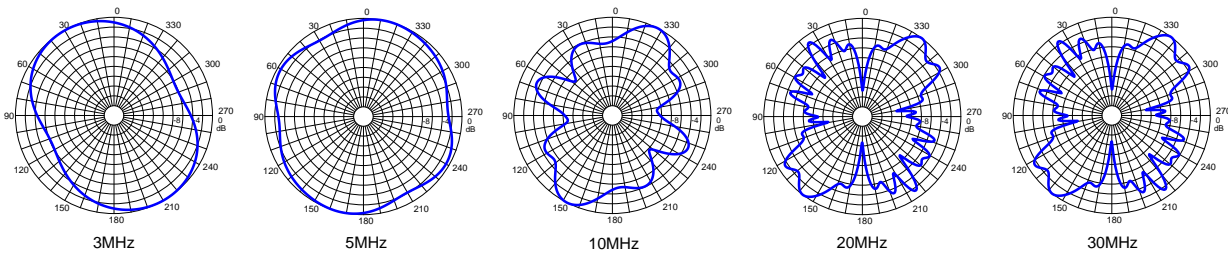
Radiating Conductors	1 kW - Marine grade stainless steel, 10 kW - Copper
Mast height [m]	21.5
Ground dimensions [m]	60 x 60
Wind rating* [km/h]	180
Packed weight [kg]	860
Packed volume [m3]	6

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

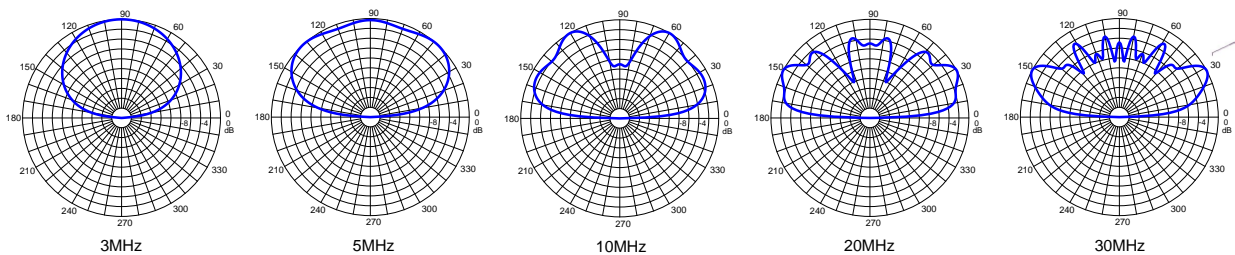
Tandem Delta Antenna TDG Series 3 - 30 MHz

Patterns over average ground

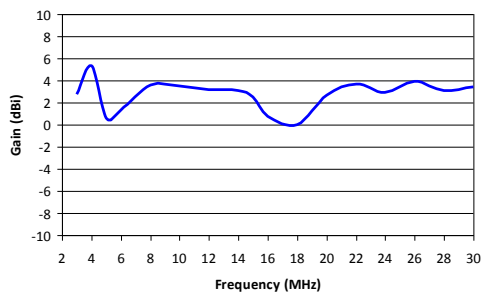
Azimuth Radiation Patterns (at 30deg EL Angle)



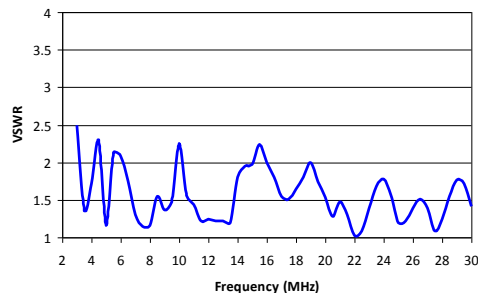
Elevation Radiation Patterns (at 36deg AZ Angle)



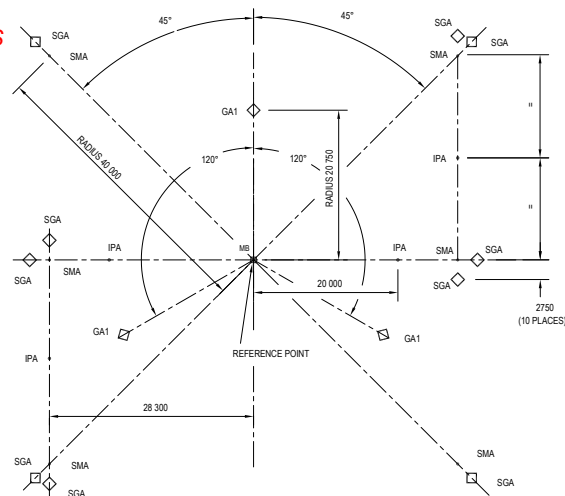
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

TDG330 • 1 1 0
 Model Input Impedance / power Always 1 Mast Requirements

0 600 ohm/10kW
 2 50 ohm/1kW
 3 50 ohm/10kW

0 None
 3 Mast, Anchor & Stub Mast Kit

Travelling Wave Dipoles 2 - 30MHz

Product description

These horizontally polarised antennas are suitable for short to medium distance coverage and provide an economical option to the full Biconical dipole where cost and real estate may be an issue.

Pattern is essentially omnidirectional, however for long distances links the dipole should be orientated broadside to the required direction of communication.

The TWD series is available with two average input power option 250 watts and 1000 watts.



Features & Benefits

- Broadband 2-30MHz, ideal for multi-channel or frequency agile synthesized HF radio equipment.
- 250W and 1000W versions available
- Omnidirectional pattern

Specifications

Electrical

Frequency range [MHz]	2 – 30
Input impedance	50 ohms unbalanced
Input connector	
250W (50 ohms)	"N" Type
1kW (50 ohms)	"N" Type
VSWR	<2.5:1 Max, (see VSWR curve)
Antenna gain	Typically 6-8 (See gain curve)
Polarisation	Horizontal
Horizontal pattern	Essentially omnidirectional
Max Input power	250W Average, 1kW PEP 1kW Average, 4kW PEP

Mechanical

Recommended mast (not supplied) Height [m]	12-18
Distance between Masts [m]	53
Antenna survival wind speed (No ice) [km/h]*	160
Spreaders	Aluminium
Insulators	Heavy duty glazed porcelain
Radiator material	Marine grade stainless steel
Termination units supplied	2

Shipping information

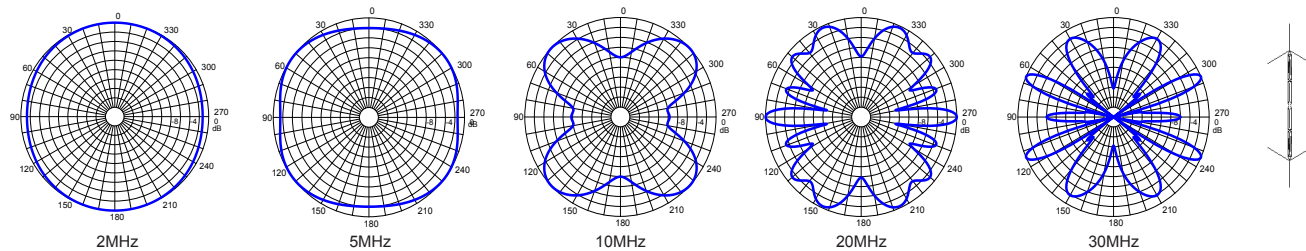
Packed weight [kg]	25
Packed volume [m3]	7.5

*Wind ratings are calculated to AS 1170.2:2011 Australian Standards:

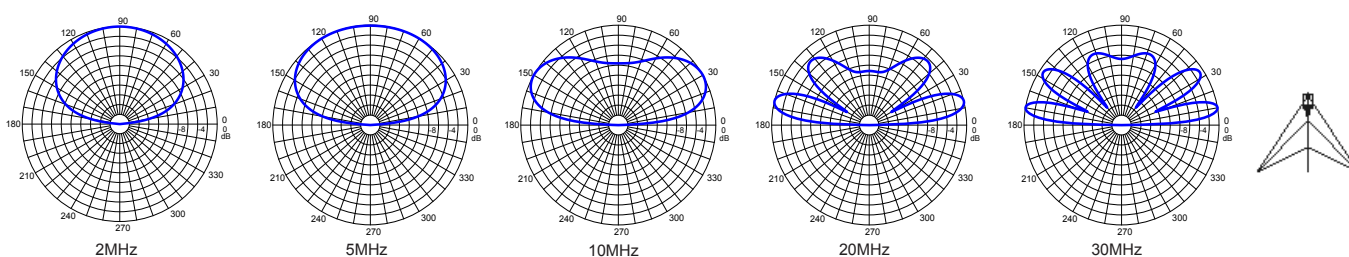
Travelling Wave Dipoles 2 - 30MHz

Patterns over average ground

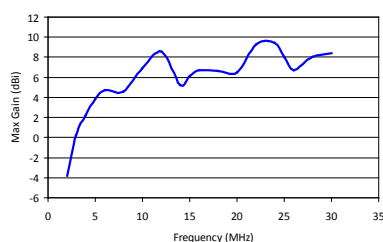
Azimuth Radiation Patterns



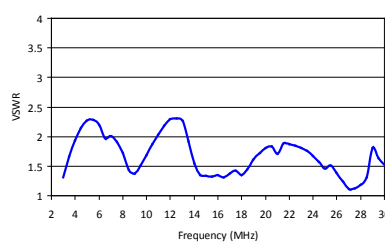
Elevation Radiation Patterns



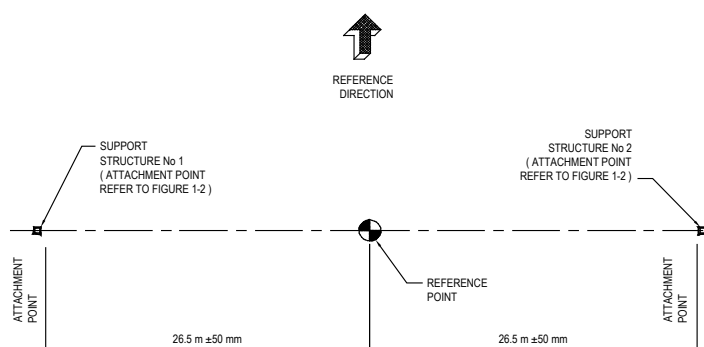
Gain (dBi)



VSWR - Over average ground



Antenna ground dimensions



Ordering information

1. Specify Model
2. Specify power rating (Av)

TWD230

Model

0

Always "0"

0

Always "0"

0

Power rating

0

250W av

1

1kW av

Travelling Wave Dipole TWD Series 3 - 30 MHz
Product Description

These horizontally polarised antennas are suitable for short to medium distance coverage and provide an economical option to the full Biconical dipole where cost and real estate may be an issue.

Pattern is essentially omnidirectional, however for long distances links the dipole should be orientated broadside to the required direction of communication.

The TWD series is available with two average input power option 250 watts and 1000 watts.


Features & Benefits

- Broadband 3-30MHz, ideal for multi-channel or frequency agile synthesized HF radio equipment.
- Suitable for fixed or tactical installations.
- The antenna can be deployed from a wide range of support structures, horizontally or on a slope.

Specifications
Electrical

Frequency Range [MHz]	3 - 30
Impedance [ohms]	50 unbalanced with balun
Maximum Input Power	250W AV 1kW PEP or 1kW AV 4kW PEP
Input Connector	"N" Type
VSWR	2.5:1 max (see VSWR curve)
Antenna Gain	See gain curve
Radiation pattern	Refer charts
Polarization	Horizontal
Horizontal Pattern	Generally Horizontal

Mechanical

Mast height [m]	10 to 15
Distance Between Masts [m]	40
Radiating Conductors	Marine grade stainless steel
Insulators	Heavy Duty Glazed Porcelain
Survival Wind Speed (no ice)* [km/h]	160
Termination units supplied	2

Shipping Information

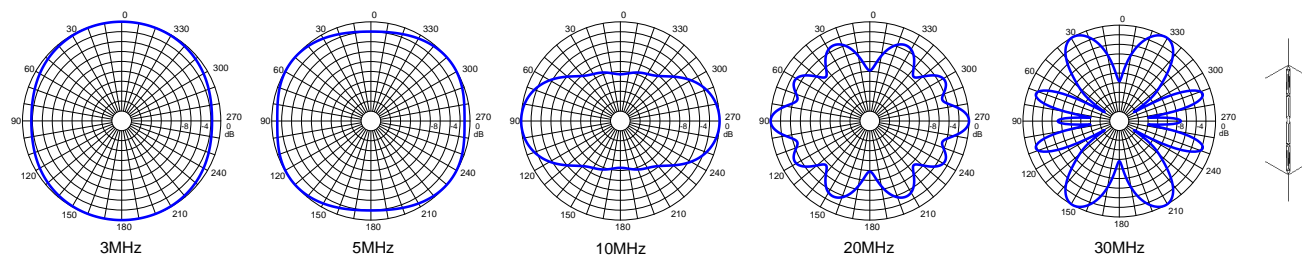
Packed weight [kg]	22
Packed volume [m3]	7.5

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

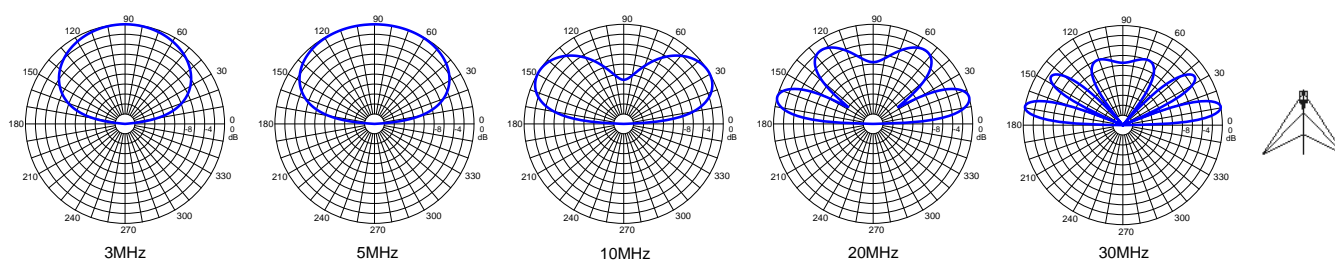
Travelling Wave Dipole TWD Series 3 - 30 MHz

Patterns over average ground

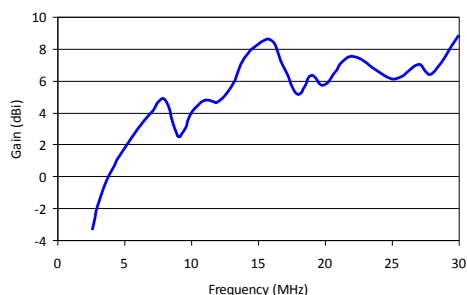
Azimuth Radiation Patterns



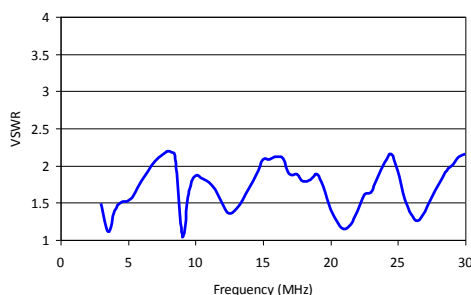
Elevation Radiation Patterns



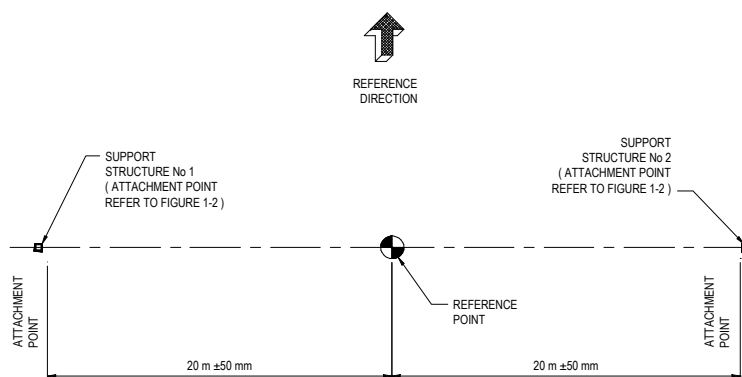
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Maximum Input Power

TWD330

• 0

0

0

Model

Always 0

Always 0

Maximum Power

0 250W av

1 1kW av

Travelling Wave Dipoles 5 - 30MHz

Product description

These horizontally polarised antennas are suitable for short to medium distance coverage and provide an economical option to the full Biconical dipole where cost and real estate may be an issue.

Pattern is essentially omnidirectional, however for long distances links the dipole should be orientated broadside to the required direction of communication.

The TWD series is available with two average input power option 250 watts and 1000 watts.



Features & Benefits

- Broadband 5-30MHz, ideal for multi-channel or frequency agile synthesized HF radio equipment.
- 250W and 1000W versions available
- Omnidirectional pattern

Specifications

Electrical

Frequency Range [MHz]	5 – 30MHz
Input Impedance	50 ohms unbalanced
Input Connector	
250W (50 ohms)	"N" Type
1kW (50 ohms)	"N" Type
VSWR	<2.5:1 Max (see VSWR curve)
Antenna Gain	See Gain Curve
Polarisation	Horizontal
Horizontal Pattern	Essentially omnidirectional
Max. Input power	250W average 1kW PEP, 1kW average 4kW PEP

Mechanical

Recommended mast height (not supplied) [m]	7-10
Distance Between Masts [m]	29
Survival Wind Speed (Antenna only - No Ice)	160 km/hr (to AS1170.2)
Spreaders	Aluminium
Insulators	Heavy Duty Glazed Porcelain
Radiator Material	Marine Grade Stainless Steel
Termination units supplied	2

Shipping information

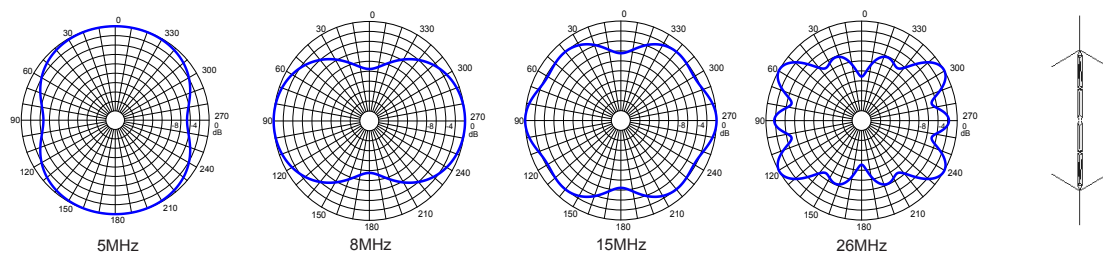
Packed weight [kg]	20
Packed volume [m3]	7.5

Note 1 Wind ratings are calculated to Australian Standard AS1170.2:2011

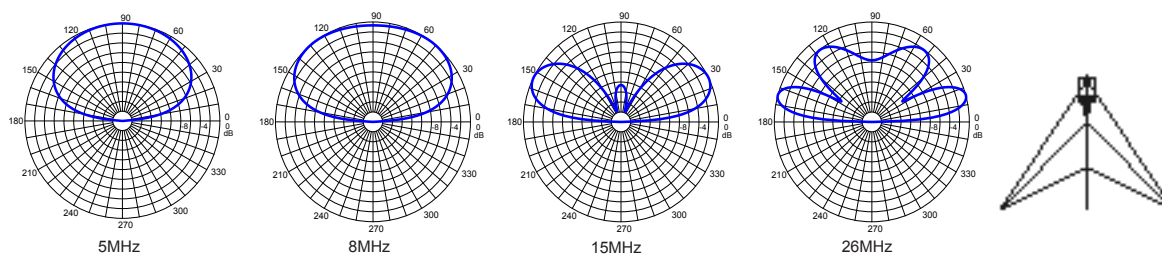
Travelling Wave Dipoles 5 - 30MHz

Patterns over average ground

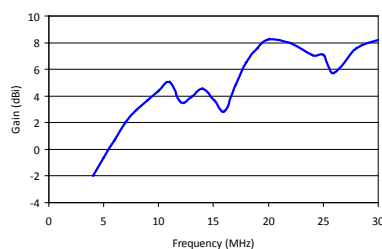
Azimuth Radiation Patterns



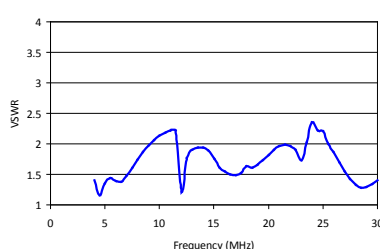
Elevation Radiation Patterns



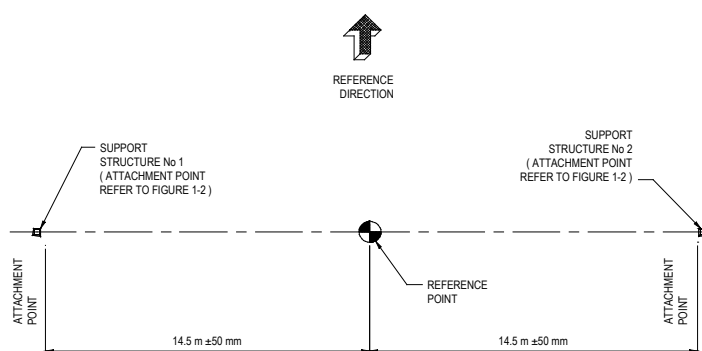
Gain (dBi)



VSWR - Over average ground



Antenna ground dimensions



Ordering information

1. Specify Model
2. Specify power rating (Av)

TWD530

Model

0

Always "0"

0

Always "0"

0

Power rating

0 250W av

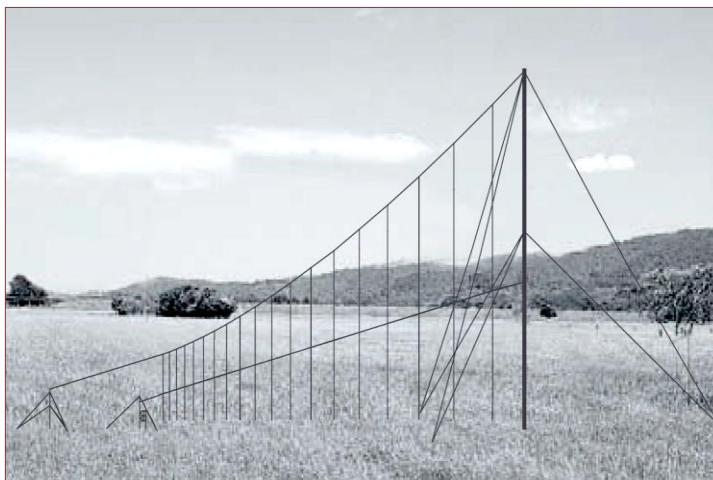
1 1kW av

Vertical Log Periodic Dipole Antenna 3.5 - 30 MHz
Product Description

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

Features & Benefits

- These antennas 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.
- The broadband feature is ideal for multi-channel or frequency agile synthesized HF radio equipment.
- Electrically steerable arrays, comprising of a number of antennas radiating from a common support mast can be supplied to suit customer specifications.
- Antenna gain is dependent on the length of the earth mat.


Specifications
Electrical

Frequency Range [MHz]	3.5 - 30
Input Impedance Unbalanced [ohms]	50
VSWR	<1.8:1 Max
Antenna Gain [dBi]	up to 12.5 with earth mat (See Gain Curve)
Polarisation	Vertical
Horizontal Pattern	Directional
Maximum Input Power [kW]	1 Average, 4 PEP, 10 Average, 20 PEP

Mechanical Specifications

Mast Height [m]	52
Antenna Ground Dimensions [m]	159 x 87
Earth mat Area [m]	200 x 50
Mast & Guy Material	Galvanised Steel
Radiator Material	Copper

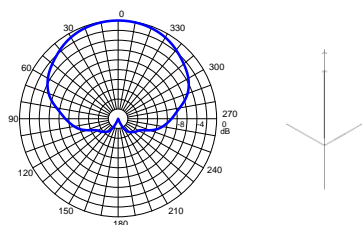
Environmental Specifications

Survival Wind Speed (No Ice)	205 km/hr
Survival (1 cm radial Ice)	130 km/hr
Temperature Range [degrees C]	-10 to +60

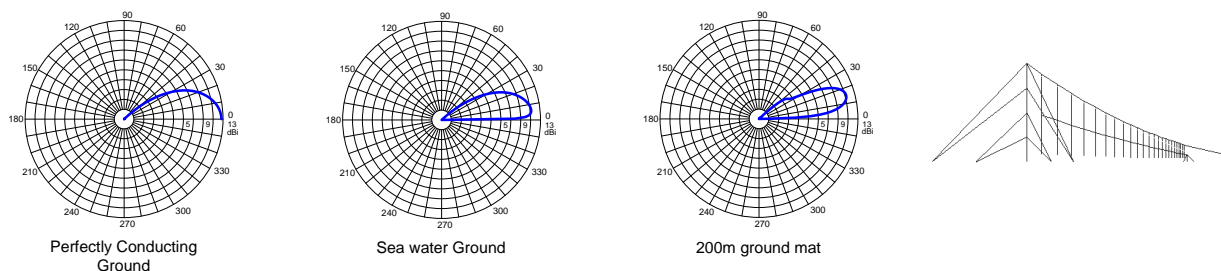
Vertical Log Periodic Dipole Antenna 3.5 - 30 MHz

Patterns over average ground

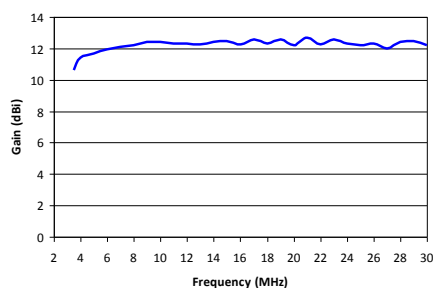
Azimuth Radiation Patterns (typical, all frequencies)



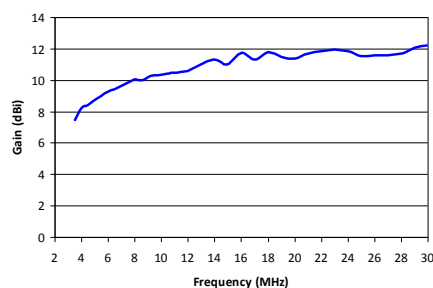
Elevation Radiation Patterns (typical at 15 MHz)



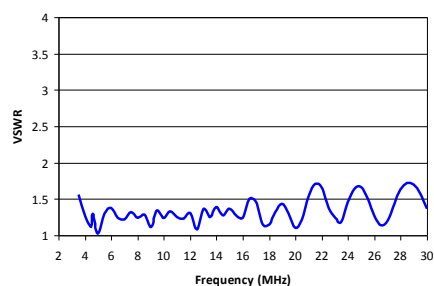
Gain (perfectly conducting ground)



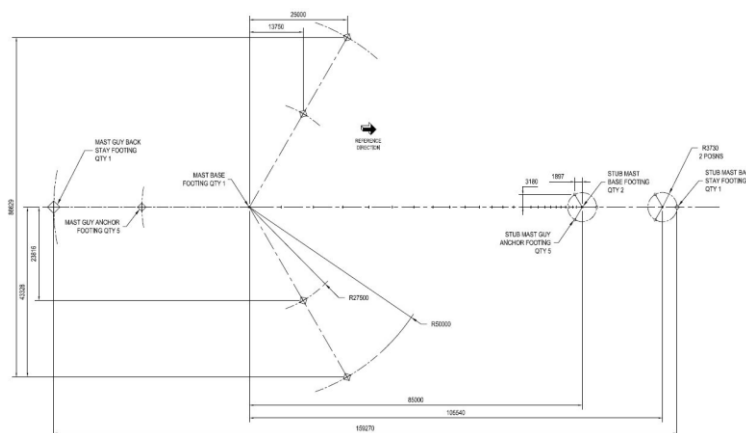
Gain (200m long earth mat)



VSWR – over ground mat



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

VLP 3.5

Model

1

Input Impedance & Power

0

Always 0

0

Mast Requirements

1 50 / 1kW

2 50 / 10kW

Broadband Monopole Antenna WM Series 2 - 30 MHz

Product Description

Designed for medium distance Omnidirectional operation, RFS Monopoles are vertically polarized and are characterised by broad frequency band and medium angle radiation patterns.

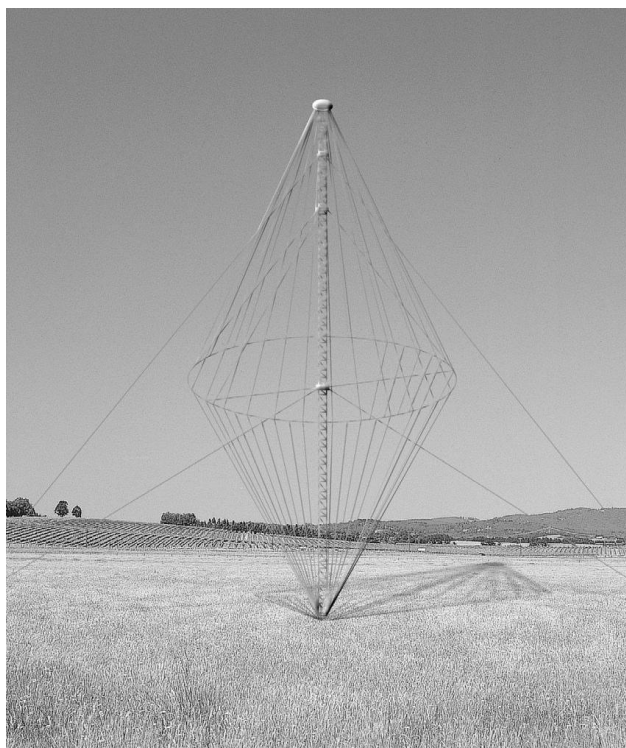
With high power handling, these antennas provide an economical solution, with long term reliability and stability of electrical characteristics. Particular attention has been paid to the matching of dissimilar metals to minimise electro-chemical corrosion.

Monopole antennas require a radial ground mat system for specified performance. Ground mat kits are supplied with each antenna. The radiator comprises a cage of stranded marine grade stainless steel wire.

The standard support structure is a guyed triangular galvanised steel mast supported on a heavy duty ceramic insulator. The insulated tower base is fitted with a horn gap for lightning protection.

Features & Benefits

- Power ratings from 1kW to 50kW.
- Ground mat kits included with each antenna.
- Radiators manufactured from marine grade stainless steel wire.
- Triangular galvanised steel mast.
- Insulated tower base, fitted with lightning protection.
- Designed for severe environments, wind rating of 306km/hr.



Specifications

Electrical

Frequency Range	2 – 30MHz
Input Impedance	50 ohms unbalanced
Input Connector	
1kW (50 ohms)	"N" Type
10kW (50 ohms)	7/8" EIA
15kW (50 ohms)	1 5/8" EIA
40kW (50 ohms)	3 1/8" EIA
VSWR	<2.5:1 Max, 2.0 to 2.15MHz, <2.0:1 Max, 2.15MHz to 30MHz
Antenna Gain	up to 8 dBi (See Gain Curve)
Polarisation	Vertical
Horizontal Pattern	True Omni directional
Maximum Input Power*	Max 50kW average, 100kW PEP
*Depending on input connector	

Mechanical

Mast Height [m]	34
Ground Dimensions [m]	76 x 76 (including radial earth)
Mast & Guy Material	Galvanised Steel
Mast Guy Radius [m]	22
Material - Guy Assemblies	Galvanised steel and heavy duty fail-safe insulators
Earth Mat Radius [m]	38
Material – Earth Mat	64 Radials of 16SWG (1.6mm) Copper wire
Radiator Material	Stainless Steel
Survival Wind Speed (No Ice)	306 km/hr (to AS1170.2)

Shipping information

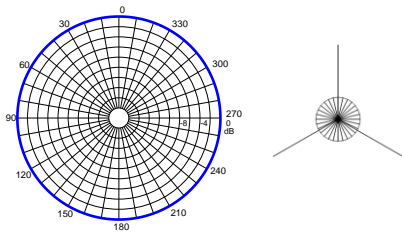
	Packed weight [kg]	Packed Size [m]
WM230 (less Mast)	430	2.0 x 2.0 x 0.3 and 5.0 x 1.5 x 0.25
MS3-30/34 Mast (34m)	891	2.3 x 0.9 x 3.0

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

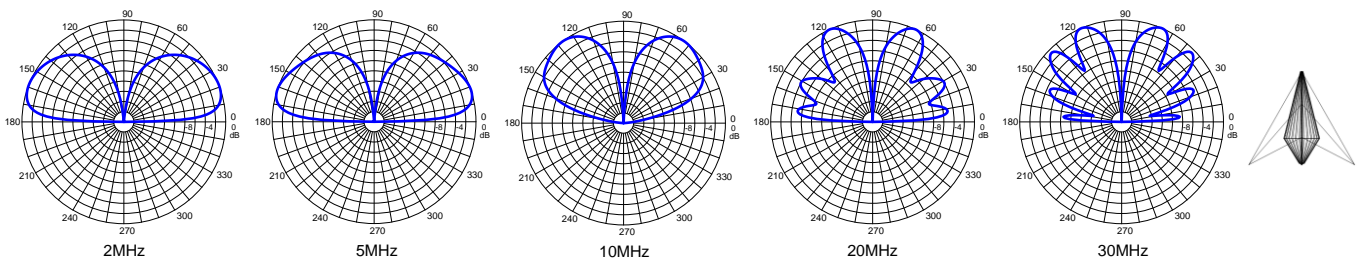
Broadband Monopole Antenna WM Series 2 - 30 MHz

Patterns over average ground

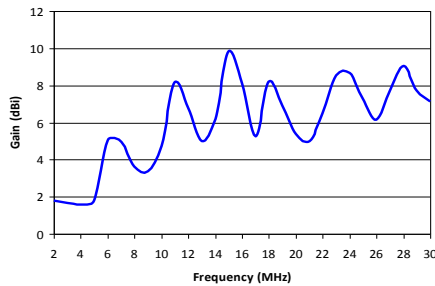
Azimuth Radiation Pattern (all frequencies)



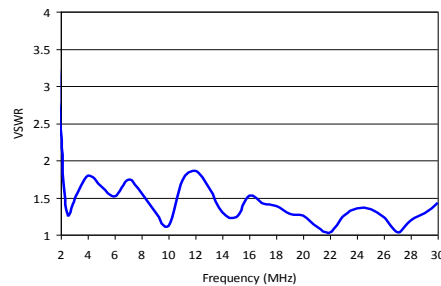
Elevation Radiation Patterns



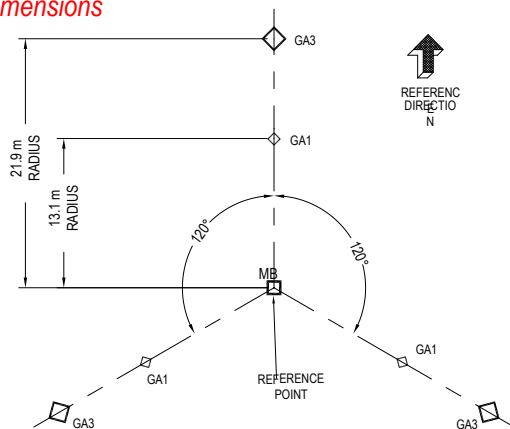
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

WM230	•	3	1	0
Model		Always 3	Input Connector	Always 0
			1 N Type	
			2 7/8" EIA	
			3 1 5/8" EIA	
			4 3 1/8" EIA	

Broadband Monopole Antenna WM Series 2 - 45 MHz

Product Description

Designed for medium distance Omnidirectional operation, RFS Monopoles are vertically polarized and are characterised by broad frequency band and medium angle radiation patterns.

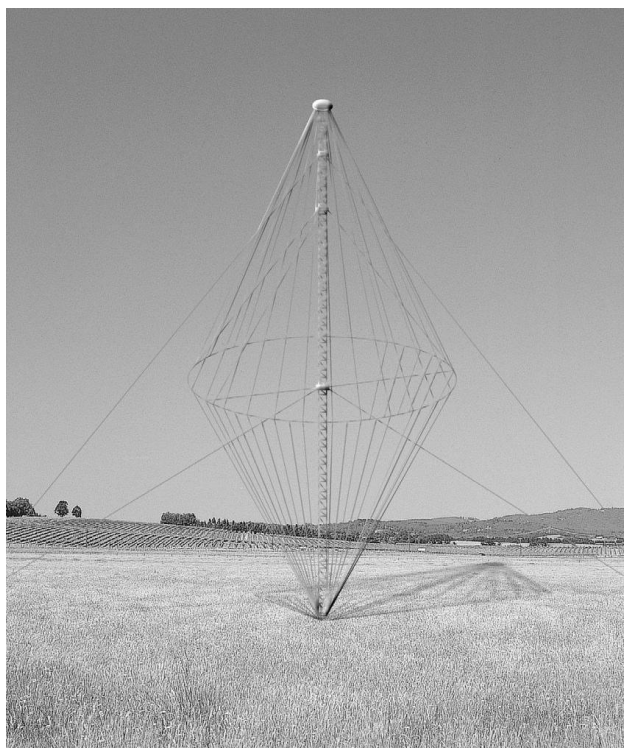
With high power handling, these antennas provide an economical solution, with long term reliability and stability of electrical characteristics. Particular attention has been paid to the matching of dissimilar metals to minimise electro-chemical corrosion.

Monopole antennas require a radial ground mat system for specified performance. Ground mat kits are supplied with each antenna. The radiator comprises a cage of stranded marine grade stainless steel wire.

The standard support structure is a guyed triangular galvanised steel mast supported on a heavy duty ceramic insulator. The insulated tower base is fitted with a horn gap for lightning protection.

Features & Benefits

- Power ratings from 1kW to 50kW.
- Ground mat kits included with each antenna.
- Radiators manufactured from marine grade stainless steel wire.
- Triangular galvanised steel mast.
- Insulated tower base, fitted with lightning protection.
- Designed for severe environments, wind rating of 306km/hr.



Specifications

Electrical

Frequency Range	2 – 45MHz
Input Impedance	50 ohms unbalanced
Input Connector	
1kW (50 ohms)	"N" Type
10kW (50 ohms)	7/8" EIA
15kW (50 ohms)	1 5/8" EIA
40kW (50 ohms)	3 1/8" EIA
VSWR	<2.5:1 Max, 2.0 to 2.15MHz, <2.0:1 Max, 2.15MHz to 45MHz
Antenna Gain	up to 8 dBi (See Gain Curve)
Polarisation	Vertical
Horizontal Pattern	True Omni directional
Maximum Input Power*	Max 50kW average, 100kW PEP
*Depending on input connector	

Mechanical

Mast Height [m]	34
Ground Dimensions [m]	76 x 76 (including radial earth)
Mast & Guy Material	Galvanised Steel
Mast Guy Radius [m]	22
Material - Guy Assemblies	Galvanised steel and heavy duty fail-safe insulators
Earth Mat Radius [m]	38
Material – Earth Mat	64 Radials of 16SWG (1.6mm) Copper wire
Radiator Material	Stainless Steel
Survival Wind Speed (No Ice)	306 km/hr (to AS1170.2)

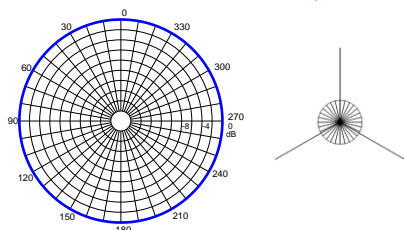
Shipping information	Packed weight [kg]	Packed Size [m]
WM230 (less Mast)	430	2.0 x 2.0 x 0.3 and 5.0 x 1.5 x 0.25
MS3-30/34 Mast (34m)	891	2.3 x 0.9 x 3.0

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

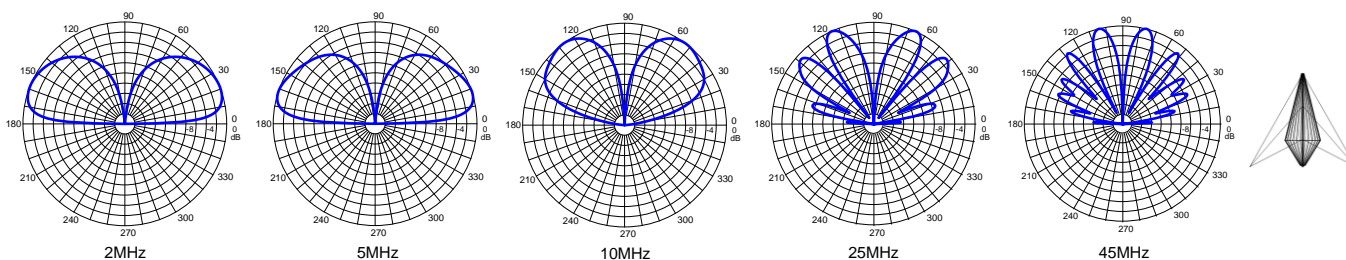
Broadband Monopole Antenna WM Series 2 - 45 MHz

Patterns over average ground

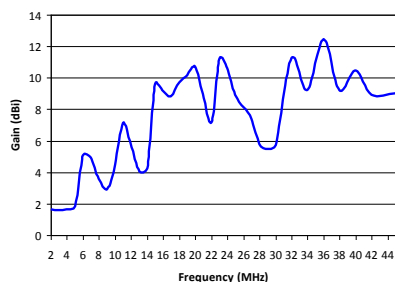
Azimuth Radiation Pattern (all frequencies)



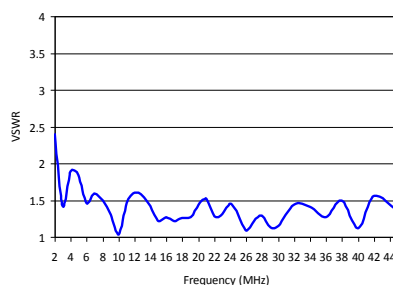
Elevation Radiation Patterns



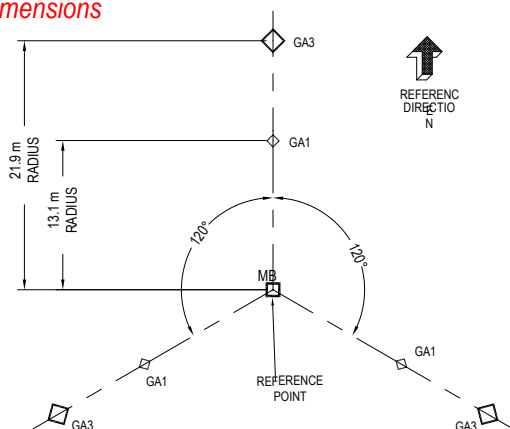
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

WM245	•	3	1	0
Model		Always 3	Input Connector	Always 0
			1 N Type	
			2 7/8" EIA	
			3 1 5/8" EIA	
			4 3 1/8" EIA	

Broadband Monopole Antenna WM Series 3 - 30 MHz

Product Description

Designed for medium distance Omnidirectional operation, RFS Monopoles are vertically polarized and are characterised by broad frequency band and medium angle radiation patterns.

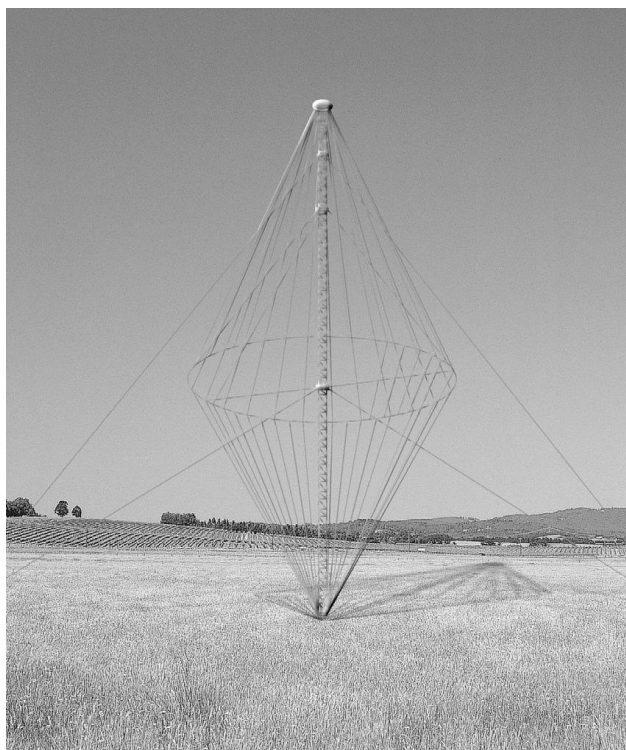
With high power handling, these antennas provide an economical solution, with long term reliability and stability of electrical characteristics. Particular attention has been paid to the matching of dissimilar metals to minimise electro-chemical corrosion.

Monopole antennas require a radial ground mat system for specified performance. Ground mat kits are supplied with each antenna. The radiator comprises a cage of stranded marine grade stainless steel wire.

The standard support structure is a guyed triangular galvanised steel mast supported on a heavy duty ceramic insulator. The insulated tower base is fitted with a horn gap for lightning protection.

Features & Benefits

- Power ratings from 1kW to 50kW.
- Ground mat kits included with each antenna.
- Radiators manufactured from marine grade stainless steel wire.
- Triangular galvanised steel mast.
- Insulated tower base, fitted with lightning protection.
- Designed for severe environments, wind rating of 306km/hr.



Specifications

Electrical

Frequency Range	3 – 30MHz
Input Impedance	50 ohms unbalanced
Input Connector	
1kW (50 ohms)	"N" Type
10kW (50 ohms)	7/8" EIA
15kW (50 ohms)	1 5/8" EIA
40kW (50 ohms)	3 1/8" EIA
50kW (50 ohms)	3 1/2" EIA
VSWR	<2.5:1 Max, 2.0 to 2.15MHz, <2.0:1 Max, 2.15MHz to 30MHz
Antenna Gain	See Gain Curve
Polarisation	Vertical
Horizontal Pattern	True Omni directional
Maximum Input Power*	Max 50kW average, 100kW PEP (Dependent on input connector)

Mechanical

Mast Height [m]	25
Ground Dimensions [m]	52 x 52 (including radial earth)
Mast & Guy Material	Galvanised Steel
Mast Guy Radius [m]	16
Material - Guy Assemblies	Galvanised steel and heavy duty fail-safe insulators
Earth Mat Radius [m]	26
Material – Earth Mat	64 Radials of 16SWG (1.6mm) Copper wire
Radiator Material	Stainless Steel
Survival Wind Speed (No Ice)	250 km/hr (to AS1170.2)

Shipping information

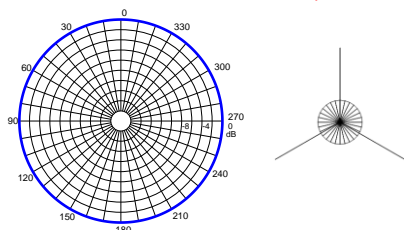
	Packed weight [kg]	Packed Size [m]
WM230 (less Mast)	400	2.0 x 2.0 x 0.3 and 5.0 x 1.5 x 0.25
MS3-30/34 Mast (25m)	648	1.35 x 0.9 x 3.0

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

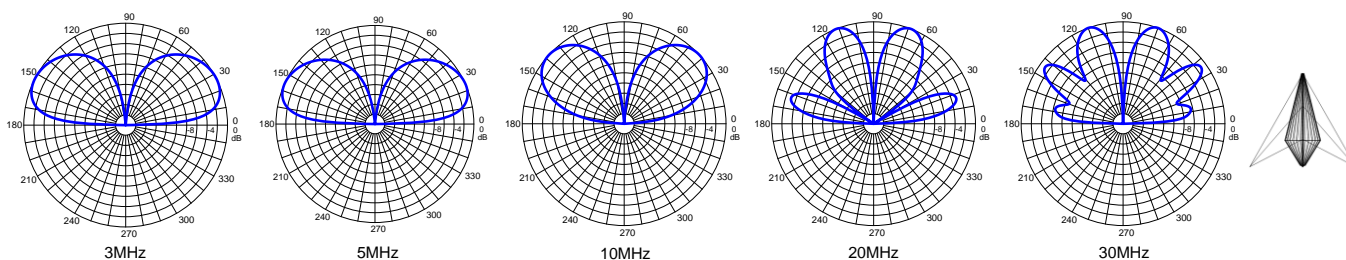
Broadband Monopole Antenna WM Series 3 - 30 MHz

Patterns over average ground

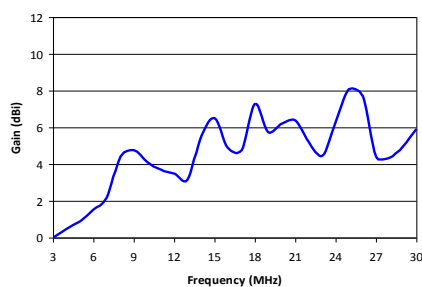
Azimuth Radiation Pattern (all frequencies)



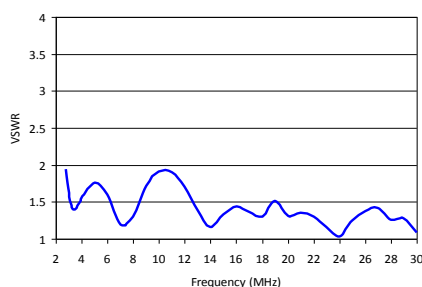
Elevation Radiation Patterns



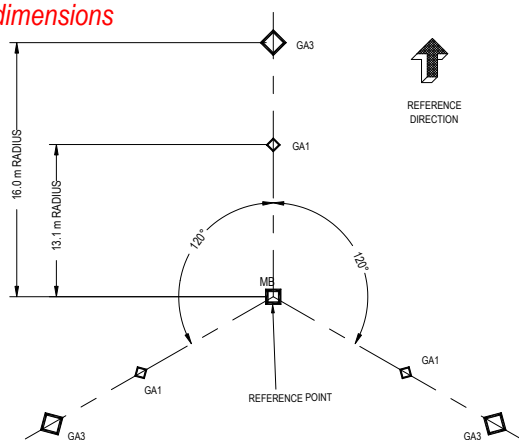
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

WM330	•	3	1	0
Model		Always 3	Input Connector	Always 0
			1 N Type	
			2 7/8" EIA	
			3 1 5/8" EIA	
			4 3 1/8" EIA	
			5 4 1/2" EIA	

Broadband Monopole Antenna WM Series 4 - 30 MHz

Product Description

Designed for medium distance Omnidirectional operation, RFS Monopoles are vertically polarized and are characterised by broad frequency band and medium angle radiation patterns.

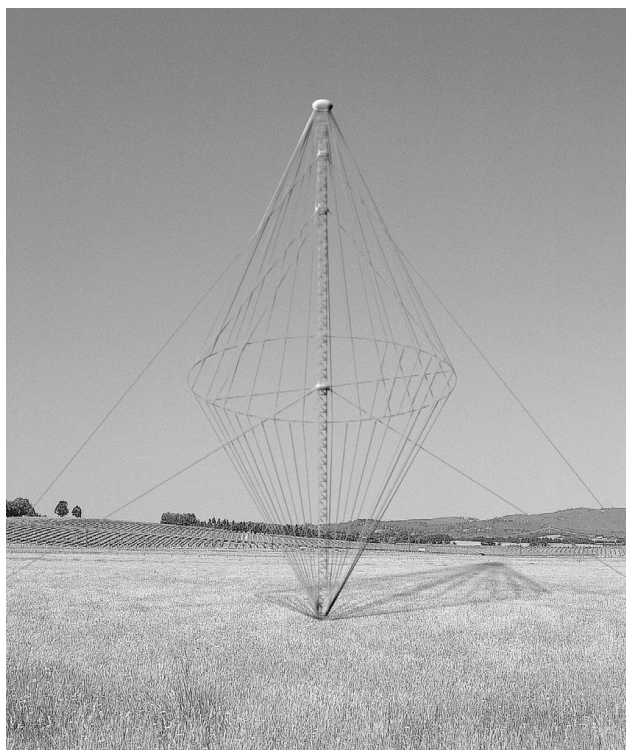
With high power handling, these antennas provide an economical solution, with long term reliability and stability of electrical characteristics. Particular attention has been paid to the matching of dissimilar metals to minimise electro-chemical corrosion.

Monopole antennas require a radial ground mat system for specified performance. Ground mat kits are supplied with each antenna. The radiator comprises a cage of stranded marine grade stainless steel wire.

The standard support structure is a guyed triangular galvanised steel mast supported on a heavy duty ceramic insulator. The insulated tower base is fitted with a horn gap for lightning protection.

Features & Benefits

- Power ratings from 1kW to 50kW.
- Ground mat kits included with each antenna.
- Radiators manufactured from marine grade stainless steel wire.
- Triangular galvanised steel mast.
- Insulated tower base, fitted with lightning protection.
- Designed for severe environments, wind rating of 306km/hr.



Specifications

Electrical

Frequency Range	4 – 30MHz
Input Impedance	50 ohms unbalanced
Input Connector	
1kW (50 ohms)	“N” Type
10kW (50 ohms)	7/8” EIA
15kW (50 ohms)	1 5/8” EIA
40kW (50 ohms)	3 1/8” EIA
50kW (50 ohms)	4 1/2” EIA
VSWR	<2.5:1 Max, 2.0 to 2.15MHz, <2.0:1 Max, 2.15MHz to 30MHz
Antenna Gain	See Gain Curve
Polarisation	Vertical
Horizontal Pattern	True Omni directional
Maximum Input Power*	Max 50kW average, 100kW PEP (Dependent on input connector)

Mechanical

Mast Height [m]	19
Ground Dimensions [m]	40 x 40 (including radial earth)
Mast & Guy Material	Galvanised Steel
Mast Guy Radius [m]	12.5
Material - Guy Assemblies	Galvanised steel and heavy duty fail-safe insulators
Earth Mat Radius [m]	20
Material – Earth Mat	64 Radials of 16SWG (1.6mm) Copper wire
Radiator Material	Stainless Steel
Survival Wind Speed (No Ice)	306 km/hr (to AS1170.2)

Shipping information

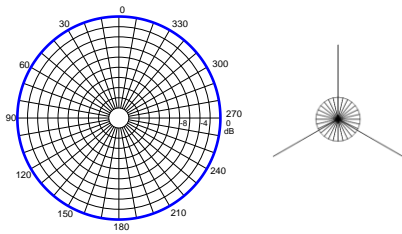
	Packed weight [kg]	Packed Size [m]
WM230 (less Mast)	365	2.0 x 2.0 x 0.3 and 5.0 x 1.5 x 0.25
MS3-30/34 Mast (19m)	490	2.3 x 0.34 x 3.0

* Wind ratings are calculated to AS1170.2:2011 Australian Standards:

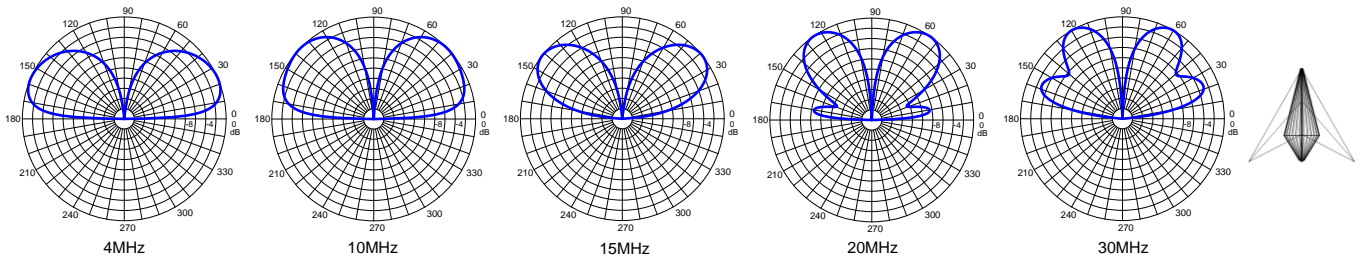
Broadband Monopole Antenna WM Series 4 - 30 MHz

Patterns over average ground

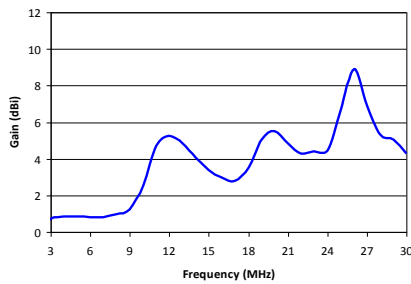
Azimuth Radiation Pattern (all frequencies)



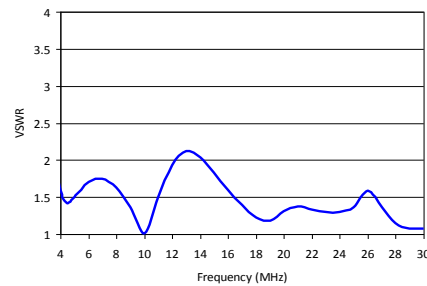
Elevation Radiation Patterns



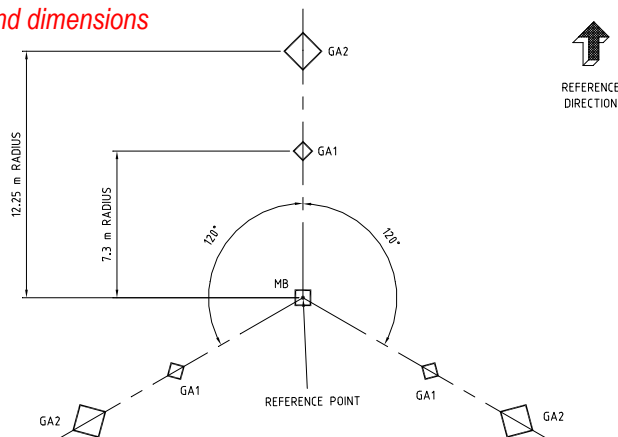
Gain



VSWR – over average ground



Antenna ground dimensions



Ordering Information

1. Specify Model
2. Specify Input Impedance/Power
3. Specify Mast Requirements

WM430	•	3	1	0
Model		Always 3	Input Connector	Always 0
			1 N Type	
			2 7/8" EIA	
			3 1 5/8" EIA	
			4 3 1/8" EIA	
			5 4 1/2" EIA	

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