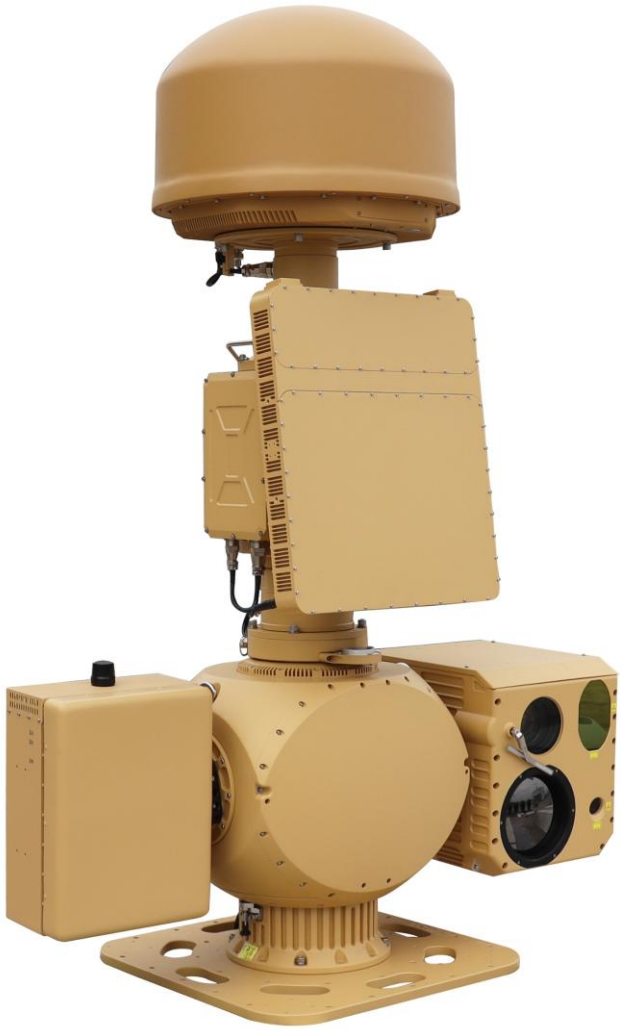
AUS70-RD5000X-RZCA2
Heavy Side Load

Introduction and Technical Specifications of Integrated Anti-Countermeasure System



SKYPATH

1. System Overview

The AUS70 Heavy-Duty Side-Load Integrated Counter-UAS System, developed and manufactured by Hopewell Vision, consists of a radio frequency detection system, radar detection system, electro-optical tracking and suppression jamming system, and a low-altitude target detection and identification platform. The system first validates targets through combined radio frequency and radar detection, then guides the electro-optical system to detect, track, and identify the target for secondary confirmation and classification. Once a hostile drone is confirmed, the system automatically activates the radio jamming countermeasure subsystem to neutralize the threat by severing its control signal, blinding its optical sensors, and forcing it to land or return to its point of origin.

Designed and produced independently by Hopewell Vision, the AUS70 system features a dual-axis servo turret that highly integrates all detection and countermeasure modules. Orchestrated by the unified low-altitude target detection and identification platform, it leverages the strengths of each subsystem while ensuring independent operation, enabling efficient coordination and precise engagement. With its modular architecture, the system can be flexibly configured with various detection and countermeasure modules, as well as optical components, to meet all-weather and multi-scenario requirements for detection, identification, and neutralization.

2. Product Features

- The system features a highly integrated design that enables independent operation while maintaining efficient synergy.
- Its spectrum detection capabilities are multifunctional, covering both UAV signal detection and analysis.
- The radar detection system employs advanced digital beamforming technology.
- Electro-optical tracking is intuitive and precise, supported by high-precision servo control to ensure stable tracking.
- The suppression and jamming module combines soft and hard measures—integrating jamming, deception, and laser blinding for a blended kill effect.
- With a modular design, each subsystem can be independently separated, installed, and flexibly configured.
- Installation is simple, application is broad, costs are reduced, system calibration is streamlined, and operation can be initiated with one click.

3. Product Specifications

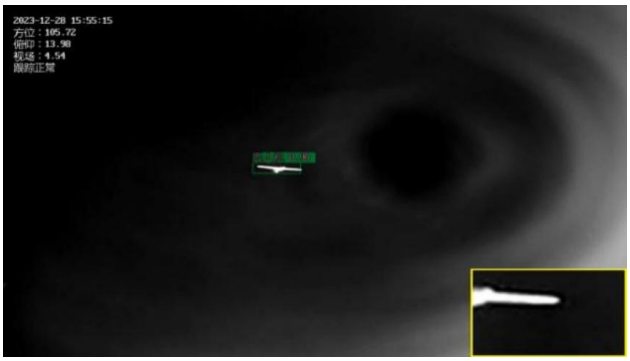
Model Name	AUS70-RD5000X-RZCA2 Heavy Side Load Integrated Anti-System
Coverage	Target: DJI Phantom 4 The spectrum side is more than 5 km; Radar detection range: ⩾5 km; The photoelectric detection distance is more than 5km, and the tracking distance is more than 4km. The interference distance is ⩾5Km, and the decoy distance is ⩾5Km. Laser blinding: ⩾1 km;

Spectrum detection	1. The monitoring and detection frequency range is 300MHz~6000MHz. 2. Direction finding frequency: 845MHz, 915MHz, 1.4GHz, 2.4GHz, 3.3GHz, 5.2GHz, 5.8GHz; 3. Monitoring bandwidth: ＞120MHz; 4. Lateral accuracy: ＜3° (standard field rms); 5. At the same time, the number of batches was ＞30; (Supports optional protocol parsing)	
Radar detection	1. Radar band: X-band 2. Refresh rate: 2s 3. Target capacity: ＞200 batches 4. Close-range blind spot: ＜50m 5. Coverage: azimuth: 0 ° to 360 °; elevation: 0 ° to 40 °; altitude: ＞800m 6. Accuracy (root mean square): azimuth: ＜0.4°;	
Suppression Jamming	**Deception Countermeasures**	1. Interference counterband: 845MHz/915MHz/1.4GHz/2.4GHz/5.2GHz/5.8GHz 2. Power amplifier：＞50W 3. Navigation spoofing frequency bands: the civilian C/A code bands of GPS, GLONASS, and BD satellite navigation systems. 4. Lure and Deceive Pattern: Targeted Distract, Targeted Induce, Area Flight Prohibition 5. Interference coverage: 0-360°, pitch coverage: -30~60° 6. jamming mode: directional jamming 7. Other: Supports simultaneous operation of link interference and navigation interference 8. Power: ＜1200W
	Laser Blinding	1. Action distance: 1km 2. The laser wavelength was 532nm. 3. Maximum power: ＞0.5MW; 4. Frequency: 5Hz; 5. The divergence angle is ＜8~9mrad.
Electro-Optical Tracking	**Infrared Thermal Imaging**	1. A Non-cooled Aluminoxide Infrared Focal Plane Detector 2. Resolution: 640×512 3. Lens: 23-230mm, 10x continuous optical zoom 4. Camera control: Electric zoom, manual/automatic focus 5. Image Enhancement: SDE Digital Image Detail Enhancement Technology
	HD Visible Light	1. Sensor: 1/1.8 ″ starlight CMOS with ICR color-to-black conversion 2. Resolution: 2688×1520 3. Focal length: 12.5-775mm HD electric zoom lens 4. Dual Photoelectric/Electronic Fog Penetration
	Laser Ranging	1. Action range: ＞3km (Elf 4 target) 2. Wavelength: 1570nm
	AI Tracking	1. Computing power: Built-in 16Tops processor 2. Implementation: Front-end embedded hardware recognition and tracking 3. Tracking mode: Manual, automatic, and radar linkage 4. Recognition: Classification and recognition of targets such as people, cars, ships and drones (customer assistance is required to provide the data set)
	Servo Turret	1. structure: lateral loading, coaxial 2. Horizontal range: N×360° continuous rotation, mechanically locked after power failure 3. Pitch range: -30° to +60°, with soft limit function and programmable settings 4. Rotation speed: 0.01 ° to 100 °/s for horizontal rotation and 0.01 ° to 80 °/s for pitch rotation. 5. Acceleration: 100 °/s 2 on the horizontal axis and 100 °/s on the 2 pitch axis

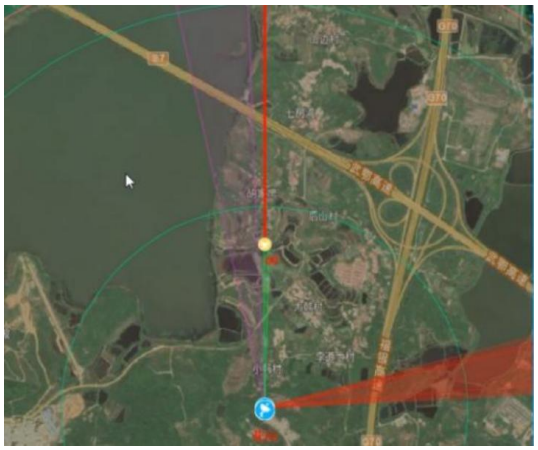
Interface Power Consumption	1. Network interface: 1 adaptive Ethernet port (100M/1000M) 2. Power supply: AC220V±20%,50Hz 3. System power consumption: ＜3000W 4. Dimensions: L1300mm x W600mm x H1780mm 5. Total weight: ＜230kg
RGS2000 Low-Altitude Target Detection and Identification System	1. Control is transparently integrated, and the platform is designed with integrated features. 2. It supports the connection of detection and disposal equipment. 3. Supporting situation display, situation distribution 4. Supports spectrum and radar track data fusion 5. Supports unmanned and automatic strikes

1. System Application

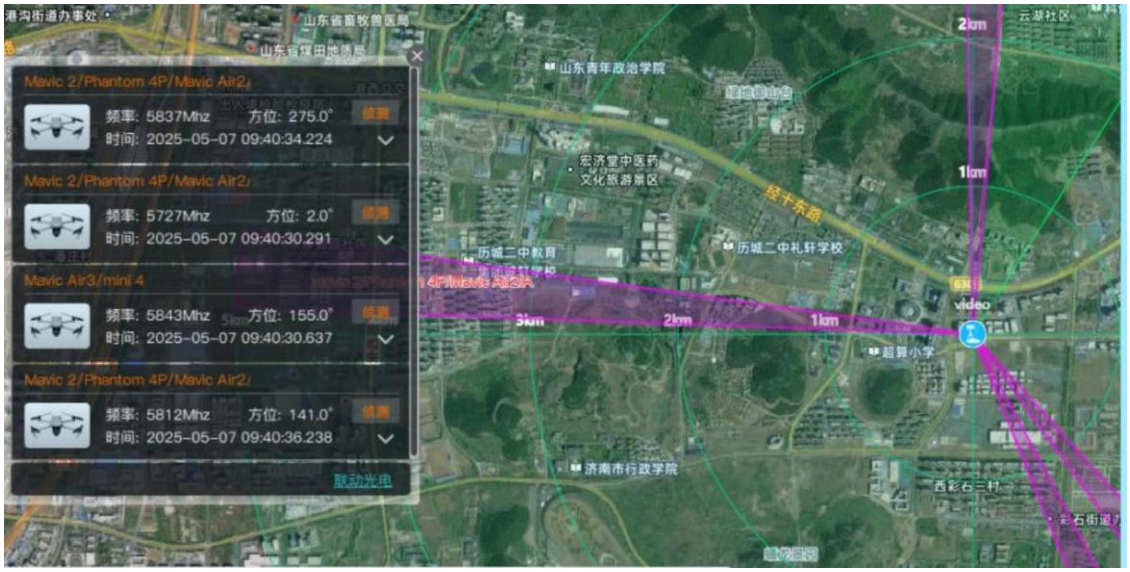
The heavy side load integrated anti-irregular system is mainly used in military bases, airports, prisons, nuclear, biological and chemical industries, border and sea defense, conference centers, office buildings, oil fields, oil depots and other key places for low-altitude security.



Multirotor and fixed-wing identification and tracking, eagle-eye display



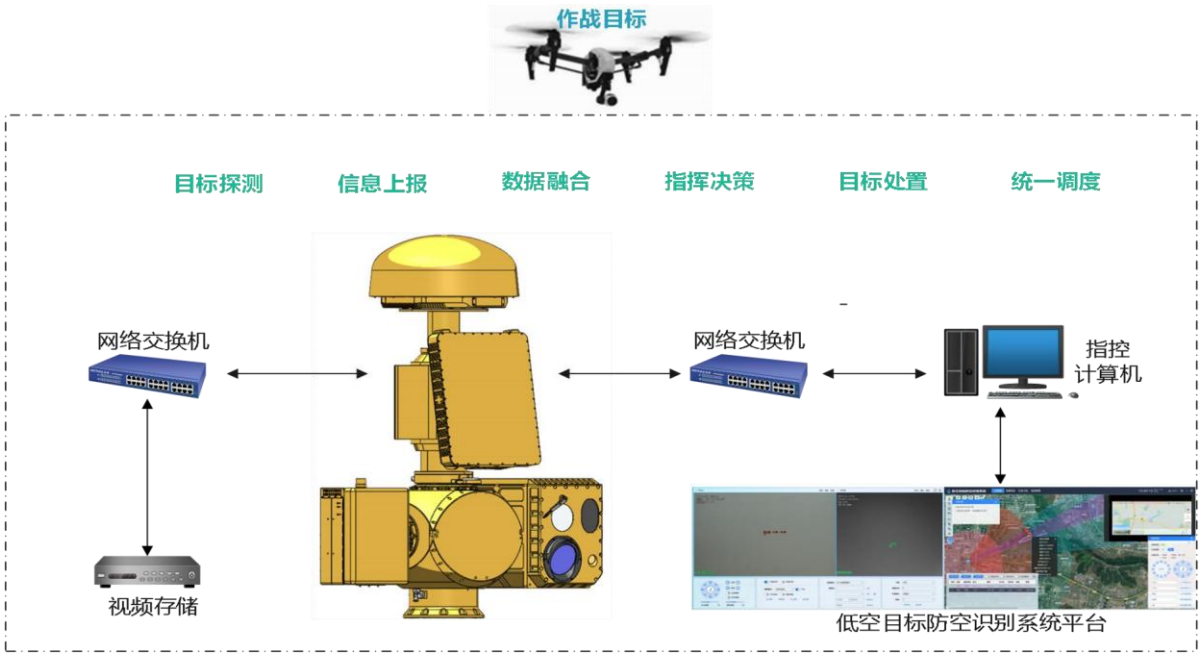
Unmanned aerial vehicle, remote control signal detection, track detection



Unmanned aircraft-based detection

Anti-integrated situation detection

5. Typical Application



Flowchart of an anti-drone automatic defense system