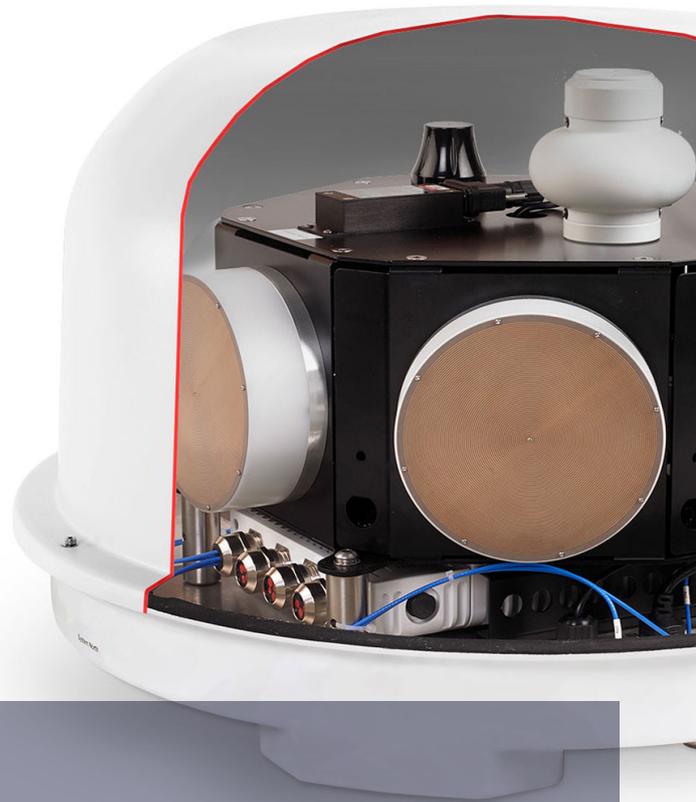


RFeyeArray

Array 150

DF and Spectrum Monitoring System



Transportable direction finding system combining broadband monitoring and DF on wideband signals to 18 GHz.

The RFeye Array 150 is a portable system 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 (100MHz IBW, 18GHz frequency range), spiral antenna modules and high speed switch within an IP55 radome. It is also 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

Array 150 Specifications

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
(optional omni antenna)
Power on Arrival (POA) 9 kHz - 18 GHz
(optional 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 N-type
Omni antennas (option) 2 x external and/or
1 x internal (factory option)
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)

Data storage

External SSD via external USB
Internal SSD inside radome 512 GB SSD

Size, weight and power (excl. radome)

Dimensions (Ø, h) 650 mm x 420 mm
(25.59 x 16.53 in)
Weight 28 kg (61.7 lbs)
DC power: 12V DC (limit
+30V DC max)
PoE 56v DC

Power consumption

Typical 40 W
Maximum 55 W

Environmental

Operating temperature -30 to +50°C (-22 to 122°F)
Storage temperature -40 to +71°C (-40 to 160°F)
Ingress protection IP55 Nominal

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 83 MHz 11 dB typical
83 MHz to 1 GHz 9 dB typical
1 GHz to 2.9 GHz 8 dB typical
2.9 GHz to 5.9 GHz 7 dB typical
5.9 GHz to 10 GHz 9.5 dB typical
10 GHz to 15 GHz 12 dB typical
15 GHz to 16 GHz 13 dB typical
16 GHz to 17 GHz 18 dB typical
17 GHz to 18 GHz 21 dB typical

Signal analysis

Instantaneous bandwidth 100 MHz
Tuning resolution 1 Hz

Internal frequency reference

Initial accuracy @20°C ±0.1 ppm typ.
Stability over temperature ±0.3 ppm
Ageing over 1 day ±0.04 ppm

Sampling

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



CRFS Inc
Chantilly, VA, USA
Tel: +1 571 321 5470
crfs.com
enquiries@crfs.com

CRFS Ltd
Cambridge, UK.
+44 1223 859 500
crfs.com
enquiries@crfs.com

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