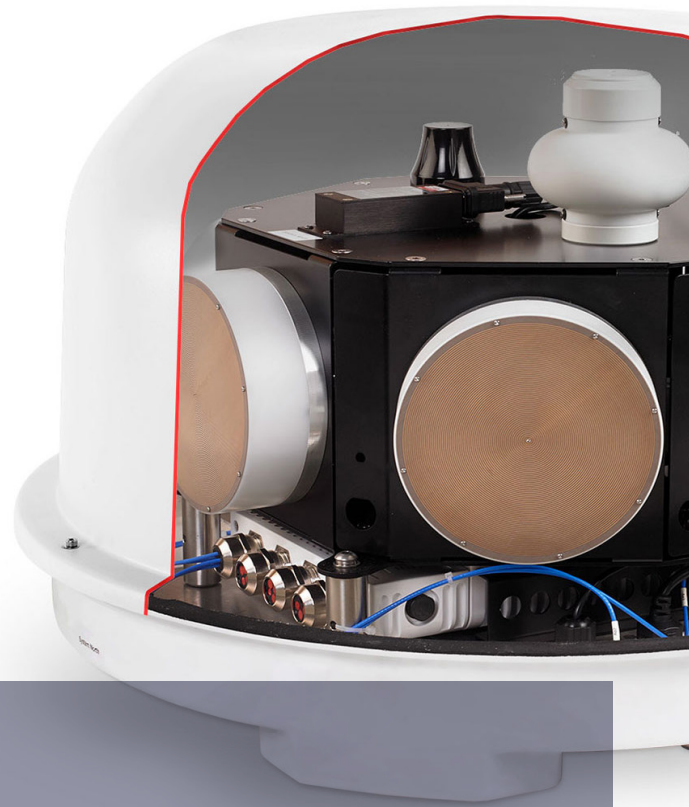


RFeyeArray

Array 100

DF and Spectrum Monitoring System



Transportable direction finding system combining broadband monitoring and DF on wideband signals to 8 GHz.

The RFeye Array 100 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 50-8 (50MHz IBW, 8GHz 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 100 Specifications

Receiver

Channels

Single 1 x Node 50-8

Frequency

Range 9 kHz to 8 GHz

Sweep speed

Sweep 151 GHz/s @ 2 MHz 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 8GHz 8 dB typical

Signal analysis

Instantaneous bandwidth 50 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 62.5 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
(optional omni antenna)

Power on Arrival (POA) 9 kHz - 8 GHz
(optional omni antenna)

DF coverage and accuracy

Polarization sensitivity All linear (circular
polarized Rx antennas)

Azimuth coverage 360°

Array 100 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 POnE

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 Internal digital
compass (option)

Data storage

External SSD via external USB
interfaces

Internal SSD inside radome 512 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 POnE 10 to 48 VDC

Power consumption

Typical 30 W

Maximum 50 W

Environmental

Operating temperature -30 to +55°C (-22 to 131°F)

Storage temperature -40 to +71°C (-40 to 160°F)

Ingress protection IP55 Nominal



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