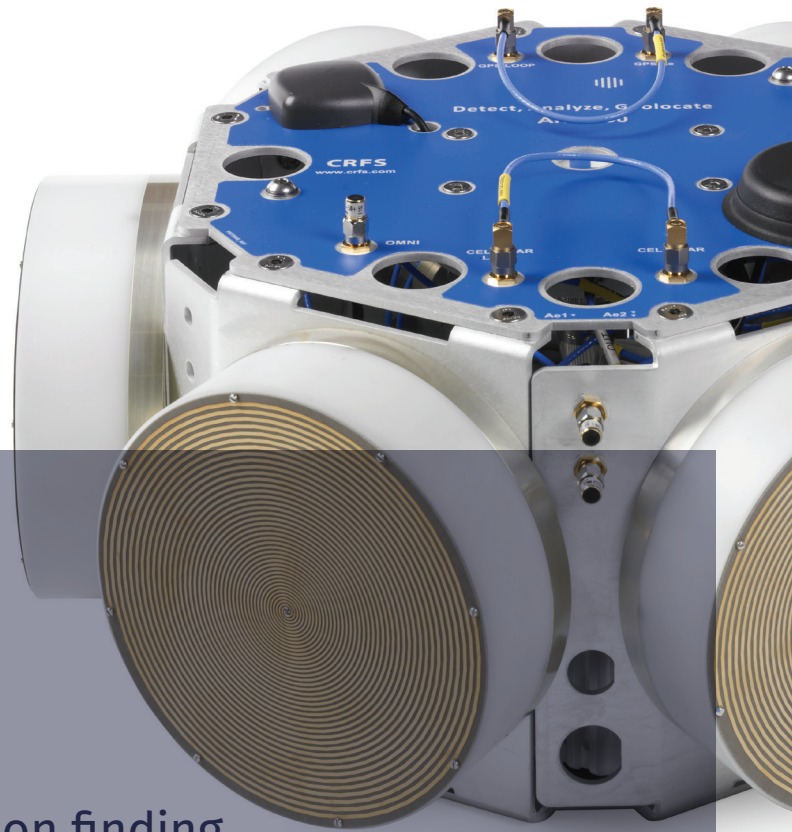


RFeyeArray

150

DF and Spectrum Monitoring System



Mid-sized transportable direction finding system combining broadband monitoring and DF on wideband signals to 18 GHz.

The RFeye Array 150 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 100-18, 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

150 Specifications

Receiver

Channels

Single 1 x Node 100-18

Frequency

Range 9 kHz to 18 GHz

Sweep speed

Sweep 390 GHz/s @ 2 MHz RBW
320 GHz/s @ 61 kHz RBW

Noise figures at maximum sensitivity

9 kHz to 0.12 GHz 12 dB typical

0.12 GHz to 6 GHz 8.5 dB typical

6 GHz to 10 GHz 10.5 dB typical

10 GHz to 18 GHz 13 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 - 18 GHz

Time Difference of Arrival (TDOA) 9 kHz - 18 GHz
(external omni antenna)

Power on Arrival (POA) 9 kHz - 18 GHz
(external omni antenna)

DF coverage and accuracy

Polarization sensitivity All linear (circular polarized Rx antennas)

Azimuth coverage 360°

Array 150 System

I/O

Auxiliary RF inputs 2 x SMA (9 kHz - 18 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)

Heading 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 (excl. radome)

Dimensions (\emptyset , 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 40 W

Maximum 55 W

Environmental

Operating temperature -30 to +50°C (-22 to 122°F)

Storage temperature -40 to +70°C (-40 to 158°F)

Ingress protection IP55



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