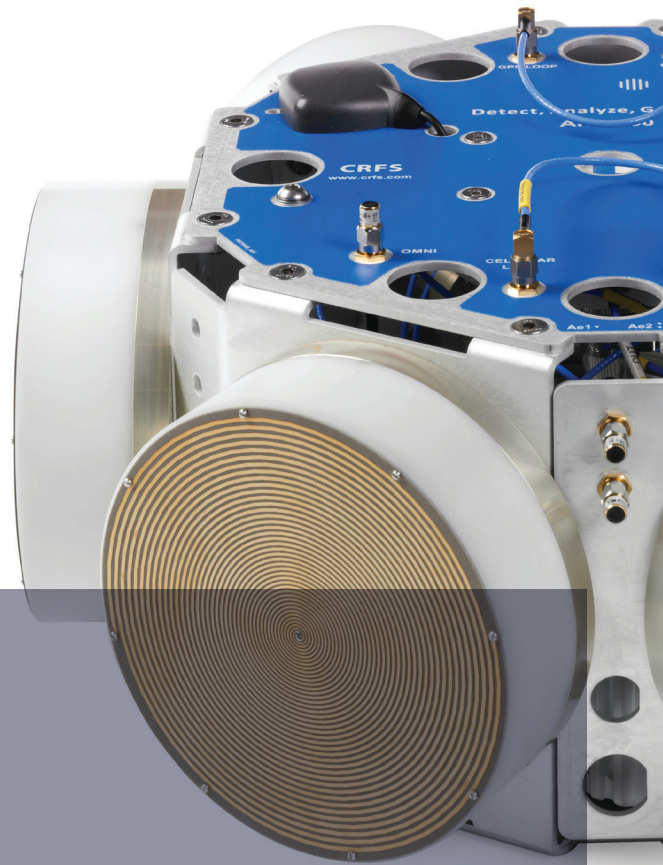


RFeyeArray

100

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 100 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 50-8, spiral antenna modules and high speed switch and is available with optional IP65 radome and 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

100 Specifications

Receiver

Channels

Single	1 x Node 50-8
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Frequency

Range	9 kHz to 8 GHz
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Sweep speed

Sweep	208 GHz/s @ 1 MHz RBW
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Noise figures at maximum sensitivity

9 kHz to 0.1 GHz	12 dB typical
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0.1 GHz to 2.4 GHz	7 dB typical
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2.4 GHz to 8 GHz	8 dB typical
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Signal analysis

Instantaneous bandwidth	50 MHz
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Tuning resolution	1 Hz
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Internal frequency reference (pre-calibration)

Initial accuracy	±1.0 ppm typ.
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Stability	±1.5 ppm typ.
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Ageing	±0.5 ppm per year
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Sampling

Resolution	16 bits per channel (I&Q)
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Rate	125 MS/s I&Q
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DF and Geolocation

Direction finding method

Angle of Arrival (AOA)	6-way switched array
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Geolocation frequency range

AOA DF	500 MHz - 8 GHz
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Time Difference of Arrival (TDOA)	9 kHz - 8 GHz (external omni antenna)
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Power on Arrival (POA)	9 kHz - 8 GHz (external omni antenna)
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DF coverage and accuracy

Polarization sensitivity	All linear (circular polarized Rx antennas)
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Azimuth coverage	360°
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Array 100 System

I/O

Auxiliary RF inputs	2 x SMA (9 kHz - 8 GHz)
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Network	1 x 1 GigE, with POnE
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USB	1 x USB 3.0, 1 x USB 2.0
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GPS antenna input	1 x SMA passive or active (3.3 VDC)
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Location	Internal GPS module & antenna (standard)
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Heading	External GPS compass (option)
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	Internal digital magnetic compass (option)
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Data storage

External flash disk	via USB interfaces
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Internal storage	256 GB SSD
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Size, weight and power

Dimensions (ϕ, h)	650 mm x 420 mm (25.59 x 16.53 in)
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Weight	28 kg (61.7 lbs)
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DC power or POnE	10 to 48 VDC
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Power consumption

Typical	25 W
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Maximum	40 W
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Environmental

Operating temperature	-30 to +55°C (-22 to 131°F)
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Storage temperature	-40 to +70°C (-40 to 158°F)
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Ingress protection	IP55 (w/ optional radome)
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