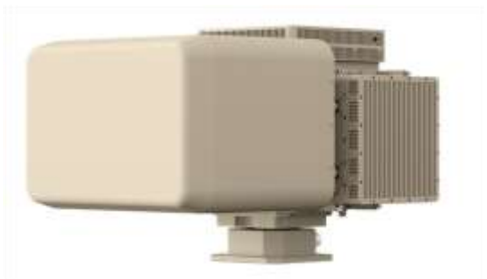
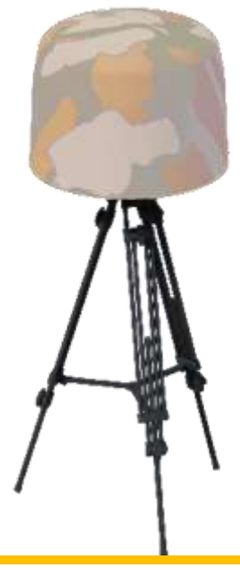
TECHSTAR SATCOM

ANTI-DRONE EQUIPMENT&SYSTEM

INTEGRATED SYSTEM FOR DETECTION & DIRECTIONAL JAMMING



Intelligent Directional RF Jammer



Spectrum Detector

The close cooperation between these two devices forms an advanced low-altitude security system. This system can detect and accurately identify the signals of invasive drones in real-time. Upon detecting a potential threat, the system automatically activates, utilizing high-precision turntable technology to emit targeted jamming signals specifically designed to disrupt the frequency band of the invading drone. This operation ensures the precision and effectiveness of the interference, while minimizing the impact on the surrounding electromagnetic environment.

KEY BENEFITS

- **Full-frequency Coverage**
- **Directional Jamming**
- **24/7 Operations**
- **Multi-target Jamming**
- **Adjustable Frequency Bands**
- **Programmable Jamming**

PERFORMANCE

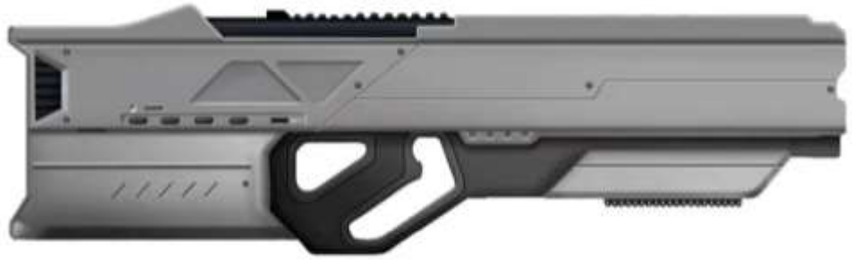
Technical Specifications of Spectrum Detector

Supported Frequency Bands	300 MHz to 6000 MHz
Detection Range	≥ 5Km
Minimum Detection Altitude	0 m
Azimuthal Accuracy	≤ 3°
Coverage Area	360°Surround View
Ingress Protection Rating	IP 65
Weight	≤ 20kg
Product Dimensions	566mm × 566mm × 500mm （L × W × H）

Technical Specifications of Intelligent Directional RF Jammer

Jamming Frequency Range	300 MHz to 6000 MHz
Jamming Range	≥ 5Km
Maximum Jamming Bandwidth	≥100MHz
Jamming Activation Time	5 s (excluding turntable rotation time)
Number of Jamming Bands	≥4 bands(Simultaneously jams)
Key Jamming Frequencies	Simultaneously covers 900, 2.4, and 5.8
Jamming Beam Angle	≥15°
Jamming Modes	Narrowband noise jamming, broadband noise jamming, sweep noise jamming, and Programmable jamming
Rotary Table Turnaround Time	≤10s （360°）
Power Consumption	≤1500W
Weight	≤45 kg

DRONE COUNTERMEASURES GUN



This product is an integrated long-range UAV detection and strike device capable of implementing targeted jamming against intruding UAVs. By severing their satellite navigation, remote control, and image transmission signals, it forces them to either make an immediate vertical landing or return to their starting point.

It is user-friendly, portable, and has a strong battery endurance, making it a vital tool for ensuring low-altitude airspace security. It is particularly suitable for scenarios requiring high-security measures such as protection of critical infrastructure, security management of major events, and control of drone activities in sensitive areas. Furthermore, it can be integrated with other UAV defense devices to form a more comprehensive low-altitude security system.

KEY BENEFITS

- **Single-soldier Deployable**
- **Directional Jamming**
- **Superb Endurance**
- **Efficient Interception**

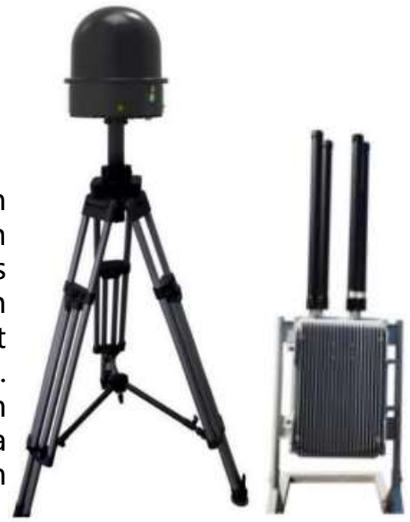
PERFORMANCE

Technical Specifications

Jamming Frequency Range	900MHz、1.5GHz、2.4GHz、5.2GHz、5.8GHz
Jamming Range	≥ 1000 m
OLED Screen	Displays device status, Battery status, and Operating modes
OLED Screen Size	3.5 "
Battery Endurance	≥ 30 minutes (continuous working)
Charging Method	DC29.4V/6A
Charging Duration	2 hours (fast charging at 6A achieves over 95% charge in 1.5 hours)
Power Supply	Lithium battery (replaceable)
Ingress Protection Rating	IP55
Operating Temperature	-20℃ ~ 60℃
Weight	≤ 7 kg (battery included)
Product Dimensions	880 mm × 100 mm × 330 mm ±2mm (L × W × H)

Regional Office: Unit 18, Phase 01, LIU (Light Industrial Unit), Dubai Silicon Oasis, Dubai (UAE)

Portable
UAV DEFENSE SYSTEM

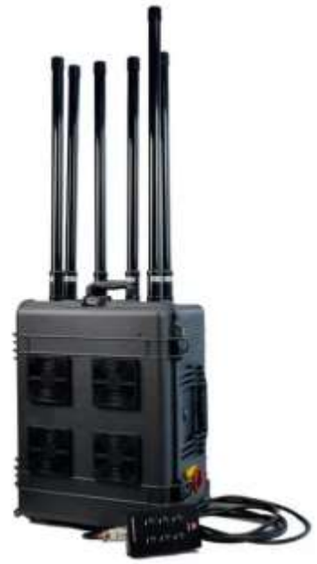


Portable UAV Defense System is an easy mounted Anti-Drone system with competitive cost. The system integrates UAV passive detection and recognition and interference, can identify most commercial UAV models on the market. With 5Km detection distance and 2Km interference distance, the system offer a good protection for a specific area from UAV in 7*24 hours and all weather.

TECHNICAL INDICATORS

Index item	Parameter value
Effective detection distance:	≥5km
Detection azimuth accuracy:	≤10° (RMS)
Detection range: 360°:	360°
Detection frequency range:	70MHz---6000MHz
Maximum detection speed:	≥20m/s
Number of simultaneous detection	≥40
Effective interception distance:	≥2km (under the condition of clear sight and I/C= 10:1)
System Response time:	≤2s
Number of simultaneous interceptions	≥34
Jamming frequency band and power: (The Jamming frequency band and power can be selected according to the requirements.)	2400-2488MHz (±10MHz) at 50±1dBm
	5725-5850 (±10MHz) MHz at 48±1dBm
	1555-1620MHz (±10MHz) at 44±1dBm
	902-928MHz (±10MHz) at 44±1dBm
Power Voltage Adaptability:	120V—240V AC
Protection grade:	IP66
Operating temperature:	-40℃--60℃

Backpack
FPV DEFENSE SYSTEM



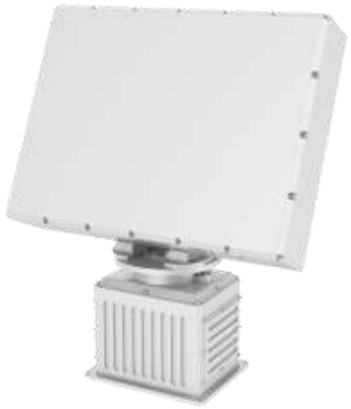
Backpack FPV Defense System is an equipment developed to counter the increasingly frequent FPV intrusion events. This product can effectively detect the current common 1.2G, 5.8G FPV simulation signals on the market, and automatically transmit the detected frequency band interference signals to block the graph transmission signal between FPV and pilot’ s glasses.

TECHNICAL INDICATORS

Index item	Parameter value
Effective detection distance:	≥1500m
Detection frequency range:	1050MHz--1440MHz、5350MHz--5950MHz
Number of simultaneous interceptions:	61 set
Detection Response time:	1s
Maximum detection speed:	≥20m/s
Effective interception distance:	≥1500m（under the condition of clear sight and I/C=15:1）
Interception frequency range(image transfer):	1050MHz--1440MHz、5350MHz--5950MHz
Interception frequency range(Remont control):	720-850 MHz、850-930 MHz、930-1020MHz
Control interface:	10 / 100 / 1000M network port
Battery life:	24h detection and 2h interference
Power supplier:	8Ah/201.6Wh
Charging limit voltage:	29.4V
Operating temperature:	-20℃--60℃

R-6000 TARGET SURVEILLANCE RADAR

R-6000 Target surveillance radar has the ability to detect targets such as UAVs and birds, and can be widely used in the security of airport low altitude, ports, oil fields, nuclear power plants and other important places.

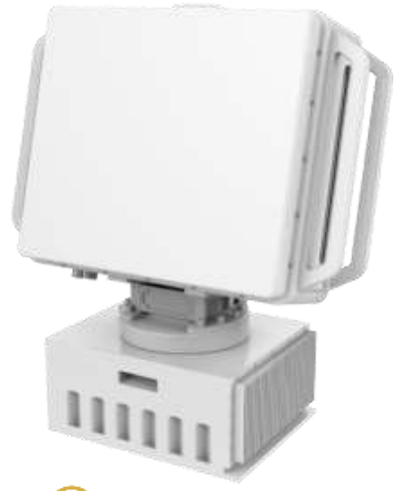


TECHNICAL INDICATORS

Index item	Parameter value
Working frequency	Ku-band
Technical system	One-dimensional active phased array tRee-coordinate system
Scanning mode	Azimuth mechanical scanning + pitch phase scanning
Detection distance	≥6km@ DJI Phantom 4
Coverage area	azimuth 360°/pitch 40°
Distance Error	≤5m
Azimuth Error	≤0.3°
Pitch Error	≤0.3°
Target capacity	≥256
Target capacity	≥256
Speed measurement range	1~80m/s
Data rate	3s
Weight	≤50kg
Overall dimensions	500mm(L)×300mm（W）×680mm（H）
Information interface	Ethernet
Power supply	AC220/50Hz
System power consumption	250W
Erection method	Fixed type, vehicle-mounted type and tripod installation

R-8000 TARGET SURVEILLANCE RADAR

R-8000 Target surveillance radar has the ability to detect targets such as UAVs and birds, and can be widely used in the security of airport low altitude, ports, oil fields, nuclear power plants and other important places.

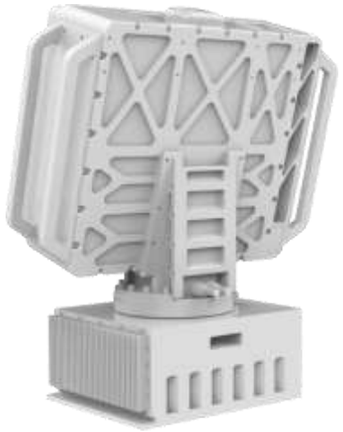


TECHNICAL INDICATORS

Index item	Parameter value
Working frequency	Ku-band
Technical system	One-dimensional active phased array tRee-coordinate system
Scanning mode	Azimuth mechanical scanning + pitch phase scanning
Detection distance	≥8km@ DJI Phantom 4
Coverage area	azimuth 360°/pitch 35°
Distance Error	≤8m
Azimuth Error	≤0.25°
Pitch Error	≤0.25°
Target capacity	≥256
Speed measurement range	1~120m/s
Data rate	2s
Weight	≤85kg
Overall dimensions	670mm(L)×350mm（W）×730mm（H）
Information interface	Ethernet
Power supply	AC220/50Hz
System power consumption	1200W
Erection method	Fixed type, vehicle-mounted type and tripod installation

R-10000 TARGET SURVEILLANCE RADAR

R-10000 Target surveillance radar has the ability to detect targets such as UAVs and birds, and can be widely used in the security of airport low altitude, ports, oil fields, nuclear power plants and other important places.

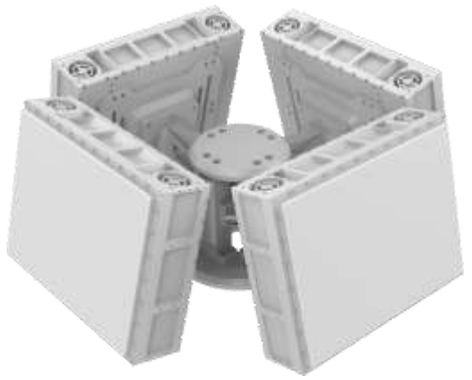


TECHNICAL INDICATORS

Index item	Parameter value
Working frequency	Ku-band
Technical system	One-dimensional active phased array tRee-coordinate system
Scanning mode	Azimuth mechanical scanning + pitch phase scanning
Detection distance	≥10km@ DJI Phantom 4
Coverage area	azimuth 360°/pitch 30°
Distance Error	≤8m
Azimuth Error	≤0.25°
Pitch Error	≤0.25°
Target capacity	≥256
Speed measurement range	1~120m/s
Data rate	2s
Weight	≤85kg
Overall dimensions	670mm(L)×350mm（W）×730mm（H）
Information interface	Ethernet
Power supply	AC220/50Hz
System power consumption	1200W
Erection method	Fixed type, vehicle-mounted type and tripod installation

R-6000P FOUR-SIDED PHASED ARRAY RADAR

R-6000P four-sided phased array radar can realize the TAS search and tracking function of UAVs, birds and other targets, and has high-precision real-time multi-target tracking and synchronous whole airspace search capabilities. It can be widely used in the security of airports, ports, oil fields, nuclear power plants and other important places.



TECHNICAL INDICATORS

Index item	Parameter value
Working frequency	Ku-band
Technical system	tRee coordinates of two-dimensional phased array
Scanning mode	Azimuth & pitch phase scanning
Detection distance	≥5.0km@search (DJI Phantom 4) & ≥12km@search (Medium-Large UAV) ≥6.0km@tracking (DJI Phantom 4) & ≥15km@tracking (Medium-Large UAV)
Coverage area	Azimuth 360° Search Pitch @30°, Track Pitch @70°
Distance Error	≤10m@search, ≤10m@track
Azimuth Error	≤0.5°@search, ≤0.2°@track
Pitch Error	≤0.7°@search, ≤0.3°@track
Target capacity	≥256@search, ≥4track
Speed measurement range	1~80m/s
Data rate	6s@search, 0.1s@track
Weight	≤120kg
Overall dimensions	Size of single array:560mm(L)×430mm（W）×150mm（H）
Information interface	Ethernet
Power supply	AC220/50Hz
System power consumption	2000W
Erection method	Fixed type, vehicle-mounted type and tripod installation

HAWK-EYE TS4 OPTICAL-ELECTRIC PLATFORM

HAWK-EYE TS4 can integrate high-definition visible light imaging, refrigeration thermal imaging, and laser ranging. The advantages of multi-band detection are complementary. Multi-source data are aggregated and processed to make targets visible. The demand of surveillance can be satisfied under all-weather environments in day and night.

TECHNICAL INDICATORS

Laser Ranging	
Wavelength	1.06μm/1.5Xμm optional
Maximum measuring range	3km/5km/8km/10km/15km optional for small targets
Distance measurement accuracy	±1m/±2m/±3m/±5m optional
Repetition frequency	0.2Hz/1Hz/5Hz/10Hz optional
Refrigeration Thermal Imaging	
Detector	Refrigerating mercury cadmium telluride (MCT) infrared focal plane
Spectral range	3.7μm ~ 4.8μm
Resolution	640×512
NETD	Better than 20mK
Focal length	15~320mm, 22~450mm, 30~600mm, 40~800mm, 90~1100mm, continuous zoom lens optional
Start-up time	≤8min (at ambient temperature)
High-definition Visible Light Imaging	
Sensor	1/1.8″ target starlight level CMOS, ICR color to black
Resolution	better than 1920×1080
Illuminance	0.02 Lux; black and white: 0.002 Lux
Encoding format	LVDS/H.264/H.265/MJPEG
Image enhancement	supports wide dynamic range, strong light suppression, electronic image stabilization, 3D digital noise reduction, automatic white balance and other functions
Focal length	15~500mm, 12.5~750mm, 16.7~1000mm high-definition electric zoom lens optional
Fog penetration	supports photoelectric/electronic dual fog penetration
Adaptability to Environment	
Working temperature	-40℃ ~ 60℃, storage temperature: -45℃ ~ +70℃
Humidity	95%RH
Lightning surge protection	power supply 4000V, communication video signal 2000V
Anti-salt spray	PH value 6.5~7.2, continuous salt spray test for 96 hours, still working normally
Mold prevention	Meets GJB150.10A-2009 mold test requirements
Anti-freeze	supports de-icing start
Ingress protection rating	IP67

HAWK-EYE TS5 OPTICAL-ELECTRIC PLATFORM

Key components/devices includes infrared detectors, visible light sensors, thermal imaging lenses, visible light lenses, laser lenses, infrared FPGA image processors, visible light ISP processors, SoC processors, etc. All can adopt mature domestically produced devices. Hardware and software are independently developed with a high degree of controllability.

TECHNICAL INDICATORS

Laser Ranging	
Wavelength	1.06μm/1.5Xμm optional
Maximum measuring range	3km/5km/8km/10km/15km optional for small targets
Distance measurement accuracy	±1m/±2m/±3m/±5m optional
Repetition frequency	0.2Hz/1Hz/5Hz/10Hz optional
Refrigeration Thermal Imaging	
Detector	Refrigerating mercury cadmium telluride (MCT) infrared focal plane
Spectral range	3.7μm ~ 4.8μm
Resolution	640×512
NETD	Better than 20mK
Focal length	15~320mm, 22~450mm, 30~600mm, 40~800mm, 90~1100mm,continuous zoom lens optional
Start-up time	≤8min (at ambient temperature)
High-definition Visible Light Imaging	
Sensor	1/1.8″ target starlight level CMOS, ICR color to gray
Resolution	better than 1920×1080
Illuminance	0.02 Lux; black and white: 0.002 Lux
Encoding format	LVDS/H.264/H.265/MJPEG
Image enhancement	supports wide dynamic range, strong light suppression, electronic image stabilization, 3D digital noise reduction, automatic white balance and other functions
Focal length	15~500mm, 12.5~750mm, 16.7~1000mm high-definition electric zoom lens optional
Fog penetration	supports photoelectric/electronic dual fog penetration
Adaptability to Environment	
Working temperature	-40℃ ~ 60℃, storage temperature: -45℃ ~ +70℃
Humidity	95%RH
Lightning surge protection	power supply 4000V, communication video signal 2000V
Anti-salt spray	PH value 6.5~7.2, continuous salt spray test for 96 hours, still working normally
Mold prevention	Meets GJB150.10A-2009 mold test requirements
Anti-freeze	supports de-icing start
Ingress protection rating	IP67

HAWK-EYE TS6 OPTICAL-ELECTRIC PLATFORM

It can integrate high-definition visible light imaging, refrigeration thermal imaging, and laser ranging. The advantages of multi-band detection are complementary. Multi-source data are aggregated and processed to make targets visible. The demand of surveillance can be satisfied under all-weather environments in day and night.

TECHNICAL INDICATORS

Laser Ranging	
Ranging range	50~3000 meters
Distance measurement accuracy	±2 meters
Ranging frequency	0.2Hz
Laser wavelength	1570nm
Refrigeration Thermal Imaging	
Detector	Non-refrigerating focal plane array MCT detector
Wavelength	8μm ~ 14μm
NETD	40mK
Focal Length	25 ~ 75mm
Detector array	640×512
Field of view	24.6°×19.8° ~ 8.3°×6.6°
High-definition Visible Light Imaging	
Sensor	back-illuminated ultra-low illumination starlight level CMOS
Minimum illumination	color: 0.0005Lux; black and white: 0.0001Lux; 0Lux (IRON)
Lens	7~330mm high-definition electric zoom; manual/auto focus, 3A adaptive active focus algorithm, supports multiple trigger modes, accurate and high-speed
Image processing	supports white balance, electronic shutter, frame accumulation, backlight compensation, strong light suppression, 2D/3D digital noise reduction, electronic image stabilization, wide dynamic range, and heat wave drift suppression.
Day and night type light	0.4-0.75um visible light wide spectrum window and 0.8-0.95um near-infrared spectrum window, day and night independent double light windows, improving the signal-to-noise ratio of imaging light and stray light
Fog penetration	Support electronic fog penetration and optical fog penetration
Adaptability to Environment	
Working temperature	-40℃ ~ +60℃
Storage temperature	-45℃ ~ +70℃
Humidity	<90%RH
Lightning strike protection	built-in surge protection in the interface circuit, 6000V
Anti-salt spray	When the pH value is 6.5~7.2, spray continuously for 96 hours, no change in the surface
Ingress protection rating	IP67
Overall dimensions	Φ280mm×H430mm
Total weight	≤18kg

THUNDER EAGLE TS110

Thunder Eagle TS 110 is a handheld UAV detection equipment, with the UAV detection spectrum detection function. The device can accurately detect the spectrum information of all drones within the warning range through the deep analysis of the drone signal.

The device is suitable for all kinds of civil and military scenarios that require UAV detection and countermeasures in airspace. It has the advantages of rapid response, mobile deployment, and is not restricted by network conditions, providing a reliable guarantee for low-altitude security.

TECHNICAL INDICATORS

Working Mode	With spectrum detection
Detection Range	Short antenna ≥0.6km, long antenna ≥1km (different environments and models vary)
Detector Type	Spectrum: Common consumer drones on the market;
Detection Feedback	When a drone is detected, it has alarm, vibration and different color indicator light displays depending on the type and model of the drone.
Detection Band	2.4G, 5.8G common frequency band
Overall Power Consumption	≤10w
Power Supply Mode	Built-in lithium battery
Operating Temperature	-20~+55℃
Endurance Time	≥3H (Standby)
Product Weight	≤0.2kg
Product Size	L*W*H：80×56×32±3mm (without adapter and antenna)