

360 DVR Panorama

XL-360

Super 3D

Product Manual



Catalogue

Catalogue

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1. 360 main board technical parameters

Table 1.1 Super 3D parameters

Plate and frame size	ARM Cortex-A7
Rated voltage	DC 12V
Voltage range	DC 7--28V
Rated current	$\leq 0.8A@12V$
Rated maximum operating current	$\leq 1.0A$
The static current	$\leq 0.5mA$
Insulation impedance	$\geq 100M\Omega$
Working temperature	$-20^{\circ}C \sim +70^{\circ}C$
Storage temperature	$-40^{\circ}C \sim +85^{\circ}C$
Video input	AHD(1280x720@25fp)/CVBS
Video output	CVBS/AHD/VGA 三选一

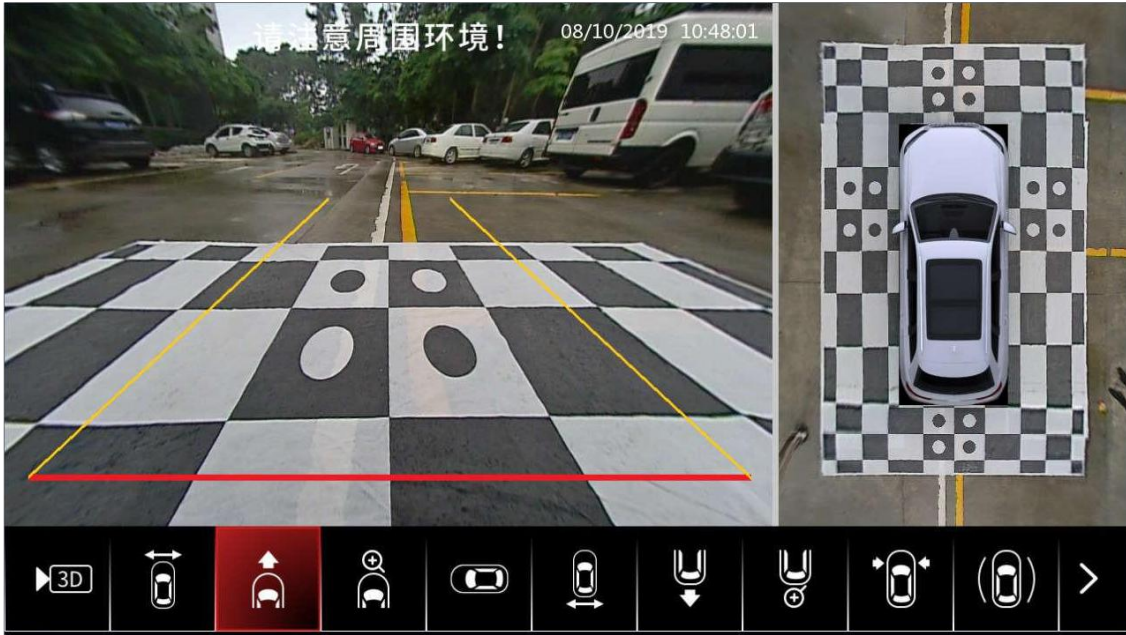
2. Product picture



Picture 1 3D panoramic view mode



Picture 2 Front wide angle panoramic mode



Picture 3 2D panoramic +front with the tracking line mode



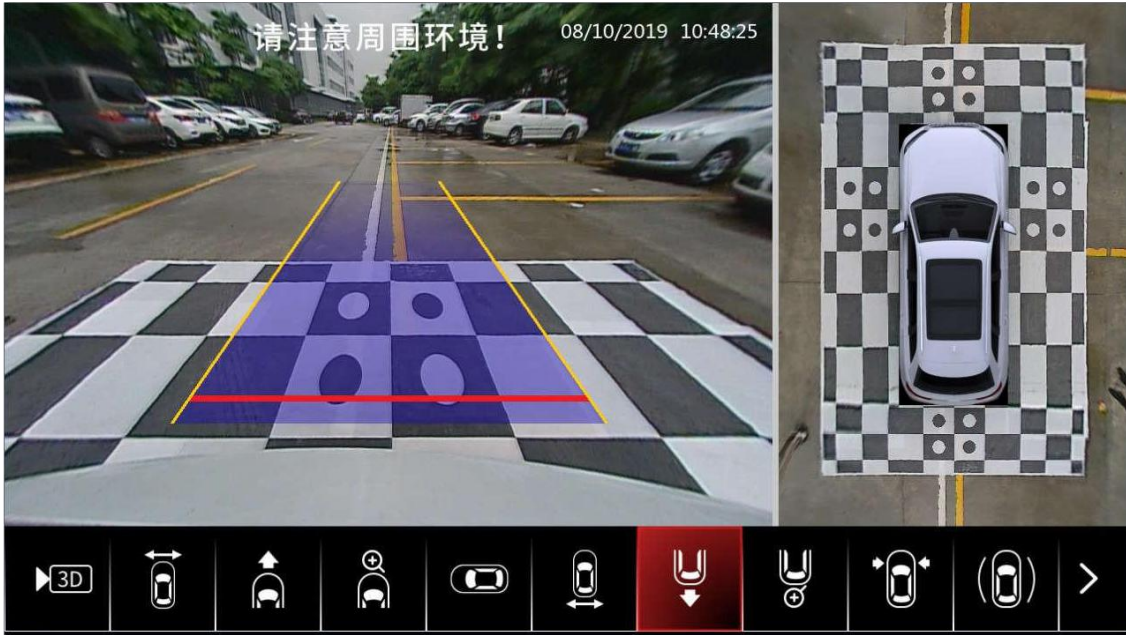
Picture 4 Front zoom mode



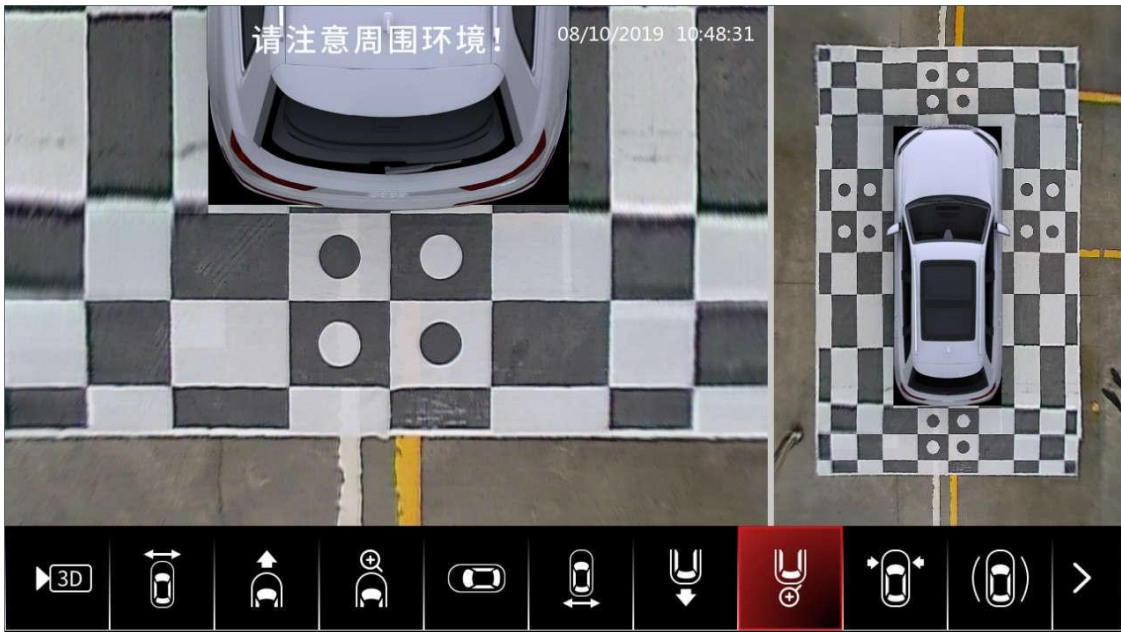
Picture 5 2D look around mode



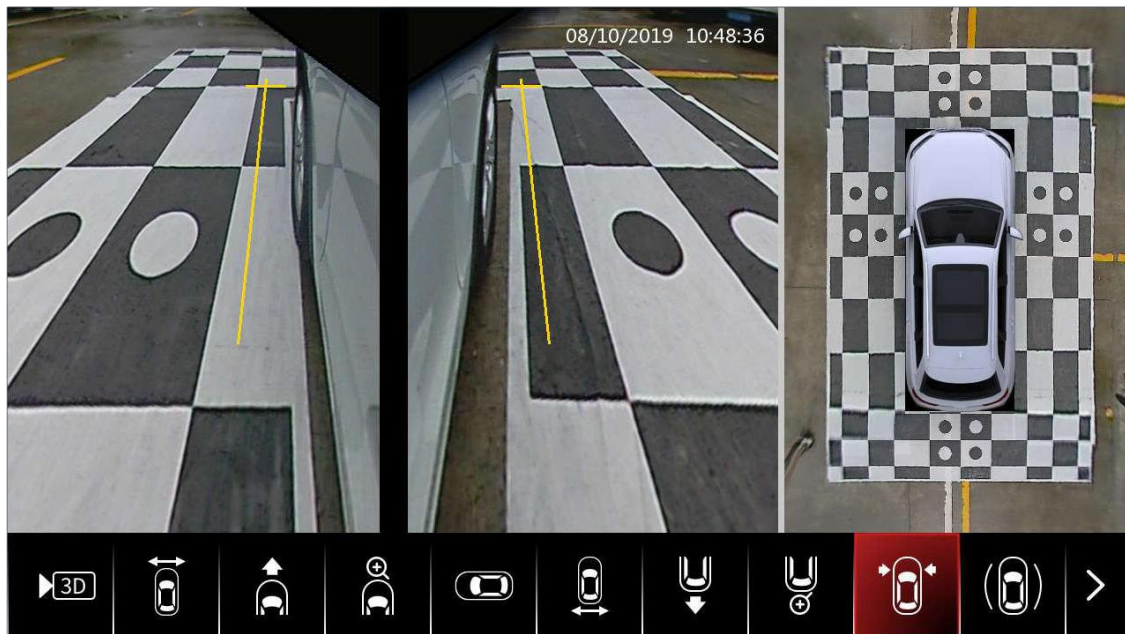
图 6 Back wide angle panoramic mode



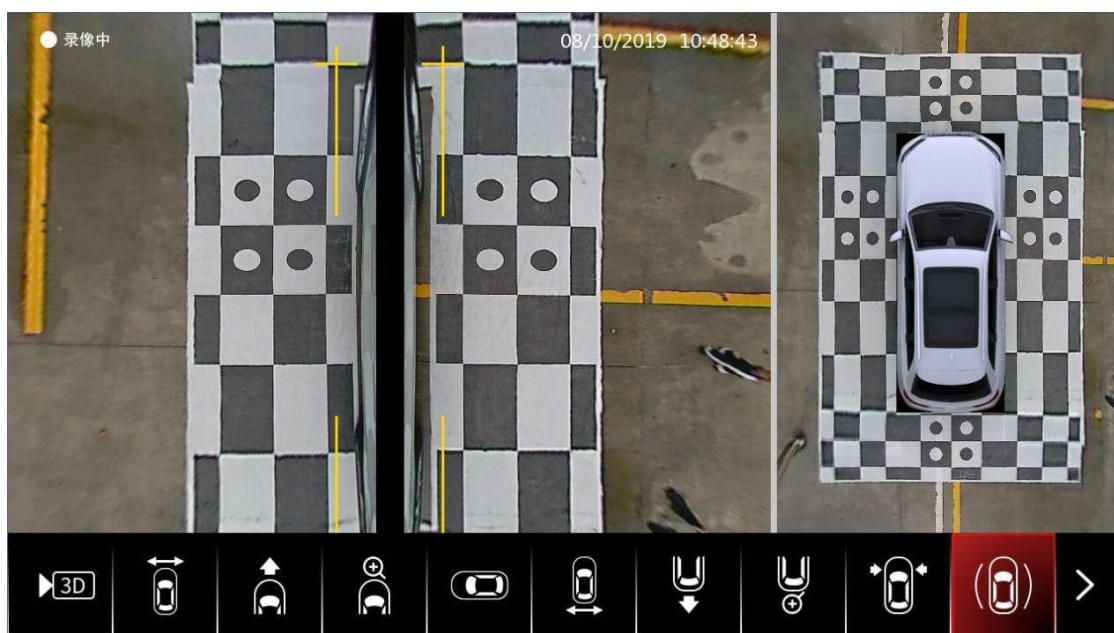
Picture7 2D panoramic +Back camera aberration correction with track mode



Picture 8 Back camera zoom mode



Picture 9 2D Panorama+ the narrow road model



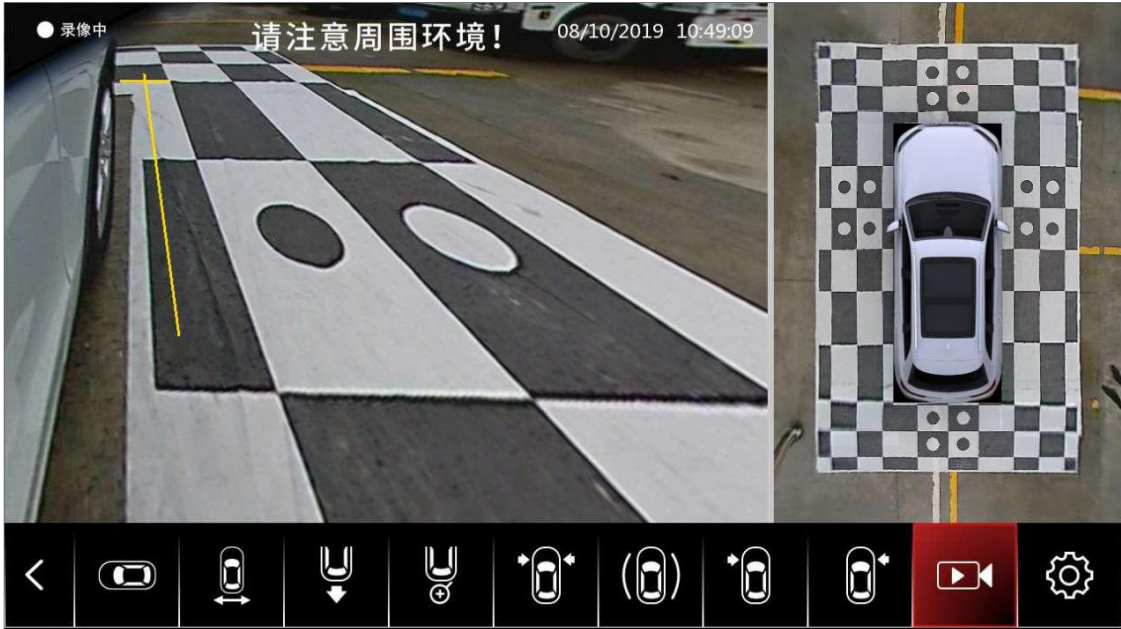
Picture10 2D Go through the narrow lane mode



Picture 11 2D left view with distortion correction



Picture 12 2D right view with distortion correction



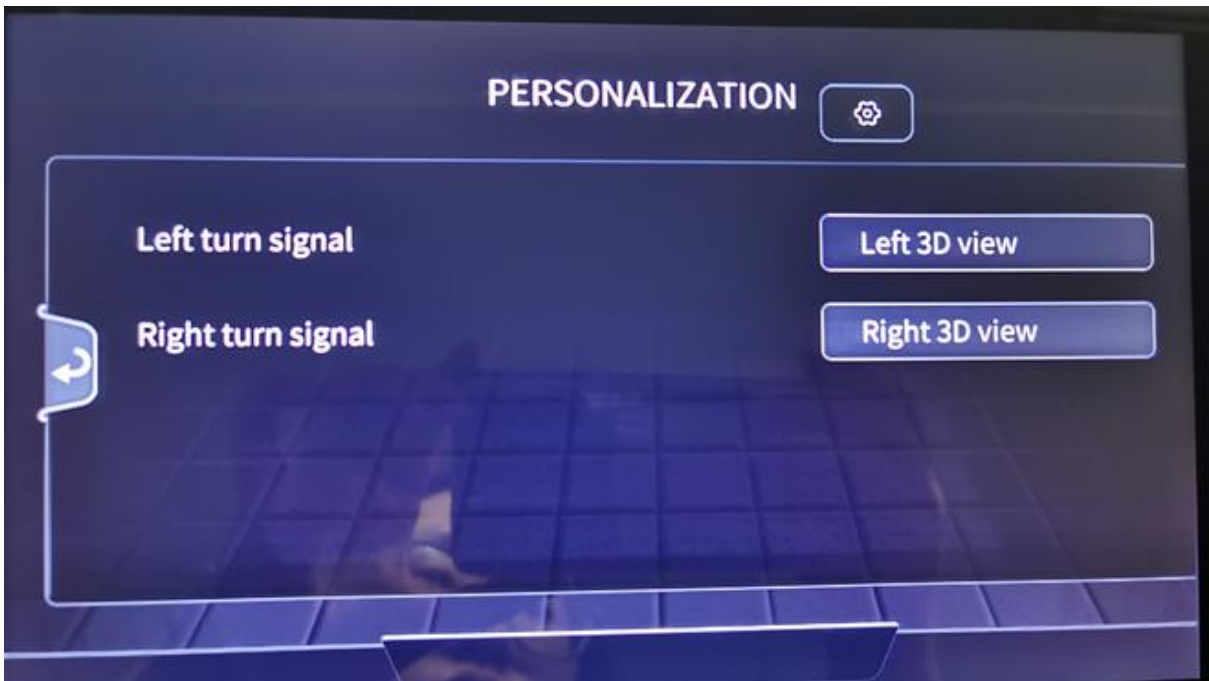
Picture 13 Enter video mode



Picture 14 Enter setting mode



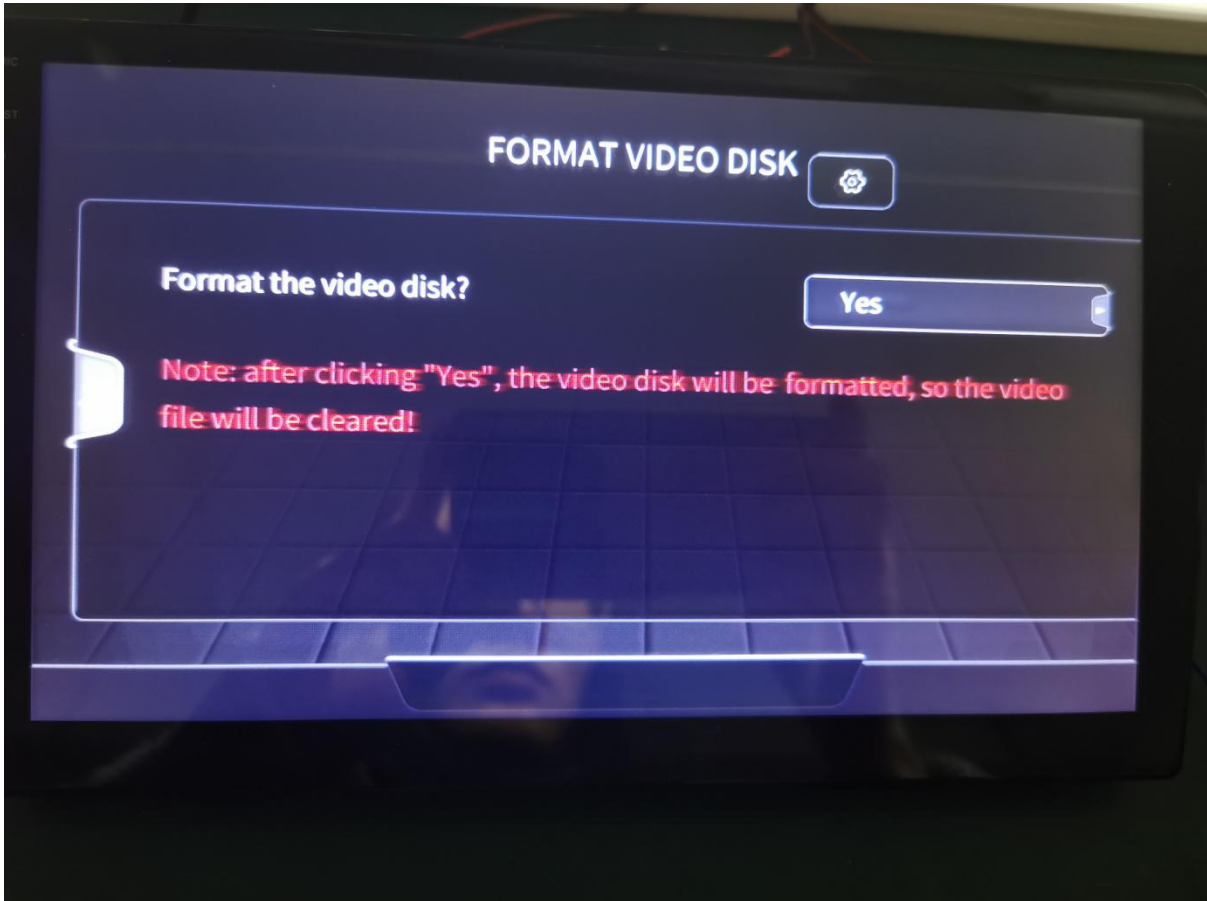
Picture 15 Function menu mode



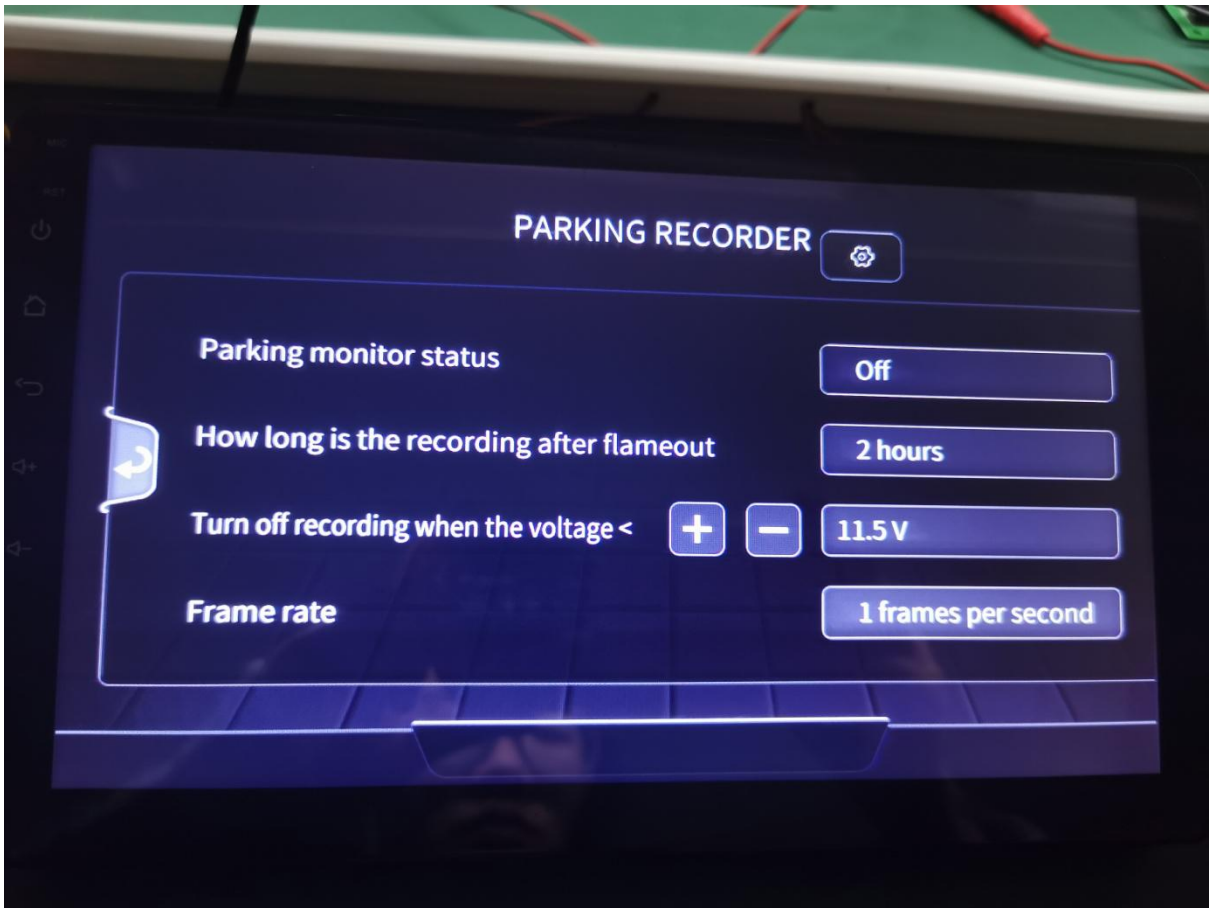
Picture 16 personalized setting mode



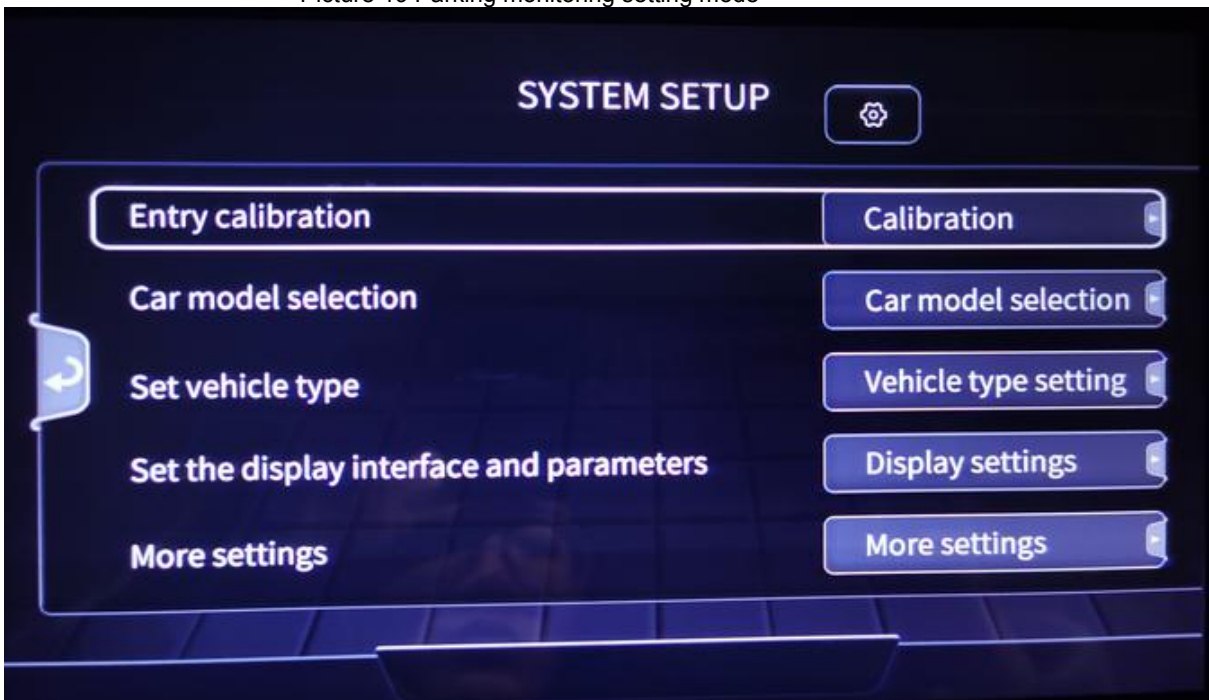
Picture 17 DVR setting mode



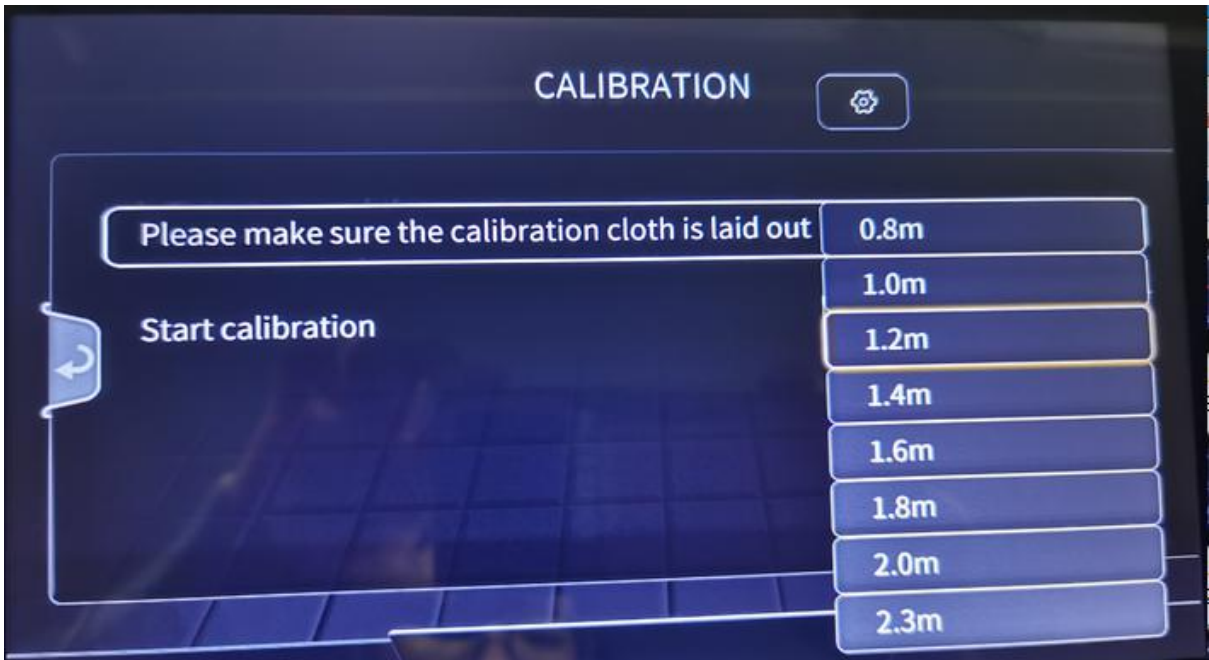
Picture 18 Format the disk



Picture 19 Parking monitoring setting mode



Picture 20 System setting mode



Picture 21 Calibrate the distance setting mode



Picture 22 system time setting mode



Picture 23, car model setting mode



Picture 24 , signal setting mode



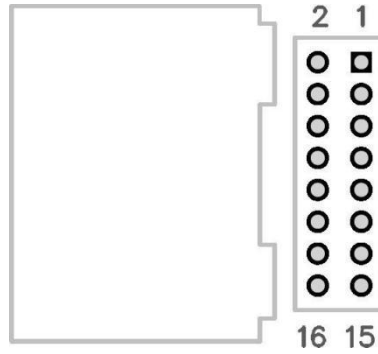
Picture 25 configure parameter input and output mode



Picture 26, Version checking mode

3. Product pin function definition

Sci-fi true 3D interface JP5 pin schematic diagram is shown 28 as follow:

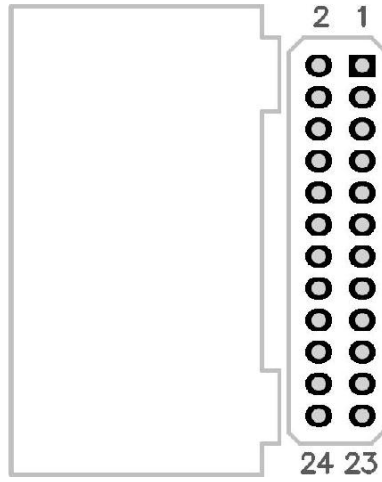


Picture 28 JP5 Pin diagram

Table 2 JP5 Pin definition instruction

Pin name	No.	input/output	Pin definition instruction
GND	1	--	GND
RF_ANT	2	--	RF433 antenna
UART2_TX	3	output	A serial port 2 TX output
CAN_IN_L	4	input/output	Input CAN L
UART2_RX	5	input	A serial port 2 RX input
CAN_IN_H	6	input/output	Input CAN H
VBAT	7	Power	Cj-elec power input
GND	8	--	GND
ACC_IN	9	input	ACC detection of the input
CAN_OUT_L	10	input/output	Output CAN L
GND	11	--	GND
CAN_OUT_H	12	input/output	Output CAN H
UART3_RX	13	input	Serial port 3 input
UART3_TX	14	output	Serial port 3 output
5V	15	--	5V Power output
Null	16	--	null

Sci-fi true 3D interface JP4 pin schematic diagram is shown as in picture 29



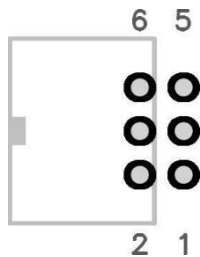
Picture 29 JP4 Pin diagram

Table 3 JP4 Pin definition instruction

Pin Name	No	input/output	Pin definition instruction
CAM_F_GND	1	input	Front camera input
CAM_F_VIDEO	3		
CAM_F_VCC	5		
CAM_R_GND	2	input	Right camera input
CAM_R_VIDEO	4		
CAM_R_VCC	6		
Null	7	--	null
RIGHT_LIGHT	8	input	Right turn signal input
CAM_B_GND	9	input	Back camera input
CAM_B_VIDEO	11		
CAM_B_VCC	13		
CAM_L_GND	10	input	Left camera input
CAM_L_VIDEO	12		
CAM_L_VCC	14		
REVERSE_LIGHT	15	input	Back light input
LEFT_LIGHT	16	input	Left turn signal input
AHD_OUT	17	Output	AHD Output Pin
DVD_CTL_OUT	18	Output	AHD and CVBS Control Output

CVBS_GND/AHD_GND	19	--	GND
CVBS_OUT	20	Output	CVBS output Pin
USB_OTG_DP	21	--	USB OTG
USB_OTG_GND	22		
USB_OTG_DM	23		
5V_USB_OTG	24		

Sci-fi true 3D interface JP6 pin schematic diagram is shown as shown in the figure 30



Picture30 JP6 Pin diagram

Table 4 JP6 Pin definition instruction

Pin name	No.	Input /output	Pin definition instruction
VGA_R	1	output	VGA red channel output
VGA_VS	2	output	VGA vertical sync signal
VGA_G	3	output	VGA green channel output
VGA_HS	4	output	VGA horizontal synchronizing signal
VGA_B	5	output	VGA Blue channel output
GND	6	--	GND

4. Product installation manual

Prepare tools before installation

(car dismantling tools, in-car protection tools, 360 panoramic host camera accessories)

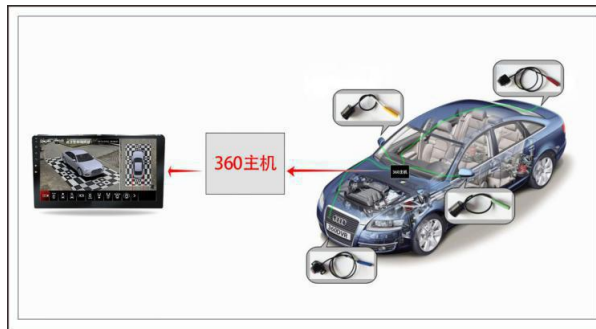
Installation step:

1. Disconnect car center stack
2. Install front, rear, left and right cameras

Installation of left and right cameras (remove left and right door panels, determine the installation position of left and right cameras, remove lenses, drill holes, install cameras, special case without punching, threading, rearview mirror reset, universal energy meter to find the positive pole of turn signal, connect trigger line, left and right door panels cloth extension cord, restore door panels and lenses);Rear camera installation (open the trunk, remove the decoration plate, take out the license plate lamp, install the rear view camera, connect the trigger line and the positive terminal of the inverted light line, connect the rear view extension cord and wiring);Front-view camera installation (open hood, install front camera, connect extension cord, wiring, avoid hot area)

3. Installation of the main board

The main board is installed in the copilot's drawer box, Insert the wiring harness into the corresponding interface of the main board, the Installation is almost complete. Just need calibration by the debugging cloth .Installation environment should choose spacious and bright place, avoid the operation under strong light, reflective . because it will affect the splicing effect.



The installation of the universal camera:

360 DVR need install front, back, right and left 4 cameras, The front camera is usually installed in the middle of the car net. As far as possible install in the middle. The rear camera is mounted near the rear box handle. The left and right cameras are mounted on the bottom of the left and right rearview mirrors.



前视

Front camera



后视

Rear camera



左视

Left Camera



右视

Right Camera

Installation of the control box

360 panorama control box install in the copilot's glove box, This makes it easy to view the video later and upgrade the system.



5. Product wiring guide

The product is divided into three signal output formats: 01.VGA signal output (decoder), 02.CVBS signal output, 03.AHD signal output. The wiring diagram of each kind is different, please read the following carefully and make connection

The control box wire harness plug definition

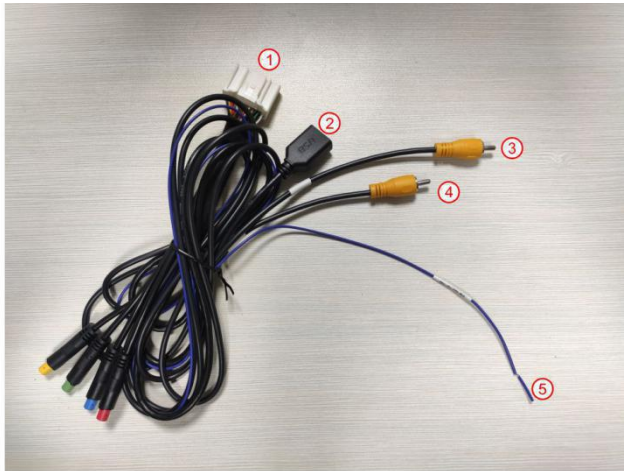
The control box definition



- ① 主机的VGA输出端
- ② 主机的摄像头信号输入端
- ③ 主机的电源输入端

No 1, VGA output port. No 2, Camera signal input port. No 3, power cable input port.

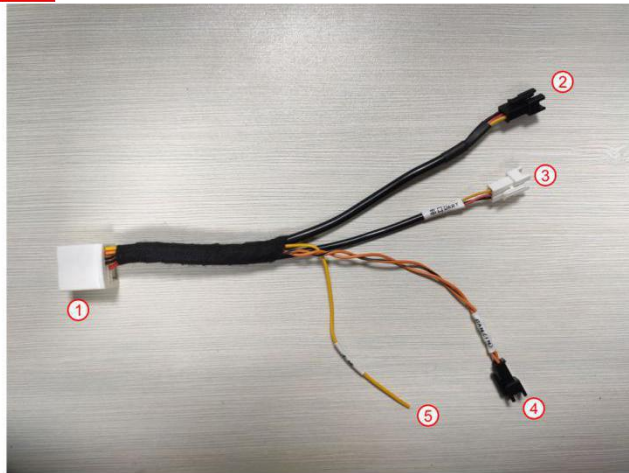
Camera BUS



- ① 摄像头总线大插头
- ② 摄像头总线的USB接口
- ③ 摄像头总线的AHD插头
- ④ 摄像头总线的CVBS插头
- ⑤ 摄像头总线的倒车控制线

No.1, Big plug, No.2, USB port, No.3, AHD port
No.4, CVBS port, No.5, Parking control line

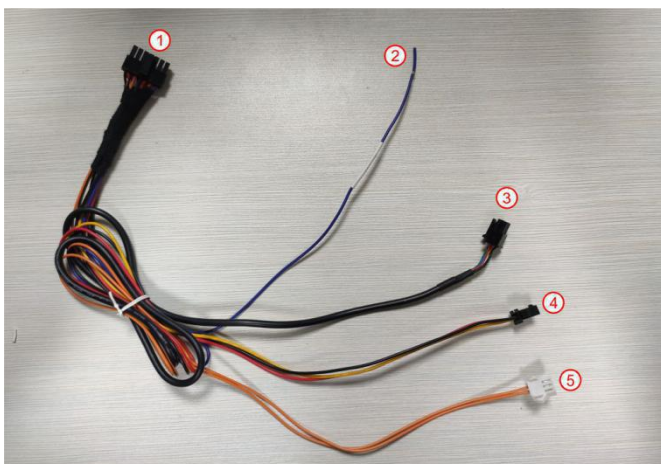
Power cable



- ① 电源总线大插头
- ② 电源总线的电源接口
- ③ 电源总线的串口UART接口
- ④ 电源总线的CAN (IN) 接口
- ⑤ 电源总线的天线

①Big plug ②Power port③UART port④ CAN(IN) port ⑤Antennae cable

VGA cable



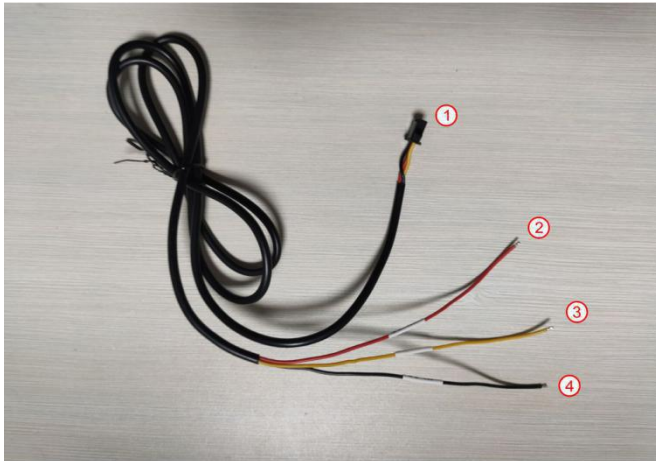
- ① VGA总线大插头
- ② VGA总线的倒车被控制线
- ③ VGA总线的VGA插头
- ④ VGA总线的电源插头
- ⑤ VGA总线的协议插头

①VGA cable big plug, ② VGA cable parking control line, ③VGA port, ④power port, ⑤Protocol port



- ① 协议OBD线的OBD插头
- ② 协议OBD线的【H红L黑】插头

① OBD plug, ② H red, L black plug
Power tie line

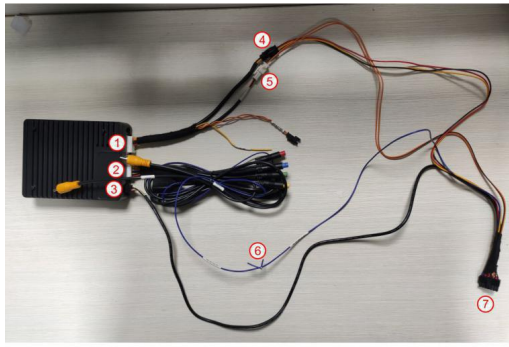


- ① 电源转接线的电源插头
- ② 电源转接线的启动 ACC
- ③ 电源转接线的常电 B+
- ④ 电源转接线的地线 GND

① Power plug, ② start ACC, ③ CWB B+, ④ GND

3 kinds of signal output wiring picture

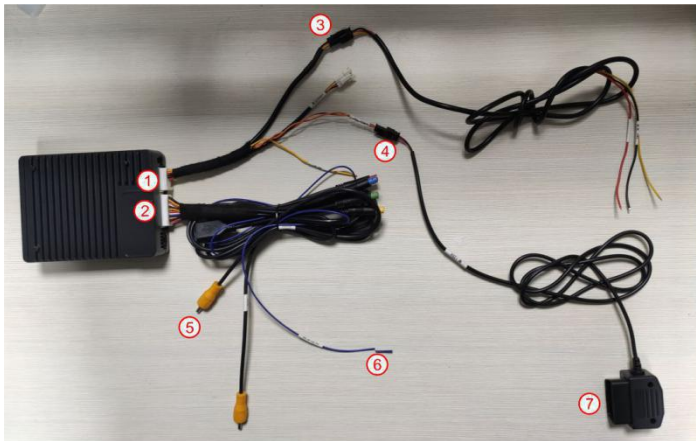
01、VGA signal output(plus decoder) wiring picture



- ① 电源总线大插头与主机的电源输入端对插
- ② 摄像头总线大插头与主机的摄像头输入端对插
- ③ VGA总线的VGA插头与主机的VGA输出端对插
- ④ VGA总线的电源插头与电源总线的电源线接口对插
- ⑤ VGA总线的协议插头与电源总线的串口UART接口对插
- ⑥ VGA总线的倒车被控制线与摄像头总线的倒车控制线对接
- ⑦ VGA总线大插头与解码器的VGA输入端对插

①Power cable big plug plugs into the control box power input port, ②Camera cable big plug plugs into the control box camera input port, ③VGA port plugs into the control box VGA output port, ④VGA cable power port plug into the control box power port, ⑤VGA cable protocol port connect with the power cable UART port. ⑥VGA Cable parking control line connect with the camera cable parking control line, ⑦VGA cable big plug connect with the decoder VGA input port.

02、CVBS signal output (protocol output) picture

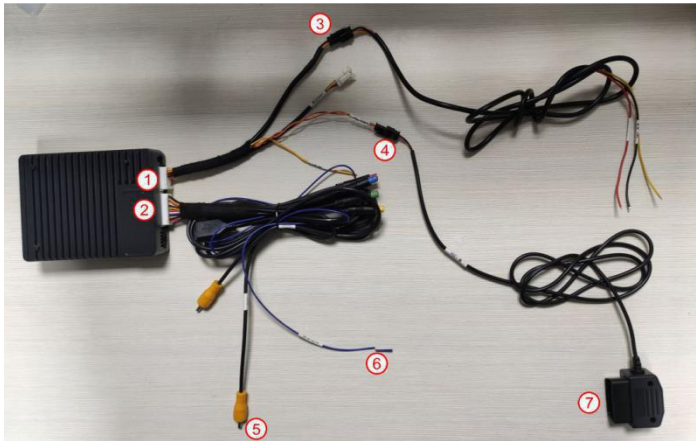


- ① 电源总线大插头与主机的电源输入端对插
- ② 摄像头总线大插头与主机的摄像头输入端对插
- ③ 电源转接线的电源插头与电源总线的电源接口对插
- ④ 协议OBD线的【H红L黑】插头与电源总线的CAN(IN)接口对插
- ⑤ 摄像头总线的CVBS插头与原车屏或大屏导航的CVBS输入端对插
- ⑥ 摄像头总线的倒车控制线与原车的倒车控制线对接
- ⑦ 协议OBD线的OBD插头与原车的OBD接口对插

①Power cable big plug plugs into the control box power input port, ②Camera big plug plugs into the controller camera input port, ③Power tie line power port plugs into the control box power port. ④OBD cable H red, L black plug plugs into the power cable CAN(IN) port, ⑤ Camera cable CVBS plug into the DVD'S CVBS input port. ⑥Camera cable parking control line plugs into the car parking

control line, ⑦OBD plugs into the car's OBD port.

03、AHD signal output (built-in protocol) , wiring diagram



- ① 电源总线大插头与主机的电源输入端对插
- ② 摄像头总线大插头与主机的摄像头输入端对插
- ③ 电源转接线的电源插头与电源总线的电源接口对插
- ④ 协议OBD线的【H红L黑】插头与电源总线的CAN(IN)接口对插
- ⑤ 摄像头总线的AHD插头与大屏导航的AHD输入端对插
- ⑥ 摄像头总线的倒车控制线与原车的倒车控制线对接
- ⑦ 协议OBD线的OBD插头与原车的OBD接口对插

①Power cable big plug plugs into the control box power input port, ②Camera big plug plugs into the controller camera input port, ③Power tie line power port plugs into the control box power port. ④OBD cable H red, L black plug plugs into the power cable CAN(IN) port, ⑤ Camera cable AHD port plug into the DVD'S AHD input port. ⑥Camera cable parking control line plugs into the car parking control line, ⑦OBD plugs into the car's OBD port.

6. Debugging instruction

The two steps

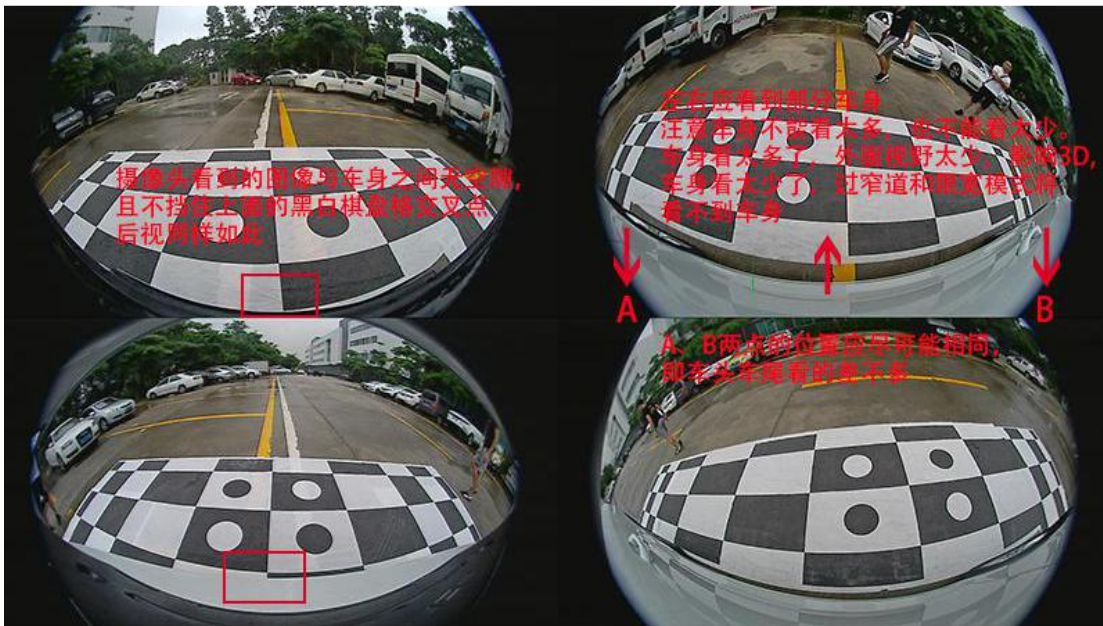
01.Spread out the debugging cloth

02.Calibration

- ◆ Spread out the debugging cloth
Lay the calibration cloth around the front and back of the Car body, as shown in the figure below



Front, left, right calibration cloth has been sewn together, just need to be laid, Note the distance indicator line on the cloth at the end of the car body, have 0.8 meter、 1 meter、 1.2 meters、 1.4 meters、 1.6 meters、 1.8 meters, etc, the back cloth is laid on which distance indicator line depend on the length of the car body.



As shown in the figure above, there are several important points to note

- 1、 Front camera image and back camera image need no gap between the car body and the cloth., And does not block the black and white checkerboard intersections of the debugging cloth;
- 2、 For the left and right, the camera should see part of the body, pay attention to the body can't see too much, also can't see too little, if the car body to see too much, the outside view will be too little, affect the 3D performance. If the car body is seen too little, the car body cannot be seen in too narrow a lane and in limiter mode. The left and the right side. the distance between the cloth and the car body need same. and the A point and the B point of the above picture need make them on the same horizontal line. Avoid one point high and one point low.
- 3、 the left and the right side. the distance between the cloth and the car body need same.

◆ Calibration

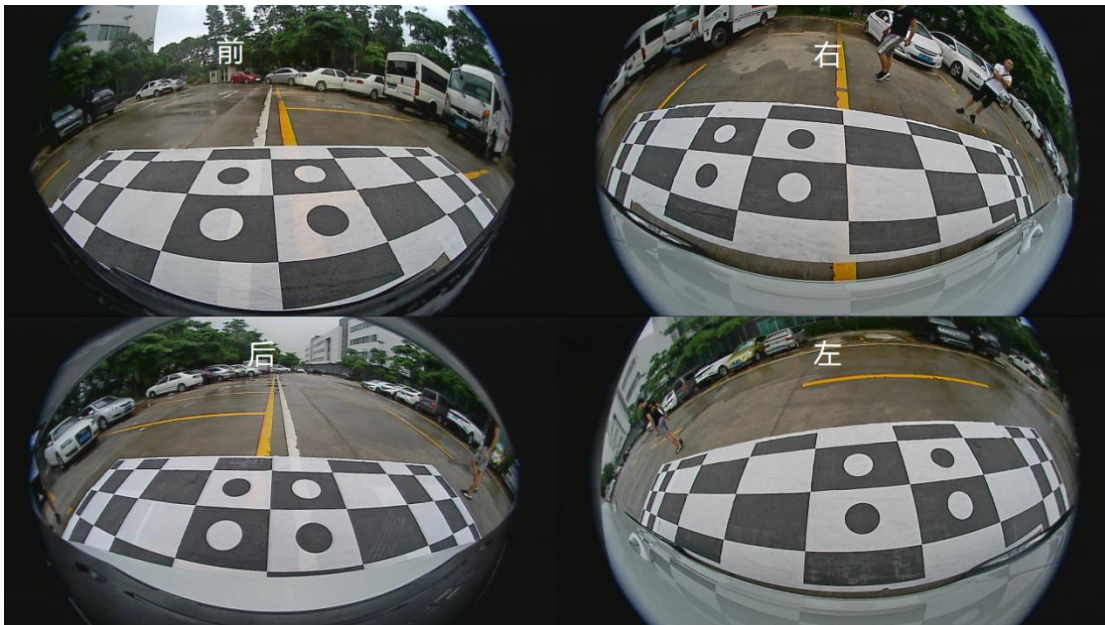
After the cloth is laid, enter 360 system Settings, choose calibration menu, choose the actual distance according to the distance between the back cloth to the indication lines



标定

请先确认标定布已铺好	0.8米
开始标定	1.0米
	1.2米
	1.4米
	1.6米
	1.8米
	2.0米
	2.3米

Press the calibration button to enter the four-in-one screen, which can also be entered when the cloth is laid in front to adjust the cloth position and camera Angle.



In the four-in-one screen, press the remote control or click the screen (when the touch protocol is supported), and calibration will start automatically, without human intervention:



After about 10~20 seconds, the interface will prompt calibration success or calibration failure. If the calibration is successful, it will automatically restart after 3 seconds. If the calibration fails, it will prompt which camera calibration fails, and it needs to be re-calibrated after the reason for the failure is eliminated.

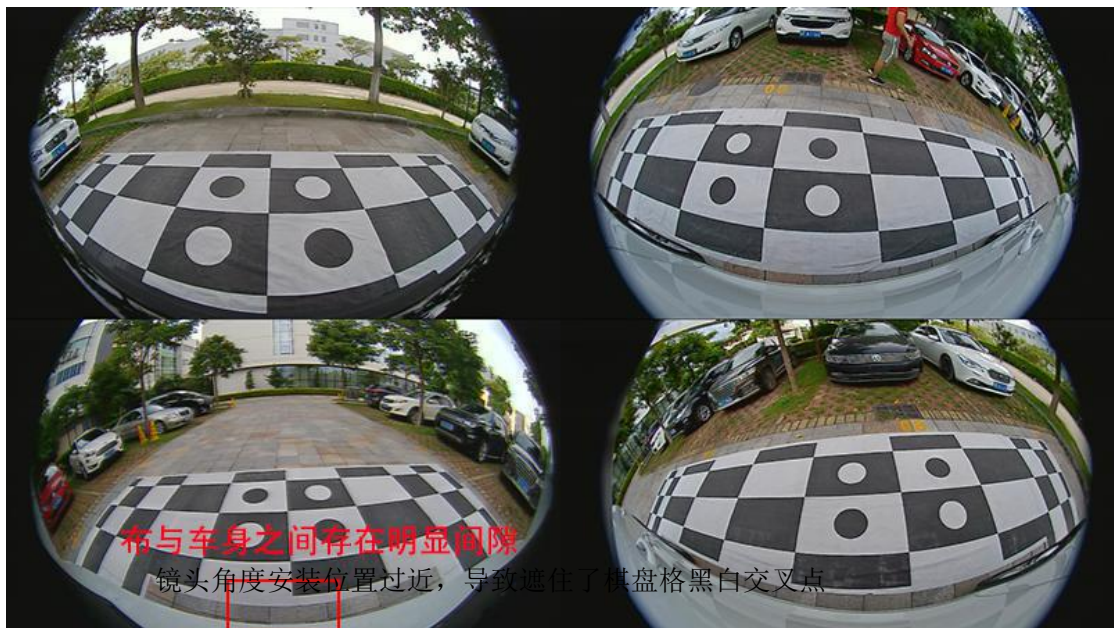


Reason for failure of calibration

Poor installation of cloth or camera, external environment is too dark

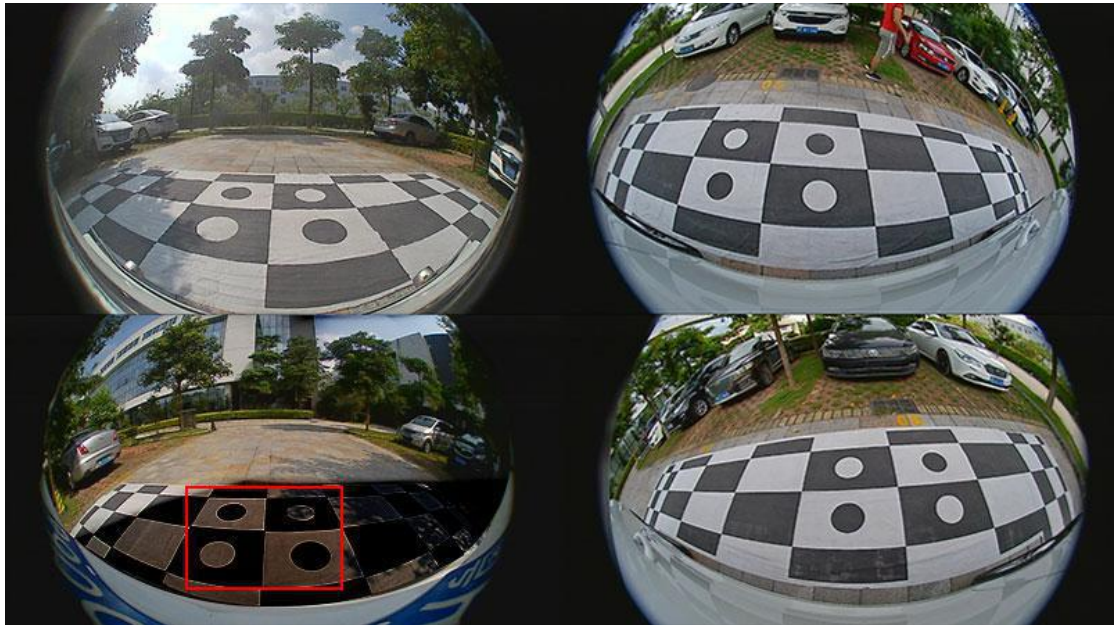


The position of the cloth is too far away, resulting in a significant gap between the cloth and the car body





The Angle of the left camera and right camera is not right, so the cloth in the picture is crooked



The external environment is too dark ,and the system is difficult to recognize the black and white checkerboard

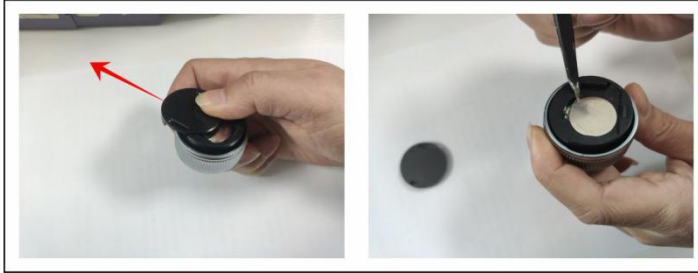
Activation and use of Rotary button remote control

After power on. The panoramic picture will not be displayed, and the Rotary button remote controller not response. At this time, the knob needs to be activated.

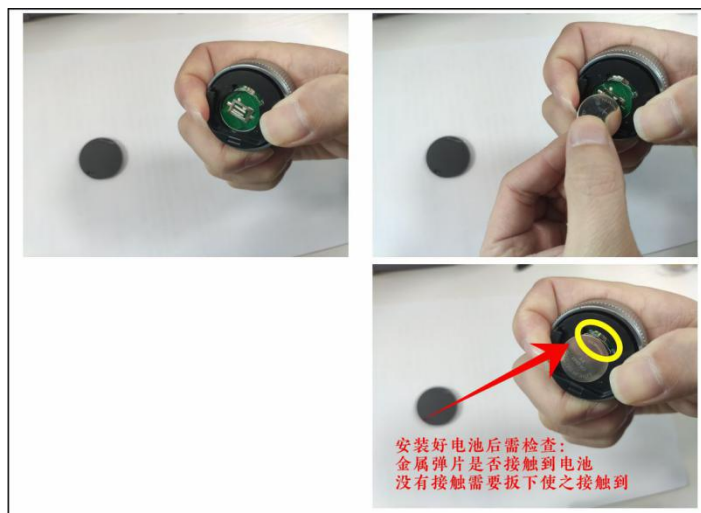
The activation of the remote controller

[please make sure the main machine is energized before operation] The activation steps are as follows:

Step1: Push out the back cover at the bottom and take out the battery (as shown in the figure below)



Step2: Press the button, install the battery, wait for 3s, then release, activation is successful (as shown in the figure below)



Step 3: Push the back cover to use (as shown in the figure below)



The use of the remote controller

Short press :OK/ back (panoramic display interface)

Long press: return (menu setting interface)

Left rotation: left selection

Right rotation: right selection

