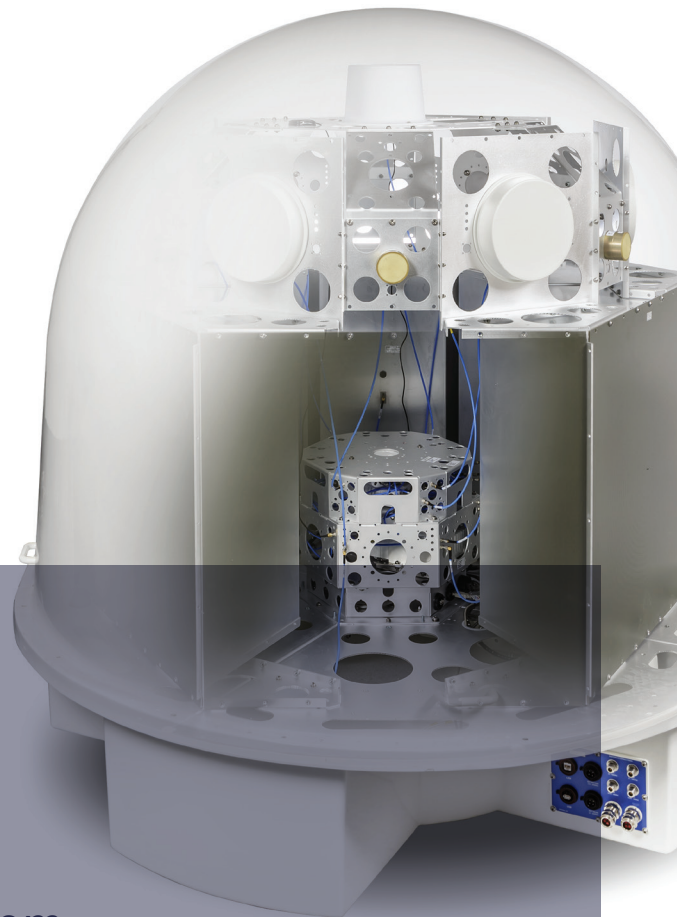


RFeyeArray

500

DF and Spectrum Monitoring System



High performance twin channel system for simultaneous wideband radiomonitoring and direction finding.

The Array 500 is the “big brother” of the Array 300 and is for fixed installations. It contains larger spiral antennas on the lower tier allowing accurate AOA measurements down to 100 MHz. It is available in two different receiver configurations based on the class-leading RFeye Node 100-8 with 100 MHz IBW and 8 GHz upper frequency, or Node 100-18 with 100 MHz IBW and 18 GHz upper frequency.

The Array 500 uses a unique multi-layer approach that is more sophisticated and versatile than traditional direction finding. High performance spiral directional antenna modules are optimized for different frequency bands and arranged in multiple orientations. The Array is sensitive to the majority of incoming signal polarizations including all linear polarizations, allowing reliable detection of signals including those invisible to most DF systems.

Timing and synchronization features enable combined AOA, TDOA and POA techniques allowing all signal types in the range to be mapped, irrespective of signal power, bandwidth or frequency.

RFeyeArray

500 Specifications

DF and Geolocation

Direction finding method

| | |
|------------------------|-----------------------------|
| Angle of arrival (AOA) | Switched directional arrays |
|------------------------|-----------------------------|

Geolocation frequency range

| | |
|------------------------|---------------------|
| AOA DF | 100 MHz to 8/18 GHz |
| VHF DF extender option | 20 MHz to 100 MHz |

| | |
|-----------------------------------|--|
| Time difference of arrival (TDOA) | 9 kHz to 8/18 GHz (external omni antenna) |
| Power on arrival (POA) | 9 kHz to 8/18 GHz (external omni antenna) |

DF coverage and accuracy

| | |
|--------------------------|---|
| Polarization sensitivity | All linear (circular polarized Rx antennas) |
| Azimuth coverage | 360° |

Array 500 System

I/O

| | |
|----------------------------------|--|
| Auxiliary RF input build options | 2 x N-type or SMA (9 kHz to 8/18 GHz) |
| Network | 2 x GbE with PoE |
| USB | 2 x USB 3.0 |

| | |
|----------|--|
| Location | Internal GPS module & antenna (standard) |
| Heading | External GPS compass (option) |

Data storage

| | |
|----------------------|-----------------------|
| External flash disks | via USB interfaces |
| Internal memory | 256 GB SSD (per Node) |

Size, weight and power

| | |
|-------------------------------|-------------------------------------|
| Dimensions (Ø, h) with radome | 1.66 m x 1.63 m (65.4 x 64.2 in) |
| Weight | 175 kg (385 lbs) |
| DC, PoE | 48 VDC |

Power consumption

| | |
|---------|-------|
| Typical | 80 W |
| Maximum | 110 W |

Environmental

| | |
|-----------------------------|---|
| Operating temperature range | -30 to +55°C (-22 to 131°F) |
| Storage temperature range | -40 to +70°C (-40 to 158°F) |
| Ingress protection | Node & electronics: IP67, system: IP55 |

Receivers, Option 1: Array 500-8

Channels

| | |
|------|----------------|
| Dual | 2 x Node 100-8 |
|------|----------------|

Frequency

| | |
|-------|----------------|
| Range | 9 kHz to 8 GHz |
|-------|----------------|

Sweep speed

| | |
|--------------------------------|----------------|
| At 2 MHz resolution bandwidth | 280 GHz/s typ. |
| At 61 kHz resolution bandwidth | 245 GHz/s typ. |

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 |

Sampling

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

Receivers, Option 2: Array 500-18

Channels

| | |
|------|-----------------|
| Dual | 2 x Node 100-18 |
|------|-----------------|

Frequency

| | |
|-------|-----------------|
| Range | 9 kHz to 18 GHz |
|-------|-----------------|

Sweep speed

| | |
|--------------------------------|----------------|
| At 2 MHz resolution bandwidth | 390 GHz/s typ. |
| At 61 kHz resolution bandwidth | 320 GHz/s typ. |

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 |

Sampling

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



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