

Manpack/Mobile Watson Watt DF Antenna

20 – 3000 MHz

Product Code: DF-A0120

VERSION: 1.3

SPECIFICATIONS

Product codes:	
DF-A0120	Antennas array incl. band switch
DF-A0120-M1	Isolating mast
Electrical: DF	
Frequency range	20 – 3000 MHz
Band B	20 – 700 MHz
Band C	700 – 3000 MHz
Channels per band	3
DF method	Watson-Watt or 3-channel correlative
RMS accuracy	< 5° (using only pure WW)*
Polarisation	Vertical
Omni-output	Provided as one of the DF channels
Electrical: band switch (fully integrated in antenna)	
Frequency range	20 – 3000 MHz
Control	- RS 485, - dedicated switching lines
Switching time	< 10µs when using dedicated lines
Integrated features	- Compass (accuracy 3°) - Active GPS antenna
Stored information	Model no., serial no., user data fields
RF calibration	- Internal noise source - External cal injection option
Power supply	6 – 10 V DC
Power consumption	< 1 W
Interfaces:	
Electrical	Base-mounted connector (see below)
Connector	MIL-38999/26ZJ24PN
Antenna outputs	3 x co-axial (size 12 contact)
GPS output	1 x co-axial (size 12 contact)
Ext cal input	1 x co-axial (size 12 contact)
Mechanical	Spring-mount via connector
Mechanical:	
Dimensions (h x d)	800 mm x 83 mm (DF-A0120) 1041 mm x 83 mm (DF-A0120-M1)
Mass	< 2.0 kg (DF-A0120) < 3.0 kg (DF-A0120-M1)
Environmental: designed to meet the following specifications	
Temperature range	-30 °C to +55 °C (operating) -40 °C to +71 °C (storage)
Ingress protection	IP65
Shock and vibration	MIL-STD-810E 516.4, Cat 8, shock 40g

* Improved accuracy is possible using correlative methods

*CA Application 2,853,219;

*EP Patent 2771943;

*U.S. Patent No. 14/353,382;

*ZA Patent No. 2014/02806

PRODUCT DESCRIPTION

The DF-A0120 is a wideband DF antenna intended for on-the-move direction finding from 20 to 3000 MHz.

The antenna array is implemented as a dual-band vertical stack with the low frequency band enhanced with patented hybrid loop-Adcock technology to provide improved sensitivity vs traditional designs of the same form factor.

The antenna presents patterns suitable for the Watson Watt estimation method, as well as 3-channel correlative DF. Band switching is done via an integrated switch and control system. External and internal RF chain calibration is accommodated and a compass and active GPS antenna are also integrated in the antenna.

Spring-mounting is directly via the base-mounted MIL DTL 38999 connector interface. An optional isolating extension mast is also available for use on vehicles or marine platforms. This provides improved performance over simply mounting the antenna directly to the structures.

The design is ideal for shared platform applications and flexible deployment scenarios, e.g. a boat-mounted antenna can be detached and transitioned to an on-the-march system and a vehicle system as needed.

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GAIN THE ADVANTAGE

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Gain and typical patterns:

