

AOA UAV Precision Control Equipment Specification



1.Overview

The device is equipped with functions such as drone detection, early warning, identification, direction measurement, positioning, and precise countermeasures. A single station can achieve simultaneous direction measurement and positioning of multiple targets, enabling accurate location and trajectory tracking of target drones and pilots, supporting TDOA positioning (≥ 3 units). It employs wireless interference and blocking technology to effectively cut off the drone's video transmission, remote control, and navigation links, allowing the drone to return to its original position or make an emergency landing. Equipped with precise countermeasures and wide-frequency countermeasure modes, it can differentiate between cooperative and non-cooperative targets within the low-altitude surveillance range, enhancing the precision of regulatory capabilities in the monitored area.

2.Composition

The detection mainly composed of the device host, power adapter, network cable, router, and bracket, as shown in the following table:

NO.	Equipment Name	Quantity	Unit
1	Equipment Host	1	pcs
2	Power Adapter	2	individual
3	Parvicostellae	1	root
4	Router	1	individual
5	Support	1	cover

The jammer is mainly composed of the main unit, power cable and antenna, as shown in the following table:

NO.	Equipment Name	Quantity	Unit
1	Main Engine	1	pcs
2	Power Line	1	individual
3	Antenna	9	root

3. Product Functions and Features

3.1.AOA Detection

UAV Positioning: a single station can locate the position of some models of UAV and pilots, and multi-station networking can realize TDOA precise positioning and trajectory tracking of multiple aircraft.

UAV Direction Finding: A single station can measure the direction of the target UAV, and the electronic map can present the direction information of the UAV in real time. It can measure the direction of more than 3 targets at the same time, and the direction distance can reach more than 6-10km in open environment.

Spectrum Scanning: 100MHz~6GHz spectrum scanning, support spectrum graph and waterfall graph display.

Abnormal Signal Identification: The system can identify abnormal signals according to the spectrum scanning results and display them in the list to assist security personnel to deal with abnormal signals.

Intrusion Alarm: When the equipment detects the intrusion of a drone, it will sound or light alarm.

Observation and control: can be linked to counter or lure equipment to deal with the target.

Scale networking: It supports the grid network deployment of multiple devices to meet the coverage of large areas.

Black and White List:It can distinguish cooperative and non-cooperative UAVs. When a cooperative UAV is detected, the device does not alarm and can mark the cooperative UAV as trusted.

Trajectory Playback:It supports the playback of UAV flight trajectory and assists security personnel in analyzing historical UAV flight data.

Detection Records:The detection record list can retain historical detection records, including multi-dimensional information such as the serial number, model and frequency of the UAV.

Electronic maps: electronic map switching, including Gaode, Baidu and Google (offline) etc.

Standard API interface: The device has a standard API interface, which can connect data to the specified management system.

Full Detection Models:It can detect and identify more than 700 models, the system can identify and detect DJI, Common brand UAVs such as EVO, DAHUA and YUNEEC, as well as most of the models on the market such as homemade UAVs and WiFi machines.

Passive Detection: The equipment does not emit any electromagnetic signals, no electromagnetic environmental pollution, environmentally friendly.

Three Full Watch: the equipment works continuously all day (7*24 hours), all day (applicable to complex electromagnetic environment and harsh climate environment), and all round (all-directional detection of drone intrusion) watch the low-altitude security of the core protection area.

3.2.Jammer

Precise Countermeasures: For multiple drones in the regulatory airspace, one-to-one precision strikes can be made on designated black flying drones without interfering with the normal flight of other drones.

Multi-frequency Countermeasures: Standard 8 countermeasures frequency bands can effectively interfere with DJI, EVO and other common brand UAVs, as well as WiFi machines, drones and most other models.

Flexible Disposal: The countermeasure frequency band can be opened independently or simultaneously, and customized configuration is supported to adapt to different security scenarios.

Collaborative Operation: Support collaborative operation with TDOA spectrum detection, RID, 5G-A, photoelectric and other systems.

Active Heat Dissipation: adaptive air cooling system is adopted to ensure long-term operation and stable operation of the equipment.

4.Specifications

4.1. AOA Detection

NO.	Specification	Parameter	Remarks
1	Detection Frequency	100MHz-6000MHz	
2	Detection Range	5-10km	
3	Number of Targets to Detect	More than 20 flights	at the same time
4	Detection Mode	360 ° Passive detection	
5	Directional Frequency Band	2GHz-6GHz	
6	Measure the Number of Targets	No less than 3 flights	at the same time
7	Directional Accuracy	3 °~10 °	
8	Set the Refresh Rate	10 to 30 times per minute	
9	Positional Error	≤10m	
10	Set the Number of Tracks	More than 5 flights	at the same time
11	Scan Frequency Range	100MHz~6GHz	
12	Detect and Identify Drone Models	DJI, Autel, FIMI, Dahua, Yuneec and other common brand UAVs and other homemade drones, WiFi machines and most of the models on the market	
13	Single station can be located, UAV Model (including pilot)	DJI Mavic, Air, Mini, FPV, Avata and other series of models	
14	Weight	≤15kg	No power adapter
15	Size	φ*H (420*530)±5mm	
16	Overall Power Donsumption	≤50W	
17	External Power Supply Voltage	AC 220V/DC 12V	
18	Working Temperature	-40~65℃	
19	Levels of Protection	IP65	

4.2. Jammer

NO.	Specification	Parameter	Remarks
1	Precise Counter Measure Frequency Band	2.4GHz,5.8GHz	
2	Standard Counter Measure Frequency Band	433MHz,900MHz,1.2GHz,1.4GHz,1.5GHz,2.4GHz,5.2GHz,5.8GHz	
3	Counter Power	Channel 1:2.4GHz: 100W±5W Channel 2:5.2GHz: 50W±3W Channel 3:5.8GHz: 100W±5W Channel 4: 433MHz: 50W±3W Channel 5: 900MHz: 50W±3W Channel 6:1.2GHz: 50W±3W Channel 7:1.4GHz: 50W±3W Channel 8:1.5GHz: 50W±3W	
4	Full Channel Counter Power	Less than 2000W (all channels open)	
5	Hit the Distance	500m-3000m	
6	Interference Time	Less than 5 seconds (from target detection to successful interference)	
7	Angle of Attack	Level 360 °	
8	Levels of Protection	IP65	
9	Weight	≤40kg	
10	Size	L*W*H(513mm*462mm*299mm)±5mm	
11	Overall Power Consumption	Full band: less than 2000W	
12	Standby Power Consumption	58W	
13	External Power Supply Voltage	100~240V	
14	Working Temperature	-20~65℃	
15	Levels of Protection	IP65	