

X-band Long-range Phased Array Radar Advanced Technology For Detecting "low Small Slow" Targets In Modern Airspace

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: MYT
- Certification: CNAS、CMA、CAL、ILAC-MRA
- Model Number: DD-R38
- 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: 10m~5000m
- Velocity Range: 1m/s~100m/s
- Resolution Ratio: Distance: $\leq 15\text{m}$, Azimuth: $\leq 6^\circ$, Elevation: $\leq 4^\circ$
- Operating Temperature Range: -40 +60
- Size: $\leq 785\text{mm} \times 340\text{mm} \times 220\text{mm}$
- Power Dissipation: $\leq 1200\text{W}$
- Supply Electricity: AC220V/DC24V
- Levels Of Protection: IP66
- Joggle: RJ45 Network Port
- Highlight: **X-band phased array radar,
long-range UAV detection radar,
anti-drone radar for low small slow targets**

Product Description

The DD-R38 X-band long-range phased array radar

1, Product Overview

The DD - R38 X - band long - range phased array radar is an outstanding piece of equipment. Characterized by a fully solid - state, fully coherent, and pulse Doppler system, this radar is engineered to offer all - weather detection capabilities. It is specifically customized for the early warning of "low, small, slow" targets.

In the contemporary airspace, such targets present distinct challenges. These may include small unmanned aerial vehicles (drones) that can be employed for diverse purposes, some of which could potentially be malicious. Light aircraft, helicopters, powered triplanes, airships, and airborne balloons also fall within the category of "low, small, slow" objects.

To precisely detect and classify these targets, the DD - R38 radar utilizes the capabilities of machine learning and AI - based trajectory feature recognition. This advanced technology enables the radar to analyze the movement patterns and characteristics of these objects. Consequently, it can achieve highly accurate detection and classification. Moreover, it accomplishes this with extremely low false alarm rates. This implies that operators can place a high level of trust in the radar's readings, ensuring that genuine threats are not disregarded and that unnecessary alerts are minimized.

2, Function

The product makes use of advanced machine learning technology. This allows it to adapt to battlefield environments and be directly deployed for use upon installation, without the need for parameter adjustment. The system features strong detection capabilities and an extremely low false alarm rate, effectively detecting the maneuvering flights of unmanned aerial vehicles. To ensure reliable all-weather operation, the product is equipped with cloud and rain noise suppression functionality, enabling continuous operation under various weather conditions.

Concerning 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 airspace detection and precise monitoring of key areas. The two modes can be flexibly switched without the necessity of software modifications. The product simultaneously integrates mechanical scanning tracking and phase scanning TAS tracking functions to ensure continuous and stable target tracking.

AI recognition technology based on "track features" enables 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 carry out equipment leveling and calibration functions, simplifying the operation process. Additionally, the system provides flexible setting functions for distance and elevation scanning ranges, enabling users to make personalized configurations according to actual requirements.



3, qualification

order number	parameter	metric
1	frequency range	X frequency range
2	detection range	$\geq 10\text{Km}(\text{RCS}:0.01\text{m}^2, \text{unmanned aerial vehicle})$ $\geq 20\text{Km}(\text{RCS}:0.3\text{m}^2, \text{unmanned aerial vehicle})$
3	fade zone	$\leq 150\text{m}$
4	work pattern	Supports machine scanning and 2D phase scanning

5	hunting zone	Scan: Angle: 0°~360°, Pitch: 0°~60° (configure according to task requirements)
		Sweep: Azimuth: -45° to 45°, elevation: 0° to 60° (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	10m~5000m
9	velocity range	1m/s~100m/s
10	Target update rate	The scanning speed is ≤5 seconds per phase, with a pitch coverage of 30° and a range of 15km.
11	resolution ratio	Distance: <15m, azimuth: <6°, elevation: <4°
12	Search precision (RMS)	Distance: <10m, azimuth: <0.4°, elevation: <0.4°
13	Tracking accuracy (RMS)	Distance: <10m, azimuth: <0.3°, elevation: <0.3°
14	joggle	RJ45 network port
15	target capacity	≥500 batches
16	weight	≤ 38Kg (net weight of the device, excluding power supply/cable)
17	supply electricity	AC220V/DC24V
18	power dissipation	≤1200W
19	size	≤785mm*340mm*220mm
20	operating temperature range	-40 +60
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.

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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