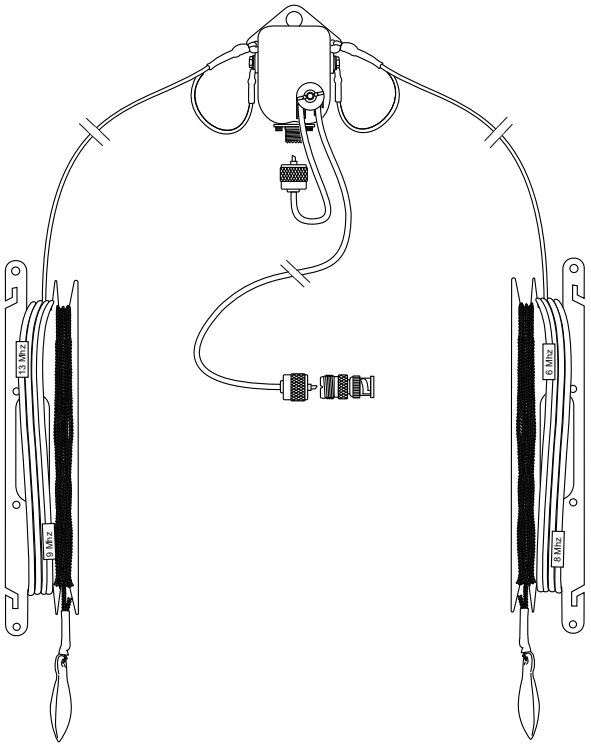
BARRETT

Rapid Deployment Tunable Wire Dipole HF Antenna - 150 W

P/N 2090-02-01 (with 10m coax)
P/N 2090-02-11 (with 20m coax)



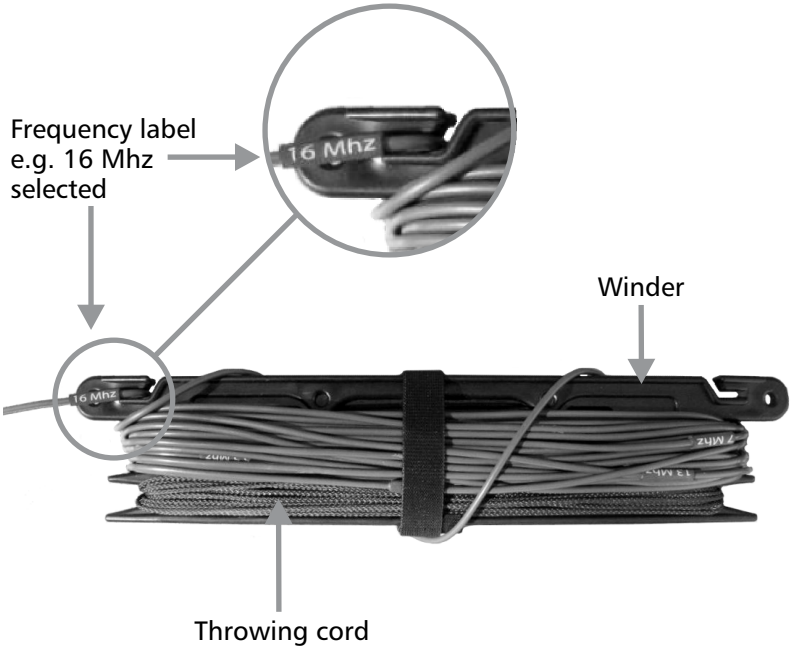
BCM20904/03

Introduction

The Rapid Deployment Tuned Wire Dipole Antenna has frequency labels to indicate tuned lengths. For operation, each side of the antenna is unwound to the tuned length for the frequency required. The label should be level with the end of the winder as shown in the picture below. Lengths for intermediate frequencies should be estimated and tied off appropriately. The remaining wire remains on the winder. The throwing cord can then be used to elevate the antenna. The antenna will operate continuously across the band from 2-30 MHz. The power rating is 150 W PEP. It can be used in a number of configurations (see over), depending on structures available for elevation. Compatible Barrett masts include, 10m Rapid Deployment Mast (P/N 2090-02-21), 10m Rapid Deployment Composite Mast (P/N 2090-02-24) and 5m Rapid Deployment Mast (P/N 2090-02-04). This antenna is most suitable for HF radio manpack and temporary base station deployment. This guide will indicate the recommended deployment type for each configuration with these symbols.

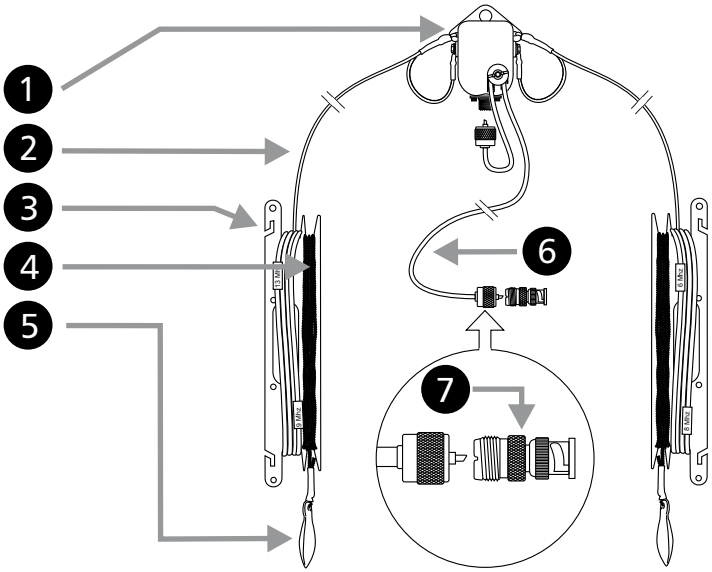
Manpack

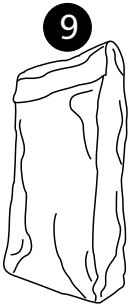
Temporary base station



Contents Overview

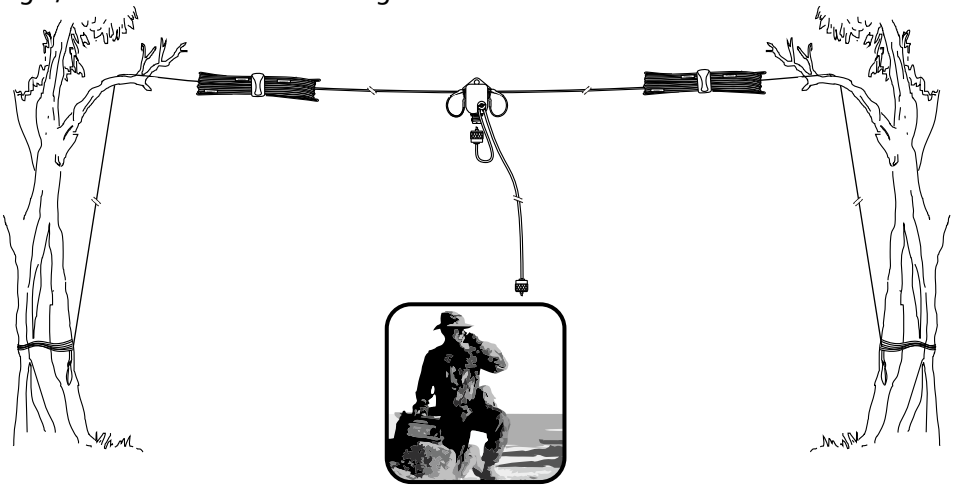
1. Balun
2. 2 x Kevlar core antenna wire labelled with frequency markers
3. 2 x Large winders
4. 2 x 10m Throwing cord
5. 2 x Throw weights
6. RG-58 coax
7. UHF to BNC adaptor
8. Instruction sheet
9. Carry bag





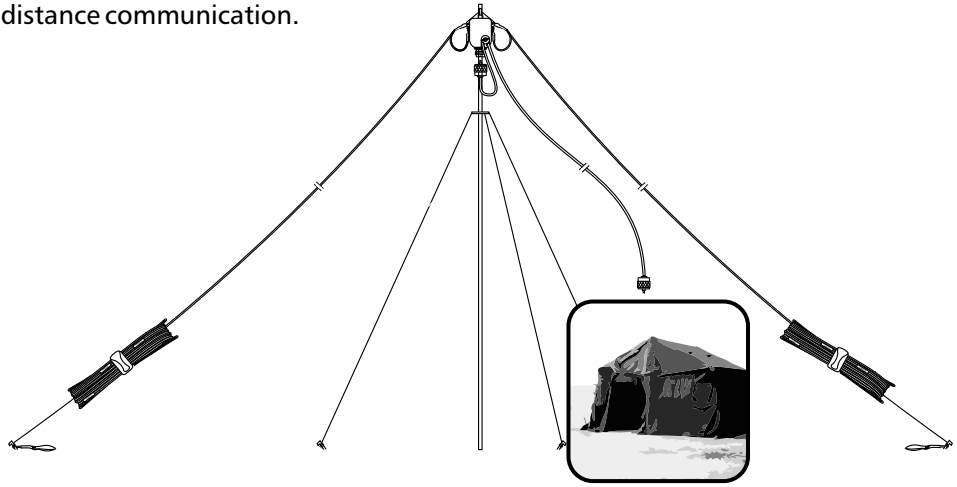
Horizontal Configuration

Horizontal configuration has maximum gain on the broadsides of the antenna and reduced gain along the axis. Therefore, the broadsides should point in the direction of the receiving stations, if possible. Antenna height above ground affects radiation angle. Lower heights give higher radiation angle which is better for NVIS (shorter distance) operation. Greater heights give a lower radiation angle, which is favourable for longer distance communication.



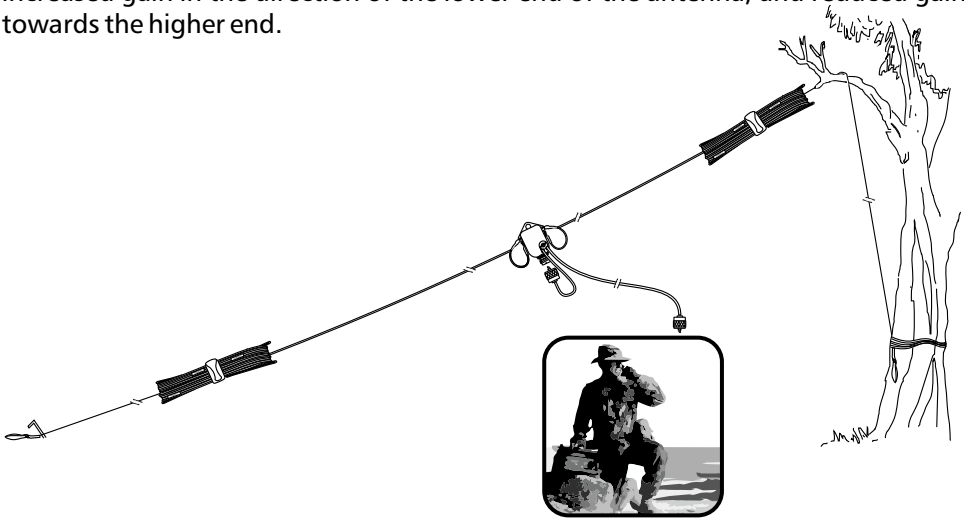
Inverted V Configuration

The inverted-V configuration has a more omni-directional pattern than the horizontal configuration, with lower maximum gain. The ends of the antenna should be at least 0.5m above ground. Suitable mainly for NVIS and medium distance communication.



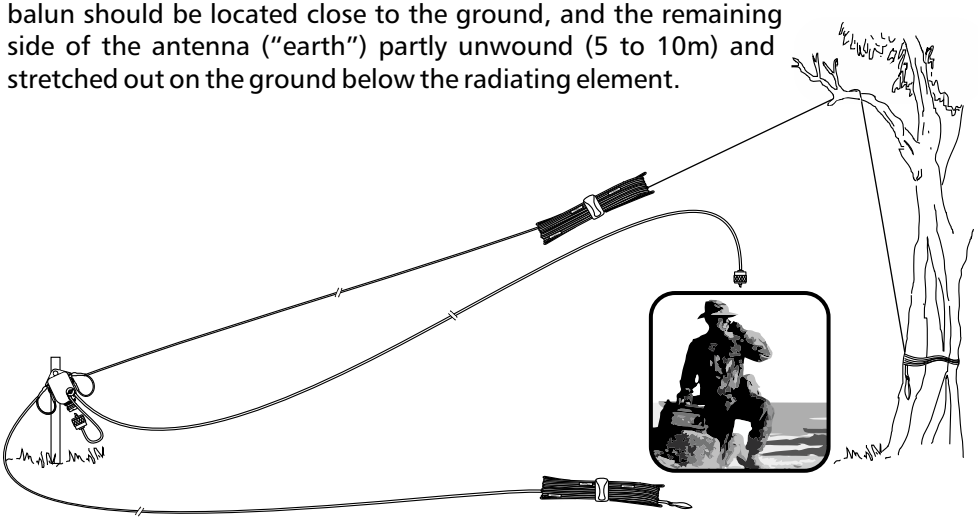
Sloping Configuration

Radiation with the Sloping configuration becomes more directional, with increased gain in the direction of the lower end of the antenna, and reduced gain towards the higher end.



Single Ended Configuration

For rapid deployment, with reduced but still acceptable efficiency, the antenna can be operated single ended. In this configuration, one side of the antenna is unwound to the desired frequency and tied to an elevated structure. The central balun should be located close to the ground, and the remaining side of the antenna ("earth") partly unwound (5 to 10m) and stretched out on the ground below the radiating element.

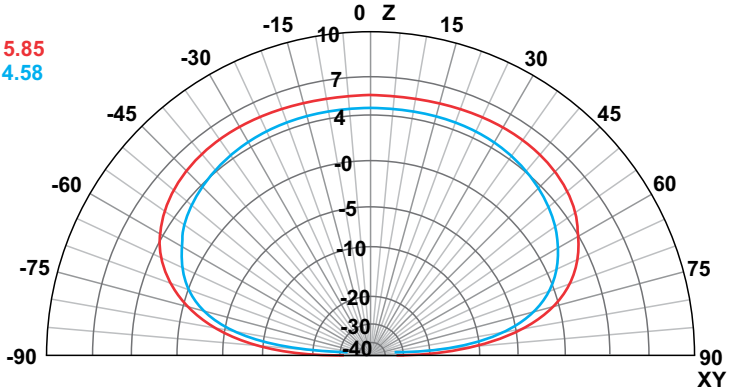


Radiation Pattern (8m Height)

Vertical Plane - Total Gain (dBi)

10MHz

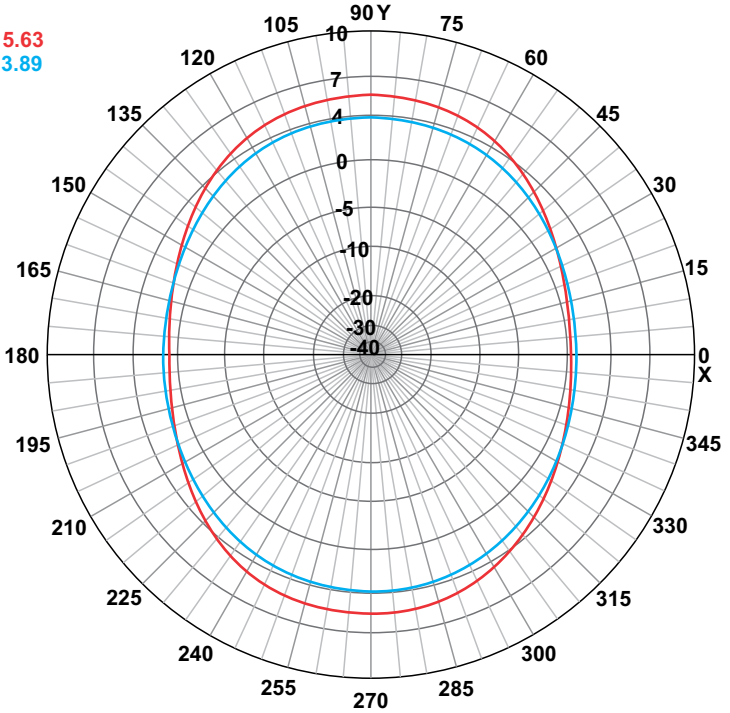
Horizontal 5.85
Inverted V 4.58



Horizontal Plane - Total Gain (dBi)

10MHz

Horizontal 5.63
Inverted V 3.89



Specifications

Electrical

Frequency Range	2 - 30 MHz
Input Impedance	50 ohms
Power Rating	150 W PEP
Connector	UHF female with BNC adaptor
Polarisation	Horizontal
Radiation Pattern	Essentially Omni-Directional (when mounted as an inverted-V)

Mechanical

Material	Kevlar core, copper braid, pvc sheath, UV Stablized Re-inforced Nylon housings
Length	48m
Weight	1.2kg
Packed size	37cm x 18cm x 5cm
Colour	Radiating wire elements - NATO green Balun housing - black

Environmental

Wind	160 km / hour survival, 120 km / hour operational
Temperature	-40° C to +70° C operational -40° C to +85° C storage
Humidity	0% to 97% relative humidity
Ingress Protection	To IP67 (dust and water)