

**PORTABLE ANTENNA  
SUMMARY**



- ⌘ 5/16" x 26 TPI Thread, 148-174 MHz**
- ⌘ BNC Male, 400-520 MHz**
- ⌘ BNC Male, 900-930 MHz**
- ⌘ SMA Female, 403-520 MHz**
- ⌘ SMA Male, 130-940 MHz**
- ⌘ FME Female, GSM 900 and GSM 1800**

## Section 8

### PORTABLE ANTENNAS

Updated 22 February 2011

#### M99RT148 VHF Helically Wound Whip with 5/16" Female Thread

Frequency  
148 – 174 MHz

Bandwidth  
5% Field Tune



**M99RT148** is a helically wound whip for the frequency range 148 to 174 MHz. This helical design is most useful in circumstances where reduced height is essential.

The rugged copper plated steel construction will withstand rough treatment. The mount ferrule has a 5/16" x 26 TPI Female thread.

Since this stubby antenna will be used on radios, bases and ground planes unknown to us, it is supplied uncut. Clients will therefore require the services of a technician with suitable SWR equipment to ascertain the correct trim length according to the frequency required.

SPECIFICATIONS	M99RT148
Frequency Range	148–174 MHz
Max Bandwidth	5 %
Tuning	Trim to your desired frequency using an SWR meter
VSWR	< 1.5:1
Gain	2.1 dBi
Maximum Power	25 Watts
Impedance (Nom)	50 Ohms
Polarisation	Vertical
Pattern	Omnidirectional
Mount Ferrule	5/16" x 26 TPI Female thread
Height prior to trim	31 cm
Weight	66 grams
Construction	Copper Plated Steel, Helically Wound Whip



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#### M99B400 UHF Flexible Whip with BNC Male Base

Frequency  
400 – 520 MHz

Bandwidth  
10 MHz Field Tune



**M99B400** is a flexible whip for the UHF frequency range 400 to 520 MHz. Generally it is fitted to a hand held UHF radio using the BNC Male connector at the base.

Since the antenna will be used on radios, bases and ground planes unknown to us, it is supplied uncut. Clients will therefore require the services of a technician with suitable SWR equipment to ascertain the correct trim length according to the frequency required.

SPECIFICATIONS	M99B400
Frequency Range	400–520 MHz
Max Bandwidth	10 MHz
Tuning	Trim to your desired frequency using an SWR meter
VSWR	< 1.5:1
Gain	2.1 dBi
Maximum Power	25 Watts
Impedance (Nom)	50 Ohms
Polarisation	Vertical
Pattern	Omnidirectional
Connector	BNC Male
Height prior to trim	20 cm
Weight	30 grams



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#### M99BNC900 Highly Flexible Whip with BNC Male Base

Frequency  
**900 – 930 MHz**

Bandwidth  
**Full Band**



Model **M99BNC900** is a highly flexible whip pre-tuned in the factory for the frequency range 900 to 930 MHz.

The BNC Male base fits to any portable or fixed base station data device with a BNC Female connector.

Constructed from brass and stainless steel with a black UV resistant cover, the whip stands 19 cm tall.

SPECIFICATIONS	M99BNC900
<b>Construction</b>	Brass, stainless steel, black UV resistant heatshrink
<b>Frequency</b>	<b>900 930 MHz full band</b>
<b>VSWR</b>	< 1.5:1
<b>Tuning</b>	Factory
<b>Gain</b>	<b>2.1 dBi</b>
<b>Polarisation</b>	Vertical
<b>Pattern</b>	Omnidirectional
<b>Maximum Power</b>	25 Watts
<b>Impedance (Nom)</b>	50 Ohms
<b>Height</b>	19 cm
<b>Mounting</b>	BNC Male base fits to BNC Female connector on data device



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#### Flexible Whips with SMA Female Connector

Frequency  
130 – 520 MHz

Bandwidth  
See Table



These highly flexible whips will fit on to portable radios which have an SMA Male connector.

⚠ **ZSMA-165F** is tuned for 130 to 200 MHz.

⚠ **MW4052** covers the full UHF frequency range 403 to 520 MHz.

⚠ **MW4547** is for a narrower range 450 to 470 MHz at better than 1.8:1 VSWR

All models are black thermoplastic with an SMA Female connector located inside the base.



SPECIFICATIONS	ZSMA-165F	MW4052	MW4547
Frequency Range	130–200 MHz	403–520 MHz	450–470 MHz
VSWR	< 2.5:1	< 2.5:1	< 1.8:1
Tuning	Factory	Factory	Factory
Gain	2.1 dBi	2.1 dBi	2.1 dBi
Maximum Power	25 Watts	25 Watts	25 Watts
Impedance (Nom)	50 Ohms	50 Ohms	50 Ohms
Polarisation	Vertical	Vertical	Vertical
Pattern	Omnidirectional	Omnidirectional	Omnidirectional
Connector in Base	SMA Female	SMA Female	SMA Female
Height	16 cm	14 cm	17.5 cm
Weight	16 grams	15 grams	16 grams
Construction	Black TPEE (Thermoplastic Polyether Elastomer)		

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**PORTABLE ANTENNAS**

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**Flexible Whips with SMA Male Connector**

Frequency  
**130 – 940 MHz**

Bandwidth  
**See Table**



This selection of highly flexible whips will fit on to portable radios which have an SMA Female connector.

The different frequency ranges available are listed in the specifications table below.

These inexpensive whips are black thermoplastic with an SMA Male connector located inside the base.



SPECIFICATIONS	ZSMA-165	ZSMA-350	ZSMA-435	TW4052	ZSMA-905
Frequency Range	130–200 MHz	300–400 MHz	400–470 MHz	403–520 MHz	870–940 MHz
VSWR	< 2.5:1	< 2.5:1	< 2.5:1	< 2.5:1	< 2.5:1
Tuning	Factory	Factory	Factory	Factory	Factory
Gain	<b>2.1 dBi</b>	<b>2.1 dBi</b>	<b>2.1 dBi</b>	<b>2.1 dBi</b>	<b>2.1 dBi</b>
Maximum Power	25 Watts	25 Watts	25 Watts	25 Watts	25 Watts
Impedance (Nom)	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Polarisation	Vertical	Vertical	Vertical	Vertical	Vertical
Pattern	Omnidirectional	Omnidirectional	Omnidirectional	Omnidirectional	Omnidirectional
Connector in Base	<b>SMA Male</b>	<b>SMA Male</b>	<b>SMA Male</b>	<b>SMA Male</b>	<b>SMA Male</b>
Height	16 cm	15.7 cm	9.5 cm	17 cm	11 cm
Weight	20 grams	20 grams	12 grams	20 grams	12 grams
Construction	Black TPEE (Thermoplastic Polyether Elastomer)				



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**C858**  
**GSM 900 and GSM 1800 Band**  
**Whip with FME Female Connector**

Frequency  
**890 – 1880 MHz**

Bandwidth  
**See Table**



**C858** is a small whip just 56 mm tall designed for use on **GSM 900 and GSM 1800** band portable devices fitted with an FME Male connector.

SPECIFICATIONS	C858
<b>Construction</b>	Brass and Black UV resistant PVC
<b>Frequency</b>	<b>GSM 900 : 890 – 960 MHz</b> <b>GSM 1800 : 1710 – 1880 MHz</b>
<b>VSWR</b>	< 3:1
<b>Tuning</b>	Factory
<b>Gain</b>	<b>2.1 dBi</b>
<b>Polarisation</b>	Vertical
<b>Maximum Power</b>	5 Watts
<b>Impedance (Nom)</b>	50 Ohms
<b>Connector</b>	<b>FME Female</b>
<b>Height</b>	56 mm
<b>Weight</b>	4.5 grams

