

Highly Advanced Ku-band Medium-range Phased Array Radar For All-weather Detection And Early Warning Operations

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: MYT
- Certification: CNAS、CMA、CAL、ILAC-MRA
- Model Number: DD-R22
- 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

- Detection Range: $\geq 5\text{Km}$ RCS: 0.01m^2 Unmanned Aerial Vehicle 3 Fade Zone
- Fade Zone: $\leq 150\text{m}$
- TAS Tracking Target Count: ≥ 6
- Size: $\leq 575\text{mm} \times 317\text{mm} \times 220\text{mm}$
- 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: $\leq 4^\circ$
- Operating Temperature Range: $-40 \sim +70$
- Power Dissipation: $\leq 350\text{W}$
- Supply Electricity: AC220V/DC24V
- Highlight: **Ku-band phased array radar, medium-range anti UAV radar, all-weather early warning radar**

DD-R22 Ku-band medium-range phased array radar

1, Product Overview

The DD - R22 Ku - band medium - range phased array radar is a highly advanced system that makes use of a fully solid - state, fully coherent, and pulse Doppler configuration. This setup endows it with the remarkable ability to conduct all - weather detection and early warning operations, specifically focusing on "low, small, slow" targets.

By leveraging the power of machine learning and artificial intelligence recognition techniques that are based on two crucial aspects - "track characteristics" and "micro - Doppler signatures", the system attains an ultra - low false alarm rate. This is a significant achievement as it allows for a more reliable and accurate performance.

Furthermore, this radar system is highly effective in detecting and classifying a diverse range of targets. These include drones, which have become increasingly prevalent in various applications and pose unique detection challenges due to their small size and often low - altitude flight. Light aircraft, with their relatively smaller dimensions compared to larger commercial planes, also fall within the radar's detection scope. Helicopters, known for their vertical take - off and landing capabilities and distinct flight patterns, can be accurately detected and classified. Powered triplanes, airships, and airborne balloons, each with their own set of flight characteristics, are also successfully identified by the DD - R22 Ku - band medium - range phased array radar. This comprehensive target detection and classification ability makes the radar an invaluable asset in a variety of scenarios, whether for military surveillance, border control, or civilian airspace monitoring.

2, Function

The product employs advanced machine learning technology, enabling it to adapt to battlefield environments and be directly put into use after installation without parameter adjustment. The system possesses powerful detection capabilities and an extremely low false alarm rate, effectively detecting the maneuvering flight of unmanned aerial vehicles. To ensure reliable all-weather operation, the product is equipped with cloud and rain noise suppression functionality, allowing continuous operation under various weather conditions.

In terms of scanning modes, the system offers 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, with flexible switching between the two modes without the need for software changes. The product simultaneously integrates mechanical scanning tracking and phase scanning TAS tracking functions to ensure continuous and stable tracking of targets.

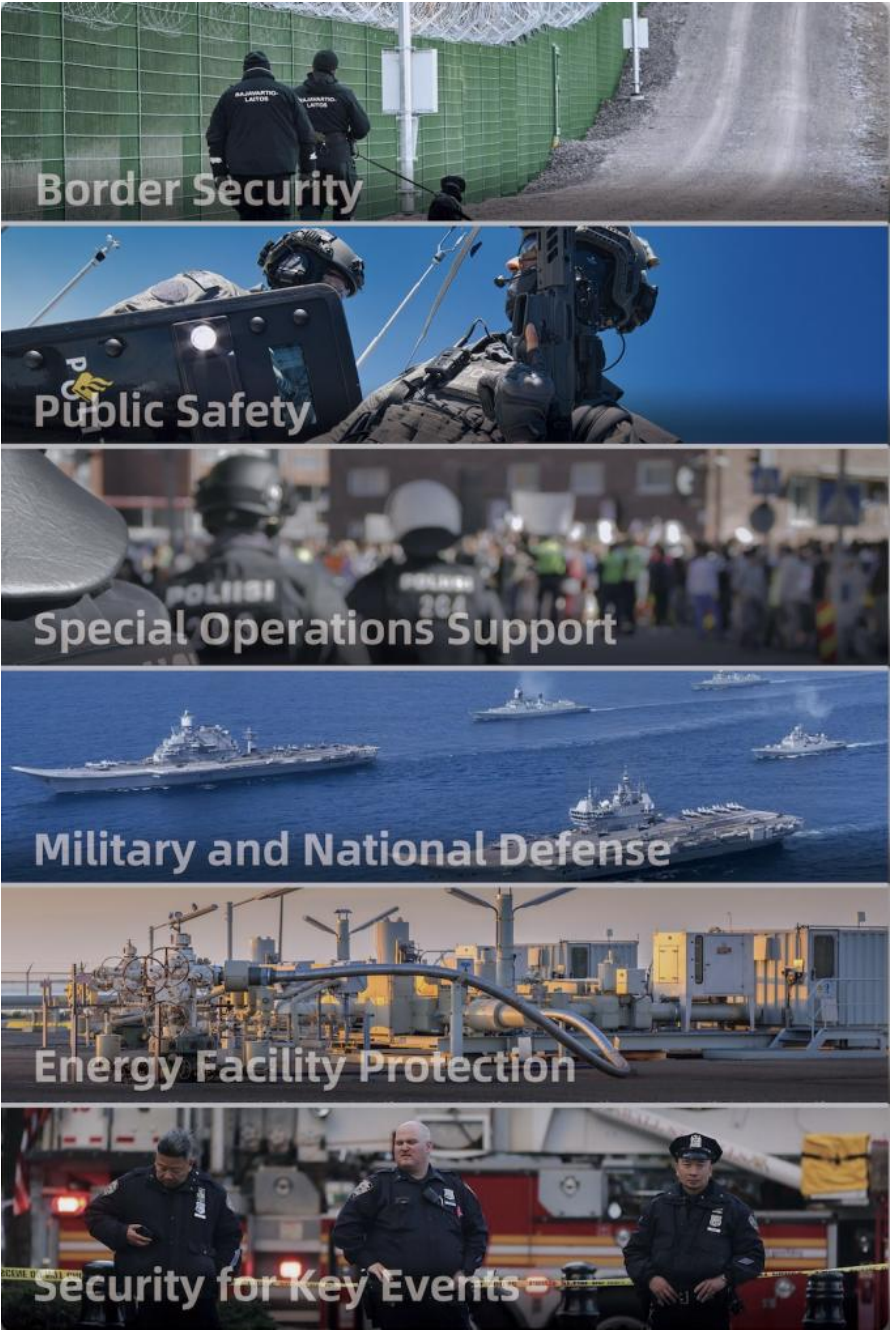
AI recognition technology based on "track features" enables the system to accurately classify and identify multiple target types such as drones, birds, personnel, and vehicles. The built-in automatic positioning and calibration module can automatically implement equipment leveling and calibration functions, simplifying the operation process. Additionally, the system provides flexible setting functions for distance and elevation scanning ranges, allowing users to make personalized configurations according to actual needs.

3, qualification

order number	parameter	metric
1	frequency range	Ku frequency range
2	detection range	$\geq 5\text{Km}(\text{RCS}:0.01\text{m}^2, \text{unmanned aerial vehicle})$
3	fade zone	$\leq 150\text{m}$
4	work pattern	Machine scan and 2D phase scan
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 ≤ 3.5 seconds per phase (30° pitch coverage, 7.5km range)
11	resolution ratio	Distance: $\leq 15\text{m}$, azimuth: $\leq 6^\circ$, elevation: $\leq 4^\circ$
12	Search precision (RMS)	Distance: $\leq 10\text{m}$, azimuth: $\leq 0.4^\circ$, elevation: $\leq 0.4^\circ$
13	Tracking accuracy (RMS)	Distance: $\leq 10\text{m}$, azimuth: $\leq 0.3^\circ$, elevation: $\leq 0.3^\circ$
14	joggle	RJ45 network port
15	target capacity	≥ 500 batches
16	weight	$\leq 26\text{kg}$ (front panel: $\leq 13\text{kg}$; turntable: $\leq 12\text{kg}$)
17	supply electricity	AC220V/DC24V
18	power dissipation	$\leq 350\text{W}$
19	size	$\leq 575\text{mm} \times 317\text{mm} \times 220\text{mm}$

20	operating temperature range	-40 +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 reshipe the product to you.



CUSTOMER SERVICE

- * Fast and patient communication: professional sales reply immediately
- * Fast delivery: usually 2-7 days
- * Flexible Safe shipping: fast by air or sea with cheap freight
- * Customer-friendly: complete user manual and exact video training provided
- * After sales service: one year warranty and life time technical support







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