

Sunon

Protecting Your Air!

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PART ONE

About Us

**ANTI DRONE
INTEGRATED SYSTEM**

FOR LOW ALTITUDE DEFENSE



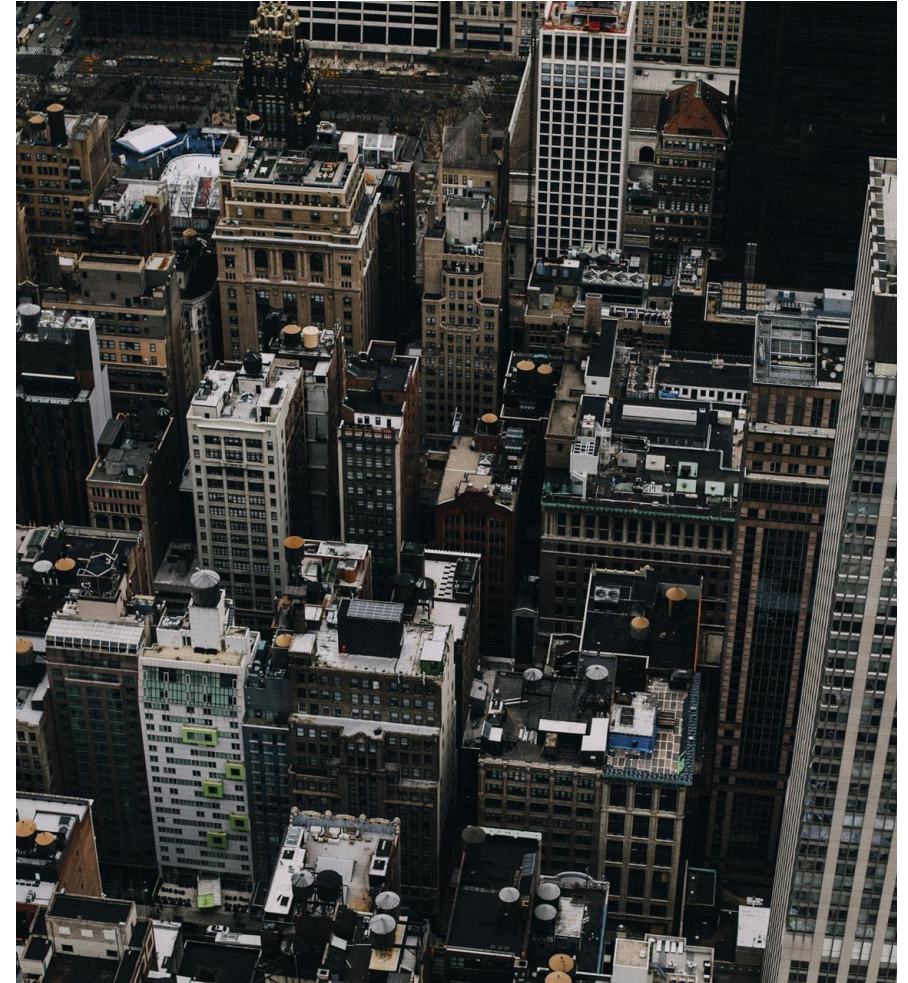
Company Introduction

LZ Anti Drone offers a wide range of advanced anti-UAV products for early detection, identification and tracking of UAVs, assessment of level of threat and adequate response actions including drone counteraction and neutralization.

Counter-UAV products supplied by our company can be used separately or as part of complex integrated Anti-UAV defence systems, which is highly recommended for assuring complete and reliable protection.

We help our customers to choose the most appropriate anti-drone products based on clients' requirements and type and size of location or facility that has to be protected.

We are constantly searching for new anti-drone technologies to enhance our list of anti-drone products.



Company Structure

Sunon has an international standard radio product R&D center and marketing center in Shenzhen headquarters, a standardized production and testing center in Henan Luoyang branch, and has set up technical support and sales service offices in key domestic provinces. The company has gathered the most authoritative experts and scholars in the fields of radio reverse analysis, security engineering and radio communication in China, and is committed to creating professional products with international leading level in the field of drone countermeasures.



Organization Culture

The experience of a thousand times gladly, is the self-acceptance of all things



Team Composition

80% of the team's R&D staff have a master's degree or higher, of which 40% have a PhD



Channels of Cooperation

200+



Company Field

A high-tech security enterprise dedicated to solving the detection, identification, localization, defense and control of civilian drones at home and abroad

Company History



2016

Establishment

Company established in Shenzhen, with core investment in CRPC at the beginning by several experts in radio communication field.

2018

First AD product

Company has the first generation drone detection system matured, and promoted to market.

2019

Awards and Develop


Company gets series of awards for military, government and other customers. National High Tech Enterprise. Starting to form teams at provinces in domestic market.

2020

New Production

Mature products lines. Form modern production lines in Luoyang. Promote to overseas, and form tight cooperations with distributors and customers globally.

C O M P A N Y P R O F I T E

The background of the slide is a photograph of a city skyline with several tall, modern skyscrapers. A large, bright blue arrow is superimposed on the image, pointing from the left towards the right. The arrow starts wide on the left and tapers as it points towards the right, where it splits into two parallel lines.

PART TWO

Core Technology



Cognitive Radio Protocol Cracking

Radio reverse engineering and security analysis applied to drone detection and defense.

Cognitive radio protocol parsing is currently the top international UAV defense technology. Currently, only three foreign companies, Department 13, Skysafe, and Sensofusion, have mastered the cognitive radio protocol parsing technology. The U.S. Department of Defense C-UAS also lists this technology as the only selected technology.

Analysis of radio protocol frame structure

Physical layer information such as modulation schemes, coding schemes, synchronization sequences, frequency guide sequences, etc..

Demodulate physical layer data frames

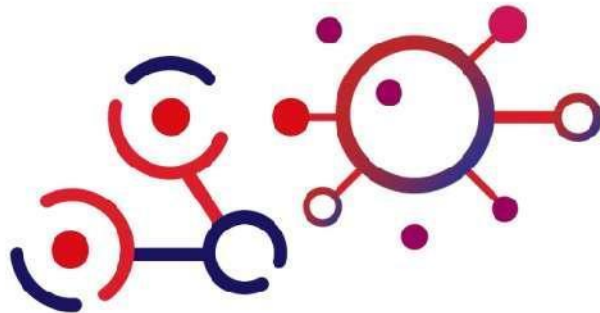
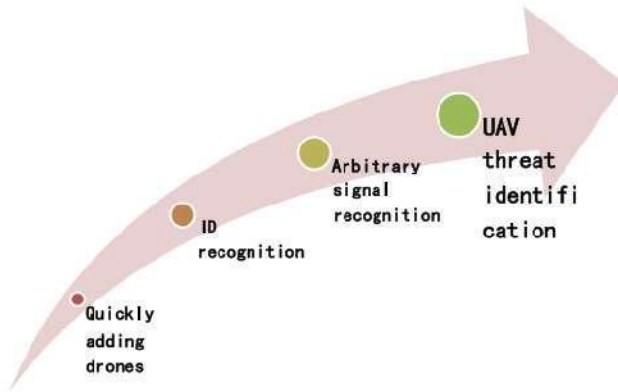
Used to obtain ID bit information for use as an electronic fingerprint

Finding the weak parts of the frame structure

Such as the guide frequency signal for channel estimation, the synchronization reference signal for frame synchronization, etc. By interfering with these reference signals, accurate and efficient interference effects are obtained

High precision synchronized frame structure

Acquisition of signal frame timestamps, phase and coherent power for orientation and positioning systems



Radio Frequency Machine Learning

The neural network is used to extensively extract signal features to identify UAV signals, ID and other functions. Compared with traditional detection techniques, it has the following advantages:

Rapid support for new drones

Neural networks have a short training time and little manual involvement.

Wide range of applications

Neural networks do not depend on the particular design of the transmitting signal and are able to extract and exploit a much larger range of signal features than conventional techniques.

TDOA+

Time Difference of Arrival Plus

UAV precise identification and positioning technology integrates TDOA and CRPC technology to achieve the triple functions of "precise identification", "precise positioning" and "precise strike" of the target UAV, greatly improving the system's practical application performance.

(1)Passive detection

It only receives passively without transmitting any electromagnetic signal, and can detect the UAV model and its electronic fingerprint ID.

(2)Precise Identification

It can accurately identify different UAVs of the same brand, model and frequency band.

(3)Precise Positioning

It can accurately measure the position of UAV (remote controller) and indicate the direction of UAV.



(4)Path Tracking

It has multi-target trajectory tracking function, and can display the flight trajectory of multiple UAVs in different colors when they are detected at the same time.

(5)White & Black List

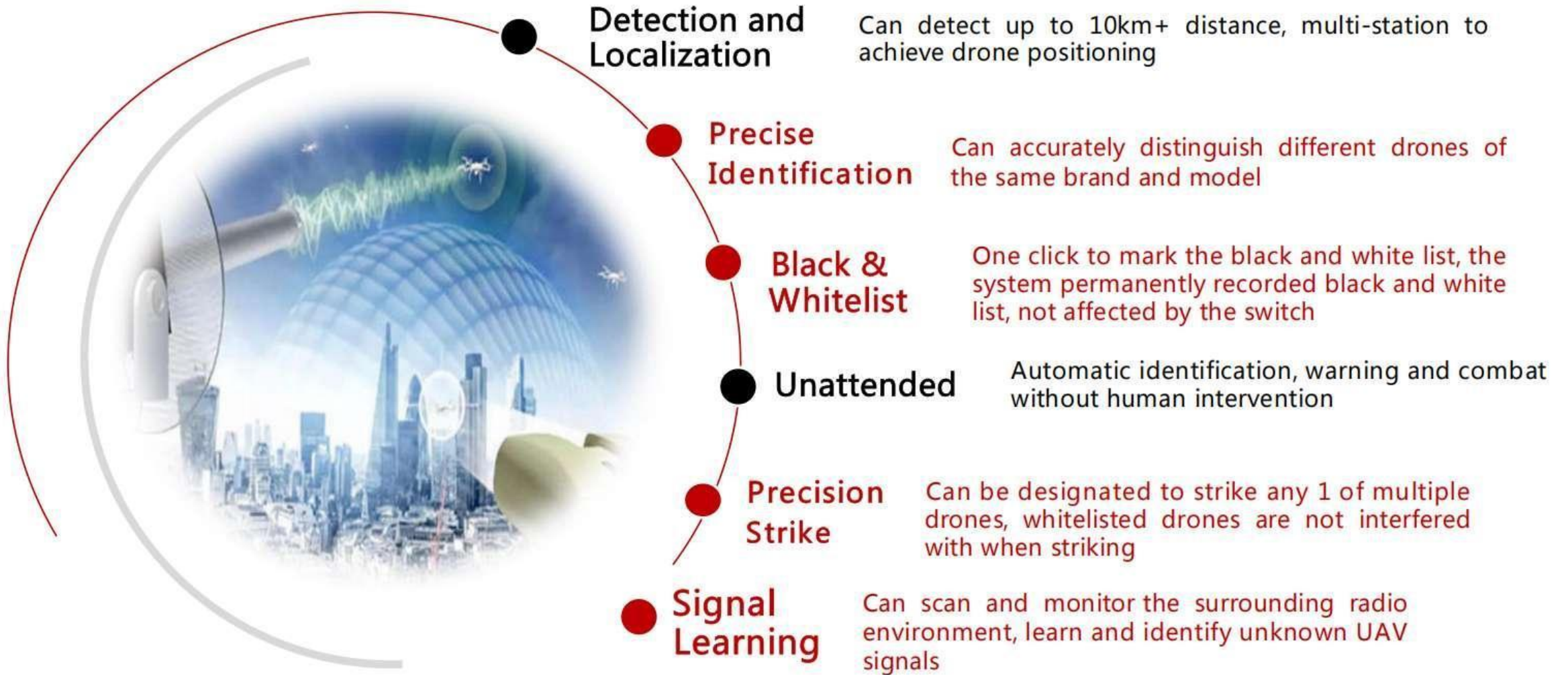
The black and white list can be marked with one key, and the white list UAV will not be alarmed.

(6)Full Model Library

It supports the whole series of DJI, mainstream brands in the market and DIY UAVs, covering more than 98% of the models on the market.

Characteristics

Sunon Anti Drone System





PART THREE

Product & Appliance

Products

Anti Drone System



Detection

- AD series
- BD series
- B series
- G series
- VAR 100



Jamming

- W series
- Bag series
- M series



Spoofing

- GPS spoofing

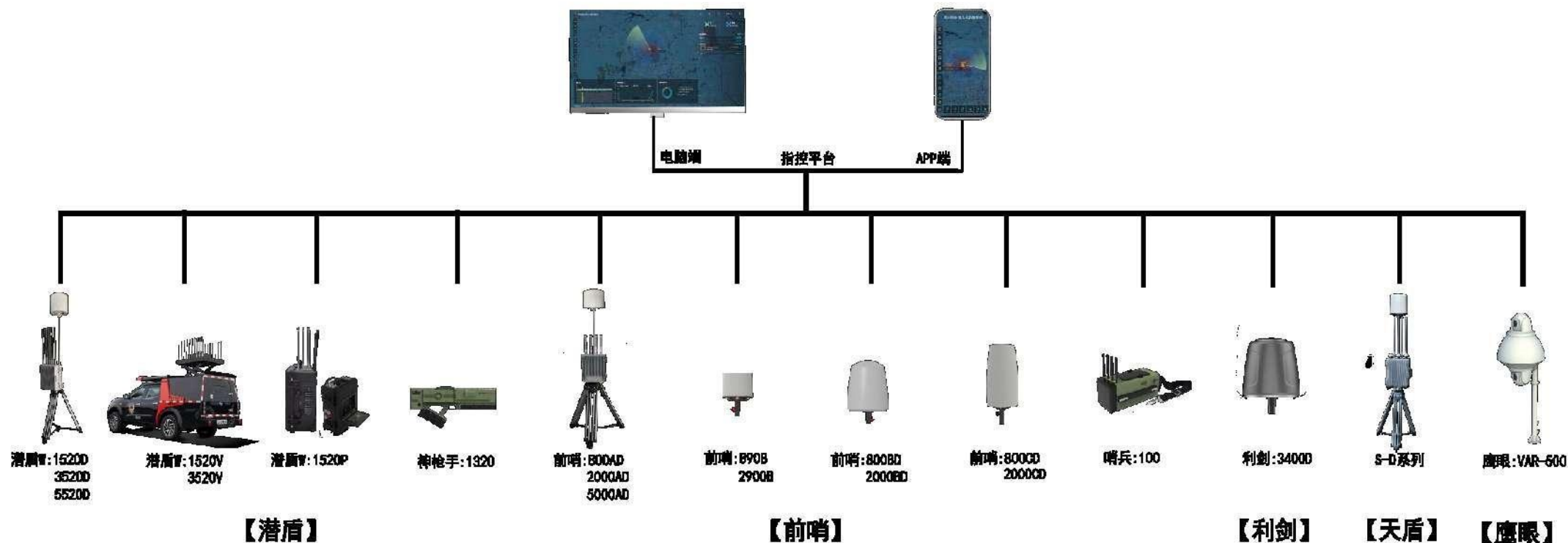


Integration

- AD+M(WD)
- BD+M(BW)
- AD+G(SD)
- B+M(TDOA+)
- W+B (w1320)

Product

Anti Drone System



Complete Functions

- Detection
- Identification
- Early warning
- Localization
- Interference
- Spoofing

Variety of Forms

- Stationary(fixed)
- Vehicle-mounted
- Portable
- Handheld

Well-established System

- Communication Protocol
- Analysis
- Radio Spectrum Detection
- Active Decoy
- Active Optoelectric

Integration

- Detect+ Direction Finding
- Detection + Interference
- Detection + Spoofing
- Integrate with other device(Radar)

Appliance



Public Security



Major Events



Sports Stadium



Business Park



Smart Camp



Border Control



Correctional Facility



Port and Coastal Defense



Petrochemical



Power Plant



Railway



Aviation

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PART FOUR

Cooperation

Cooperation

We wish to cooperate with you at different means



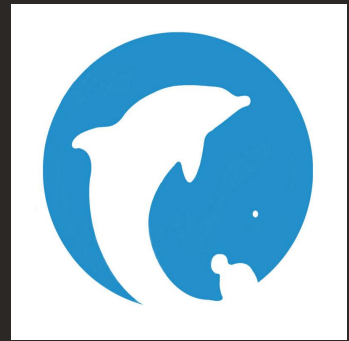
Production Supply and afterward software supports



PCBA core board cooperation



Detail case customization and newly development cooperation



Thanks

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