

# Counter-Drone Passive RF Detection



Designed & manufactured in the United Kingdom

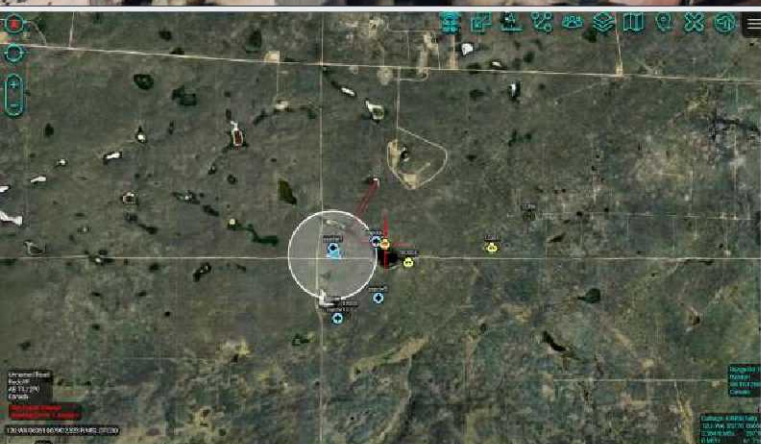




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The LiveLink PDAR (Passive RF Detection & Reconnaissance) sensor is a passive RF (Radio Frequency) drone detection system. It is precisely engineered to detect and analyse RF signals from 56 MHz to 6 GHz\*. This functionality enables the system to detect, identify and track drones based on their RF transmissions without actively transmitting any RF itself.

\*With the appropriate antenna array



Detecting drones passively, using systems like PDAR, is vital for several reasons.

- **Stealth and Security:**

Passive detection systems do not emit signals, making them undetectable to drones or adversaries, which is crucial for military and security operations.

- **Non-Interference:**

Passive systems do not interfere with other electronic devices or communication systems. This is crucial in sensitive environments such as airports, military bases, and urban areas where electronic interference can cause significant disruptions.

- **Energy Efficiency:**

Passive detection systems consume less power than active systems, making them more sustainable and cost-effective.

- **Legal and Regulatory Compliance:**

Actively detecting and jamming drones is heavily regulated and requires special permissions in certain areas. Passive systems can bypass these legal complexities by simply listening for existing signals, allowing for broader deployment.

- **Versatility in Deployment:**

Passive systems are easily deployed and ideal for rapid deployment in dynamic situations. They provide covert, non-intrusive monitoring solutions essential for modern security and defence operations.

# Applications in Military Operations

PDAR drone detection on land and in littoral operations is pivotal in identifying uncrewed aerial threats in complex coastal environments. This technology provides early detection and situational awareness in areas of high civilian and military activity. Effective RF drone detection systems are required to encompass wide-ranging areas, ensure precise identification of benign and malicious signals, and seamlessly integrate with existing surveillance and communication networks. This integration allows for a comprehensive defence against potential drone threats.

- **Border Security:**

PDAR systems can monitor and secure borders by detecting unauthorised drone activities, helping to prevent smuggling, espionage, and other illicit operations.

- **Base Protection:**

Military bases and installations can use PDAR systems to detect drone threats, ensuring personnel safety and the protection of sensitive equipment.

- **Battlefield Surveillance:**

On the battlefield, PDAR systems provide valuable intelligence by tracking enemy drone movements and communications, aiding in the planning and execution of military strategies.

- **Covert Operations:**

Special operations forces can employ PDAR technology for discreet surveillance and reconnaissance missions, particularly when maintaining stealth and avoiding detection is crucial.

## Conclusion

The PDAR system is an excellent choice for military applications due to its passive nature, broad frequency detection capabilities, and non-interference characteristics.

It enhances situational awareness, supports stealth operations, and provides a cost-effective drone detection and tracking solution in various military scenarios, helping military forces maintain a strategic advantage and effectively counter drone threats in modern combat environments.





# Enhancing Security for Military Convoys with PDAR

By incorporating these sophisticated detection systems, we improve the operational capability of our military convoys, guaranteeing superior security, operational effectiveness, mission success, and the safety of our forces.

- **Stealth and Covert Operations:**  
PDAR systems are passive and do not emit detectable signals. This capability ensures that our convoys can monitor UAV activities without revealing their positions to adversaries. Maintaining operational secrecy is crucial for the success of missions in hostile environments.



- **Comprehensive Threat Detection:**  
PDAR systems can detect a broad spectrum of frequencies, enabling them to identify and track a variety of UAVs and remote control signals. This extensive detection is crucial for countering adversaries' advanced drone technologies and improving situational awareness and threat assessment.
- **Operational Efficiency:**  
PDAR systems are energy-efficient and cost-effective, requiring less power than active detection systems. They are ideal for long-duration convoy operations because they do not interfere with onboard electronic and communication systems.
- **Enhanced Convoy Protection:**  
The integration of PDAR systems significantly improves our ability to detect UAV threats, thereby protecting personnel, vehicles, and sensitive equipment. This technology is crucial for countering emerging threats and ensuring the safety and security of our forces during transit and operations.







- **For Mobility Operations:**

The LiveLink Aerospace PDAR uses advanced RF detection technology to identify and track UAVs in real-time while mobile. This system sends detected information directly to operators via ATAK, enhancing situational awareness and enabling rapid response to UAV threats.

- **Real-Time Situational Awareness:**

PDAR provide real-time data on drone activities, enhancing situational awareness for timely decision-making and coordinated responses. This is crucial for maintaining safety and effectiveness in complex convoy missions.



# Command & Control

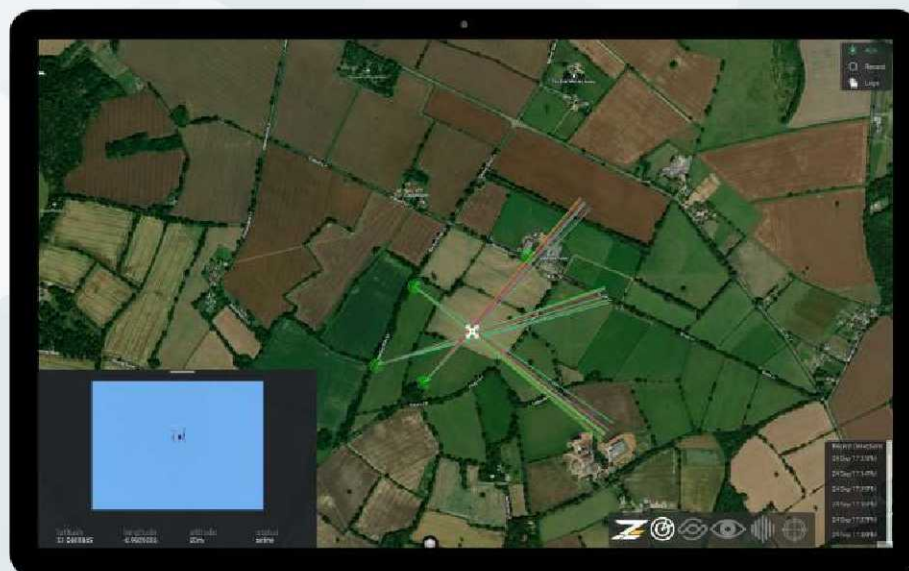
- ATAK (Android Team Awareness Kit)

ATAK presents real-time data such as drone threats, PDAR locations, and user positions on a map interface to facilitate coordinated responses and enhance situational awareness in dynamic scenarios.



- Zeus: C2 Central System

The Zeus "Command and Control" (C2) interface collects information from images, videos, situational audio, and radio frequency signals and presents it in a user-friendly visual format.



# Royal Navy Trusts PDAR for Enhanced Drone Detection

The Royal Navy is steadfast in its commitment to upholding the highest standards of maritime security and operational readiness. In response to the evolving threat landscape posed by uncrewed aerial vehicles (UAVs), the Navy is integrating Passive Detection and Reconnaissance (PDAR) systems into its fleet. This strategic initiative is poised to yield significant advantages for naval operations.

- **Situational Awareness:**

When boat crews operate in the littoral and are within range of supporting vessels equipped with PDAR, they can receive real-time airborne data, including the air picture for drone threats. This enables crews to stay informed about potential drone threats in their vicinity, enhance their situational awareness, and respond effectively to any aerial threats.

- **Enhanced Stealth:**

PDAR systems function covertly by being RF silent. This attribute enables Royal Navy vessels to surreptitiously monitor drone activities, thereby upholding the elements of surprise and operational security. The passivity inherent in PDAR holds significant importance in facilitating stealth operations and mitigating the likelihood of detection by hostile entities.



# PDAR Technical Data:

## Power Requirement

- 802.3AF/AT Compliant POE

## Mains power option

- Renewable, solar-powered, off-grid option available

## Power Consumption

- 430ma nominal/up to 4A peak
- 15 watts nominal
- Worldwide mains

## Data Interface Options

- RJ45 (10/100/1000)
- 4G LTE Option available

## RF Emissions

- NONE (aside LTE if fitted)

## Frequency Detection Range

- 2.4 - 2.5GHz/ 5.725 - 5.875GHz  
(capable from 56MHz - 6GHz with different antenna array)

## Mass

- 2.6kg (5.73lbs)

## Sensor Size

- H 243mm x W 212mm x D 212mm (9.56" x 8.3" x 8.3")

## Environmental Constraints

- -5°C To +60°C
- Wind up 50m/s (112mph)

## Nominal Range of Detection

- Line of sight > 5km (tested in 'ideal conditions' to > 15km)

## Angular Accuracy of Detection

- < 2° (in ideal conditions)

## Simultaneous Targets

- Up to 250

## Air Picture Awareness

- ATAK (Android Team Awareness Kit)
- Zeus Control (C2 Central System)



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