EXTEND YOUR LINE-OF-SIGHT & RADIO HORIZON

Maximize your ISR capabilities for air, maritime, and land operations. CRFS' proven RF sensor integrated into a high-performance tethered drone enables variable-height monitoring of VHF, UHF, and SHF transmissions. It supports tactical surveillance, geolocation as part of a TDoA network, signals intelligence, and over-the-hill reconnaissance to enable rapid decision-making.

Portable, easily and rapidly deployable

INTEGRATED TETHERED DRONE

Aerial RF monitoring system that can be deployed at variable heights up to 100m (320ft) to increase line-of-sight, enabling surveillance over a larger collection area.

Silent

Passive RF sensors have no RF communication emissions owing to the tether, meaning adversaries remain unaware they are being monitored. This stealthy capability enhances the covert nature of ISR operations.

Flexible configuration

The system can be operated as a standalone multisensor unit (RF and camera), or form part of a sensor network for precise 2D / 3D TDoA geolocation with other fixed or mobile platforms.

Packaged turnkey solution

CRFS has partnered with ISS Aerospace, experts in autonomous aerial systems, to deliver a mission-ready solution: a drone with an integrated RFeye Node and optical / infrared camera, tether station, and Ground Control Station, which is supplied with a custom-built Peli case for maximum performance, functionality, portability, and ease-of-use.

At a glance:

- Portable, rapid deployment
 (deployed in 8 minutes, airborne in 60 seconds)
- Variable height sensor to 100m (improving line-of-sight)
- Enhances RF superiority: air-to-air, air-to-ground, ground-to-ground, maritime
- Enhances 2D & 3D TDoA networks
- 30MHz to 18GHz detection range (standard antenna option)
- Signal detection, monitoring, and geolocation
- High fidelity (I/Q data) record, capture, stream
- Tactical, covert, enables rapid decision-making

Applications:

- Border security monitoring
- Force / base protection
- Coastal / maritime surveillance
- Airborne target acquisition
- Electronic Warfare
- Regulatory enforcement / T&M

CR-006300-MD-01

MULTI-DOMAIN INTEGRATION

Operators can enjoy secure air-to-ground connectivity over the tether providing RF intelligence in real time.

This aerial monitoring system integrates with CRFS's RFeye ecosystem, so other airborne, land or maritime RFeye Nodes can be seamlessly networked. The same system can be deployed from a fixed (eg building roof top), mobile (vehicle or trailer) or maritime (vessel or USV) platform.

TRL-9 (proven NATO MoD) technology.



ጵ A tethered drone above the tree line, extending line-of-sight



∧ A tethered drone on a maritime platform increases the observation radius

SUMMARY FEATURES & BENEFITS



Tethered Drone with RF Sensor and Camera Payload

Features	Solutions
Lightweight, high performance CRFS RFeye Node 100-18 LW	Wideband radio monitoring and geolocation of transmitters to 18GHz with 100 MHz of instantaneous bandwidth capture
Dual omnidirectional antennas	30 MHz-512 MHz and 500 MHz-18 GHz fitted as standard
Integrated optical and thermal camera	Track static and moving objects, detect and classify objects such as people, vehicles, vessels, smoke, fire, licence plate reading
Bespoke ISS Sensus M4 drone with triple redundant barometer / altimeter and triple redundant IMU / compass	Peace of mind from very high levels of reliability
Fail safe systems	Parachute
IP65 rating	Operate in any weather condition
Min/Max Temp: -19 to +55°C	Broad range of operating environments
Max flight time 48 hours	-
Weight (in case): 22kg	-

Tether Station

Bespoke Peli case with integrated shock / vibration mounted Elistair 100m tether	Portable, rugged, reliable
Environment control system with active heating and cooling	Reliably operate in harsh environments
16A and 32A power in connections	Versatility in operating conditions
IP ratings: IP65 (closed) / IP54 (with hatch open)	Operate in harsh weather conditions
Min/Max Temp: -20 to +50°C	Broad range of operating environments
Weight: 40kg	-

Ground Control Station

Bespoke Peli case containing two PCs with 17" OLED daylight visible monitors running ISS drone control software and CRFS RFeye Site software	Easy to use command centre with connectivity to C2
Hardware UAV interface – tactile / haptic buttons and microcontroller interface for joystick	Three methods of controlling the drone
8TB SSD in dock with payload data purge / wipe system, hard wipe key and UAV purge / scuttle capability	Ability to destroy data / render the system useless in case of emergency threat
HDMI & DP output	Display drone and RF / camera information on external screens
Ethernet and fibre in/out connections	Flexibility on location of the GCS. Can be located remotely from the tether using a variety of connections
Rugged, armoured 15m fibre, ethernet and DC24V cables for connection to the tether station	-
Min/Max Temp: -19 to +55°C	Broad range of operating environments
Environment control system with active heating and cooling	Reliably operate in harsh environments
Weight: 22kg	-

Tethered flying height: 100m | Wind resistance: 14 m/s (31mph) | Hover accuracy: 1m | Altitude accuracy: 0.5m | See data sheet for full specification

ORDERING INFORMATION

Tethered drone

Part Number	Description
SYS-UAS0024	 Tethered drone bundle to include: Bespoke ISS Sensus M4 UAV with integrated payload consisting of CRFS RFeye Node 100-18 LW, set of 2 antennas, RF cables, Platform Integration Adaptor, NextVision DragonEye2 optical / thermal camera Bespoke tether station in Peli case Bespoke Ground Control Station in Peli case RFeye Site software with EMP API and Generic Pulse / Energy detector

Optional extras

- Drone operator (handling) training 1 day
- CRFS software (RFeye Site) introduction and training 2 days
- Extended warranty

About ISS Aerospace

ISS Aerospace is a UK-based company which specialises in autonomous uncrewed aerial systems with application in wide-area operations undertaken in various sectors including energy and defence as well as security, utilities and also surveillance. With links to well respected universities and research establishments in the aerospace and autonomous systems sector, focus is given to the wider value of the integrated system rather than the unmanned vehicle alone. This includes development of autonomous air, marine and land carriers designed for challenging day-to-day operations.

IIII CRFS



Cambridge Radio Frequency Systems (CRFS), a global leader in RF technology, was founded in 2007 to innovate in spectrum monitoring and geolocation. The company focuses on manufacturing and designing advanced hardware and software solutions to detect, monitor, and analyze RF signals in complex environments. This expertise has proved crucial to various sectors, including national spectrum regulators, the military, and security and intelligence services. As the spectrum becomes ever-more congested, CRFS' mission is to continue pioneering sophisticated technologies for complex challenges in the RF spectrum domain.



CRFS Inc Chantilly VA, USA +1 571 321 5470 **CRFS Ltd** Cambridge United Kingdom +44 (0) 1223 859 500 CRFS and RFeye are trademarks or registered trademarks of CRFS Limited. Copyright© 2025 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.

