



DIRECTION FINDING (DF) ANTENNA

UHF/SHF DIRECTION FINDING ANTENNA (DFH18)

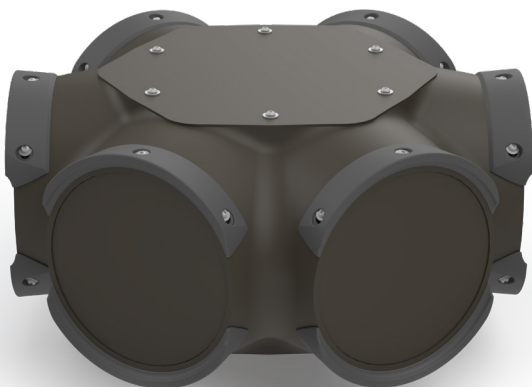
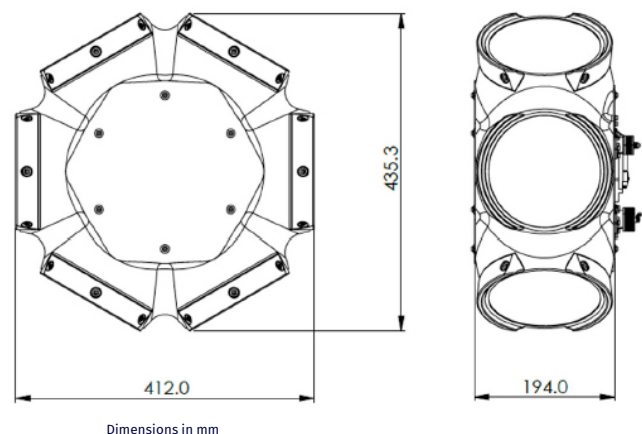
The DFH18 is a Compact Direction-Finding Head that combines high-precision direction-finding (AoA) with wideband spectrum monitoring in a rugged, tactical format.

The DFH18 provides real-time 500MHz–18GHz LOB (line-of-bearing) with a typical DF accuracy of less than 2.5° RMS. It is compatible with RFeye Node 100-18 and 100-40, and can be attached to any existing RFeye Node. Separating DF head and RFeye Node allows flexible deployment, e.g. the possibility to mount the DF head as high as possible on a mast / pole, as well as more flexible mounting on a vehicle.

The DFH18 uses a ring of 6 high-performance spiral antennas to give wideband DF capability up to 18GHz. The DFH18 commutates at very high speed around the antennas to make highly accurate bearing measurements. In addition, precise timing and synchronization allows correlation of data between multiple DF heads or between DF heads and RFeye Nodes for accurate geolocation of target signals using combined AOA and TDOA techniques. LOBs can be overlaid onto a wide variety of maps, satellite images, and 2D / 3D GIS datasets to give a unique positional display showing source geolocation probabilities. All signal types in the range can be mapped, irrespective of signal power, bandwidth, or frequency.

Applications

- Operating close to the Forward Edge of Battle Area
- Addressing coverage blind spots
- Surveillance, DF, or interference hunting
- Supporting existing spectrum monitoring operations
- Delivering tactical DF capability in environments with constrained infrastructure



TECHNICAL PERFORMANCE

DF Head	
DF frequency range	500MHz to 18GHz
DF accuracy	<2.5° RMS typical
Polarization	All Linear polarizations

General Specifications	
Weight of DF Head	7.5kg
Dimensions of DF Head	412 x 435 x 194mm
Power supply	12V DC
Power consumption	10W typical (not including Node)
Operating temperature	-20°C to +55°C

Mast options for DFH18	
Lightweight Rolatube tripod (2m)	Weight: 5kg, Head height: 2m
Intermediate AL1 Bluesky mast (2m)	Weight: 27kg, Head height: 2m
Heavyweight AL2 Bluesky mast (6m)	Weight: 46kg, Head height: 6m
Heavyweight AL2 Bluesky mast (10m)	Weight: 52kg, Head height: 10m

Interoperability

The DFH18 is interoperable with other RFeye products, for multi-site monitoring and geolocation. The DFH18 can be used in a network with other RFeye Nodes for TDoA and AoA geolocation.

Benefits

- Small form-factor
- Rapid deployment
- Highly configurable
- Expandable performance
- Intuitive GUI operation with rugged laptop or tablet

RELATED EQUIPMENT (RAPID DEPLOYMENT KIT)



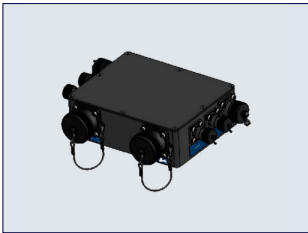
Mini Outdoor Kit (Green)



2x spectrum monitoring antennas



Mast system



Power, Data, Distribution Module (PDDM)



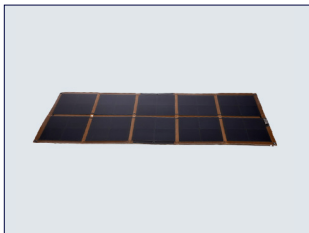
Mounting brackets and fixings



RF and power cables



Bren-Tronics battery



Solar panel with 3-way cable



RFeye® Site Software

CRFS is an RF technology specialist for the defense industry, national security agencies, and systems integration partners. We provide advanced capabilities for real-time spectrum monitoring, situational awareness, and electronic warfare support to help our customers understand and exploit the electromagnetic environment.



CRFS Inc
Chantilly,
VA, USA
+1 571 321 5470

CRFS Ltd
Cambridge,
United Kingdom
+44 (0) 1223 859 500

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