Operating Instructions



1080P Intelligent Pedestrian Detection Camera

Please read this manual thoroughly before operating the device,
and keep it for future reference.

V1.0

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1. Precautions

1.1 Storage and Keeping

1) Storage temperature: -30~+80℃, operating temperature: -20~+70℃
2) Avoid dropping or striking this device
3) Never puncture, scratch or use abrasive cleaning materials on this device.
4) Do not place cables where they may be pinched or stepped on

1.2 Operating Precautions

1) Working voltage : 10-32V. It stops working below 7V and power supply of improper voltage may cause the device damaged permanently
2) Make sure all cables are connected properly. Observe polarity. Improper cable connections may damage the device. Remove the power cable connections when you don't intend to use the unit
3) This product is a safe driving auxiliary equipment, not a substitution for driver's any operating actions in the process of vehicle driving. Also, it cannot guarantee a 100% recognition rate
4) No obstacles are allowed within the end of lens, which has an impact on the product use
5) After the installed device is manually adjusted again, it needs to be recalibrated to show the normal detection effect

⚠ Warning!

1. High voltage is present within the device. The opening of the case should be by professionals.
2. Do not rely too much on this device while driving

⚠ Special Notice

Never try to repair this device by yourself. In case of any problems, please turn off the device at once and notify our company or authorized dealer. The device is a complex device. Any disassembly or modification may lead to damage and void the warrantee.

1.3 Maintenance

1) Remove all the cable connections from the device before cleaning the device.

2) Use a mild household detergent and clean the unit with a slightly damp, soft cloth.

3) Never use strong solvents such as thinner, as they might damage the finish of the device.

	Caution Risk of electric shock Do not open	
Caution: to reduce the risk of electric shock, Do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.		



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.

.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



This symbol is intended to alert the user not to dispose of electrical and electronic equipment.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your warrantee and neccessitate expensive repairs.

2. Product Features



Vertical side-view camera



Small Angle horizontal camera



Large Angle horizontal camera

2.1 Pedestrian Detection Module

1) Pedestrians can be detected in the detection zone (region of interest), and a "ding" alarm will be issued;

2) The closer the pedestrian is to the vehicle, the more rapid the alarm sounds.

2.2 Artificial Intelligence Algorithm Blessing

1) The pedestrian detection and identification camera adopts deep learning technology, which can realize intelligent and high-precision pedestrian detection.

2) Deep learning (DL) + Machine Learning (ML) + Artificial intelligence (AI)

2.3 External Wi-Fi Communication

The mobile phone can connect with the device through the external Wi-Fi module, calibrate and set the device.

3. Technical Specifications

According to the different parameters of the camera is divided into vertical side- camera, horizontal camera.
Vertical side-view camera is used for installation on the side of the car.
Horizontal cameras are mounted in the front and rear of the car and have a choice of angles.

Item	Parameter	Vertical side-view camera	Small Angle horizontal camera	Large Angle horizontal camera
Difference	Focal Length/ Viewing Angle(H)	6mm/52°	6mm/52°	2.3mm/140°
	Detection distance(m)	0.5~20	0.5~20	0.5~12
	Dimension(mm)	97.5×67.3×66.5	97.5×75.3×72	97.5×75.3×72
	Weight(g)	355	470	470
Same	Resolution / Frame	HD 1920 x1080 / 25 fps or 1920 x1080/30 fps		
	Video Output	AHD(1.0Vp-p,75Ohm)		
	Audio Output	Warning acoustical signal Output		
	Communication Interface	USB 2.0(For Software upgrading)		
	Input Power	DC 10~32V		
	Power Dissipation (12V IN)	170mA		
	Wire Length	0.5m		
	Operation Temperature	-20~70°C		
	Storage Temperature	-30~80°C		
	Waterproof rating	IP69K		
	Shell Colour	Black		

4. Components and Accessories

Components or ccessories	Quantity (piece)	Description
	1	Pedestrian Detection Camera
	1	Extra power wire (8 Pin threaded mouse male connector to 4 Pin aviation female connector)
	1	External communication wire (Alarm signal and USB2.0)
	1	External Wi-Fi module (Repeated use)
	1	Hexagon wrench (for camera Angle adjustment)
	1(Optional)	Monitor (Supports AHD input)

⚠ Special Notice

The camera diagram is shown with a Vertical side-view camera as an example. Accessory supply may be different for different application. Multiple devices can share one Wi-Fi module.

5. System Connection

The system connection based on pedestrian detection system is shown as figure 1. The dotted line represents the optional connection channel, while the solid line represents the real connection wire. Among them, the device can be directly powered by the monitor and live video. Flash disk are used to store videos and upgrade equipment. The external Wi-Fi module is only used for calibration and device parameter setting.

Note: The diagram shows the Vertical side-view camera as an example. The horizontal camera is also connected in the same way.

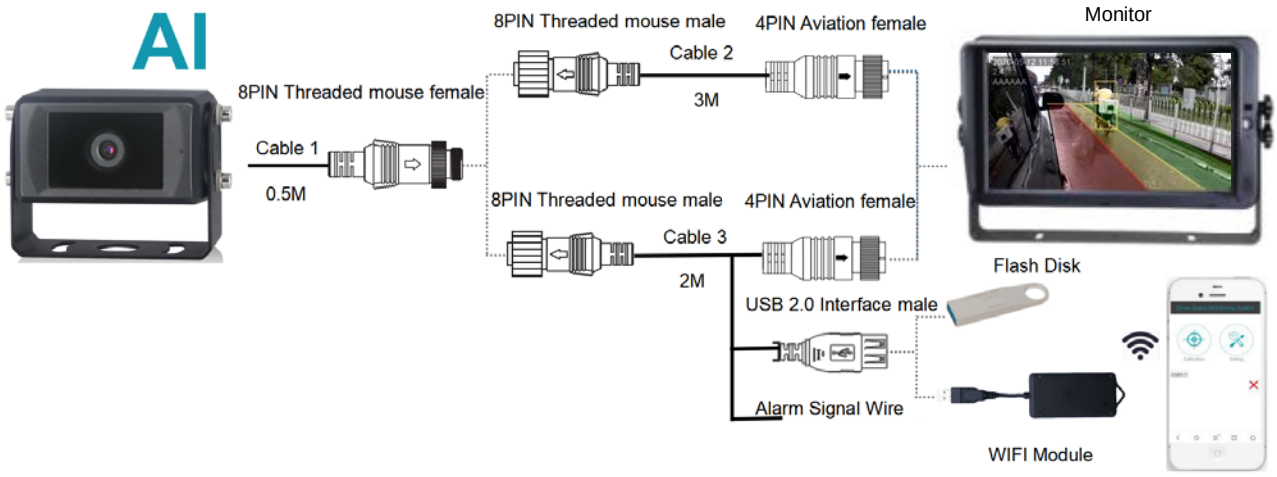


Figure 1

Definition of the Cable 1:

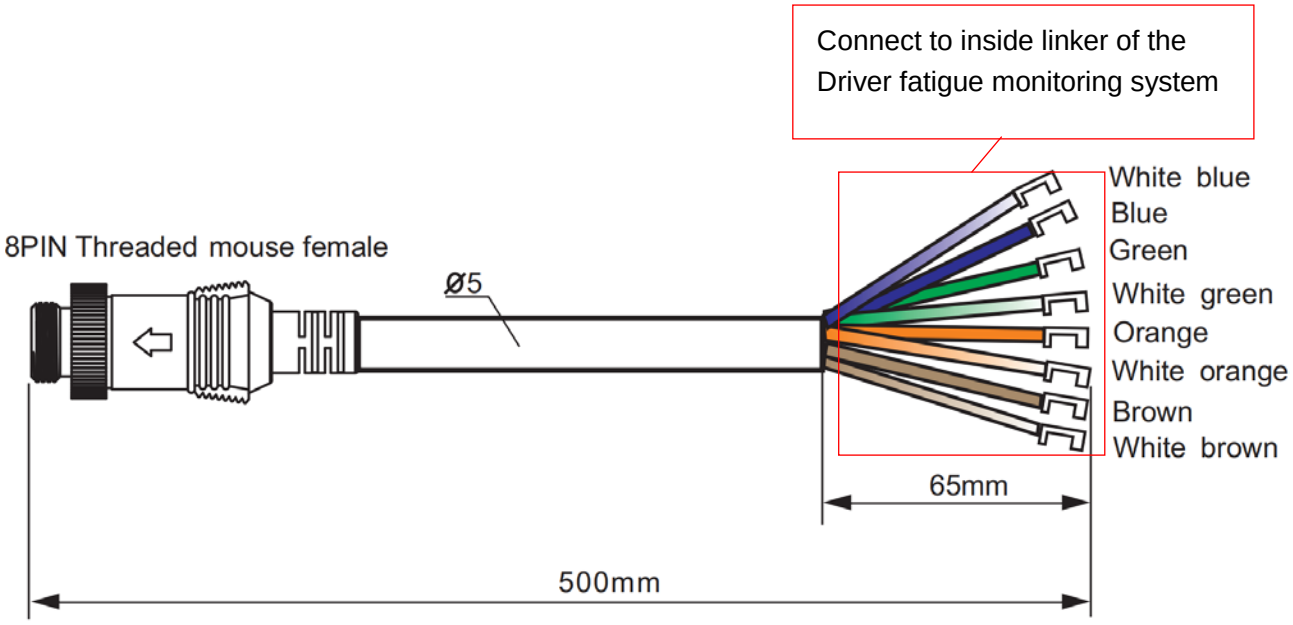


Figure 2

Definition of the Cable 2:

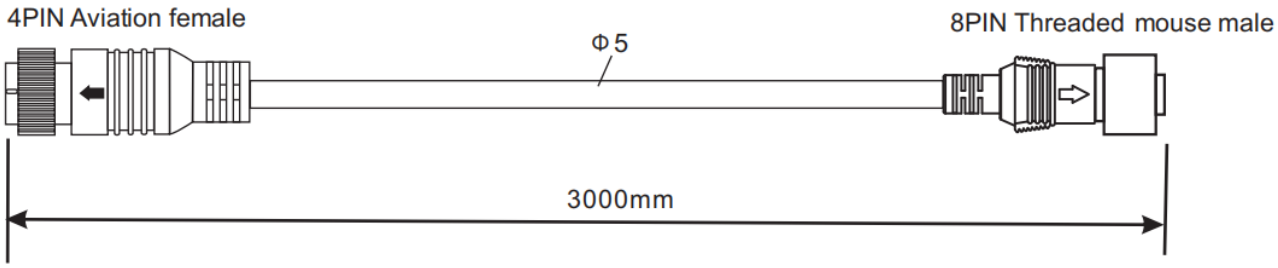


Figure 3

Definition of the Cable 3 :

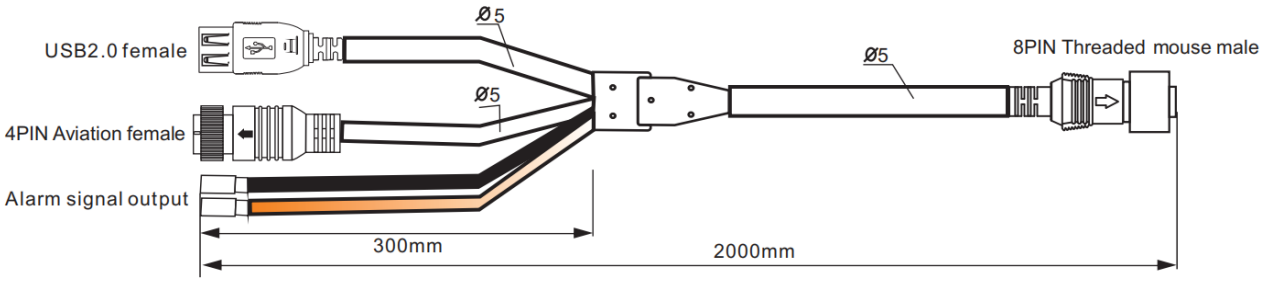


Figure 4

The left end of cable 1 is connecting to linker which is inside the pedestrian detection alarm system, and the right side is 8PIN threaded mouse female , which is used to connect cable 2 or cable .Either Cable 2 or cable 3 can be connected to the monitor. The function of the connection cable 3 is to lead out the alarm signal wire of the device and the USB2.0 interface (used to connect the Wi-Fi module or flash disk).

6. Installation

Move the camera to the position of the vehicle, and then install the camera after the display can show the field of view required by the driver (the supporting base of the camera has strong adhesion to magnetic materials, so it can be installed successfully by fitting the base to the vehicle. The camera installation height is recommended to be within the range of 1.0-1.6m).
This process suggests having a manager adjust the position of the device in the car, with the driver in the driver's seat looking at the monitor to determine whether the device's visual range has covered the car's blind area.

1) Vertical side-view camera

As shown in Figure 5, the side-view camera can be installed on the side of the car. Both sides can be installed. The horizontal viewing Angle of the camera is 52° and the detection distance is up to 20 meters.

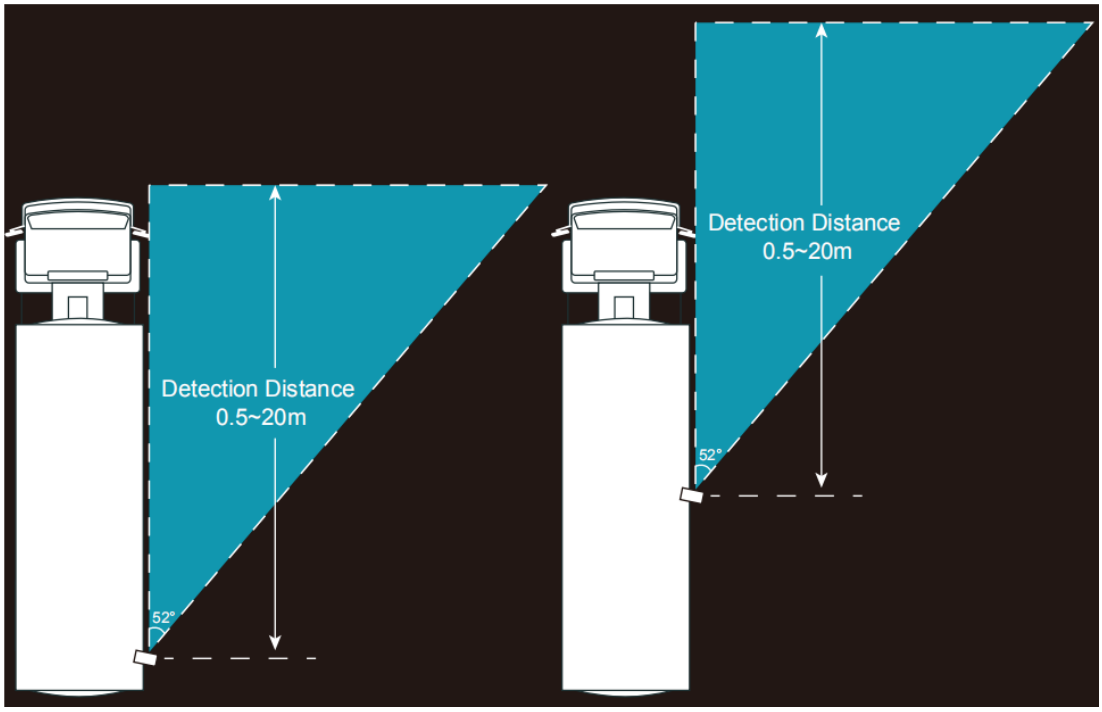


Figure 5

2) Horizontal camera

Horizontal cameras are mounted in the front and rear of the car and have a choice of angles.
The horizontal viewing Angle of the Small Angle horizontal camera is 52°, and the detection distance can be up to 20 meters, as shown in Figure 6.
The horizontal viewing Angle of the Large Angle horizontal camera is 140°, and the detection distance is up to 12 meters, as shown in Figure 7.

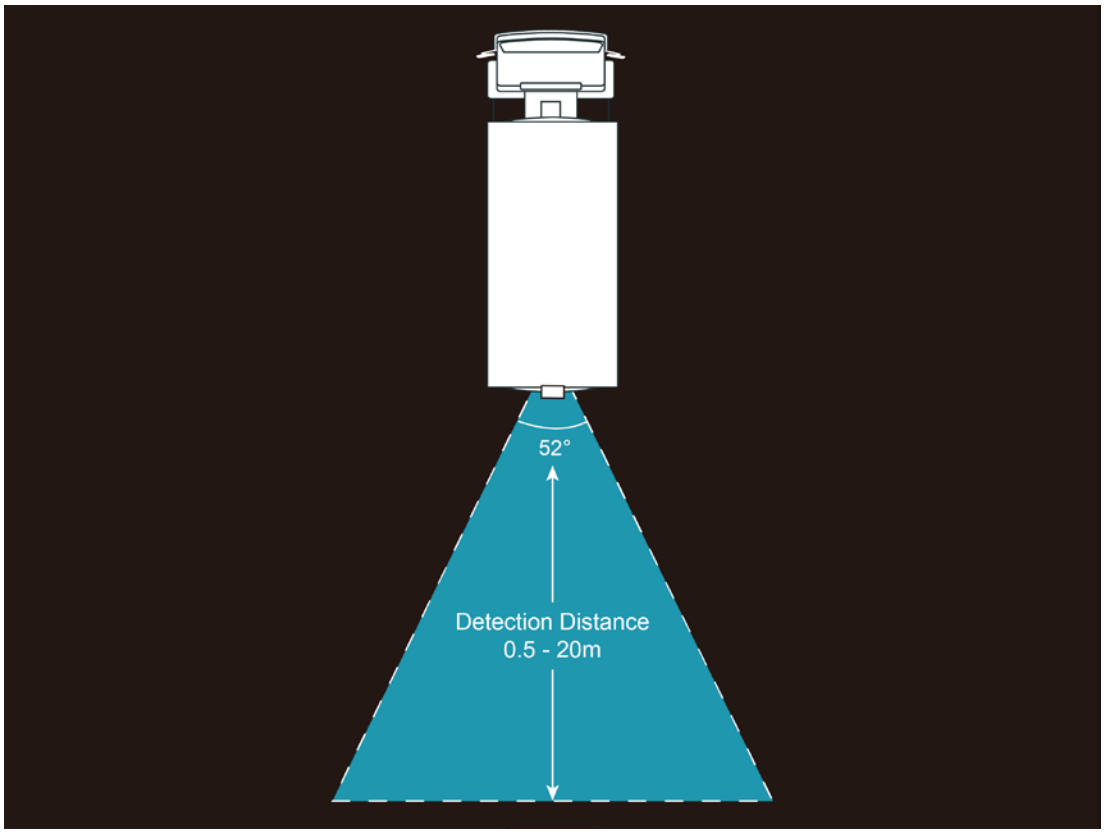


Figure 6

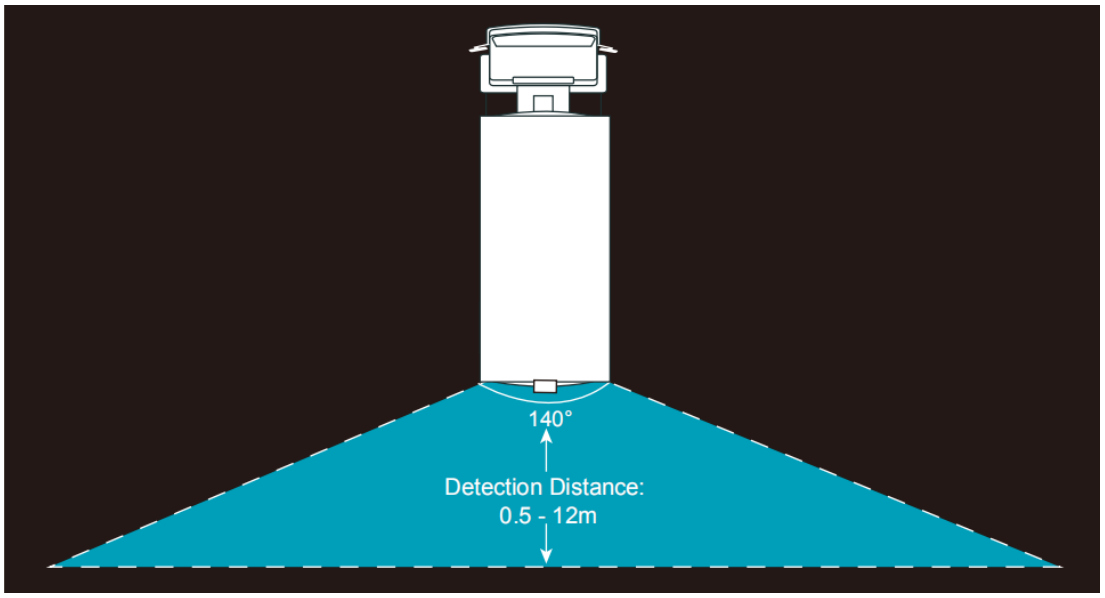


Figure 7

7. Calibration

7.1 Boot Screen Description

1) Vertical side-view camera

After starting up, the display screen of the device appears as shown in Figure 8.The red, yellow and green areas in the picture constitute "detection zone", which detects and alarms pedestrians.



Figure 8

2) Horizontal camera

The boot screen of the camera with small angle horizontal and large angle horizontal is the same. Different from the screen of the vertical side-view camera, the "detection zone" has changed from vertical division to horizontal division, as shown in Figure 9.



Figure 9

Note: The Wi-Fi name and version number displayed in blue font after booting are in the lower left area of the screen.

After about 10 seconds, the version number of the blue font disappears, while the Wi-Fi name of the blue font stays on when it turns green.

If no Wi-Fi module is connected, the green Wi-Fi SSID will also disappear.

7.2 Building the Wi-Fi Connection

1) Find the Wi-Fi SSID corresponding to the device through the mobile phone (confirm that the Wi-Fi module has been connected, and see the green Wi-Fi SSID in the lower left corner of the monitor), then connect, and the initial password of Wi-Fi is "88888888".

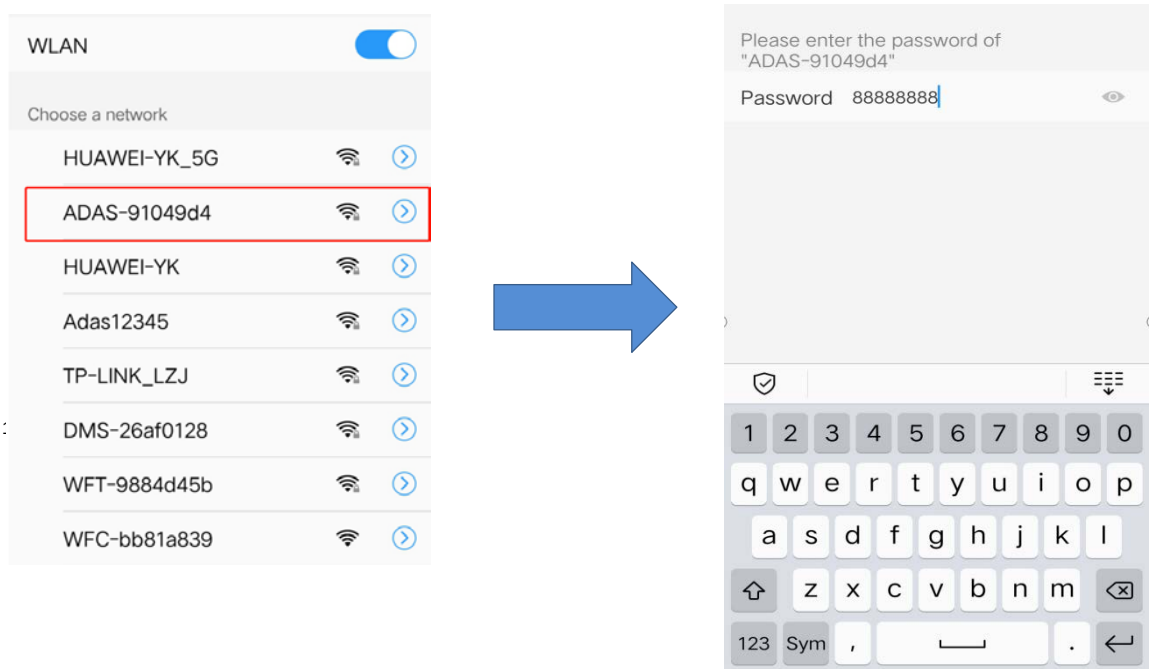


Figure 10

2) If it is first time to connect the Wi-Fi hot spot. It may prompt the message as follows, choose the “connect” button to remain the valid connection.

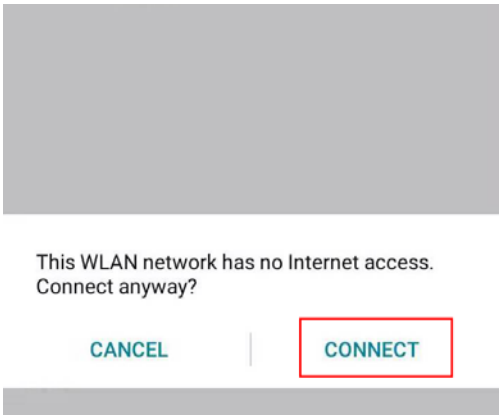


Figure 11

3) Enter the URL “http://192.168.10.253:8001/” in the web browser of the mobile phone,(or scan the QR code below).The browser will enter the main menu as follows. And the effective communication distance of Wi-Fi is about 7m, please keep in this range.

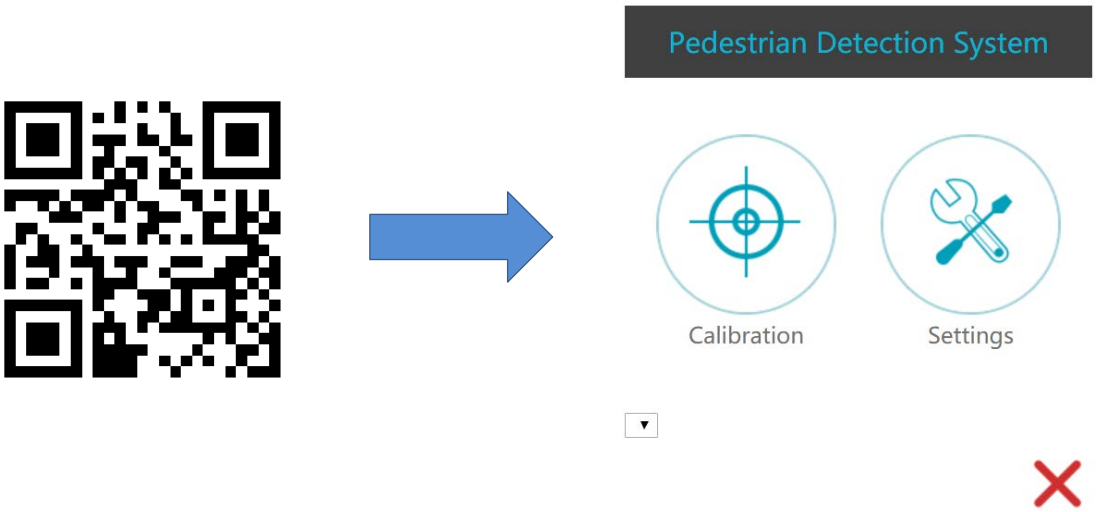


Figure 12

After finishing Wi-Fi connection, we can calibrate the pedestrian detection alarm system or operate some other settings about the device according to web page.

7.3 Operations of Detection Zone Calibrating

1) Vertical side-view camera

Click the "Calibration" button on the web page, and a real time video image will be displayed on the web page, as shown below. The area on the phone screen corresponds to the 'detection zone' on the monitor.

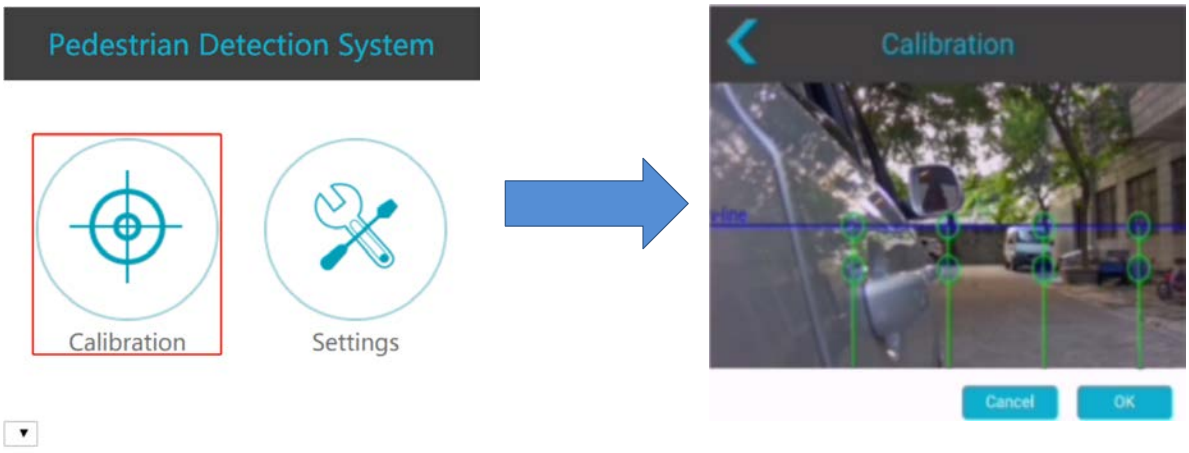


Figure 13

Move horizontal lines back and forth and points on the dividing line left and right. When you adjust to the required "Detection zone", click the" OK "button to calibrate it. The calibration will take effect immediately and the detection Zone on the monitor will also be updated immediately.



Figure 14

2) Horizontal camera

As with the vertical side-view camera, click the "Calibration" button on the web page, as shown below.

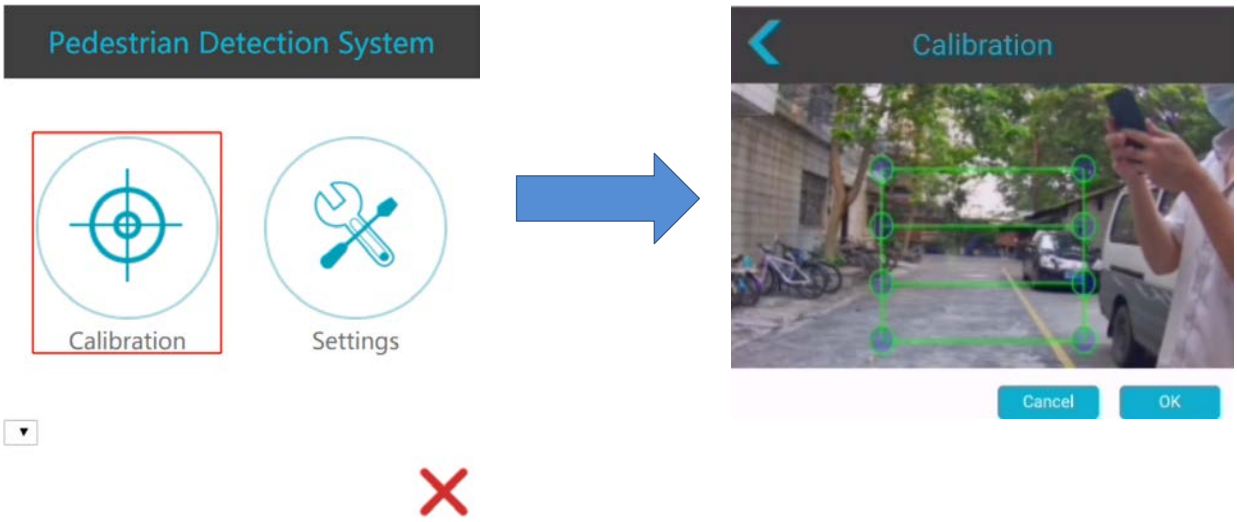


Figure 25

When you adjust to the required "Detection zone", click the" OK "button to calibrate it. The calibration will take effect immediately and the detection Zone on the monitor will also be updated immediately.



Figure 36

8. Pedestrian Detection Functions

After the device power up or reboot, real-time video will appear on the display automatically. Then, the device will enter and keep in pedestrian detection mode. To make sure the normal operation of the system, please install and calibrate the pedestrian detection alarm system carefully according to the guide of Charter 6 and Charter 7.

Function description: When pedestrians appear in detection zone, the display will frame them with the corresponding color, and a "ding" alarm with different urgency will be issued. The alarm continues until pedestrians leave the detection zone area

Note: The Vertical side-view camera and horizontal camera have the same function. The following is the difference in the graphical way.

1) The red box alarm

When the pedestrian is detected and the red box is generated, it means that the pedestrian enters the red detection zone area. The output alarm sound is "Ding Ding Ding", and the alarm sound frequency is relatively short.

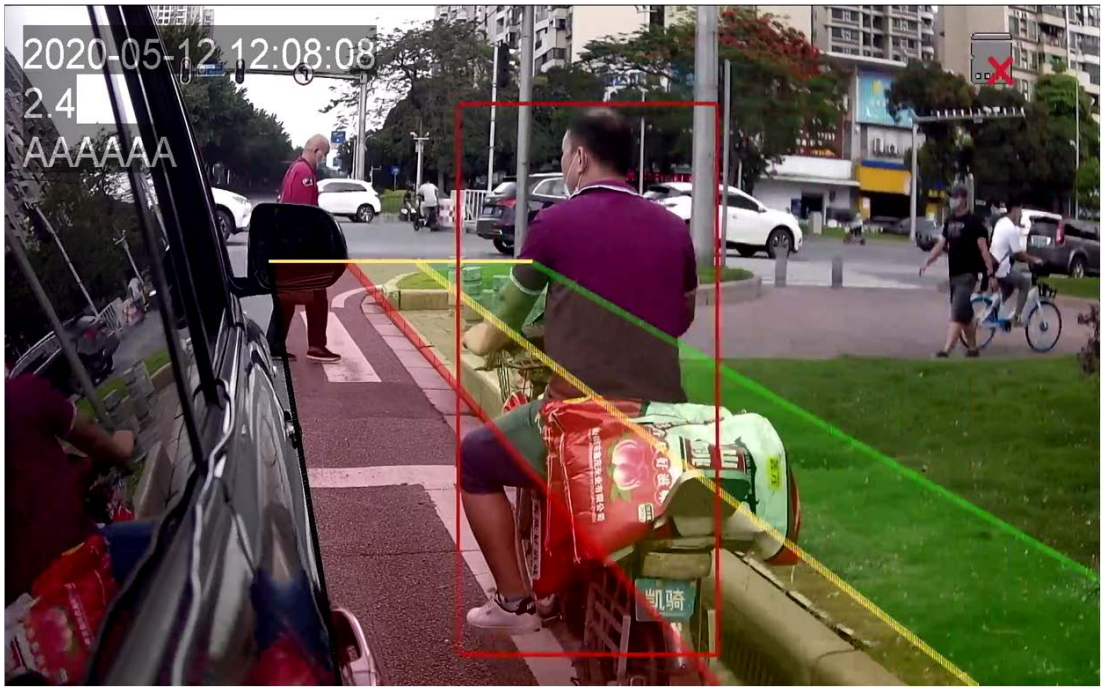


Figure 47



Figure 58

2) The yellow box alarm

When the pedestrian is detected and the yellow box is generated, the output alarm sound is "ding ding". The alarm sound frequency is moderate.

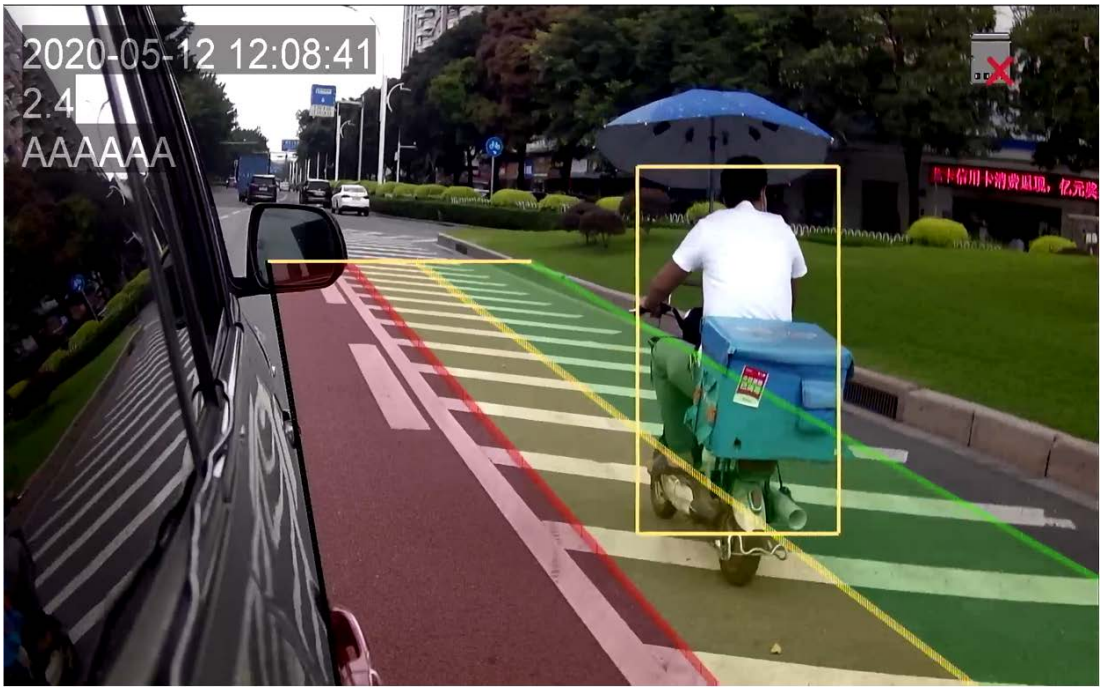


Figure 69



Figure 20

3) The green box alarm

When the pedestrian is detected and the green box is generated, the output alarm sound is "ding", and the alarm sound frequency is flat.



Figure 21



Figure 22

Note: when there are multiple boxes for pedestrian detection, the priority of alarm sound is: red box (highest) yellow box (second) green box (lowest). For example, when there are three boxes of red, yellow and green, the default alarm sound is the alarm sound of red box.

9. Functions of the Web Page & System Upgrade

9.1 Calibration

For calibration, please refer to “Charter 7”.

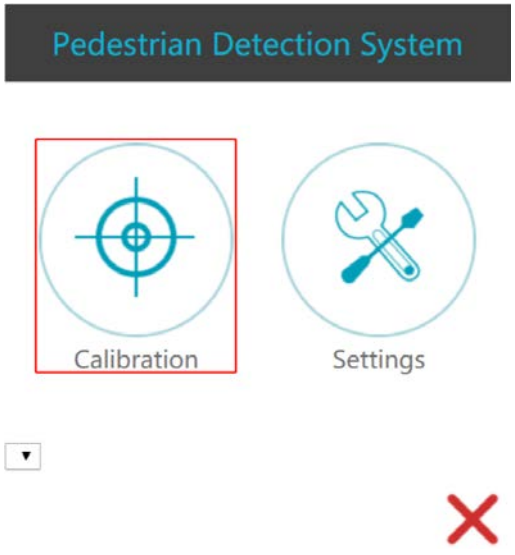


Figure 23

9.2 System Setting

Press the “Setting” button to enter the configuration menu as follows.

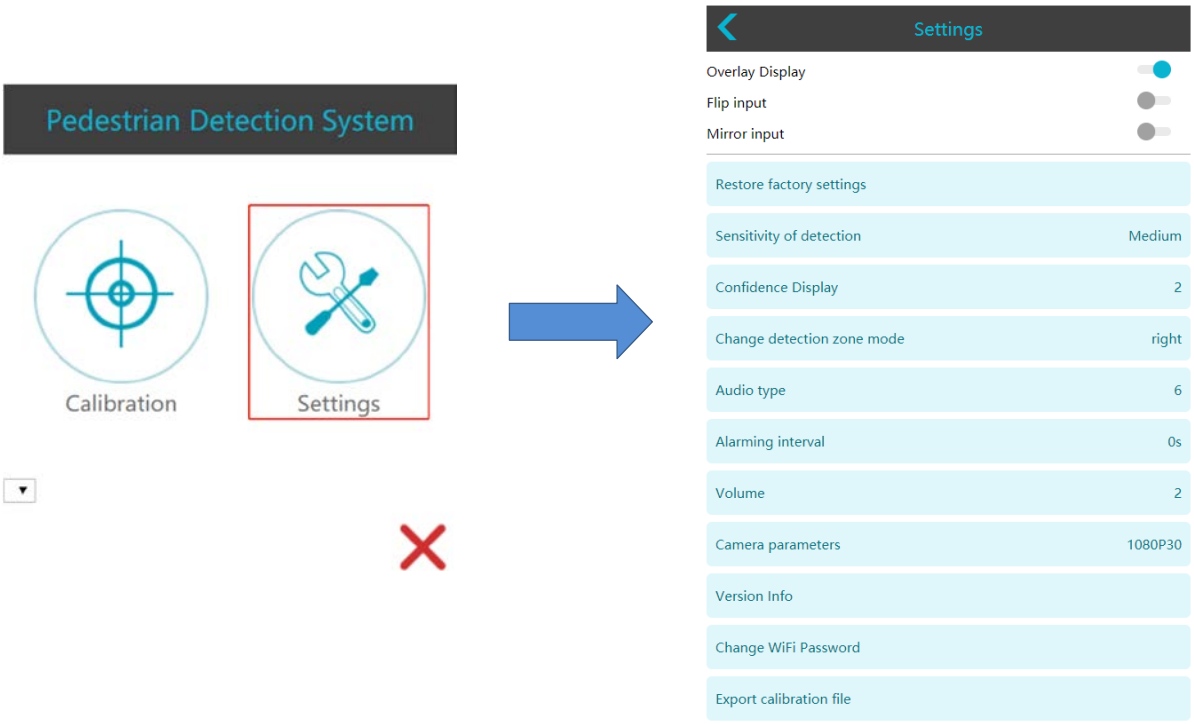


Figure 24

1) Condidence Display

Click "Condidence Display" ,as shown in figure 26.

Confidence Display: Represents a Confidence Display that is digitally displayed in the upper left corner of the target box (the picture frame where a pedestrian is detected).You can turn off confidence display and adjust the font size for confidence dispaly.

Note: The closer the confidence dispaly is to 1000, the more likely the target is a person.

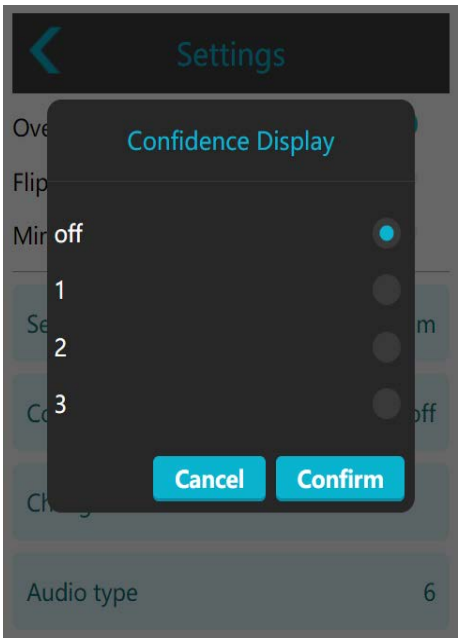


Figure 25

2) Change detection zone mode

Click "change detection zone mode" ,as shown in figure 26.

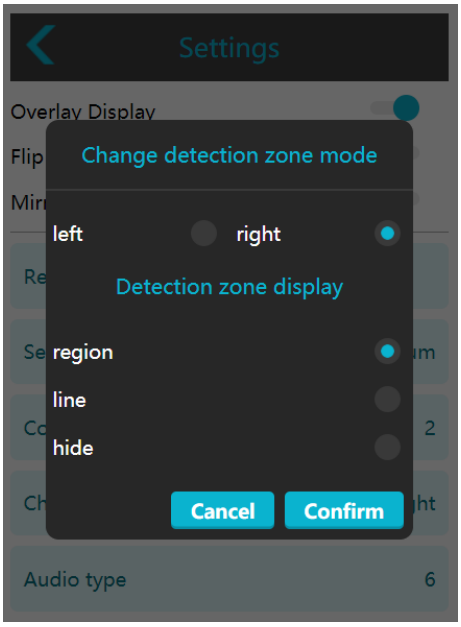


Figure 26

(1) "Left" and "right" are settings for detection zone display locations. Click "Left", and the detection zone shows red, yellow and green from left to right. Click "Right", and the detection zone appears green, yellow, and red from left to right.

(2) "Region," "line," and "hide" are settings for how the detection zone display. The three correspond to the detection zone displayed on the monitor, which is filled with color, divided by lines, and no detection zone is displayed.

3) Other settings:

Setting	Setting description
Overlay Display	Turn on or turn off the elements overlaying in the real-time video of the monitor.
Flip input	Turn on or turn off image rollover.
Mirror input	Turn on or turn off image mirroring.
Restore factory settings	All setting parameters are restored to the default value.
Sensitivity of dectection	Set the level of detection sensitivity.
Audio type	Switch the type of alarm sound.
Alarming interval	Set the minimum interval between two alarms, during which no alarms are raised.
Volume	Turn up or turn down the warning voice.
Camera parameters	To set the frame rate of output AHD, 25fps of 30fps.Restart the effective
Version Info	Check the current software version of the device.
Change Wifi Password	Change the Wi-Fi password.
Export calibration file	Export calibration file.For batch calibration.

9.3 System Upgrade

The device can be upgraded with a flash disk. Specific methods:

(1) Format the flash disk as Fat32 file system

(2) Place the upgrade package named "updatepacket-ADAXX-XXXXXXXXXXXXXX" on the flash disk, then connect the flash disk to the device, restart the camera and start the upgrade, and wait for a few minutes to complete the upgrade.

(3) After the upgrade, the software version number of the device will also change synchronously.Check the version number in the lower left corner of the monitor when the device is turned on.Or view the Version number in the "Version Info" setting on the web page

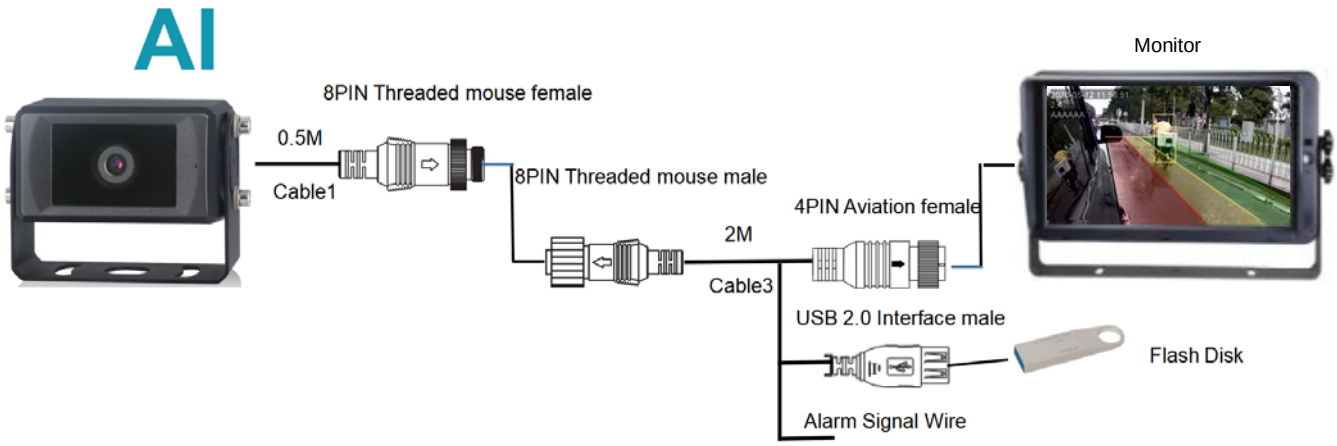


Figure 27

10. Troubleshooting

The symptoms described below do not necessarily mean a failure within the display. Please check the following items before you initiate request for repair.

Symptoms	Possible Causes/Solutions
No picture, no sound	Improper connection of automobile adapter; Use of unauthorized power supply; The volume is set "0 " by mobile phone.
Can not login the web page	Confirm that the external Wi-Fi module is connected to the USB interface and make sure the Wi-Fi button is on.