

User Manual

EAS-506&EAS-510

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English

Thank you for choosing our product. Please read the instructions carefully before operation. Follow these instructions to ensure that the product is functioning properly. The images shown in this manual are for illustrative purposes only.



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If there is any issue related to the product, please contact us.

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About the Company

ZKTeco is one of the world's largest manufacturer of RFID and Biometric (Fingerprint, Facial, Finger-vein) readers. Product offerings include Access Control readers and panels, Near & Far-range Facial Recognition Cameras, Elevator/Floor access controllers, Turnstiles, License Plate Recognition (LPR) gate controllers and Consumer products including battery-operated fingerprint and face-reader door locks. Our security solutions are multi-lingual

and localized in over 18 different languages. At the ZKTeco state-of-the-art 700,000 square foot ISO9001-certified manufacturing facility, we control manufacturing, product design, component assembly, and logistics/shipping, all under one roof.

The founders of ZKTeco have been determined for independent research and development of biometric verification procedures and the productization of biometric verification SDK, which was initially widely applied in PC security and identity authentication fields. With the continuous enhancement of the development and plenty of market applications, the team has gradually constructed an identity authentication ecosystem and smart security ecosystem, which are based on biometric verification techniques. With years of experience in the industrialization of biometric verifications, ZKTeco was officially established in 2007 and now has been one of the globally leading enterprises in the biometric verification industry owning various patents and being selected as the National High-tech Enterprise for 6 consecutive years. Its products are protected by intellectual property rights.

About the Manual

This manual introduces the operations of **EAS-506&EAS-510** product.

All figures displayed are for illustration purposes only. Figures in this manual may not be exactly consistent with the actual products.

Document Conventions

Conventions used in this manual are listed below:

GUI Conventions

For Software	
Convention	Description
Bold font	Used to identify software interface names e.g. OK, Confirm, Cancel.
>	Multi-level menus are separated by these brackets. For example, File > Create > Folder.
For Device	
Convention	Description
< >	Button or key names for devices. For example, press <OK>.
[]	Window names, menu items, data table, and field names are inside square brackets. For example, pop up the [New User] window.
/	Multi-level menus are separated by forwarding slashes. For example, [File/Create/Folder].

Symbols






Convention	Description
	This implies about the notice or pays attention to, in the manual.
	The general information which helps in performing the operations faster.
	The information which is significant.
	Care taken to avoid danger or mistakes.
	The statement or event that warns of something or that serves as a cautionary example.

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1 Overview

1.1 Introduction

EAS (Electronic Article Surveillance) system is the most effective tool to stop shoplifters. AM technology and RF technology are the most common types of EAS systems. Antenna is installed in the exit of store. Tag contain a tiny electronic circuit. When the tag appears in the detection range, antenna gives an alarm. Therefore, when customers enter the store, it is easier for you to make eye contact with them and provide a good shopping experience.

1.2 Appearance

1.2.1 Detector



1.2.2 Decoder



EAS-769B



EAS-D01



EAS-D10N

1.2.3 Tag



EAS-H01



EAS-H02



EAS-L404



EAS-H22C



EAS-H23



EAS-301



EAS-H14A

1.3 Product Specifications

Technical Specifications	EAS-506	EAS-510
Main material	Aluminum alloy	Aluminum alloy
Mainboard name	RF3800	RF9500
Center frequency	8.2mhz	8.2mhz
Working mode	TX+RX	TX+RX
Detection range	0.9 to 2M(Depend on tag)	0.9 to 2.4M(Depend on tag)
Dimension	1580*380*30mm	1520*440*40mm
Dimension with packing	1630*440*210mm	1630*520*190mm
Packing quantity	2pcs/ctn	2pcs/ctn
Weight with packing	15kgs/ctn	15kgs/ctn

2 Installation Setup

2.1 Pre-installation Environmental Testing

Method

- Before the antenna holder is fixed, it is necessary to test the electric field in the installation position.
- After the device is connected to the power cord, place it in the desired location.
- Observe the situation of the three green interference indicators DS1, DS2, DS3 in the upper left corner of the receiver board:
 - ✧ DS1, DS2, and DS3 are all off, indicating that the environment is very good and can be installed.
 - ✧ DS1 is bright and DS2 and DS3 are off. This indicates that the environment is better. It can be installed by simply debugging the sensitivity.
 - ✧ The DS1 and DS2 are illuminated, the DS3 is off or all three lights are on, indicating that the site environment is harsh and needs to be adjusted before installation.

2.2 Adjustment Methods

- Shorten the installation door distance.
- Transposition of transmitter and receiver.
- Adjust the installation position to avoid interference sources.
- Eliminate interference sources.

2.3 Sources of Interference Type

- The equipment is too close to the wall.
- There are coils around the equipment, such as lanterns, Christmas trees, etc.
- The equipment is too close to electrical equipment such as distribution cabinets and high-pressure spotlights.
- Ordinary soft tag decoder is too close to the antenna.
- Large area metal objects or metal railings, shopping carts, etc.

2.4 Installation Wring Diagram

2.4.1 One Transmit and One Receive Wring Diagram

RF3800 one transmitter and one receiver installation wring diagram

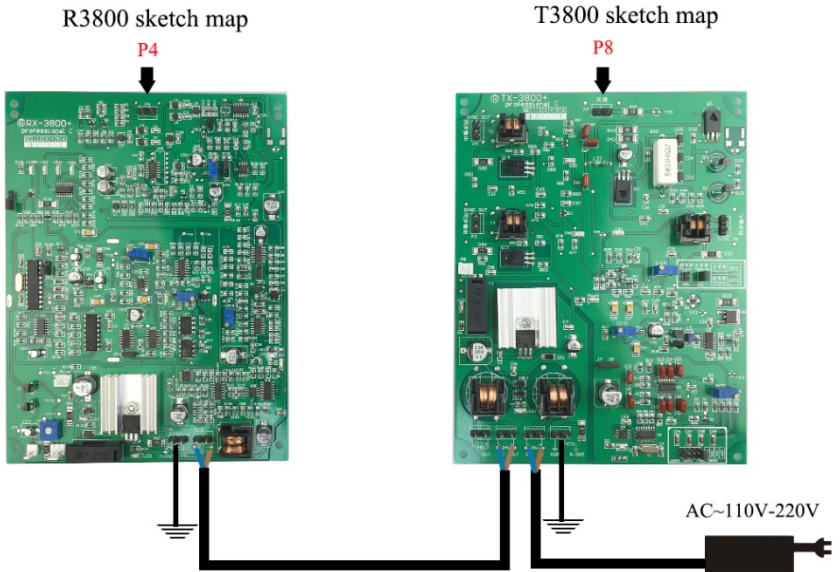


Figure 1 EAS-506 wring diagram

RF9500 one transmitter and one receiver installation wiring diagram

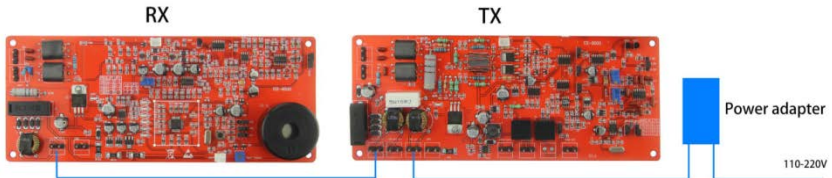


Figure 2 EAS-510 wiring diagram

2.4.2 One Transmit and Two Receive Wiring Diagram

RF3800 one transmitter and two receiver installation wiring diagram

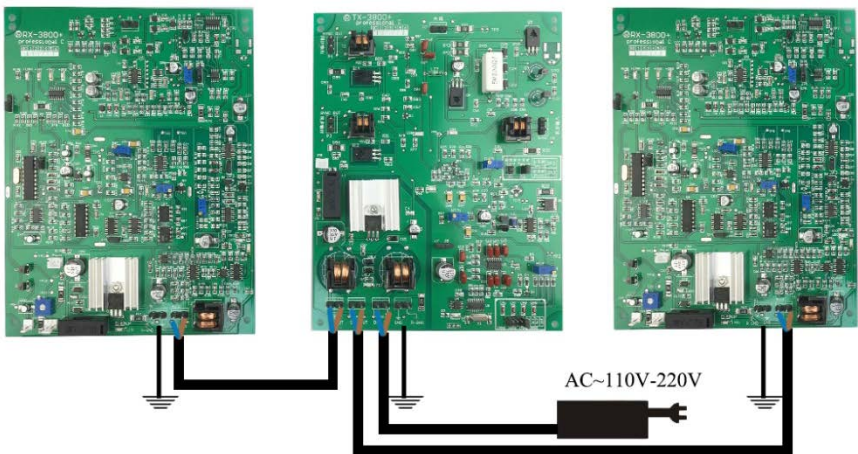
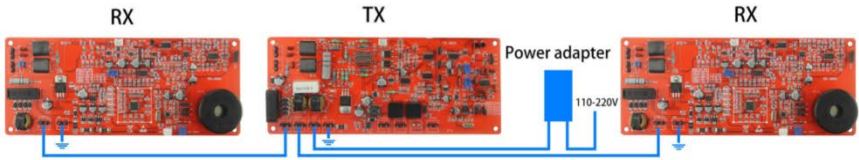


Figure 3 EAS-506 wiring diagram

RF9500 one transmitter and two receiver installation wiring diagram



Figure——Power cord
Example-----Synchronous Line

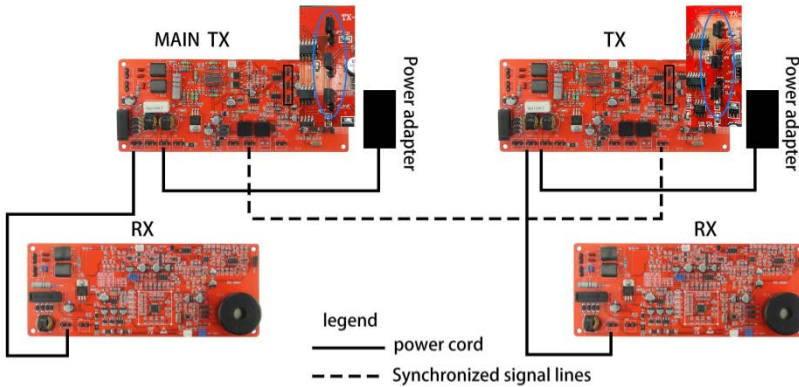


Figure 4 EAS-510 wiring diagram

2.4.3 Two Transmit and Three Receive Wiring Diagram

2 or more shots are installed together at the same time, must be signal synchronization, otherwise it will cause signal interference.

RF3800 two transmitter and three receiver installation wiring

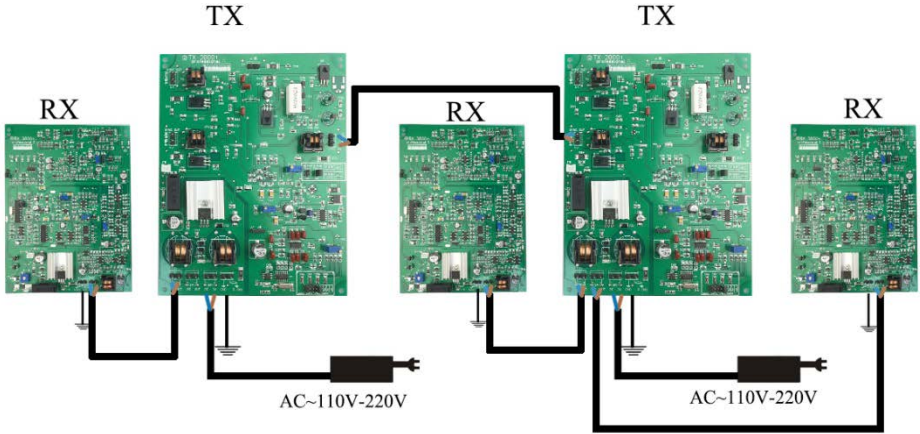


Figure 5 EAS-506 wiring diagram

! **Note:** The synchronization signal line must be a two-core shielded cable (0.5*2 copper core, 75 series shielded network).

2.4.4 Three Transmit and Three Receive Wiring Diagram

Signal synchronizing can output the signal from the sub-transmission synchronization output to the next sub-transmission.

! **Note:** The synchronization signal line must be a two-core shielded cable (0.5*2 copper core, 75 series shielded network).

RF3800 three transmitter and three receiver installation wiring

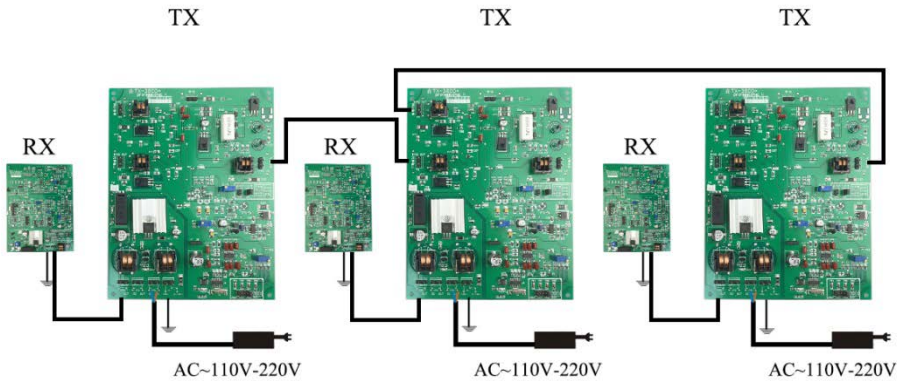
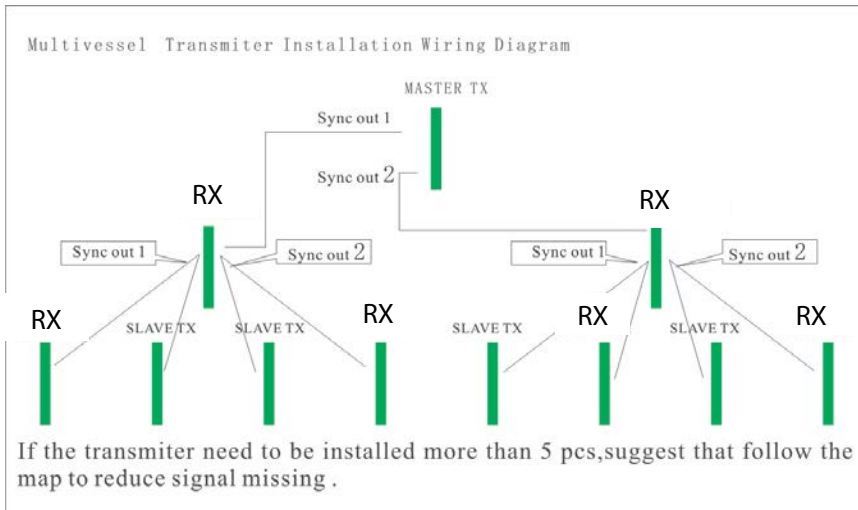



Figure 6 EAS-506 wiring diagram

2.4.5 Multiple Transmit Installation Tip



2.5 Installation Step

 **Mention:** Must not move any of the devices on the transmitter while you are installing

1. Take out the antenna and the parts from the box.
2. In the small box, you will find the power supply, charger, connect wire.
3. Use the key to open the main board cover.
4. Set the two antennas parallelly, facing each other with the opened side.
5. Connect the TX (without buzzer) and RX with the connection cable.
6. Connect the power supply to the TX.
7. Check if the antenna is energized and test the antenna with the hard tag (small square tag), when testing the distance should be less than 1.5m.
8. Power test should be done for more than 30 minutes to check if the system is working well without false alarm. In case of no issues fix it to the ground. Use the marker pen to mark the installation spots.
9. Make holes on the ground at the marked spots and fix the antenna with the screws.

3 Performance and Technical Features

3.1 Feature

- Anti-interference from metal.
- Advance digital signal processing technology.
- Stable structure ensures long-lasting durability.
- Suitable for wide entrance.
- Environmentally friendly.

3.2 Diagram Form

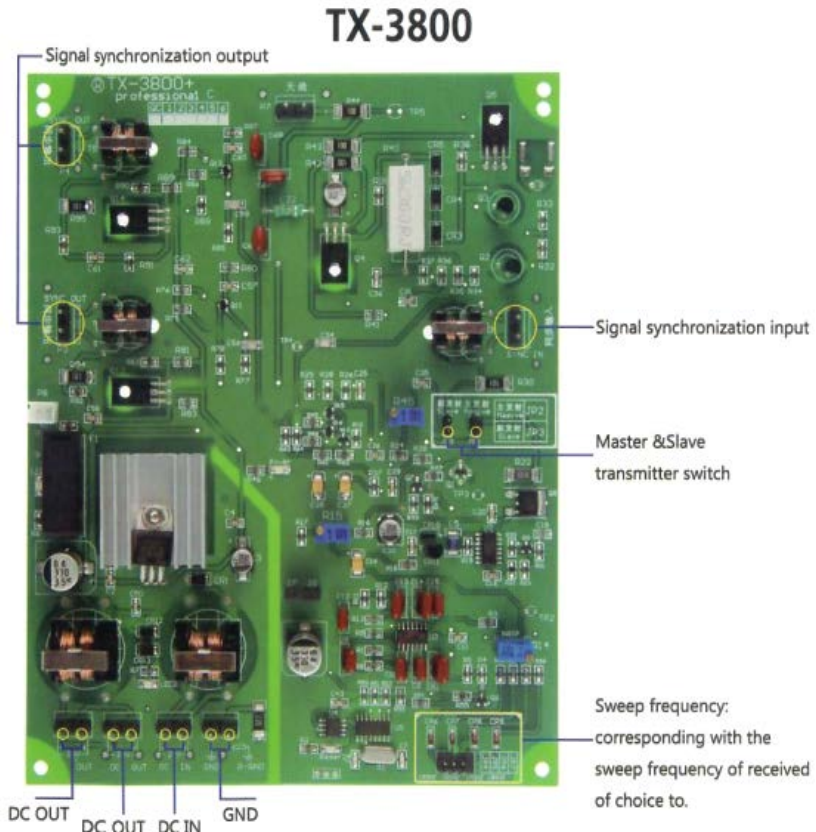


Figure 7 EAS-506 TX diagram form

RX-3800

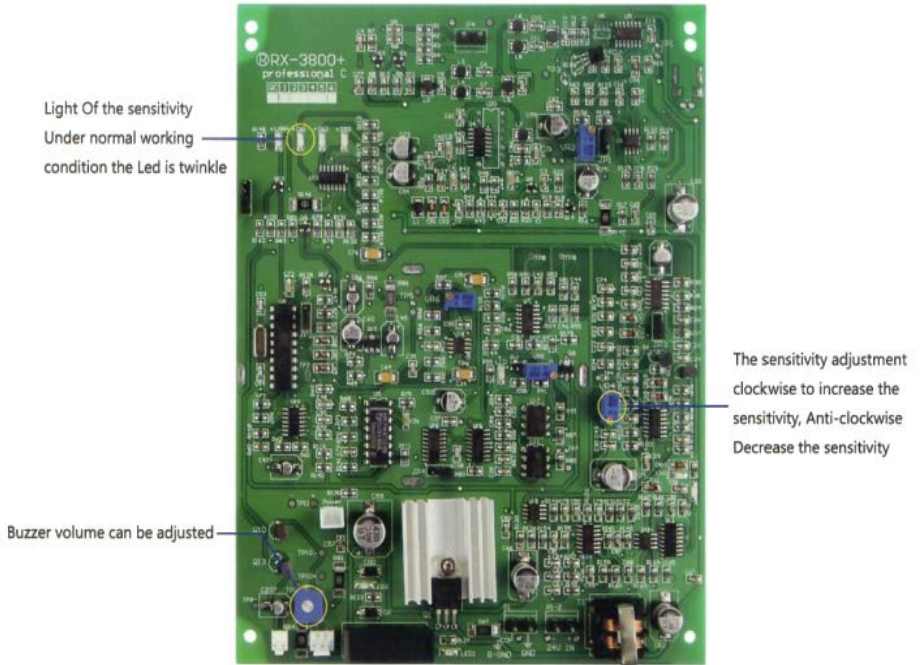
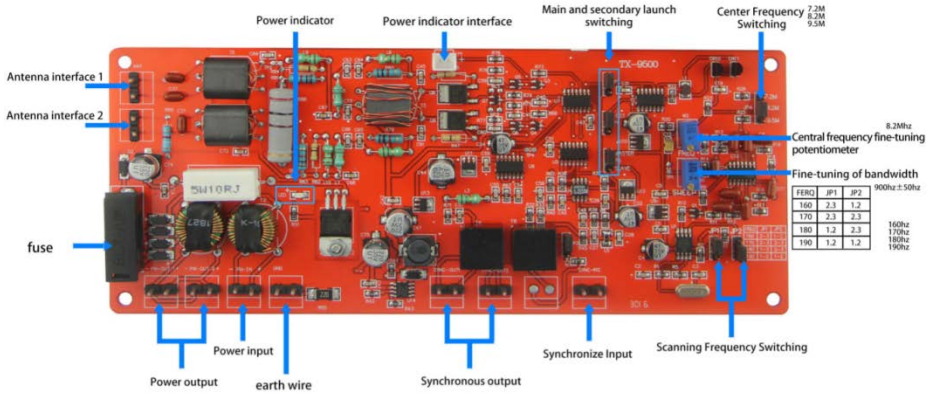


Figure 8 EAS-506 RX diagram form

9500 Main board manual TX 9500 sketch map



RX 9500 sketch map

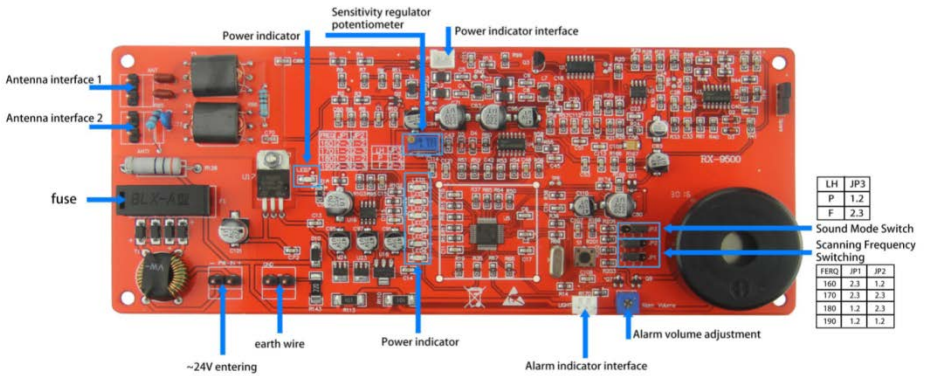


Figure 9 EAS-510 diagram form

4 Maintenance and Cleaning

4.1 Simple Troubleshooting

Under normal use conditions, radio frequency detectors generally can work stably for a long period of time, and system failures caused by component failures are less. Most of the faults are due to

- Improper use.
- Poor electrical outlet contact.
- Excessive AC voltage fluctuations.
- Loose connection cable connections.
- Interference from surrounding electrical equipment and certain radio waves.
- Interference caused by wires, coils.
- Metal frames to equipment.

Carefully analyze the cause of the failure and then eliminate it one by one. Before the cause of the fault is not found, the settings and parameters of the system cannot be arbitrarily changed. Since all the indicators of the equipment are adjusted at the factory, they are in a better state. If there are no related instruments, debugging is optional, and the judgment and elimination of the faults will be even better difficult.

4.2 System is not Working Properly

When each system is not working properly, such as the detection of reduced sensitivity, no alarm or frequent false alarms, etc., generally the following steps should be checked:

1. Check power

- When it is found that the system is not working properly, first check whether the system power is normal: whether the power indicator on the board is on; whether the printed board fuse (F1) is intact; whether the input power voltage is correct (24VAC); whether the power wiring is open or short circuited. The external power adapter is working properly; if the power socket contacts are reliable; if the input AC voltage fluctuates too much, etc.
- After troubleshooting the power supply, you can continue to check other system faults.

4.3 System Detection Sensitivity is Reduced

Under normal circumstances, due to the failure of components and components, the detection sensitivity of the system is reduced. Most of these types of failures are caused by interference between systems and interference, and the detection of interference caused by metal objects or electrical equipment near the antenna. For the detection of metal objects, electrical equipment, etc. near the antenna should take measures to remove, and try to keep it away from the detection antenna system.

4.4 System does not Alarm

If the alarm light is not flashing and there is no alarm sound when detecting the label, first whether the frequency of the label is the same as the frequency of the emission center, check whether the warning light, the buzzer wiring is good, and whether the warning light or the buzzer itself is damaged. If there is no, check the indicator ALARM on the printed circuit board. "Bright" indicates that the system has alarmed, but there is no alarm output. At this time, some circuit faults (component failure or damage) should be considered.



Note: When the environmental interference is very serious (the noise level indicator lights up), the system will not work properly.

4.5 System Error Alarm

For a radio-frequency system, accidental false alarms due to interference from broadband interference sources such as certain radio waves or electrical switch sparks are allowed and do not fall within the system's fault range. However, frequent false alarms or even continuous self-sounding should be a serious failure. At this time, in addition to finding a strong source of interference and eliminating it, the system itself should also be inspected and trouble-shooted. It is also possible to solve the problem of false alarms by setting debugging methods such as modulation frequency, signal synchronization, adjusting sensitivity, and adjusting scan frequency offset.

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