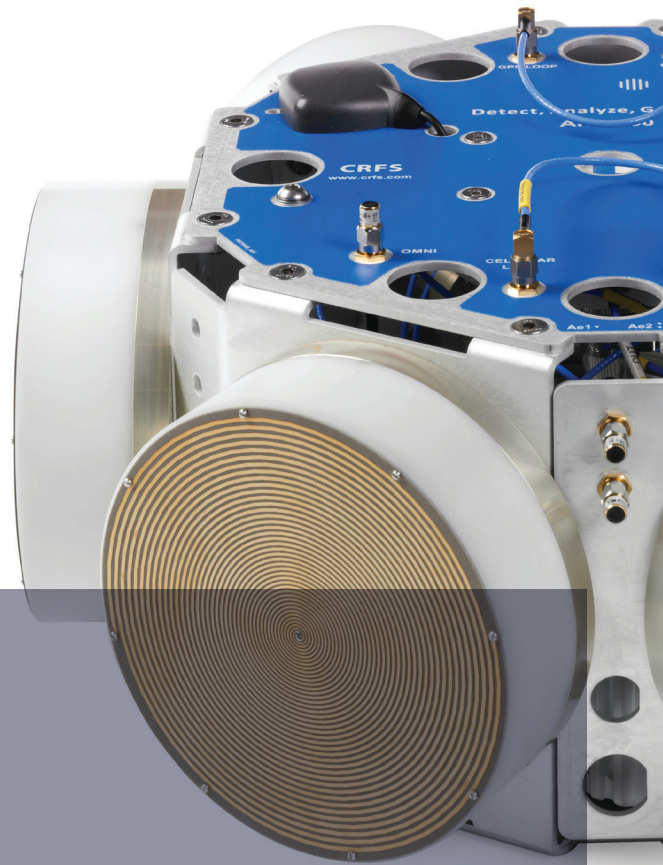


RFeyeArray

125

DF and Spectrum Monitoring System



Mid-sized transportable direction finding system combining broadband monitoring and DF on wideband signals to 8 GHz.

The RFeye Array 125 is the larger of the man-portable systems in the Array family and is designed for vehicle mounted, transportable or ground-fixed installations. It is a fully integrated plug-and-play system containing a high performance RFeye Node 100-8, spiral antenna modules and high speed switch within an IP55 radome, and is available with a mounting kit. The RFeye receiver commutates at very high speed around the antennas to make near-simultaneous AOA measurements in multiple directions.

In addition, timing and synchronization features allow correlation of data between multiple Arrays or between Arrays and Nodes for accurate geolocation of target signals using combined AOA, TDOA and POA techniques. Measurements 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.

RFeyeArray

125 Specifications

Receiver

Channels	
Single	1 x Node 100-8
Frequency	
Range	9 kHz to 8 GHz
Sweep speed	
Sweep	280 GHz/s @ 2 MHz RBW 245 GHz/s @ 61 kHz RBW
Noise figures at maximum sensitivity	
9 kHz to 0.1 GHz	10 dB typical
0.1 GHz to 2.4 GHz	6 dB typical
2.4 GHz to 6 GHz	7 dB typical
6 GHz to 8 GHz	8 dB typical
Signal analysis	
Instantaneous bandwidth	100 MHz
Tuning resolution	1 Hz
Internal frequency reference (pre-calibration)	
Initial accuracy	±1.0 ppm typ.
Stability	±1.5 ppm typ.
Ageing	±0.5 ppm per year
Sampling	
Resolution	16 bits per channel (I&Q)
Rate	125 MS/s I&Q

DF and Geolocation

Direction finding method	
Angle of Arrival (AOA)	6-way switched array
Geolocation frequency range	
AOA DF	500 MHz - 8 GHz
Time Difference of Arrival (TDOA)	9 kHz - 8 GHz (external omni antenna)
Power on Arrival (POA)	9 kHz - 8 GHz (external omni antenna)
DF coverage and accuracy	
Polarization sensitivity	All linear (circular polarized Rx antennas)
Azimuth coverage	360°

Array 125 System

I/O	
Auxiliary RF inputs	2 x SMA (9 kHz - 8 GHz)
Network	1 x 1 GigE, with PoE
USB	1 x USB 3.0, 1 x USB 2.0
GPS antenna input	1 x SMA passive or active (3.3 VDC)
Location	Internal GPS module & antenna (standard) External GPS compass (option) Internal digital magnetic compass (option)
Data storage	
External flash disk	via USB interfaces
Internal storage	256 GB SSD
Size, weight and power	
Dimensions (Ø, h)	650 mm x 420 mm (25.59 x 16.53 in)
Weight	28 kg (61.7 lbs)
DC power or PoE	10 to 48 VDC
Power consumption	
Typical	25 W
Maximum	40 W
Environmental	
Operating temperature	-30 to +55°C (-22 to 131°F)
Storage temperature	-40 to +70°C (-40 to 158°F)
Ingress protection	IP55



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