



# Tactical Communication Antennas And Masts



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# MIL-3 Tactical Tuned HF Dipole

PORTABLE HF DIPOLE #BU01109



High Power / High Efficiency

Bushcomm Tactical HF Antennas are lightweight but rugged and durable, made to work with the world's most popular military transceivers.

They are designed for quick deployment in difficult conditions.

The Tactical Tuned Dipole Antenna is a tuned length dipole antenna using Kevlar cored radiating wire, with frequency labels to indicate tuned lengths.

For operation, each side of the antenna is unwound to the label indicating the frequency required. The remaining wire remains on the winder.

A throwing cord, fixed to the winder, can then be used to elevate the antenna using available fixtures.

**Efficient** - The tuned nature of the antenna provides superior efficiency in single frequency. The length of the radiating elements is preset by the operator before use.

**High Power** - The antenna will handle 200 watt data mode and 400 watt PEP transceivers.

**Carry Bag** — The bag is fitted with large belt loops for easy carrying.



Tactical Tuned Dipole unpacked with included coax cable



Sample frequency markers on the Kevlar reinforced wire

## SPECIFICATIONS

### ELECTRICAL

Frequency Range 3 - 30 MHz NO Tuner required

Maximum power rating 200 watt digital mode / 400 watt PEP

Impedance 50 ohm

### MECHANICAL

Material Kevlar core, copper braid, Olive Drab PVC sheath

Length 48m (fully unwound - 3Mhz)

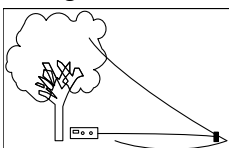
Weight 1.26kg

Packed size 37cm x 18cm x 5cm

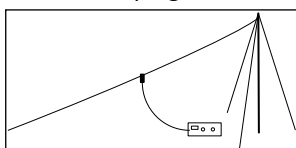
Connector SO239 (or custom)

## Flexible installation

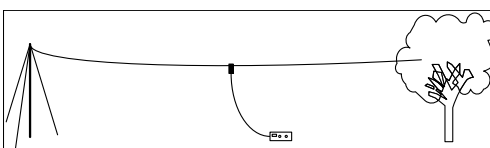
Single end fed



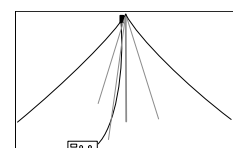
Sloping



Horizontal



Inverted V



# MIL-2 / MIL-2H

## Tactical HF Broadband Dipole Antenna



**MIL-2** #BU01066 **40W** continuous / **MIL-2H** #BU01067 **125W** continuous

Bushcomm's tactical HF Antennas are lightweight yet robust, made to work with most popular military transceivers.

They are designed for quick deployment in challenging conditions.

The Tactical Broadband Dipole Antenna has controlled impedance across the HF band which allows operation with frequency agile / frequency hopping communications modes with NO antenna tuner required.

For operation, each side of the antenna is unwound to its full length.

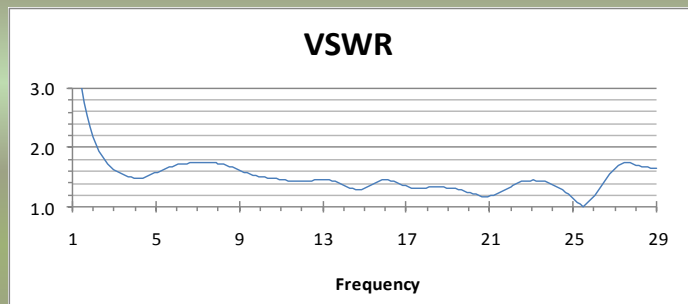
Throwing cords are provided that can be used to elevate the antenna or tie it to ground for an inverted 'V' configuration.

Two versions are available: 125 Watt and 200 Watt. The 125W PEP antenna will easily handle continuous data and CW transmission on a 40w man pack radio. The 200W model is suitable for continuous heavy duty data / CW usage with 100W transceivers.

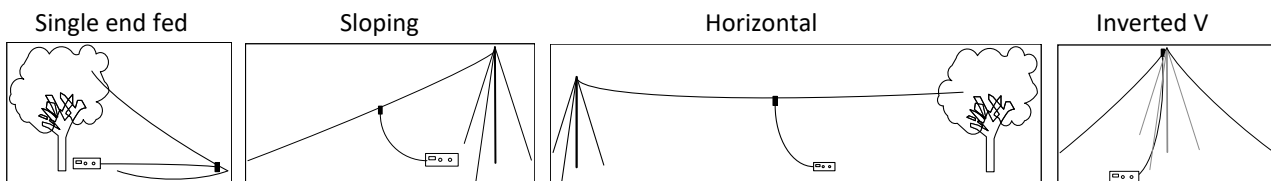
This antenna can be used in a number of configurations, depending on structures or vegetation available for elevation, as seen below.



Broadband Dipole with included belt attach carry bag and coax cable.



### Flexible installation



### SPECIFICATION

ELECTRICAL	
Frequency Range	2.0 - 30 MHz (Usable VSWR) NO Tuner required
Maximum power rating	BU01066- 125w PEP/40w Continuous, BU01067 250w PEP / 125w continuous
Impedance	50 ohm
MECHANICAL	
Material	Kevlar core, copper braid, Olive Drab PVC sheath
Length	48m
Weight	1.2kg (125W) 1.55kg (200W) (Includes carry bag with belt loops)
Packed size	37cm x 18cm x 5cm
Connector	SO239 (or custom)

# MIL-51

## 5 metre Portable Elevation Kit



The Bushcomm MIL-51 Portable Elevation Kit is a premium quality lightweight, man transportable system, designed as a deployable temporary mast for field antennas.

The kit comes complete with all necessary tools for a quick and easy installation of this portable HF tower.

It can be erected by one person.



### Contents Overview

- Carry bag, Olive Drab green, with snap closures.
- 5m (8 piece) x 25mm dia aluminium mast, powder coated NATO green
- Spike for locating mast base
- 3 x Tent pegs
- Club hammer for use with mast spike and tent pegs
- 3 x 7m guy sets (winder/tensioner, VB cord, Velcro strap, snap hook)
- 15m coax with UHF-UHF connectors and captive UHF-BNC adaptor.



### SPECIFICATION

#### MECHANICAL

<b>Material</b>	<ul style="list-style-type: none"> <li>• Carry bag, Olive Drab Denier Nylon with snap closures.</li> <li>• Mast, 5m (8 piece) x 25mm diameter aluminium tube powder coated Nato Green held together with elasticated shock cord.</li> </ul>
<b>Notes</b>	<ul style="list-style-type: none"> <li>• Spike for locating mast base</li> <li>• 3 x tent pegs</li> <li>• Club hammer for mast spike and tent pegs</li> <li>• 3 x 7m guy sets (winder/tensioner, VB cord, Velcro strap, snap hook)</li> <li>• 15m coax with UHF-UHF connectors and UHF-BNC adaptor</li> <li>• Mast has a spring hook for quick antenna installation and release and velcro straps to secure the coax transmission cable.</li> </ul>
<b>Height</b>	5.0m
<b>Weight</b>	6.26kg

### Description

The Tactical VHF Multiband Dipole Antenna is a tuned length dipole antenna using Kevlar cored radiating wire, fitted with frequency labels to indicate tuned lengths. For operation, each side of the antenna is unwound to the label indicating the frequency required. The remaining wire remains on the winders. A throwing cord can then be fixed to the winder and used to elevate the antenna.



The tuned nature of the antenna provides efficiency in operation, but

restricts the user to a single frequency band without changing the tuned length. The antenna and balun will handle continuous data and CW transmission with a 50w radio.

### Contents Overview

- 2 sections of Kevlar core antenna wire, labelled with frequency markers
- 2 winders for the antenna, 1 winder with two 10 metre throw cords.
- Small balun with black N type female connector.
- Supplied in black bag with large belt loops for easy personal carriage.
- 10m rg58c/u coax cable, N type male to BNC male (or custom)
- Coax adapter—BNC female to UHF male

### Specifications

Antenna and throw cord weight : 650g.

Longest length of antenna, (at 30Mhz) is approx. 3.8metres

Each band of the antenna is designed with the minimum span of 6.4MHz .

**The centre frequencies are:**

<u>Centre f (MHz)</u>	<u>Low end (MHz)</u>	<u>High end (MHz)</u>
33.4	30.0	36.6
39.8	36.6	43.0
46.2	43.0	49.4
52.6	49.4	55.8
59.0	55.8	62.2
65.4	62.2	68.6
71.8	68.6	81.4
84.6	81.4	90.0

# MIL-60 Tactical Loop Antenna

Tactical HF Wide Band Perimeter Loop Antenna

#BU01334



## Description

- The **MIL-60** is a 60 metre long true broadband HF perimeter loop antenna designed for quick deployment
- Very good NVIS propagation characteristics
- Features large capture area and an inherently low noise floor for clearer RX Signals.
- True Broadband design .
- 2Mhz—30Mhz
- **No tuner is required.**

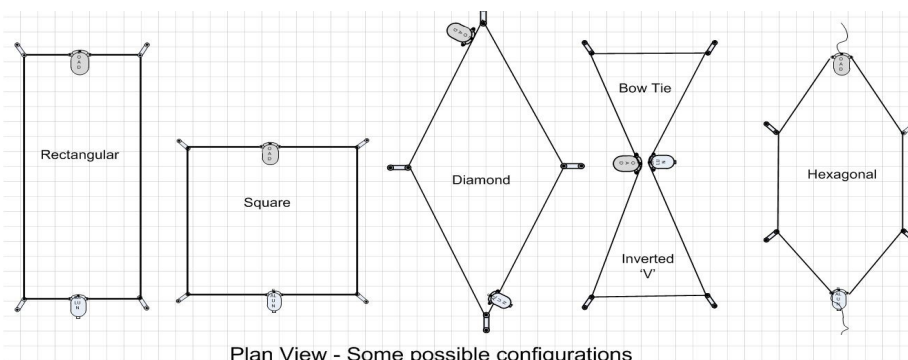


## Contents Overview

- 60m of radiating elements supplied on winders.
- Colour : Olive drab.
- Four mounting insulators, Black UV resistant Nylon
- Rugged matching broadband balun and load set, to suit **2Mhz -30MHz**.
- 4 x 5metre quick release clip-on polyester guy ropes.
- Heavy duty black nylon carry bag with belt loops.
- Laminated setup instruction sheet.

## Notes

- Made from PVC coated, Kevlar cored, copper braid radiating elements and UV stabilized Nylon components.
- Can be erected as a 3 or 4 sided polygon. (up to 6 sides with two additional guys)
- Frequency Range: 2-30MHz
- Input Impedance: 50 Ohms
- Power Input: 125w PEP (voice)
- Input Connector: UHF-style socket SO239
- Packed Dimensions: 33 x 19 x 8cm 2.1kg net
- Installation: The antenna can be installed in several shapes selected to suit location restrictions and desired directional bias .
- Elevated installations provide the best operation, however this antenna will still work laid on most ground surfaces, if time and location do not permit an elevated installation.



# MIL-5 Tactical Emergency Long Wire Antenna

## Variants available

#BU00183 suits Barrett 2090 Manpack

#BU00183C suits Codan 2110 , 2110V Manpack

- Custom termination available for other transceivers.



## Description

The Tactical Emergency Long Wire Antenna is a 10m Kevlar cored radiating wire, with a 10m weighted length of cord attached, to ease throwing over a suitable raised feature (e.g. tree). The antenna is not tuned or optimised for performance, but is rather designed to be light weight and convenient to carry.

## Contents Overview

- Non reflective threaded connector with copper contact and added insulation and strain relief.
- 10m Kevlar antenna wire
- Insulator
- 10m throw cord
- Lead-free throw weight (~90g)
- Stored on winder with handle
- 300mm Velcro closure

## Notes

- The throw cord is fixed to the Kevlar wire via an insulator. The throw cord is tied to the throw weight.
- The Kevlar wire is a copper braid with a Kevlar fibre core in the centre and a military green PVC insulating sheath on the outer.

• **Power:** No limitation.

**Packed Dimensions:** 170x65x55mm

**Weight:** 325gm



# SINGLE WIRE COUNTERPOISE EARTHING KIT



#BU00197

## Description

The Single Wire Counterpoise is a light weight counterpoise earthing kit using one 10m conductor.

It provides improved radiation capability for earth dependant antennas in conditions of low ground conductivity.

It has a winder and a flat blade terminal is fitted for connection to the transceiver.

Designed primarily for use on manpack transceivers

## Contents Overview

- Winder with handle
- 10m Kevlar core wire
- 250mm Velcro closure
- 200mm blackened stainless steel earth stake
- Flat blade terminal fitted

## Notes

- The Kevlar wire is made of copper braid around a Kevlar fibre core, all covered in military green PVC insulation.
- Alternative termination, for quantities, may be available upon request.
- 

## Specifications

- Dimensions: 200x65x55mm
- Weight: 280gm.





# MIL-1 Portable Light Weight Antenna (PLW)

## Tactical End Fed HF Broadband Antenna

#BU00137



The Bushcomm tactical end fed **PLW** antenna has been designed for portable military use. All metallic parts are blackened. It weighs only weighs 1070 grams. It is constructed of a Kevlar cored, PVC covered, copper braid cable, which can be efficiently wound and stored on the winder-styled balun.

It comes in a durable bag and is supplied with a 5m RG58 cable fitted with a UHF male connectors, two tie cords for erection and a blackened stainless steel earth stake. Non metal components are made from rugged UV stabilized glass reinforced nylon6.

This HF end fed antenna is broadband and covers frequencies between 3.6 - 30 MHz. The only requirement for transmission is a transceiver radio.

**No tuner is required.**



### SPECIFICATION

#### MECHANICAL

Material	Kevlar cored, PVC covered, copper braid cable, Moulded Balun/winder- glass reinforced nylon6. Blackened stainless steel earth stake. Nato Green bag
Weight	1070g
Overall Length	28 metres

#### ELECTRICAL

Impedance	50 Ohm
Frequency	3.6MHz - 30MHz No tuner required.
Power Rating	100W PEP (voice), 30W (data)

#### SPECIAL FEATURES.

- ★ Light weight and extremely portable
- ★ Easy to setup, ready to go in minutes (only requires one person)
- ★ Water proof moulded winder/balun and load
- ★ Weigh: 1070g

## HFB-1B

### Heavy Duty Commercial Vehicle HF Antenna Base

**\*Compact Single Stud Mount\***



Designed and constructed for maximum strength and durability from aluminium alloy, stainless steel and high tensile fasteners. The body is machined from a solid billet of Acetal Copolymer (Delrin) and the base is fitted with a very rugged heavy duty barrel spring

Based on the same rugged design of our full NATO base, the single stud mounting configuration is a more practical solution for installations on compact military and commercial 4x4 vehicles

### Specifications:

- \*Antenna Type:** HF mobile Base mount
- \*Frequency range:** 1.6 - 30Mhz (Tuner Dependant)
- \*Overall Length with spring:** 250mm, main body diameter (75mm), mounting base diameter (40mm),
- \*Input power:** 500 W (Tuner Dependant)
- \*Wind rating:** 130km/h
- \*Polarization:** vertical
- \*Spring stud type:** ½" BSW Stainless Steel Stud (Other threads available)
- \*Total weight:** 2 Kg with spring
- \*Durability - Impact:** Better than 200 Impacts midpoint on 2M whip @ 40km/h. Restores to its initial state when obstruction is removed.
- \*Base Colour Design:** Matt black overall colouring
- \*HF Cable Feed Type:** M6 with HV feed wire (50cm standard)
- \*Ease of Removal:** Quick removal (<5Min.)
- \*Temperature Range:** -20 to 70 C
- \*Compatibility:** Compatible with most random length longwire style tuners
- \*Standards:** Complies with MIL-STD-810F Sect. 505.4, 508.5, 510.4, 514.5



## Heavy Duty Military Vehicle Antenna Base NATO Pattern

Designed and manufactured in Australia, these extreme duty mobile antenna mounts are manufactured from aluminium alloys, stainless steel and high tensile fasteners for long term durability .

The body is machined from a solid billet of Acetal Copolymer (Delrin) and the base is fitted with an extreme duty heavy duty barrel spring.

The mounting flange accommodates both UK / NATO 6 or 3 hole pattern and USA 4 hole pattern, making the HFBN-1 a practical solution for both new builds & retrofits of military vehicles.



### **SPECIFICATIONS**

**Mounting:** UK/ NATO 6 or 3 hole pattern and  
USA 4 hole pattern

**Power Rating:** One Kilowatt

**Connection:** Via heavy duty HV cable with stud clamp.

**Impact:** In conjunction with a 2m non destructible test Whip, better than  
200 impacts at 40 km/h.

**Color:** Matt Black overall

**Base Diameter:** 140mm

**Overall height:** 250mm

**Weight:** 2.23 Kilograms

**Whip Attachment:** ½" BSW female as standard

## HF-MW-27(2)



### Mobile Heavy Duty 2 Piece Fibre Glass Whip - 2.7M

The **HF-MW-27(2)** is a ruggedly constructed whip manufactured from a solid glass fibre core covered with a heavy-duty braided copper conductor and an insulating sheath.

Solid construction offers greatly increased impact survival over hollow glass fibre whips.

**\*\*Survives better than 35 impacts at midpoint at speed of 40 Kmh\*\***

The insulating sheath enables it to be used in environments where there is risk of contact with high voltage sources such as fallen or low strung power lines.

The fully enclosing copper, braided conductor enables a very efficient transfer of radiated power.

**Note:** The antenna needs to be used with a suitable Antenna Tuner Unit.

**Note:** Mobile Mounting Base not included.

### **Specifications:**

**\*Antenna Type:** HF mobile whip

**\*Frequency range:** 1.6 - 30Mhz (Tuner Dependant)

**\*Antenna Length:** 2.7M Standard - 2 Piece (Custom lengths available)

**\*Input power:** 160 W

**\*Wind rating:** 130km/h

**\*Polarization:** vertical

**\*Base of antenna:** ½" BSW Stainless Steel Stud

**\*Total weight:** 1.5 Kg

**\*Durability - Impact:** Better than 35 Impacts midpoint @ 40km/h. Restores to its initial state when obstruction is removed.

**\*Whip Design:** Two piece construction with threaded joiner, 15mm diameter, solid fibreglass, braided radiating conductor

**\*Ease of Removal:** Quick removal (<1Min.)

**\*Temperature Range:** -20 to 70 C

**\*Compatibility:** Compatible with most random length longwire style tuners.

**\*Standards:** Complies with MIL-STD-810F Sect. 505.4, 508.5, 510.4, 514.5



**VHF/UHF Broadband Dipole, Base Station Antenna**

The **BPB-20-512** is a robustly constructed centre fed, ground independent dipole antenna, which covers the frequency range of 20 MHz to 512 MHz, without the need for any external tuning or adjustments.

It is designed for use as a base station antenna.

Construction of the dipole features a strong whip element which has very efficient transfer of radiated power.

**Specifications**

**Frequency range:** 20 to 512 MHz

**Input Impedance:** 50 Ohms

**Power Rating:** 100 watts CW

**VSWR:** < 3.5:1 over band

**Gain:** -1dBi to +4dBi over band

**Polarisation:** Vertical or horizontal

**Radiation pattern:** Azimuth 360 deg, (Omni Directional)

**Input Connector:** "N" type female

**Length:** 3.5m

**Weight:** 3.8 kg

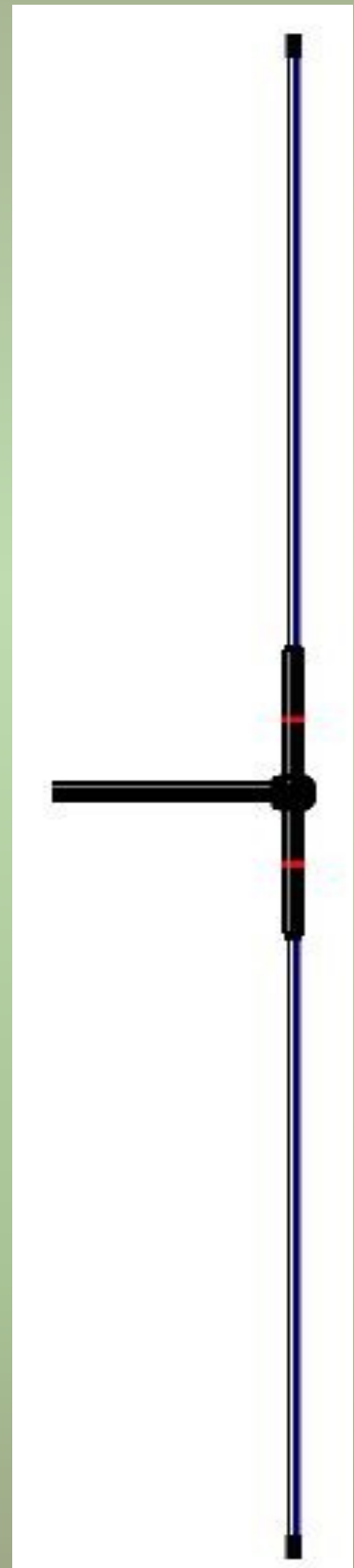
**Colour:** Black overall

**Operating Temp:** -40°C to +70°C

**Wind Rating:** 175 km/hr

**Shipping Weight:** 4.1 kg

**Shipping Size:** 2.0m x 0.3m x 0.25m



## Bushcomm Base Station Equipment

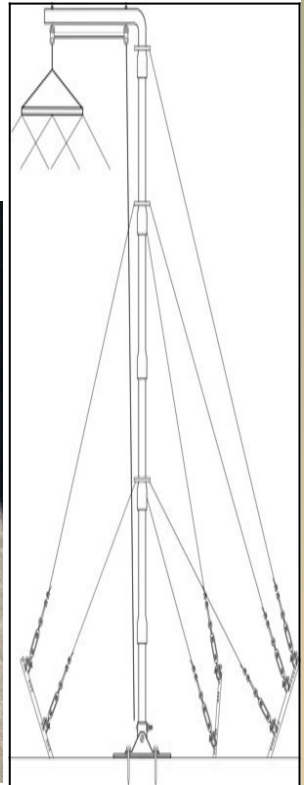
### Portable light weight air transportable towers. 6,10,12 metres. Ground and roof mounting options.

Bushcomm offers a range of towers. All made of aluminium construction, for strength and light weight, suitable for air transport, yet capable of withstanding significant winds. Maximum shipping length is only 2050mm, packed.

Available in 6, 10 and 12 metre heights, with 3.2mm stainless steel guys. Polyester rope guys available on 6 and 10m towers.

Single tower installation will support single and multiwire antennas in the inverted "V" configuration. This minimises the physical footprint of the installation and enhances NVIS and medium distance performance.

Alternatively, two towers can be erected to support a wire antenna in a horizontal configuration to improve longer distance propagation characteristics.



#### **SPECIFICATION 6M Version. #BU00171 - Ground Mount with Polyester guy cords.**

##### **MECHANICAL**

<b>Material</b>	★ 3 sections of 50mm x 2m tubular aluminium and 450mm top stub. ★ 6mm Polyester guy ropes with tensioners. Guy stakes supplied.
<b>Height</b>	6.45m Can be erected by 2 people.
<b>Shipping Weight</b>	24.2kg

#### **SPECIFICATION 10M Version. #TOW3 - Ground Mount with steel guy wires.**

##### **MECHANICAL**

<b>Material</b>	★ 5 sections of 50mm x 2m round tubular aluminium mast ★ Bent top outrigger section ★ 3.2mm G304 Stainless steel guy wires with insulators ★ Heavy duty swivel plate and guy stakes supplied.
<b>Height</b>	10m Can be erected by 2-3 people
<b>Shipping Weight</b>	28.3kg

#### **SPECIFICATION 12M Version. #TOW4 - Ground Mount with steel guy wires.**

##### **MECHANICAL**

<b>Material</b>	★ 6 sections x 2m tubular aluminium mast . - H/Duty 4mm wall thickness ★ Bent top outrigger section ★ 3.2mm G304 Stainless steel guy wires with insulators ★ Heavy duty swivel plate and guy rope stakes supplied.
<b>Height</b>	12m Can be erected by 3 people
<b>Shipping Weight</b>	41kg includes a falling derrick to assist with erection.

# BASE HF BROADBAND MULTIWIRE ANTENNAS

## BBA Series Overview



Bushcomm's flagship antenna range is the high performance BBA Series.

These antennas are highly efficient, and engineered to meet the exacting standards of professional and critical users. Frequency range is specified according to useful gain (not only VSWR), and all components are validated for the rated power.

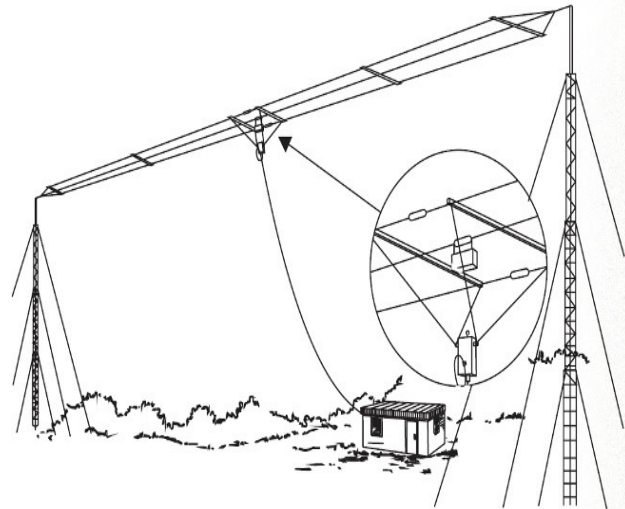
Bushcomm BBA antennas have the flexibility to suit horizontal, Inverted 'V' or sloping installations.

Light yet sturdy construction ensures low total mass wind loading.

The highest quality materials are used in construction, such as stainless steel wire and fittings, and UV resistant fibreglass rods and reinforced nylon components, to produce an antenna that will survive environmental conditions for many years.

Ruggedised versions are available for unique environments with extreme winds, ice loading etc.

*This product has been proven over many years with thousands sold into critical comms environments.*



### SPECIAL FEATURES

- No tuner required
- S/S wire and fittings
- UV resistant components
- Easy installation (instruction provided)
- Variation of length and power available
- Configurable in horizontal, inverted V or sloped configuration

Model	Length	Power (Average)	Max VSWR	Freq Range
BBA 100CS	20m	130W (CW) 250W PEP	2:1	3.5 to 30MHz
BBA 100C	27m	130W (CW) 250W PEP	2:1	2.0 to 30MHz
BBA 100CE	54m	130W (CW) 250W PEP	2.5:1	1.8 to 30MHz
BBA 600V	27m	250W Avg, 600W PEP	2:1	3.6 to 30MHz
BBA 600VE	54m	250W Avg, 600W PEP	2.5:1	1.8 to 30MHz
BBA 1kD	27m	1kW(CW), 2kW PEP	2:1	3.6 to 30MHz
BBA 1kDE	54m	1kW (CW), 2.5kW PEP	2:1	1.6 to 30MHz
*BBA 1kCF	74m	1kW (CW), 2.5kW PEP	2.8:1	1.6 to 30MHz

\* For improved low frequency performance, **BBA-1kCF** antenna is available. NB Special orders only.

# SWC-100 HF ANTENNA



## SINGLE WIRE CENTRE-FED HF BROADBAND ANTENNA 3.5 – 30MHz

#SWC-100

The **SWC-100** is a heavy duty, HF single wire broadband dipole antenna suitable for permanent base use.

The original SWC's were made over a decade ago. Many of them were sold into harsh island and jungle locations and are still in operation.

They have been continually improved over that time designing in greater RF efficiency and longer durability .

The SWC-100 can be installed in horizontal, sloping or inverted 'V' configurations .

Being a broadband antenna it can cover the frequency range of 2.0 MHz-30MHz without using a tuner.

Variants for 125 watt data transmission are also available. See the table below.

### FEATURES

- 2.0—30 MHz.. **No tuner required**
- 125 or 250 Watt PEP
- 2mm s/steel wire and fittings
- UV resistant, glass reinforced nylon components
- Easy installation. Instructions supplied.
- Higher power/ lower frequency variants available.



### SWC series variants

Model	Length m	Frequency MHz	Power Rating
		Usable VSWR	
SWC-100S	34	3.5 - 30	40W Data, 125W PEP
SWC-100	48	2.0 – 30	40W Data, 125W PEP
SWC-100E	60	1.8 - 30	40W Data, 125W PEP
SWC-100CS	34	3.5 - 30	125W Data, 250W PEP
SWC-100C	48	2.0 – 30	125W Data, 250W PEP
SWC-100CE	60	1.8 - 30	125W Data, 250W PEP