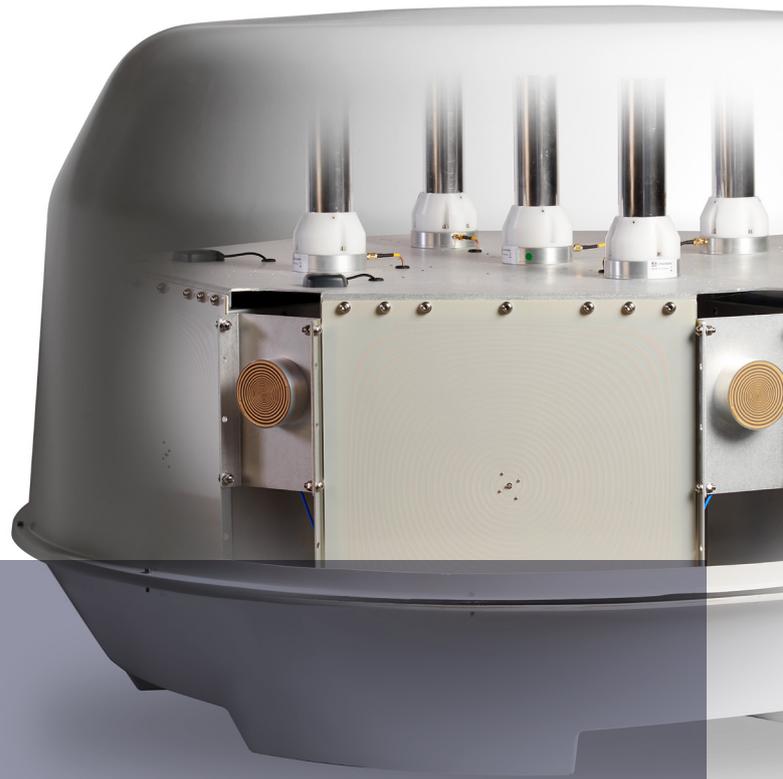


# RFeyeArray

## Array 300

### DF and Spectrum Monitoring System



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

The Array 300 is an intermediate sized system for vehicle mounted deployment or fixed installations. It is available in two different receiver configurations based on the 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 300 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

## Array 300 - Specifications

### Receivers, Option 1: Array 300-8

<b>Channels</b>	
Dual	2 x Node 100-8
<b>Frequency</b>	
Range	9 kHz to 8 GHz
<b>Sweep speed</b>	
At 2 MHz resolution bandwidth	280 GHz/s typ.
At 61 kHz resolution bandwidth	245 GHz/s typ.
<b>Noise figures at maximum sensitivity</b>	
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
<b>Signal analysis</b>	
Instantaneous bandwidth	100 MHz
Tuning resolution	1 Hz
<b>Sampling</b>	
Resolution	16 bits per channel (I&Q)
Rate	125 MS/s I&Q

### Receivers, Option 2: Array 300-18

<b>Channels</b>	
Dual	2 x Node 100-18
<b>Frequency</b>	
Range	9 kHz to 18 GHz
<b>Sweep speed</b>	
At 2 MHz resolution bandwidth	390 GHz/s typ.
At 61 kHz resolution bandwidth	320 GHz/s typ.
<b>Noise figures at maximum sensitivity</b>	
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
<b>Signal analysis</b>	
Instantaneous bandwidth	100 MHz
Tuning resolution	1 Hz
<b>Sampling</b>	
Resolution	16 bits per channel (I&Q)
Rate	125 MS/s I&Q

### DF and Geolocation

<b>Direction finding method</b>	
Angle of arrival (AOA)	Switched directional arrays
<b>Geolocation frequency range</b>	
AOA DF	300 MHz to 8/18 GHz
VHF DF extender option	20 MHz to 300 MHz
<b>Time difference of arrival (TDOA)</b>	
	9 kHz to 8/18 GHz (external omni antenna)
<b>Power on arrival (POA)</b>	
	9 kHz to 8/18 GHz (external omni antenna)
<b>DF coverage and accuracy</b>	
Polarization sensitivity	All linear (circular polarized Rx antennas)
<b>Azimuth coverage</b>	
	360°
<b>Antenna switch time</b>	
	1.5 µs (typical)

### Array 300 System

<b>I/O</b>	
Auxiliary RF input build options	3 or 4 x N-type or SMA (9 kHz to 8/18 GHz)
Omni antennas (option)	3 or 4 x external / 1 x internal (factory option)
<b>Network</b>	
	2 x GbE with PoE
<b>USB</b>	
	2 x USB 3.0
<b>Location</b>	
	Internal GPS module & antenna (standard)
<b>Heading</b>	
	Internal digital compass (option)

### Data storage

External SSD	via external USB interfaces
Internal SSD inside radome	512 GB SSD (per Node)

### Size, weight and power

Dimensions (Ø, h) with radome	1.1 m x 0.8 m (43 x 31 in)
Weight	80 kg (176 lbs)
PoE	56V DC

### Power consumption

Nominal	140 W
---------	-------

### Environmental

Operating temperature range	-30 to +55°C (-22 to 131°F)
Storage temperature range	-40 to +71°C (-40 to 160°F)
Ingress protection	Node & electronics: IP67, system: IP55



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

CRFS and RFeye are trademarks or registered trademarks of CRFS Limited. Copyright 2022 CRFS Limited. All rights reserved. No part of this document may be reproduced or distributed in any manner without the prior written consent of CRFS. The information and statements provided in this document are for informational purposes only and are subject to change without notice. Document Number CR-000125-DS-24, April 2022



FS 576625