360°Surrounding Camera System

Quick get start

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Disclaimer

The product is mainly for vehicle drivers provide a full range of vehicle around the road show pictures, to assist drivers to drive better security, but because of the complexity of the road and the driver of different driving habits, the company does not undertake vehicle equipped with the product under any circumstances at the time of the traffic accident related joint and several liability, the driver, please drive carefully, comply with the traffic safety regulations!

Product introduction

Around 360 panoramic parking is through the installed in the front and rear of 4 ultra wide Angle fish-eye camera collection vehicles around the image at the same time, through the synthesis unit, image distortion correction algorithm, splicing and fusion, form a picture of a vehicle around 360 degrees of 2d and 3d panorama, real-time transmission to the central screen, make the driver by the surrounding environment, display can visualize body on the ground there is no perspective blind area, can help the driver to confirm whether there is any obstacles around the vehicle clearly, help the driver to easily deal with complex surfaces and parked vehicles. The product is simple to install, stable and reliable.

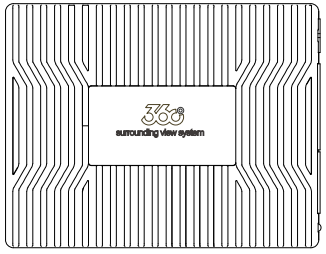
Product features

- **boot around, the surrounding situation is clear**
- **supports 2D panorama, 3D panorama, single camera full-screen display off and open and other combined display modes**
- **support AHD, CVBS, VGA and other output interface signal formats**
- **support full automatic one-key calibration without manual adjustment, seamless splicing and no blind spot on the ground**
- **4-channel video real-time driving record, local playback**
- **four-channel AHD hd signal input, clear and smooth picture quality**
- **narrow road real-time road conditions, driving safer**

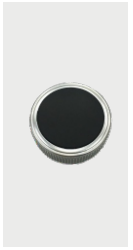
Product specification

PROJECT	SPECIFICATION
camera	Camera sensor size 1/3 "color sensor
	SNR > 60 db
	Minimum illumination 0.001LUX
	Dynamic range 82dB
	Video output AHD 720P
	Waterproof class IP 67
	The Angle of view is 130 degrees vertical and 200 degrees horizontal
	Operating voltage 3.5-5v
	The operating current is about 140mA
Host	The operating voltage of the main engine ranges from 9 to 16V
	Operating current <600mA
	Standby current <7mA
	Operating temperature range -20° ~ 70°
	Operating humidity range of 40% to 80%

Main box and accessories



main box



remote control

camera

Power wire

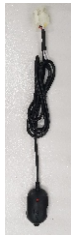
Master wire

Extension wire

video extension wire

VGA tieline

OBD/CAN wire

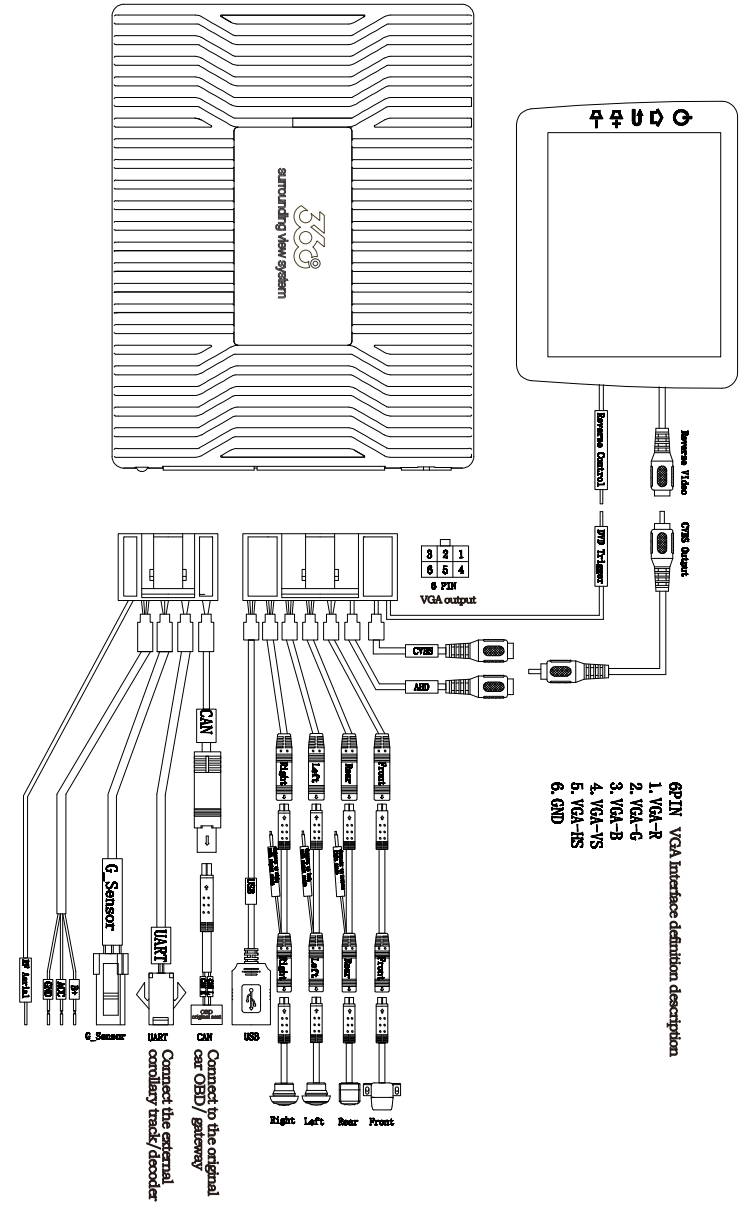


G-sensor(optional)

The relevant interfaces of the host and main bundle are as follows:

1. Power connection: connect power supply (yellow wire to normal power, red wire to ACC, black wire to ground)
2. Red lines on the extension cord: connect the positive pole of the left and right turn signal and the reversing light respectively
3. Black BMW joint: connect to the front camera
4. Yellow BMW joint: connect to rear camera
5. Red BMW connector: connect to the left camera
6. Blue BMW connector: connect to the right camera
7. Yellow AV interface: host video CVBS output interface, which is connected to CVBS reversing video channel display through video extension cord
8. Blue AV interface: the host video AHD output interface is connected to the central AHD reversing video channel display through the video extension cord
9. Brown DVD trigger line: connect the navigation and reversing detection line
10. Yellow RF antenna, receiving knob controller signal
11. 6PIN interface: VGA video output interface of the host, connect to the VGA decoder, and connect to the original vehicle screen through the decoder (original vehicle support is required)
12. USB interface: connect the U disk, which can be used for driving record, system upgrade and parameter storage
13. OBD/CAN interface: some models are inserted into the original vehicle OBD, and some models are connected to gateway or host CAN line. Specifically, according to the system setting -- setting of the model menu prompt
14. Indicator light: the flashing red light of the host machine means it is working normally, while the flashing green light means it can receive the signal of the controller. Operate the controller with no flashing green light. Please check whether the controller is installed with batteries or paired successfully

System connection diagram



Product view

FIG 1 3D right rear view mode (3D special diagram)

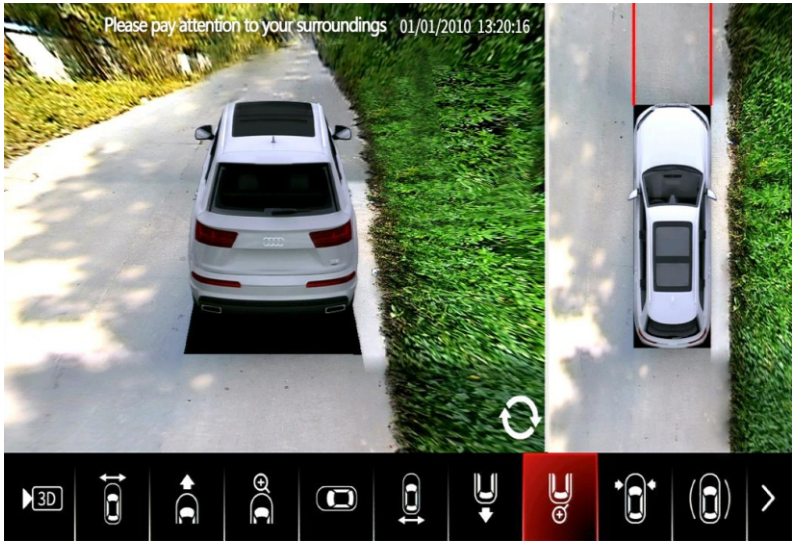


FIG 3 3D rear view mode (3D special diagram)

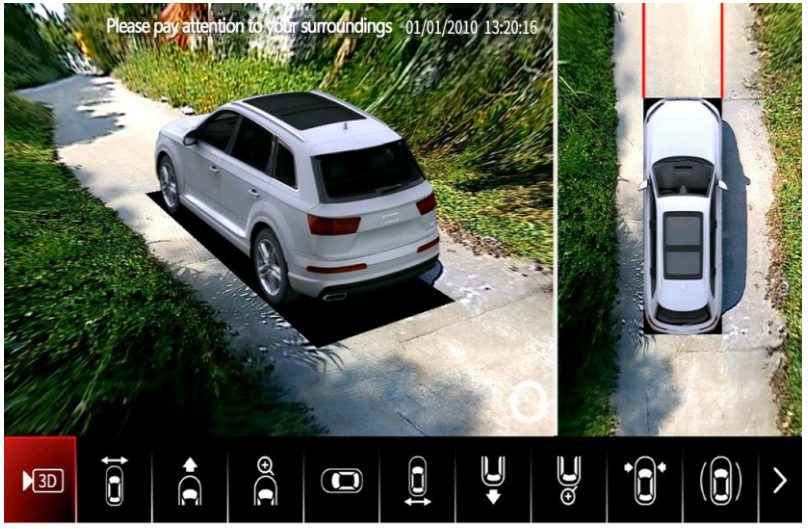


FIG 2 3D left rear view mode (3D special diagram)

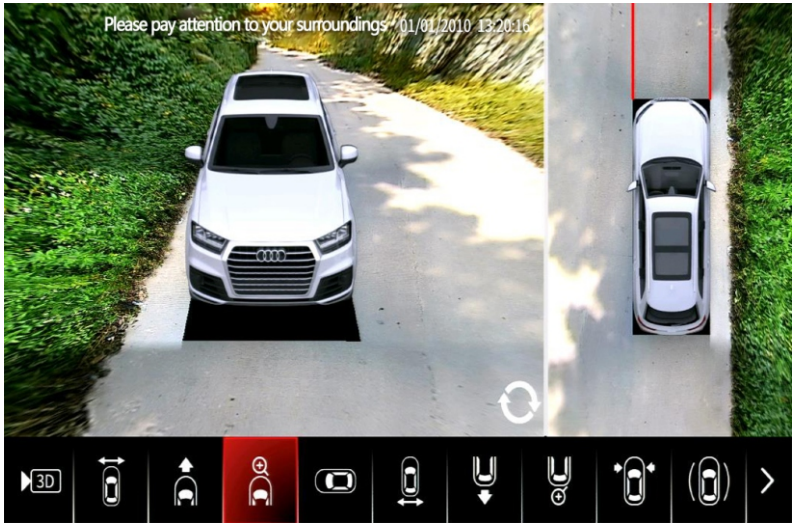


FIG 4 3D forward view mode (3D special diagram)

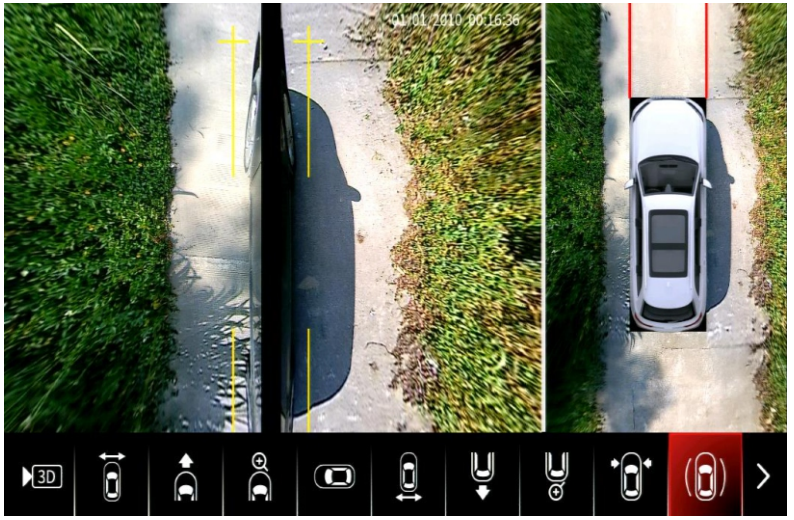


FIG. 5 2D road cliff mode + left and right safety auxiliary lines

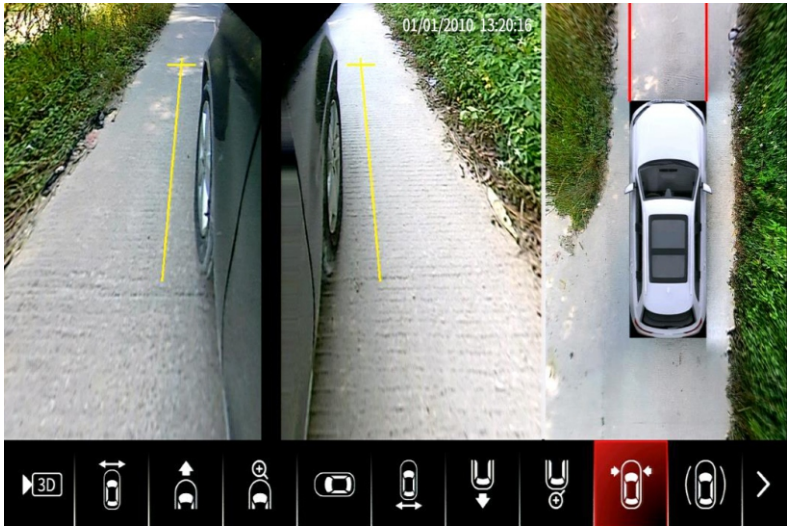


FIG. 6 2D narrow path mode + left and right safety auxiliary lines

FIG. 7 full screen mode of super wide Angle in front view

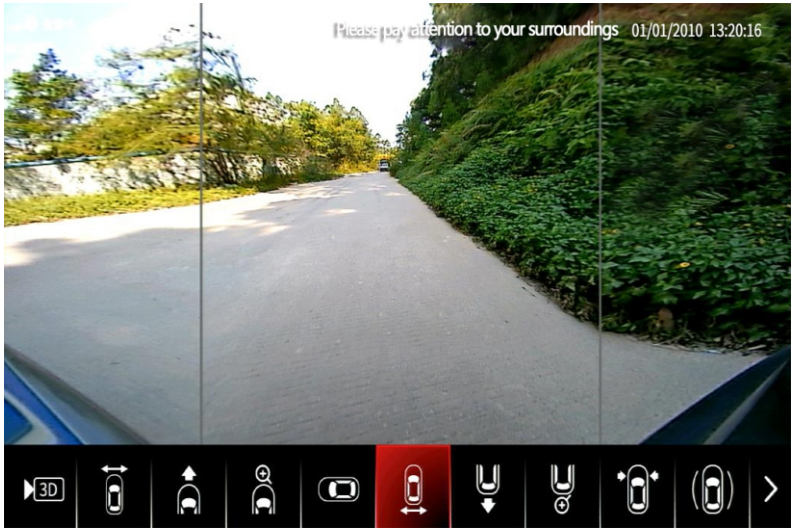


FIG. 8 rear view super wide Angle full screen mode

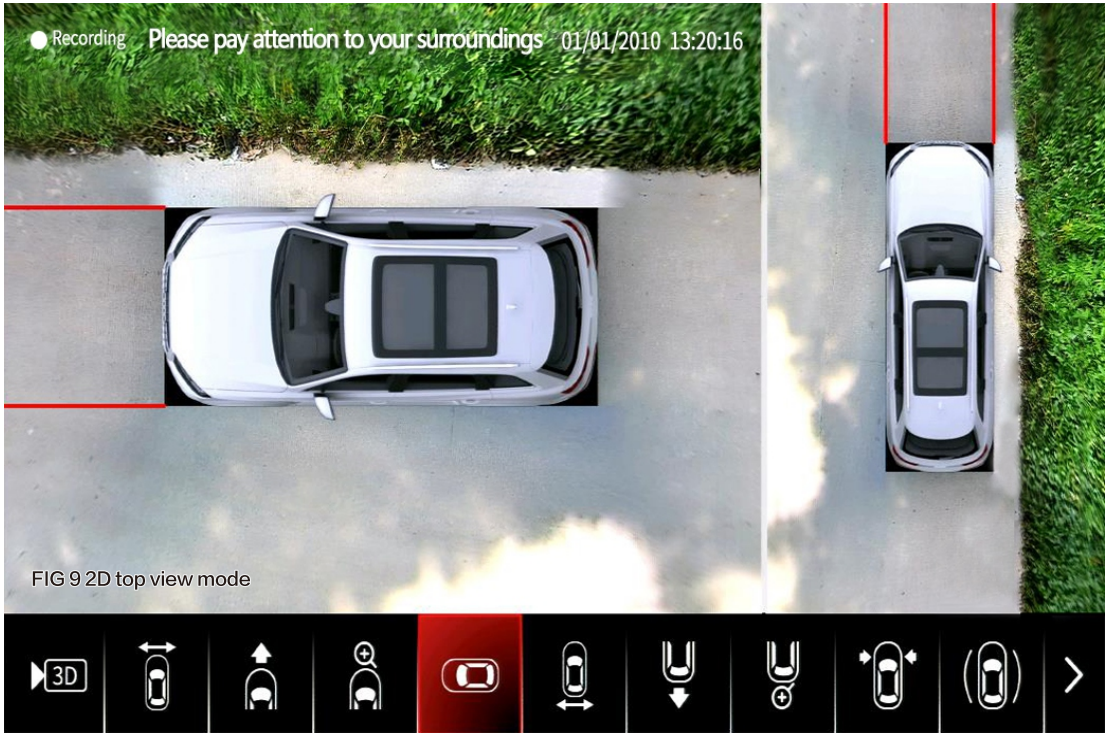


FIG 9 2D top view mode

FIG. 10 2D panorama + forward-looking distortion correction plus trajectory mode

FIG. 11 2D panorama + rear view distortion correction plus trajectory mode

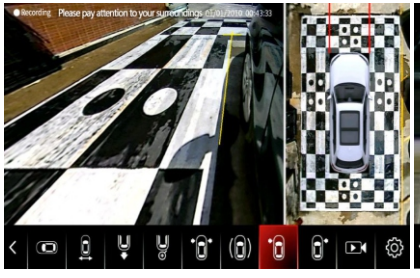


FIG. 12 2D panorama + left side distortion correction mode

FIG. 13 2D panorama + right side distortion correction mode

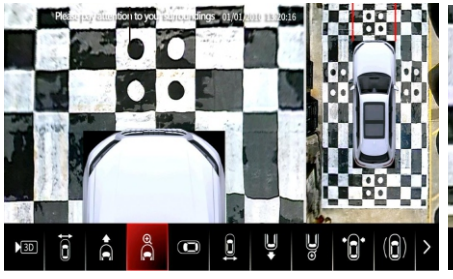


FIG. 14 2D panorama + forward magnification mode (special 3D map)

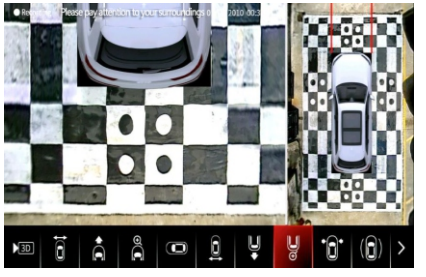
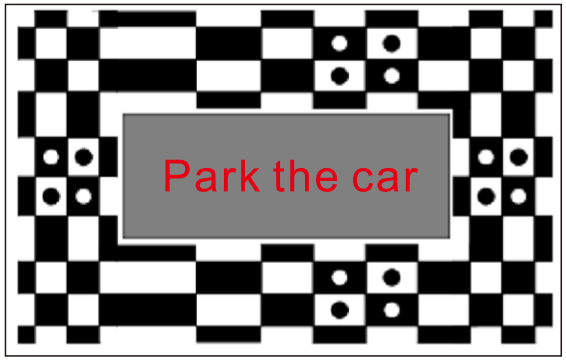


FIG. 15 2D panorama + rear view magnification mode (special 3D map)

The product installation

1. Prepare 1 set of special debugging cloth (two pieces) as follows:



1. Prepare 1 set of special debugging cloth (two pieces) as follows:

2. Matte finish is preferred, and reflective material is not conducive to image recognition

3. Prepare electric drills, multimeters, screwdrivers and other related tools for drilling

4. Installation of 360 mainframe

(1) the main engine 360 can be installed in any position in the driving room. It is recommended to install it in a well-ventilated position under the main driver or the copilot close to the central control display

(2) 360 should be firmly fixed during installation to prevent vibration from affecting file storage

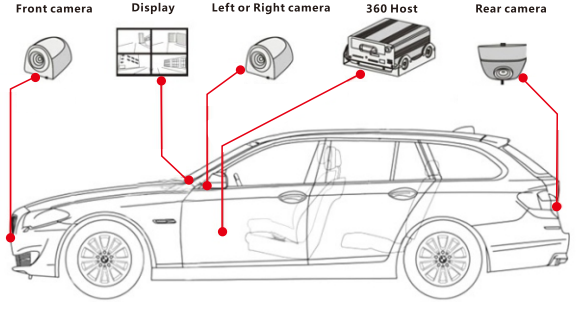
5. Camera installation

(1) rear-view camera: the general rear-view camera is installed at the rear of the car with a height above 400mm from the ground. It is appropriate to see the car body in the display screen; Special camera needs to be customized

(2) front view camera: the general purpose camera is installed in the front of the car, with a height above 400mm from the ground. It is appropriate to adjust the Angle so that the car body can be seen; Special camera needs to be customized. Due to the high temperature in the engine room, the extension cord of the front camera needs to be insulated from the hot parts of the car

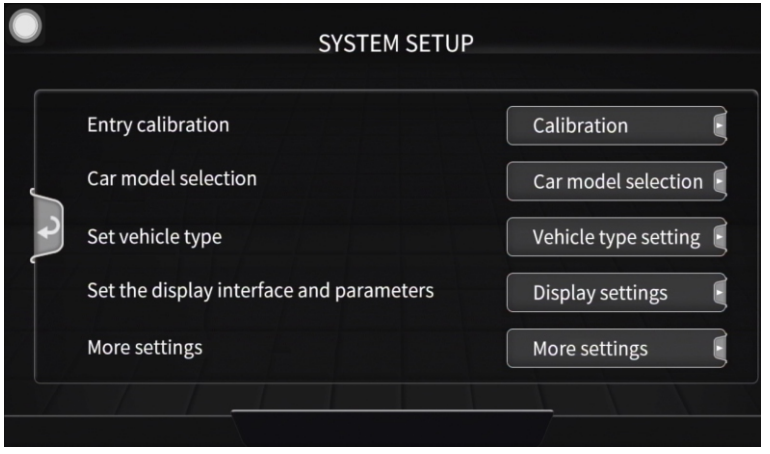
(3) left-view camera: the installation of the universal left-view camera shall be perforated at the bottom of the left rearview mirror and fixed; Special cameras need to be customized

(4) right view camera: the installation of the universal right view camera shall be perforated at the bottom of the right rearview mirror and fixed; Special cameras need to be customized

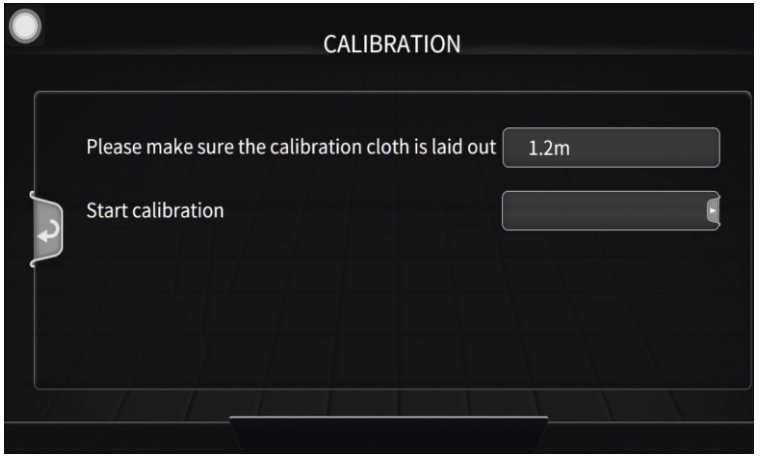


Product testing and calibration

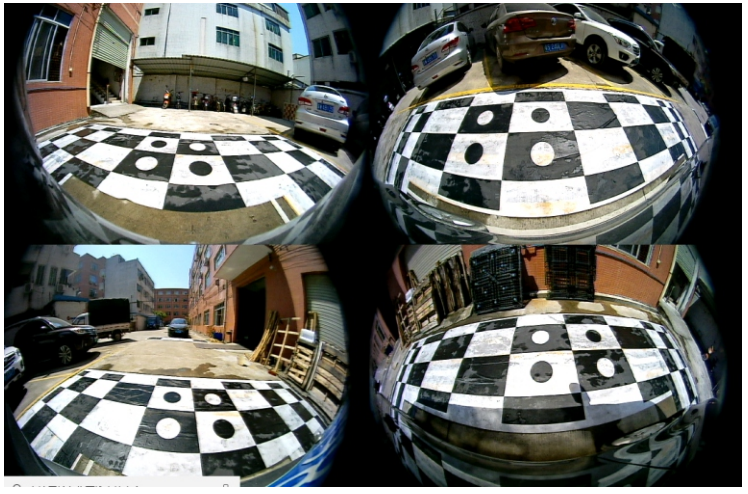
Press the knob to enter the main menu and select "system Settings" to enter the following Settings screen



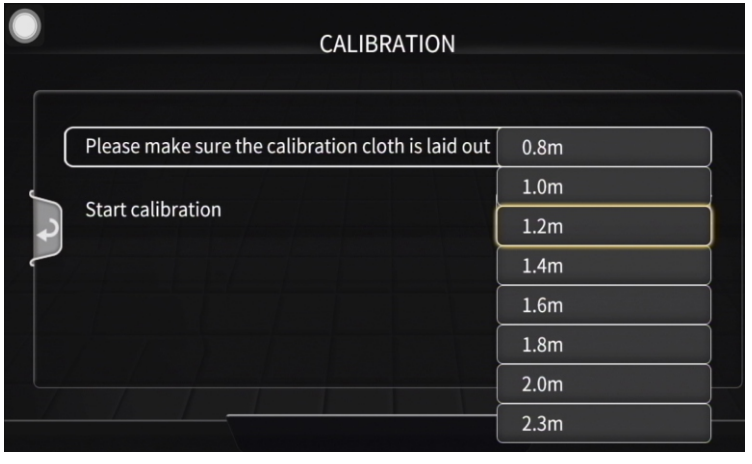
Press the knob to enter the system Settings and select "enter calibration" to enter the following Settings interface



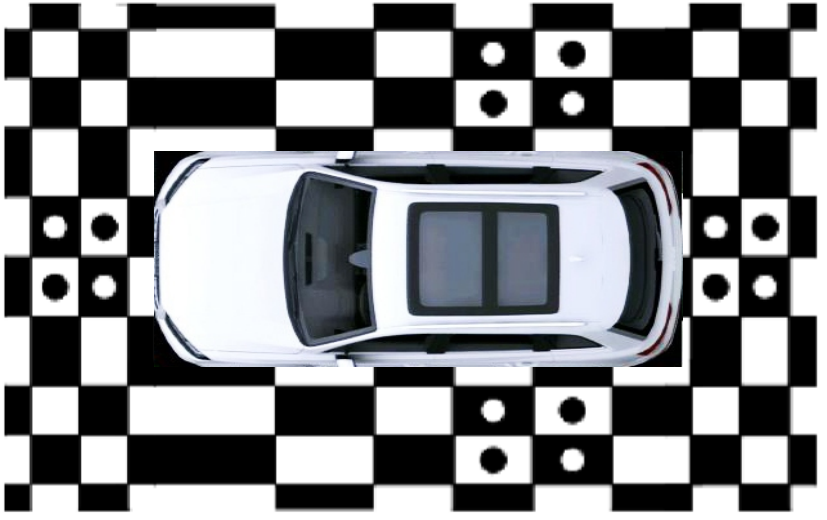
Press the knob controller to enter the calibration setting. First, make sure that the calibration cloth is laid, and then select the distance of the rear calibration cloth pendulum (e.g. 1m).



Press the knob to enter the start of calibration. First, confirm whether the position of the four cameras is correct. As shown below, the body is under the image.
Then press the controller and wait for a few seconds before entering the calibration state. After 10 seconds, the calibration is successful



After successful calibration the panorama is shown below



If this fails, adjust the position of the calibration cloth or check the surrounding light

Reasons for panorama correction failure:

When the system displays "** correction template detection failed", please check the following aspects:

A. Is the installation height of the camera higher than 400mm? If not, please adjust the height

B. whether the image of the camera shows exposure or bright spot in the display screen, if so, please clean up the reflected spot for shading treatment

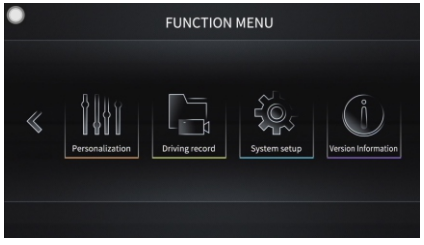
C. Does the camera image have shielding? If so, please remove the shielding

D. whether the image of checkerboard calibration cloth is black and white and clear. If not, please check whether the lens is clear or move the calibration cloth to make the image clear

E. Whether the front and rear left and right cameras meet the requirements of Angle of view, and then deal with the above situation repeatedly until the panorama correction is completed

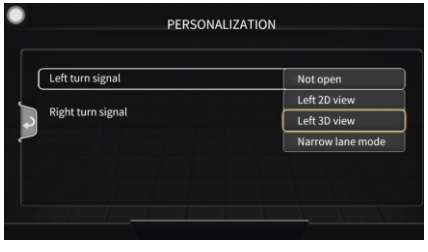
Main Menu

Press the knob to enter the main menu setting



Personalized Settings: set the relevant Settings of the left/right turn signal view. You can choose no action when turning left and right, 2D view or 3D view or narrow path mode (both left and right).
Driving record: set recording state, enter recording and format
Setting of diskettes and parking monitoring;
System Settings: set panorama calibration, system time, vehicle type, display interface, parameter import or export, etc.;
Version signal: view the current system version information

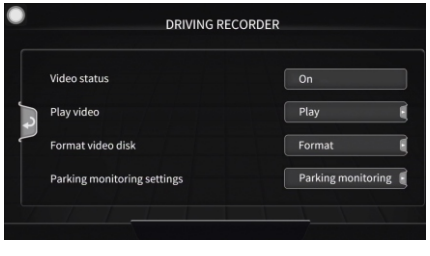
Personalization



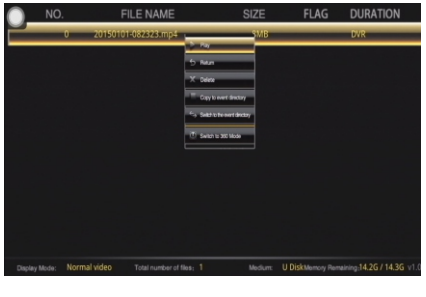
In the main menu select "personalize", enter the personalized Settings menu, can be set up according to the requirements when the left or the right to view, set to no action, while playing to switch to the left and right view, set up before the 2 d view, play turn for a 2 d view image, set up 3 d view, play turn for a 2 d view image, set to too narrow mode, play turn around for the show picture.

Driving record

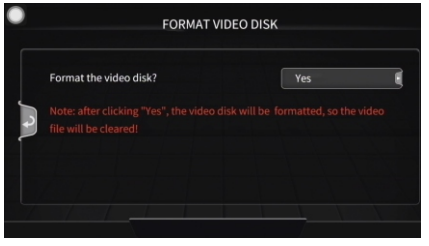
the main menu and select "driving record" to enter the following setting interface



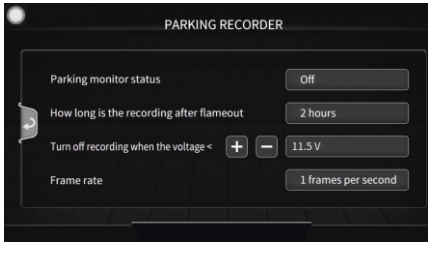
Recording state: can be set to start or close state, generally set to ope



Enter the play: press the knob to enter the play state to play, return, delete and other operations



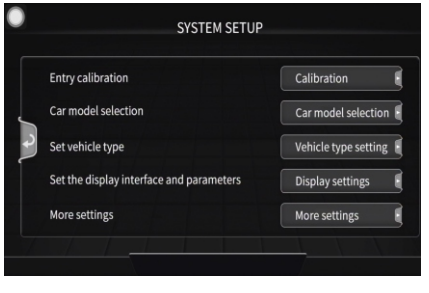
Format video disk: check the current video U disk Type,



Stop monitoring Settings: set stop monitoring on or off, video delay time, protection voltage
(minimum 9.5v, maximum 13V),Video frame rate interval (e.g., 1 second, 1 frame) Etc.

System Settings

Press the knob to enter the main menu and select "system Settings" to enter the following Settings screen



Entry calibration: first confirm the position at the rear (such as 0.8m, 1.0m, 1.2m, etc.), then
Select "start mark" with the knob controller", enter the calibration and observe 4 cameras The state of the head, the body is in the front of the image Below, wait a few seconds before entering the calibration state
State, 10 seconds after the prompt calibration success
Set system time: select the time displayed by the system

Setting model: select the currently installed model, press the controller to enter the selection screen to select the desired model, and press again to exit the screen. After selecting the model and car system, press the controller for 5 consecutive times to enter the " confirm" menu, and select "confirm" to determine the current setting

Set the display interface and parameters:
set CVBS/VGA/AHD interface output, and set the corresponding parameters

and export system configuration:
import or export the current Settings and splicing parameters to the usb flash drive

Version information

Show the current version information

External G-sensor switch (optional)

External vibration sensor

8pin interface can be connected to external vibration sensor. After ACC OFF, the external vibration sensor senses the vibration and triggers the 360 panorama control box to record the video for a short time

Player software on the computer: a video file recorded on a usb flash drive that can be played on any player on the computer

Frequently asked questions:

Serial number	Failure phenomenon	Possible reason	Coping
1	**The main engine is not started**	1.The main engine power supply or the power supply fuse of the car is blown 2. Abnormal connection	1.Replace the fuse of the specified model 2.Check whether the power cord is inserted in place 3.Replace the main engine and return it for repair
2	**The remote control or button can be started, and the reverse gear cannot be started**	1. Bad astern input line 2.Digital version: wrong configuration of vehicle parameters	1.Check and correct the connection 2. Replace the astern input line 3.Digital version: set vehicle parameters correctly
3	**After the host is started, the screen is absent** **Screen display, black screen**	1.Incorrect connection between astern output line and screen astern detection line 2.Incorrect connection between video output line and screen video input 3.Digital version: the dial switch is not configured correctly 4. Digital version: LVDS video line socket error	1.Check and correct the connection 2.Check and correct wiring 3.Check the dial code and correct it 4. Check and correct wiring 5. Replace the main engine
4	**After the host is started, there is an interface** **Display, no camera picture Display**	1. Camera and extension cord are not inserted correctly 2.Bad contact with the extension cord of the camera 3.Poor contact of camera power cord	1.Check and correct the connection 2.Replace the extension cord 3. Replace the power cord 4. Replace the camera
5	**The track line shows incorrect configuration of vehicle parameters**	Model parameter configuration error	Select the correct type of assembly vehicle

Tips:

The vibration recording function of this product is affected by the installation position, sensitivity, parking environment and other factors of the external vibration sensor. The frictional collision accident may occur without video after the flame is turned off. Please do not excessively rely on this function. If you need to monitor the situation of vehicles after stopping, it is recommended to turn on the "parking video" function. You can set the parking video within 0~24 hours according to your personal needs.