

Section 8 Accessories

8.1 Enclosures

Basic Enclosure

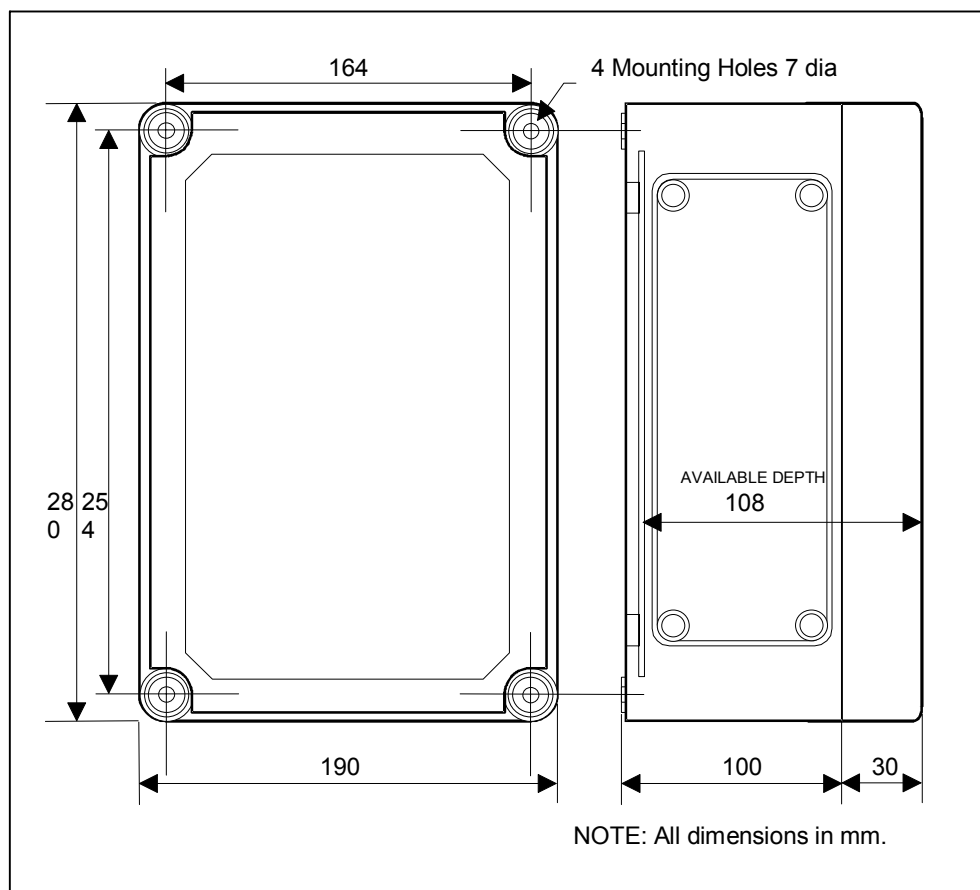


Figure 37 Mechanical Drawing of Basic Enclosure

The Basic Enclosure is an impact resistant, polycarbonate enclosure which offers protection from dust and moisture in accordance with IP67 (IEC529/DIN 40050/BS5490). It is moulded from homogeneous thermoplastic polycarbonate, is resistant to normal atmosphere corrosion and is resistant to most mineral and organic acids. Contact should be avoided, however, with organic solvents and strong alkalis. The material is self-extinguishing and does not release any toxic combustion products.

It is supplied complete with lid, gland plate, four cable glands and metal base plate, ready to take VersaNet modules. A depth of 108mm is available in an unexpanded enclosure. Enclosures may be bolted together or increased in depth using suitable accessories to accommodate larger numbers of modules.

The enclosure is supplied with a grey finish (RAL7035) and may be painted and machined with normal tools or ultrasonic welding apparatus. Cleaning should be performed with soap and water only.

Specifications

Part Name	Basic Enclosure
Part Number	ENC0001
Dimensions	190 x 280 x 130 (Available Depth 108mm)
Weight	1.5kg
No. in a node	No Limit
Cleaning	Soap & Water Only AVOID ORGANIC SOLVENTS or STRONG ALKALIES

8.1.1 Depth Extension Kit

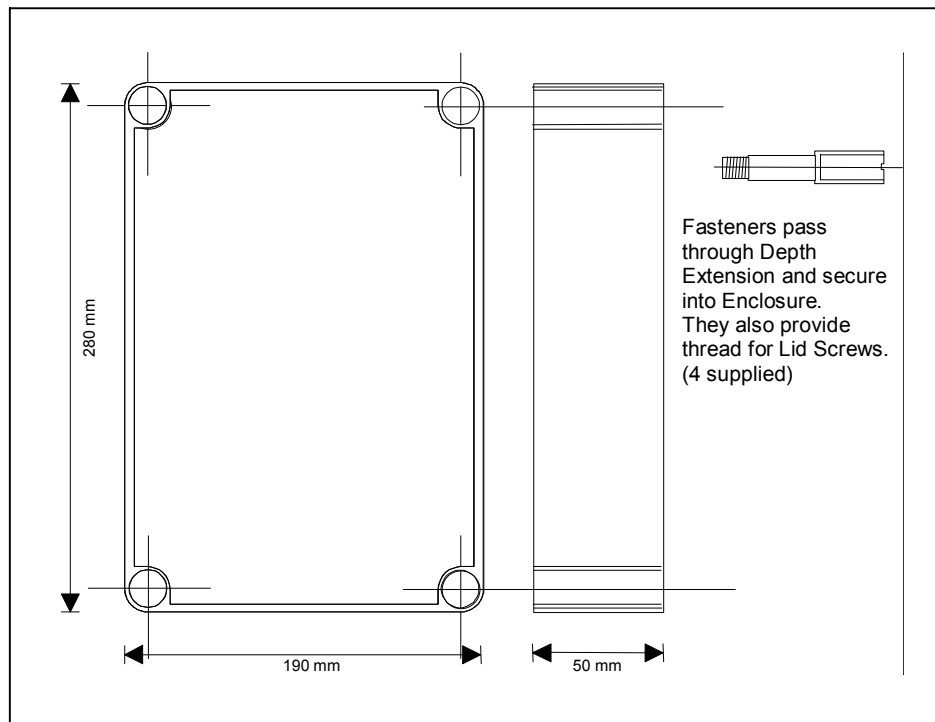


Figure 38 Mechanical Drawing of Depth Extension Kit

The Depth Extension Kit is used to increase the available depth of the Basic Enclosure. Each extension provides an additional 50mm, therefore when the suggested maximum of 2 extensions are fitted, a total depth of 208mm is available. When fitted in accordance with the instructions in Section C of this manual, the IP67 protection is maintained.

Specifications

Part Name	Depth Extension Kit
Part Number	ENC0004
Number in a Node	No Limit (maximum 2 per Basic Enclosure)
Weight	0.4 kg

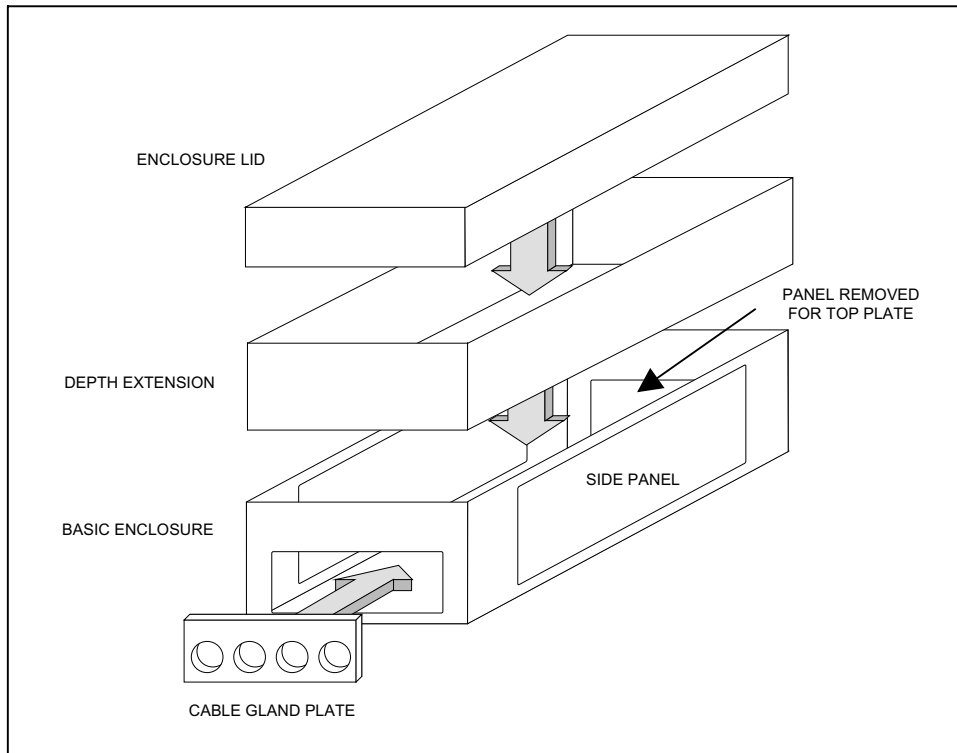


Figure 39 Example Enclosure Construction

8.1.2 Side Extension Kit

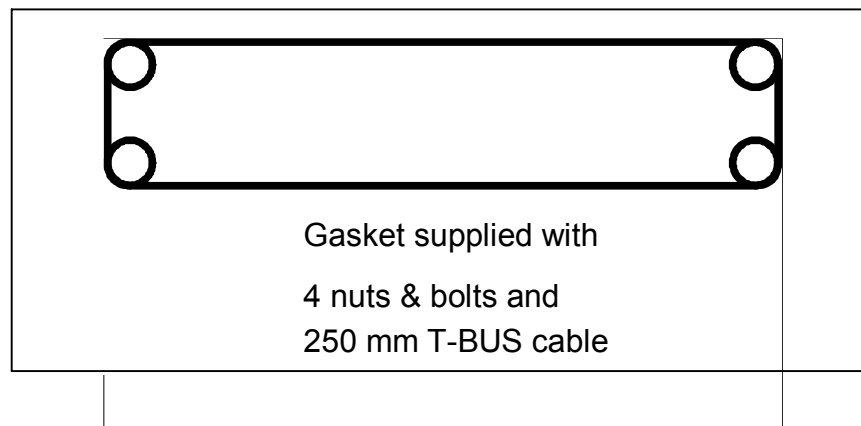


Figure 40 Side Extension Kit

The Side Extension Kit is used to connect two Basic Enclosures together to accommodate large numbers of modules.

It consists of a sealing gasket, four nuts and bolts and an extended T-BUS cable. When fitted in accordance with instructions in Section C of this manual, the IP67 protection is maintained.

Specifications

Part Name	Side Extension Kit
Part Number	ENC0002
Number in a Node	No Limit

Dimensions - gasket	215 x 80mm
T2-BUS cable	250mm
Weight	0.05kg

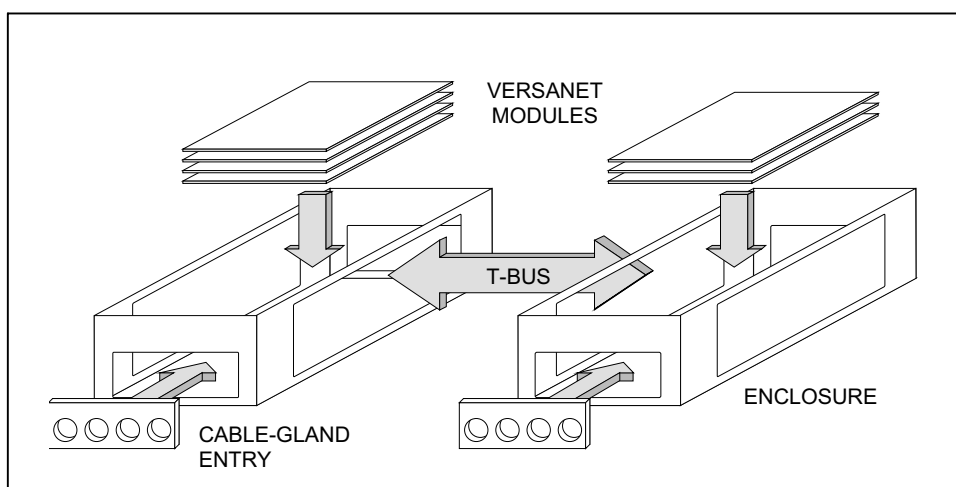


Figure 41 Example Enclosure Construction

8.1.3 Battery Mounting Kit

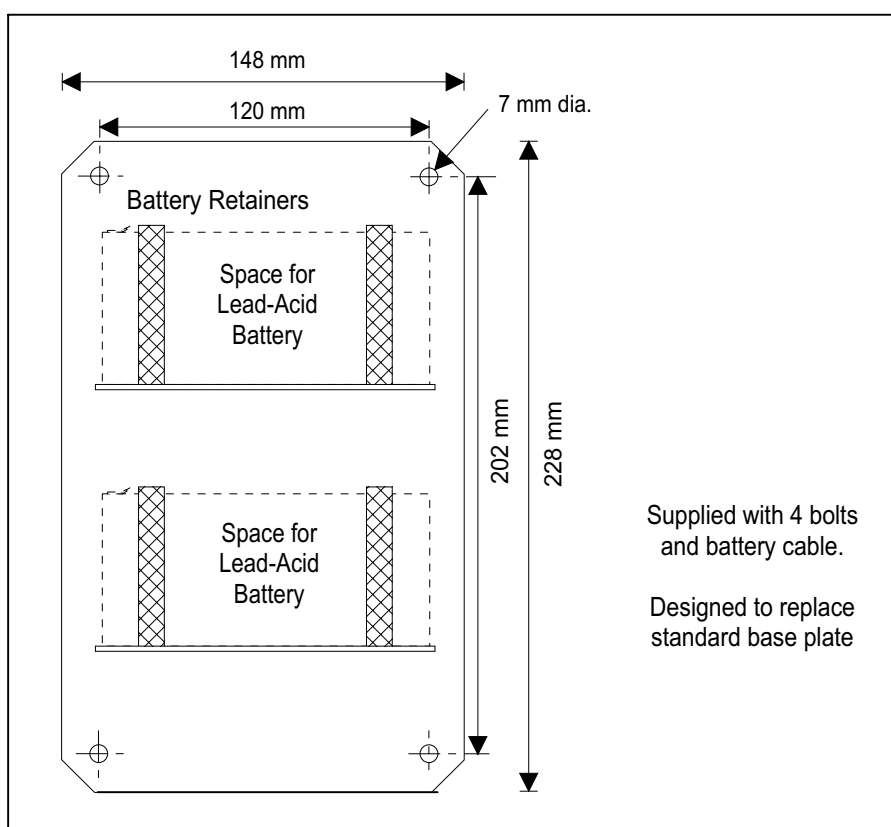


Figure 42 Mechanical Drawing of Battery Mounting Kit

The Battery Mounting Kit is used in place of the standard metal base plate to provide means of retaining two 12V batteries in a Basic Enclosure. It consists of a

formed metal base plate, battery retention straps, fasteners and a battery cable to connect to the relevant VersaNet Module (Low Power Input or DC Adaptor)

Specifications

Part Name	Battery Mounting Kit
Part Number	ENC0005
Number in a Node	1 max
Dimensions - base plate	148 x 228 mm
- battery cable	250mm
Weight	0.5kg
Battery space	2 off 150 x 100 mm

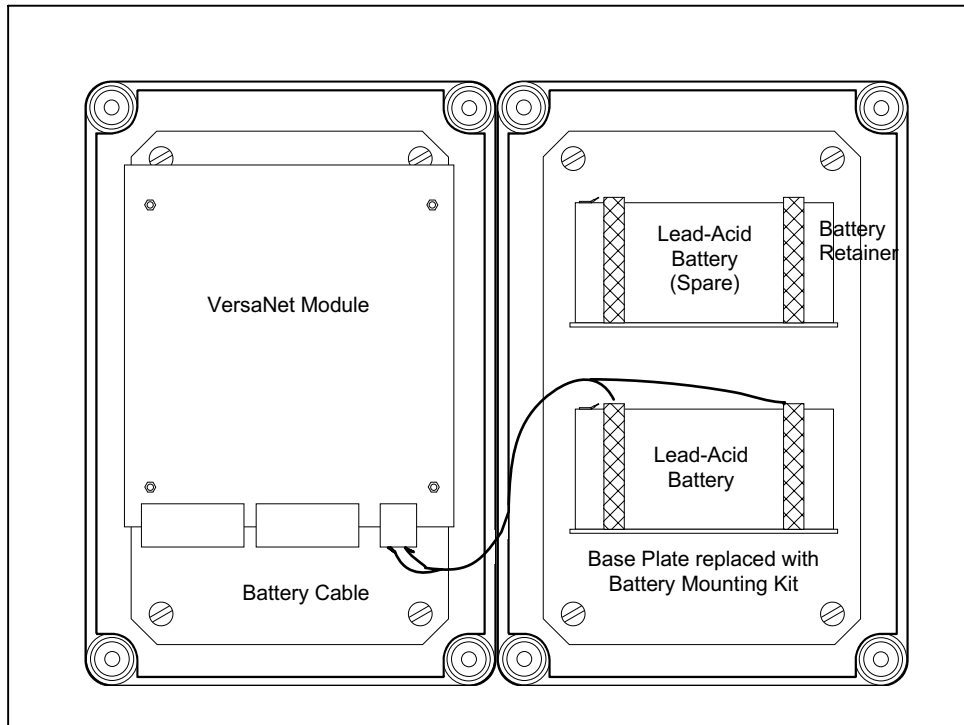


Figure 43 Battery Kit Construction

8.1.3 Antenna Top Plate Mounting Kit

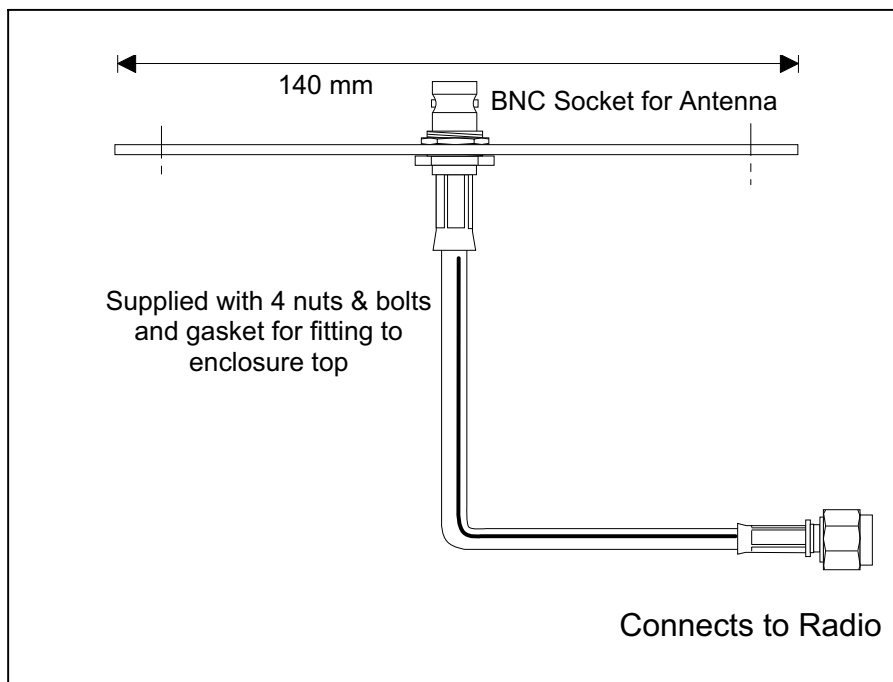


Figure 44 Mechanical Drawing of Antenna Top Plate Mounting Kit

The Antenna Mounting Kit is used to provide a means of connecting an enclosure-top antenna directly to a VersaNet enclosure. It consists of a metal plate fitted with a short RF cable, sealing gasket and four nuts and bolts. When fitted in accordance with the instructions in Section C of this manual, the IP67 protection is maintained.

Specifications

Part Name	Antenna Top Plate Mounting Kit
Part Number	ENC0003
External RF Connection	BNC female, bulkhead mounted
Number in Node	1 max
Dimensions - plate	140mm x 50mm x 2mm
- cable	300mm

8.1.5 Antenna Bulkhead Cable Kit

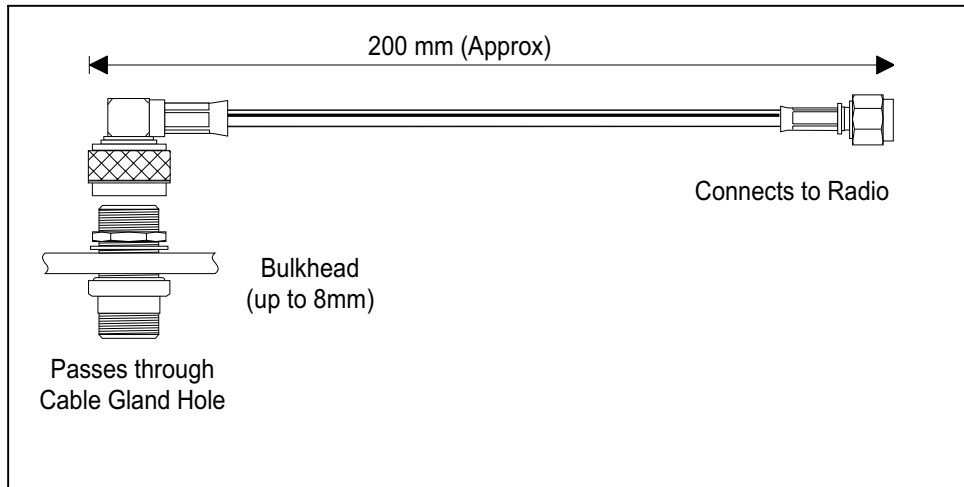


Figure 45 Antenna Bulkhead Cable Kit

The Antenna Bulkhead Cable Kit is used to provide an N-type female bulkhead socket in the gland plate of the Basic Enclosure. It is fitted in place of a standard cable gland and allows direct connection of external antennas or feeders.

Specifications

Part Name	Antenna Bulkhead Cable Kit
Part Number	ENC0007
Number in a Node	1 max
Dimensions	300 mm x 10 mm dia. (approx)
Weight	0.1kg

8.2 Antennas

8.2.1 1/2 Wave Whip Antenna

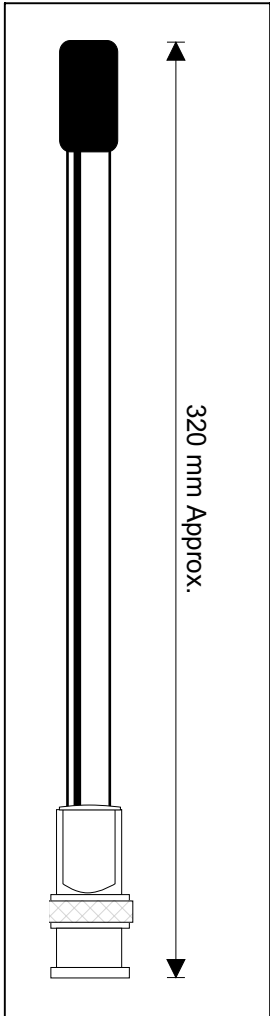


Figure 46

The 1/2-Wave Whip Antenna is used in conjunction with the Antenna Mounting Kit for those applications requiring a relatively short transmission range. The antenna is nominally rated at a loss of 3 dB and is suitable for ranges up to about 1km, dependent upon topography.

The construction is a corrosion-proof metal shaft with a resistive black plastic cover. The connector is black chromium plated brass.

NOTE: The BNC connection should be sealed with self amalgamating tape after installation.

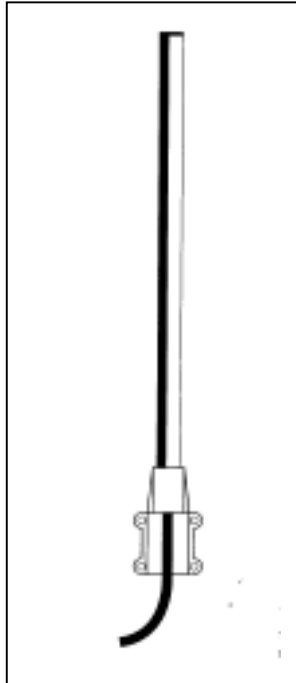
Specifications

Part Name	1/2-Wave Whip Antenna
Part Number	ANT0006
Number in a Node	1 max
Frequency Range	406-470 MHz
VSWR	<2 when mounted on top plat
Impedance	50 Ohms
Connector	BNC

ANT0006A	440 – 470 MHz	300mm Long
ANT0006C	406 – 440 MHz	330mm Long

8.2.2 End Fed Dipole / Colinear

The end fed dipole and colinear antennas are a professional range of products designed for outside installations requiring mid to long range transmissions.



The construction is a parallel glass fibre tube with an integral die cast aluminium alloy mounting bracket.

The Colinear antennas offer 3 or 6 dB gain, which can be useful to recover losses in feeder cable.

NOTE: Check with local regulations to ensure the allowed ERP is not exceeded.

The antenna is supplied with 2 x 'U' bolts for mounting to a standard 50mm diameter pole and is complete with a 3 metre tail of RG213 cable terminated with an 'N' type male connector.

Specification

Part number	ANT0008
Frequency range	400 – 470MHz
Impedance	50 Ω
VSWR	<1.5 : 1
Polarization	Vertical

Figure 47

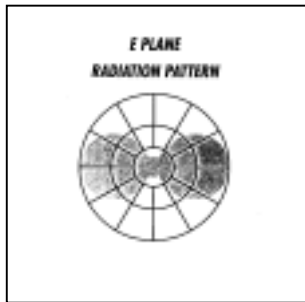


Figure 48

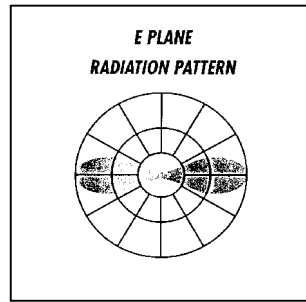


Figure 49

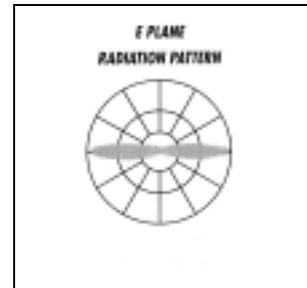


Figure 50

Endfed Dipole

Part no	ANT0008
Gain	0 dBd
Length	0.6mtrs
Weight	0.6Kg
Wind loading	37 N

3dB Colinear

Part no	ANT0008-3
Gain	3dBd
Length	1.6mtrs
Weight	1.0 Kg
Wind loading	70 N

6 dB Colinear

Part no	ANT0008-6
Gain	6dBd
Length	3.1mtrs
Weight	2.0 Kg
Wind loading	156 N

8.2.3 Yagi Antenna

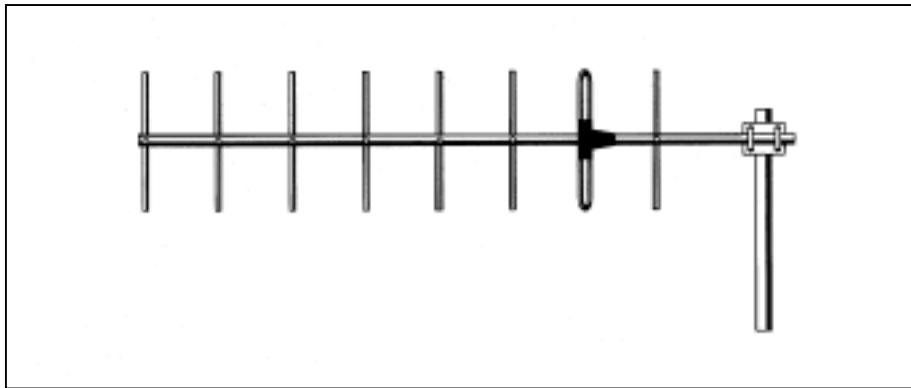


Figure 51

The 2 element and 8 element Yagi antennas are a professional range of products designed for long distance applications or where a directional signal is required i.e. to avoid receiving other nearby transmissions.

The 2-element Yagi offers a gain of 3 dBd and the 8-element, 10dBd.
NOTE: Check with local regulations to ensure the allowed ERP is not exceeded.

The construction is from aluminium alloy tubing with a zinc alloy diecast saddle clamp for mounting to a standard 50mm pole. The antenna is supplied complete with a 3 mtr tail of RG213 cable terminated with a 'N' type male connector.

Specification

Freq range	400 – 470MHz
Impedance	50 Ω
VSWR	<1.5 : 1
Polarisation	Horizontal or Vertical

	2 Element	8 Element
Part Number	ANT0009-2	ANT0009-8
Gain	3 dBd	10 dBd
Length	0.6 mtrs	1.6 mtrs
Weight	1.8 Kg	3.5 Kg
Wind loading	54 N	128 N
Beamwidth (H)	84 ⁰	50 ⁰
Beamwidth (E)	62 ⁰	43 ⁰

Fig 52 – 2 Element

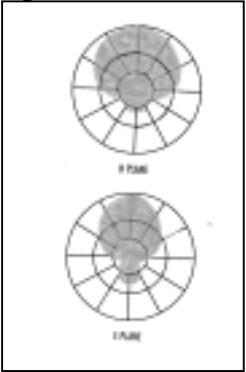
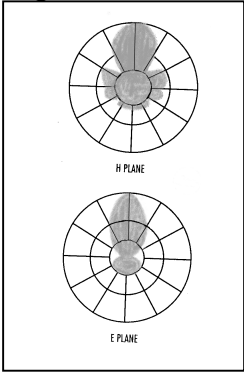


Fig 53 – 8 Element



8.2.4 Low Profile Vandal Resistant

This antenna is a small, lightweight, low profile unit suitable for any application where there is a height restriction. Because of its shape and mounting position, it also offers a degree of protection against vandalism. It is mountable on most surfaces as the ground plane is integral.

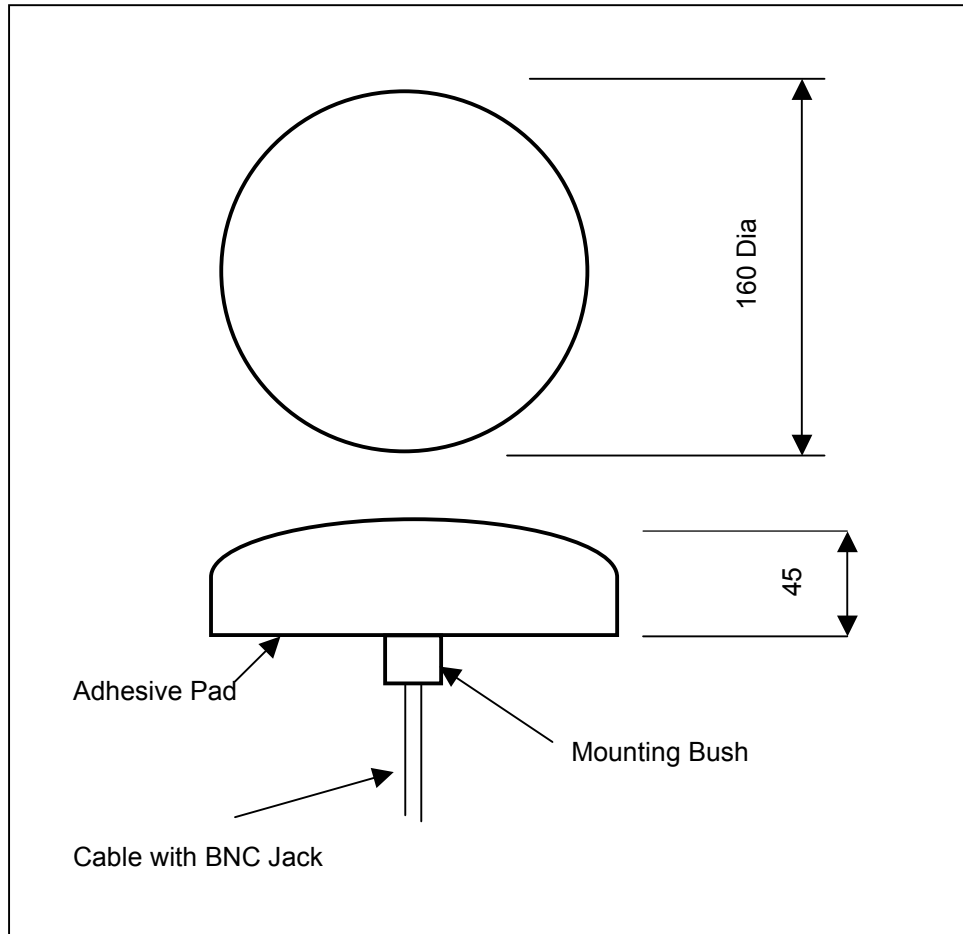


Figure 54 Low Profile Antenna

Specification

Part Number	ANT0014
Frequency range	400-470 MHz
VSWR	<1.5 :1
Impedance	50 Ohm
Polarisation	Vertical
Connector	BNC + 0.5 mtr of cable

8.2.5 Antenna Mounting Hardware

RDT can supply the following mounting hardware to assist with the installation of antennas.

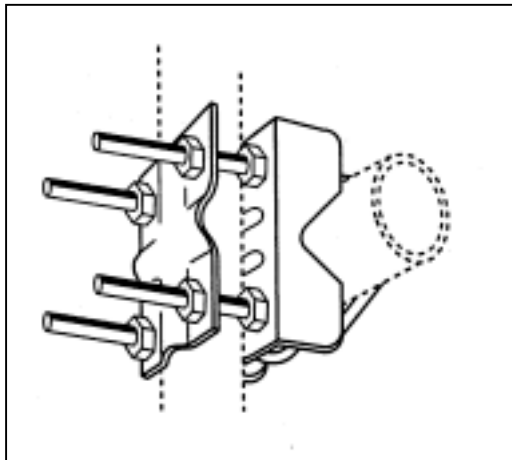


Figure 55
Standard Yagi Clamp

Designed to fit standard 50mm Poles and supplied with 2 x U bolts and nuts.

Part Number 1329

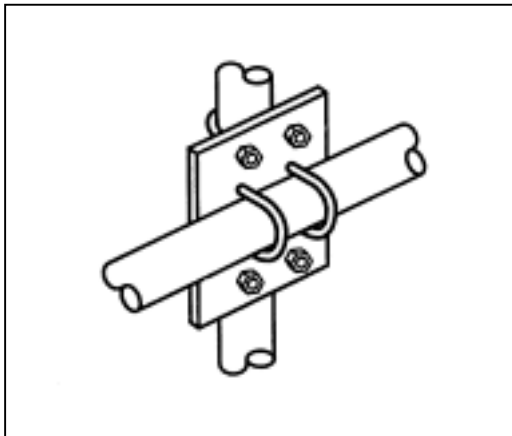


Figure 56
Crossover Clamp 50mm x 32mm (2" x 1 1/4")

Supplied with 4 x U bolts and nuts

Part number 1330

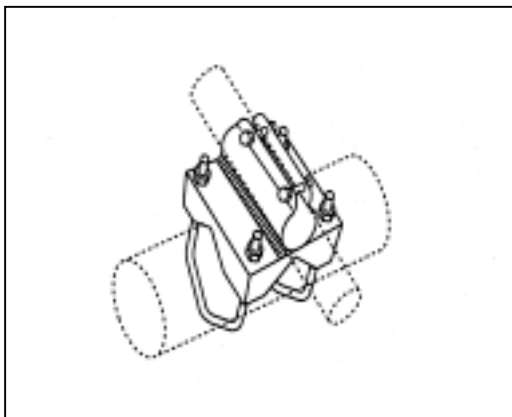


Figure 57
Standard Colinear Clamp

Designed to fit standard 50mm poles and supplied with 2 x U bolts and nuts.

Part number 1331

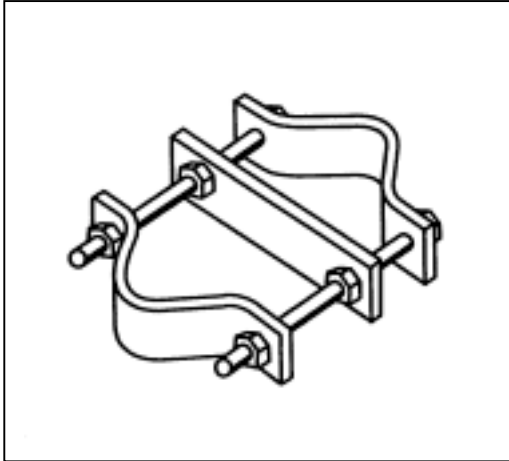


Figure 58
Colinear Parallel Clamp

Designed to fit standard 50mm poles and supplied with 2 x fixing bolts and nuts.

Part number 1332

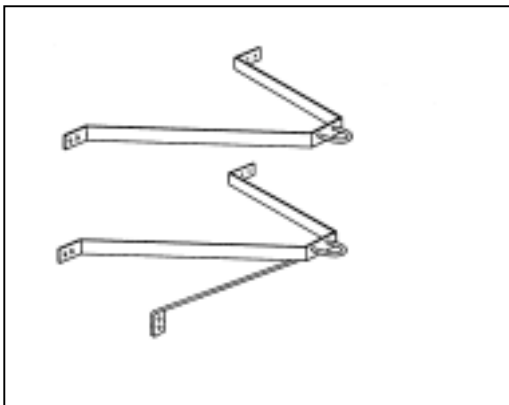


Figure 59
Wall Mounting 'A' Brackets

Supplied as a pair with 2 x U bolts and nuts

Part number 300mm stand-off 1333
450mm stand-off 1334
600mm stand-off 1335

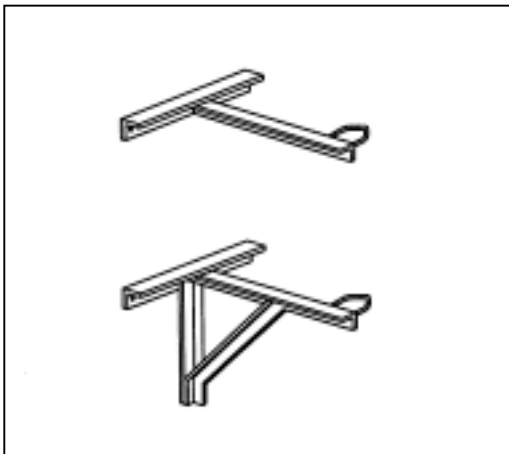


Figure 60
Wall Mounting 'T' and 'K' Brackets

Supplied as a pair with 2 x U bolts and nuts

Part number 300mm stand-off 0074
450mm stand-off 0076
600mm stand-off 1336

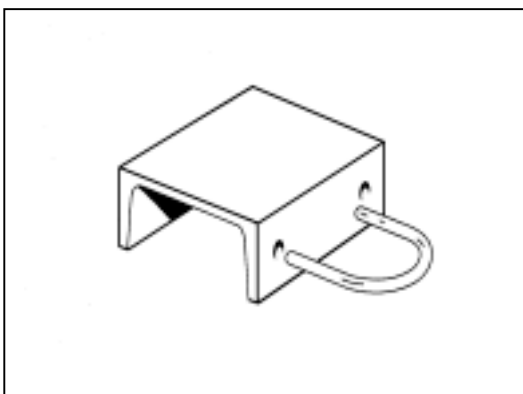


Figure 61
Channel Bracket

Supplied with 2 x U bolts and nuts.

Part number 1337

8.3 Cables

The following cables are available from RDT stock:

RDT Part No	Length	Description	Application
CAB0019	1.5mtrs	9 Way 'D' Skt to 9 Way 'D' Skt	RS232 Data Highway Port
CAB0019	1.5mtrs	9 Way 'D' Skt to 9 Way 'D' Skt	RS232 Configuration Port
CAB1338	450mm	9 Way 'D' Skt to 15 Way 'min D' Plg	VN2 to GSM Modem
CAB1339	1.5mtrs	9 Way 'D' Skt to 25 Way 'D' Plg	VN2 to Wire Line Modem
CAB1622	110mm	10 Way IDC Skt to 10 Way IDC Skt	T2-BUS
CAB1623	400mm	10 Way IDC Skt to 10 Way IDC Skt	T2-BUS
CAB1610	400mm	URM43 BNC bulkhead to SMA male	Radio to Top Plate
CAB1611	400mm	URM43 'N' type male to SMA male	Radio to Bulkhead
CAB001-1	1mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna
CAB001-3	3mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna
CAB-001-5	5mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna
CAB001-10	10mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna
CAB001-15	15mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna
CAB001-20	20mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna
CAB001-25	25mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna
CAB001-30	30mtr	RG213 'N' type male to 'N' type male	VN2 to Antenna

8.3.1 Connectors

RDT Part No	Description	Application
0022	2 Way free socket	DC input
0029	3 Way free socket	Data I/O
0013	4 Way free socket	Data I/O
1063	5 Way free socket	Data I/O
0042	8 Way free socket	Data I/O
0048	12 Way free socket	Data I/O
0049	16 Way free socket	Data I/O
0879	9 Way 'D' socket	RS232
0880	9 Way 'D' cover and retaining screws	RS232
0511	SMA male for URM43	Connection to Radio
0510	R/A 'N' type male for URM43	Connection to Antenna
0525	'N' type male straight, for RG213	Antenna cable

8.4 Power Supplies

8.4.1 1 Amp Switch Mode

Specification

Part number	PSU 1531
Input Voltage	90 to 264 V AC @ 50Hz
Output Voltage	12 V DC at 1 Amp
Size	90 x 50 x 30

8.4.2 3 Amp Switch Mode (with Battery Charger)

Specification

Part number	PSU 2092
Input Voltage	90 to 264 V AC @ 50 Hz
Output Voltage	12 V DC at 3 Amps
Size	156 x 95 x 40