

Antennae

A range of high quality antennae designed and manufactured for operation specifically with Low power short range telemetry systems. Using one of the following antennae will give optimum range and reliability to your application.



+3dB GAIN ANTENNA

- +3dB GAIN BASE LOADED $\frac{5}{8}$ WAVELENGTH WHIP ANTENNA
- SUPPLIED WITH WATERPROOF PANEL MOUNTING BASE (REQUIRES $\frac{3}{8}$ " (9mm) HOLE
- RUGGED ABS PLASTIC MOULDED BASE COIL MOUNTED ONTO BLACK STAINLESS STEEL WHIP.

NOTE: In order to comply to the UK DTI Regulations, a Gain antenna must not be used on any transmitting device.



$\frac{1}{4}$ WAVE FLEXIBLE ANTENNA

- STANDARD $\frac{1}{4}$ WAVELENGTH WHIP ANTENNA
- RUGGED PLASTIC FINISH. FLEXIBLE ANTENNA.
- BNC CONNECTION AVAILABLE ON REQUEST



'STUBBY' HELICAL ANTENNA

- $\frac{1}{4}$ WAVELENGTH HELICAL ANTENNA
- RUGGED PLASTIC FINISH. FLEXIBLE ANTENNA.

Part Numbers				
	173MHz	418MHz	433MHz	458MHz
$\frac{1}{4}$ WAVE FLEXI ANT (4BA Screw)	FLEXI-4BA-173	FLEXI-4BA-418	FLEXI-4BA-433	
$\frac{1}{4}$ WAVE FLEXI ANT (BNC Conn)	FLEXI-BNC-173	FLEXI-BNC-418	FLEXI-BNC-433	
'HELICAL' ANTENNA (4BA Screw)	PH-4BA-173	PU-4BA-418	PU-4BA-433	PU-4BA-458
'HELICAL' ANTENNA (BNC Conn)	PH-BNC-173	PU-BNC-418	PU-BNC-433	PU-BNC-458
+3dB GAIN ANTENNA (Panel Mount)	485-01MNT-173	485-01MNT-418	485-01MNT-433	485-01MNT-458
YAGI				YAGI-458

Dimensions (mm)								
	$\frac{1}{4}$ WAVE FLEXI		HELICAL		+3dB GAIN		YAGI	
	Length	Dia	Length	Dia	Length	Dia	Length	Dia
173MHz			88	13				
418 & 433MHz	170	15	38	13	170	13		
458MHz								

Antenna Design Notes

The range achieved from the system is dependant on the choice and position of the antenna. The space around the antenna is as important as the antenna itself. The optimum position is to locate the antenna so that it protrudes directly out the top of the transmitter box. If this is not possible, try to keep the antenna away from other metal in the system such as transformers, batteries and PCB tracks, especially ground planes. In particular, the 'HOT' end of the antenna should be kept as far away as possible from these.

The following types of Antenna are recommended;

Antenna 1 - Helical Coil

Wire coil, connected directly to Pin 2, open circuit at the other end. This antenna has a high Q Factor, for trimming, the length may be adjusted.

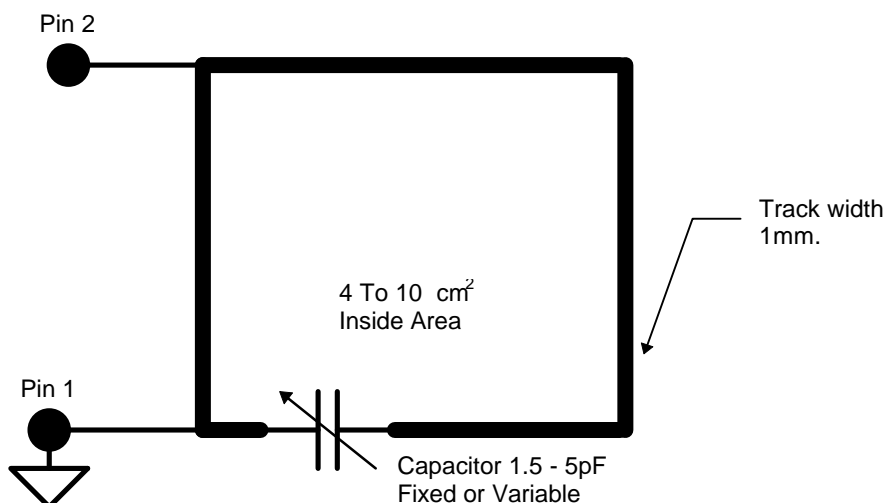
This is a popular antenna as it consumes little space.



34 Turns of enamelled copper wire diameter 0.5mm close wound on 2.5mm diameter former.

Antenna 2 - Loop

A PCB Track tuned by the Capacitor to ground at the 'HOT' end. Fed from ANT Pin at a point 20% from the ground end.



Antenna 3 - Whip

Can be either PCB Track, Wire Rod, or a combination of the two. One end connected to ANT Pin, the other open. Optimum total length is 17cm (1/4 wave @ 418Mhz)



Wire, Rod, PCB Track or combination thereof. Optimum Length is 17cm.

Advantages / Disadvantages of Each Antenna			
Feature	Helical	Loop	Whip
Performance	☺☺	☺	☺☺☺
Ease of design	☺☺	☺	☺☺☺
Size	☺☺☺	☺☺	☺
Immunity to hand detuning and or components in close proximity	☺☺	☺☺☺	☺