



### PRODUCT DESCRIPTION:

The DF-A0069 is a wideband vehicle-mounted Adcock DF antenna intended for direction-finding from 20 to 3000 MHz.

The antenna uses a combination of crossed-loop and Adcock array principles for the various bands providing maximum possible sensitivity for its compact form factor. The loop designs incorporate patent pending technology to mitigate cross-pol disturbance. Each band offers an omni-channel output that can also be used for monitoring.

The antenna presents patterns suitable for the Watson-Watt estimation method, as well as 3-channel correlative DF (CIDF).

Band switching is done by a switch integrated into the antenna. Limiters are used to prevent damage to the switch from strong nearby transmitters. A noise source for switch calibration and an electronic compass is integrated into the switch.

### SPECIFICATIONS:

<b>Electrical: DF</b>	
Frequency range	20 – 3000 MHz
Band B	20 – 500 MHz <sup>1</sup>
Band C	500 – 1500 MHz <sup>1</sup>
Band D	1500 – 3000 MHz <sup>1</sup>
Channels per band	3
DF method	Watson-Watt or 3-channel CIDF
RMS accuracy	< 5° <sup>2</sup>
Polarisation	Vertical
Omni-output	On channel 1 for all bands
Nominal input impedance	50 Ω
<b>Electrical: Band switch (fully integrated into antenna)</b>	
Frequency range	20 – 3000 MHz
Control	- RS 485 serial at 115 kbaud - two switching lines, each a differential pair using RS485 levels
Switching time	< 100 µs using serial commands < 4 µs when using dedicated lines
Integrated compass	Available on RS485 serial. Accuracy 2°
Stored information	Model no., serial No., user data fields.
RF calibration	Internal wideband noise source
Power supply	15 ±2 V DC
Power consumption	< 1 W (noise source and compass off)
Maximum incident power	Protected by internal limiters. See page 2.
<b>Interfaces:</b>	
Electrical	Connectors recessed into base of antenna
Antenna outputs	3x N-type female
Control and power	MIL-DTL-38999 multi-pin connector
Mechanical	Flange for vehicle or mast mounting.
<b>Mechanical:</b>	
Dimensions (ø x h)	320 x 690 mm
Total mass	8.5 kg
<b>Environmental:</b>	
Wind survival	160 km/h (without ice)
Temperature (operation)	-30 to +70 °C
Vibration and shock	MIL-STD-810-F for ground vehicles
Water proofing	IP65 rain proof

#### Notes:

- Optimum band change-over frequencies to be chosen by user after measurement.
- RMS accuracy is measured over all azimuth, over each full band. Individual frequencies may exceed this figure.

# Vehicle Adcock DF Antenna

20 – 3000 MHz

Product Code: DF-A0069

VERSION: 2.0

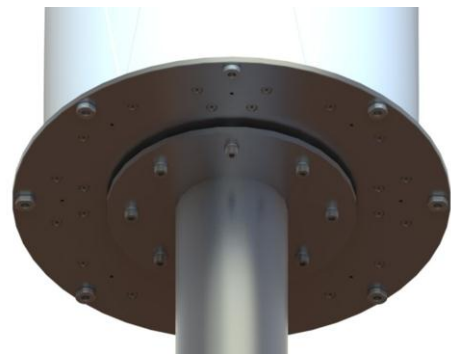
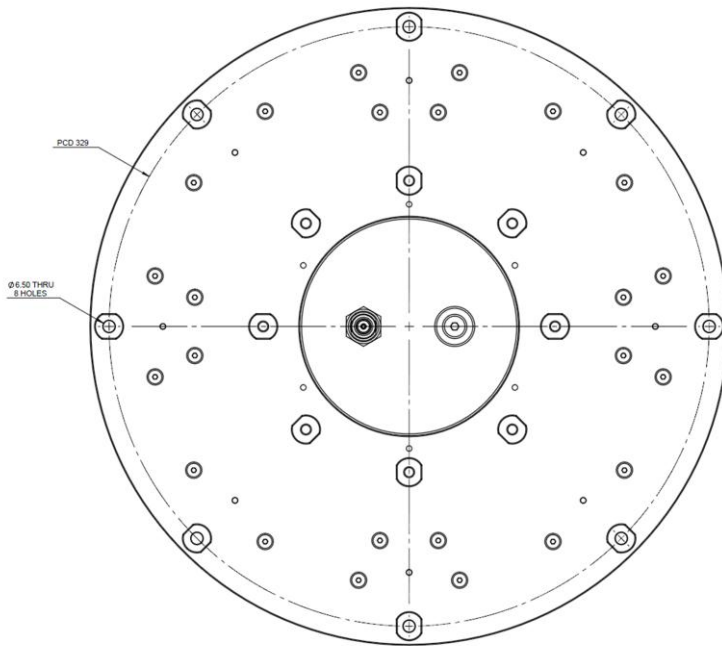
## INTERNAL LIMITER OPERATION

The internal limiters in the switch provide good protection against strong signals.

The following characteristics can be expected of these limiters in the Bands B and C, and Band D.

Region	Pmin (BC)	Pmin (D)	Pmax (BC)	Pmax (D)	Pout max (BC)	Pout max (D)
Linear	small	small	+5 dBm	+7 dBm	linear	linear
Limiting	+5 dBm	+7 dBm	+11 dBm	+18 dBm	+11 dBm	+18 dBm
Saturation	+11 dBm	+18 dBm	+33 dBm	+33 dBm	+11 dBm	+18 dBm
Destruction	> +33 dBm	> +33 dBm	> +47 dBm (1 $\mu$ s)	> +47 dBm (1 $\mu$ s)	-	-

## MOUNTING FLANGE DETAILS



For vehicle mounting: 8 x 6.5 mm clearance holes on 329 mm PCD.  
For mast mounting: 8 x M6x1 mm tapped holes on a 160 mm PCD

