

Anti UAV Radar Medium-Range X-Band Phased Array System for Low Small Slow Targets and More with AI-Based Features

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: MYT
- Certification: CNAS、CMA、CAL、ILAC-MRA
- Model Number: DD-R31
- Minimum Order Quantity: 1
- Price: Pricing is negotiable based on order quantity
- Delivery Time: 10 work days
- Payment Terms: L/C,T/T
- Supply Ability: 1000units per month



Product Specification

- TAS Tracking Target Count: ≥ 6
- Minimum Detection Altitude: $\leq 10\text{m}$
- Velocity Range: $1\text{m/s} \sim 100\text{m/s}$
- Resolution Ratio: Distance: $\leq 15\text{m}$, Azimuth: $\leq 6^\circ$, Elevation: $\leq 6^\circ$
- Operating Temperature Range: $-40 \sim +70$
- Size: $\leq 570\text{mm} \times 317\text{mm} \times 220\text{mm}$
- Power Dissipation: $\leq 600\text{W}$
- Supply Electricity: 24VDC Interface/AC220V Conversion
- Levels Of Protection: IP66
- Joggle: RJ45 Network Port
- Highlight: **Anti UAV radar X-band phased array,
Medium-range anti UAV radar system,
AI-based anti UAV radar for drones**

The DD-R31 medium-range X-band phased array radar

1, Product Overview

The DD-R31 medium-range X-band phased array radar is equipped with a fully solid-state, fully coherent, and pulse Doppler system. This configuration empowers it to perform all-weather detection and early warning of "low, small, slow" targets. Through the utilization of machine learning and AI-based trajectory feature recognition, the system achieves ultra-low false alarm rates. Additionally, it is capable of effectively detecting and classifying a diverse range of targets, such as drones, light aircraft, helicopters, powered triplanes, airships, and airborne balloons.

2, Function

The product utilizes advanced machine learning technology. This enables it to adapt to battlefield environments and be directly operational upon installation, without the requirement for parameter adjustment. The system boasts robust detection capabilities and an extremely low false alarm rate, effectively detecting the maneuvering flight of unmanned aerial vehicles. To guarantee reliable all-weather operation, the product is equipped with cloud and rain noise suppression functionality, enabling continuous operation under diverse weather conditions.

Regarding scanning modes, the system provides two directional scanning methods: "one-dimensional mechanical scanning + one-dimensional phase scanning" and "two-dimensional phase scanning". It can achieve both 360° all-round spatial detection and precise monitoring of key areas. The two modes can be flexibly switched without the need for software modifications. The product concurrently integrates mechanical scanning tracking and phase scanning TAS tracking functions to ensure continuous and stable target tracking.

AI recognition technology based on "track features" empowers the system to accurately classify and identify multiple target types, including drones, birds, personnel, and vehicles. The built-in automatic positioning and calibration module can automatically execute equipment leveling and calibration functions, streamlining the operation process. Moreover, the system offers flexible setting functions for distance and elevation scanning ranges, enabling users to make personalized configurations in accordance with actual requirements.

3, qualification

order number	parameter	metric
1	frequency range	X frequency range
2	detection range	$\geq 8\text{Km}(\text{RCS}:0.01\text{m}^2, \text{unmanned aerial vehicle})$
3	fade zone	$\leq 150\text{m}$
4	work pattern	Supports machine scanning and 2D phase scanning
5	hunting zone	Scan: Angle: $0^\circ \sim 360^\circ$, Pitch: $0^\circ \sim 80^\circ$ (configure according to task requirements)
		Sweep: Azimuth: -45° to 45° , elevation: 0° to 80° (configure according to mission requirements)
6	trace function	Machine scanning tracking function / phase scanning TAS function
7	TAS tracking target count	≥ 6
8	Minimum detection altitude	$\leq 10\text{m}$
9	velocity range	$1\text{m/s} \sim 100\text{m/s}$
10	Target update rate	Scan time ≤ 3.8 seconds per phase, ≤ 3.5 seconds (pitch coverage: 30° , range: 10km)
11	resolution ratio	Distance: $\leq 15\text{m}$, azimuth: $\leq 6^\circ$, elevation: $\leq 6^\circ$
12	Search precision (RMS)	Distance: $\leq 10\text{m}$, azimuth: $\leq 0.4^\circ$, elevation: $\leq 0.5^\circ$
13	Tracking accuracy (RMS)	Distance: $\leq 10\text{m}$, azimuth: $\leq 0.3^\circ$, elevation: $\leq 0.4^\circ$
14	joggle	RJ45 network port
15	target capacity	≥ 500 batches
16	weight	$\leq 30\text{kg}$ (front panel: $\leq 16\text{kg}$, turntable: $\leq 12\text{kg}$)
17	supply electricity	24VDC interface/AC220V conversion
18	power dissipation	$\leq 600\text{W}$
19	size	$\leq 570\text{mm} \times 317\text{mm} \times 220\text{mm}$
20	operating temperature range	$-40 \sim +70$
21	levels of protection	IP66

4, Application Scenarios



5, Certification Certificate



6, Company profile

Chongqing Miao Yitang Technology Co., Ltd. is a specialized company engaged in anti-drone and unmanned intelligent defense management. With the technical support from the AI Internet of Things Research Institute of the Chinese Academy of Sciences and collaborations with multiple intelligent AI companies, the company has established research laboratories for AI unmanned field products, accumulating a variety of technical patents.

The company's products are widely applied to unmanned automatic management solutions for various defense and perimeter areas, including AI anti-drone systems and AI unmanned vehicle patrol systems. These systems integrate with multiple technologies such as optoelectronics, radar, vibration, thermal imaging, facial recognition, and radio frequency management, truly achieving a 24-hour uninterrupted anti-drone defense and ground perimeter defense warning system. This allows for cost savings for clients, reduction in human resource allocation, and

ensures the safety of clients' lives and property. The outstanding security system has won the company an excellent reputation and created higher value for its partners.



7, Customer Service

- 1). We offer 24 hours service after sales
- 2). If there are any usage or quality issues with the product, we provide online technical support to diagnose the cause of the problem.
- 3). Should you find the products unsatisfactory, kindly return it to us within a period of 3 months from the date of dispatch. Upon receipt and inspection, should the products be found to be free from any damage attributable to human factors, a full refund will be granted. Alternatively, we can engage in discussions to amend the product and subsequently reship the product to you.

A graphic titled "CUSTOMER SERVICE" on a clipboard. It lists five service points: fast communication, fast delivery (2-7 days), flexible shipping (air or sea), customer-friendly (manual and training), and after-sales service (one-year warranty and lifetime technical support). Below the text are logos for shipping companies (FedEx, TNT, UPS, DHL) and payment methods (T/T, AMEX, VISA, DISCOVER, WU, Apple Pay, Google Pay, and others). The shipping section includes an illustration of an airplane, a truck, and a ship. The payment section shows a hand holding a smartphone with various payment icons.



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