HF Mobile Watson Watt Antenna

1 – 88 MHz*

VERSION: 1.3

Product Code: DF-A0134

PRODUCT DESCRIPTION:

The DF-A0134 is a Watson Watt antenna array that is suitable for mobile DF of signals from 1 to 88 MHz and above*.

The antenna makes use of a patented stabilised loop antenna technology that supresses the effects of on-horizon cross polarisation which originally made loops less attractive for DF applications. The loop radiators provide many hundreds of times more sensitivity than the usual Adcock type designs and similar sized interferometer type arrangements, however, accuracy can be degraded for far off-horizon signals with cross-polar content. Integrated filters are provided to suppress strong emitters above 88 MHz.

The antenna is stowable by disconnecting the stalk and top whip attachments and stowing with the main antenna structure. The antenna is mounted to mobile platforms via a NATO 4 or 6 hole pattern flange and is spring loaded to allow the antenna to withstand some contact with overhead objects. Output from the antenna is provided by means of a multi-RF cable assembly using a MIL-DTL-38999 standard connector providing the three output RF signals on a single connector interface.

A version of the antenna can be provided with 3-to-2 commutation capability via an integrated RF switch system. This system also provides integrated electronic compass and GPS antenna. Power, control and data are via the same shared MIL-DTL-38999 connector.

SPECIFICATIONS:

Product codes:	
DF-A0134	HF DF antenna only
DF-A0134-01	HF DF antenna with integrated electronic commutation, GPS antenna and electronic compass
Electrical: DF	
Frequency range	1 – 88 MHz
Channels	3 (one being omni-directional)
DF method	Watson Watt DF 2- or 3-channel correlative DF
RMS accuracy	< 2° in large signal conditions
Sensitivity	See attached graph
Antenna element gain	See attached graph
Polarisation	Vertical
Electrical: commutation switch (integrated)**	
Control	- RS 485 & dedicated strobe line
Commutation switching time	< 1µs when using dedicated line
Integrated features	- Compass (accuracy 3° RMS) - Active GPS antenna
Stored information	Model no., serial no., user data fields
Power supply	12 V DC
Power consumption	< 1 W
Interfaces:	
Electrical	- Via multi-cable with connector - Custom output cabling on request
Connector	MIL-38999 / 26WG11PN
Antenna outputs	3 x co-axial (size 12 contact)
GPS output**	1 x co-axial (size 12 contact)
Power/ctrl**	7 x pin (size 12 contact)
Mechanical	Detachable spring mount for backpack
Mechanical:	
Dimensions (stowed)	1000 x 170 mm (h x ø)
Dimensions (deployed)	1700 x 170 mm (h x ø)
Total mass	< 5 kg
Mounting method	Spring mounted via NATO 4 or 6 hole flange
Environmental: designed to meet the following specifications	
Wind survival	120 km/h (without ice)
Temperature (operation)	-30 °C to +70 ºC
Ingress protection	IP 65

*Operation up to 250 MHz is possible if filters removed (on request)
** Only on DF-A0134-01

*CA Application 2,853,219;
*EP Patent 2771943;
*U.S. Patent No. 14/353,382;
*ZA Patent No. 2014/02806

HF Mobile Watson Watt Antenna

1 – 88 MHz*

Product Code: DF-A0134 **VERSION: 1.2**

PRODUCT FEATURES:

- Extremely high sensitivity compared to similar, or even larger sized Adcock and interferometer technologies.
- Compact size for better performance than alternate technologies.
- Omni-directional channel can be used for monitoring.
- Can be used in both Watson Watt and Correlative DF systems.
- Very robust one-piece radiator mechanical design, few parts to lose.

DF PERFORMANCE: