

Operating Instructions

FLEETVU-360^o

Around View Monitor (AVM) - No Control Box needed

NEW!



True 360° "Driver-Assist"
non-connected

FHD 360° Surround View System

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

V1.2

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1. Precautions

1.1 Storage and Keeping

- (1) Do not expose the System to excessive heat or cold. The storage temperature of this device is $-30^{\circ}\text{C}\sim+80^{\circ}\text{C}$, and the operating temperature is $-20^{\circ}\text{C}\sim+60^{\circ}\text{C}$. The humidity is RH90%.
- (2) Never use this device near a bathtub, wash basin, kitchen, damp basement, swimming pool or similar places.
- (3) Never use this device in environments with excessive moisture, dust or smoke.
- (4) Avoid dropping or striking this device.
- (5) Avoid using this device in enclosed spaces, areas with excessive vibration or subject to severe impacts.
- (6) Never puncture, scratch or use abrasive cleaning materials on this device.
- (7) Do not place cables where they may be pinched or stepped on.
- (8) The Monitor is not designed to be waterproof.

1.2 Operating Precautions

- (1) The device may be powered by a 12 or 24 volt automotive battery or vehicle electrical system.
- (2) Make sure all cables are connected properly. Observe polarity. Improper cable connections may damage the system. Remove the power cable connections when you do not intend to use the unit.



Warning!

1. The opening of the case should be by professionals.
2. Do not watch the video while driving unless you are monitoring the rear view camera display.

1.3 Maintenance

- (1) Remove all the cable connections from the control box 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 or benzine, 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 warrant and necessitate expensive repairs.

2. Product Features

2.1 Basic Features

- (1) 4pcs 190° FHD 1080P wide-angle fisheye cameras, horizontal view angle > 170° inputs.
- (2) Techniques of quad-core ARM Cortex-A53, SOC development of built-in high-performance H.264 video encoding/decoding engine core make it efficient to composite high accuracy seamless images.
- (3) Low-cost calibration tools, simplified calibration procedures.
- (4) Maximum 4CH 1080P/30 or 4CH 1080P/25 frames video resolution.
- (5) High definition 1080P video output.
- (6) Single-step calibration for built-in and peripherals parameters of cameras, no need to bound the cameras and the main unit.
- (7) Small size, easy installation, space saving and low cost.

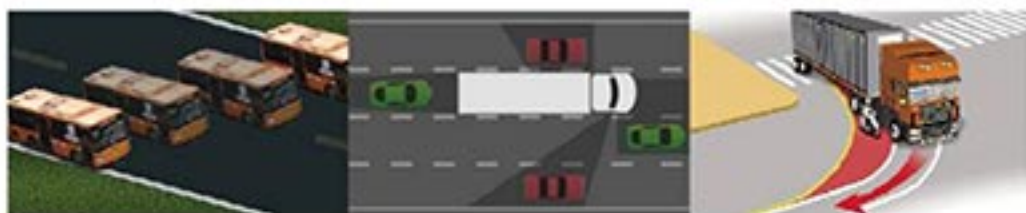
2.2 Application



Reverse Parking

Side Parking

Narrow Road



Congested Road

Blind Area

Diversion Assistance



Steep Slope

Road Trap

Driving Record

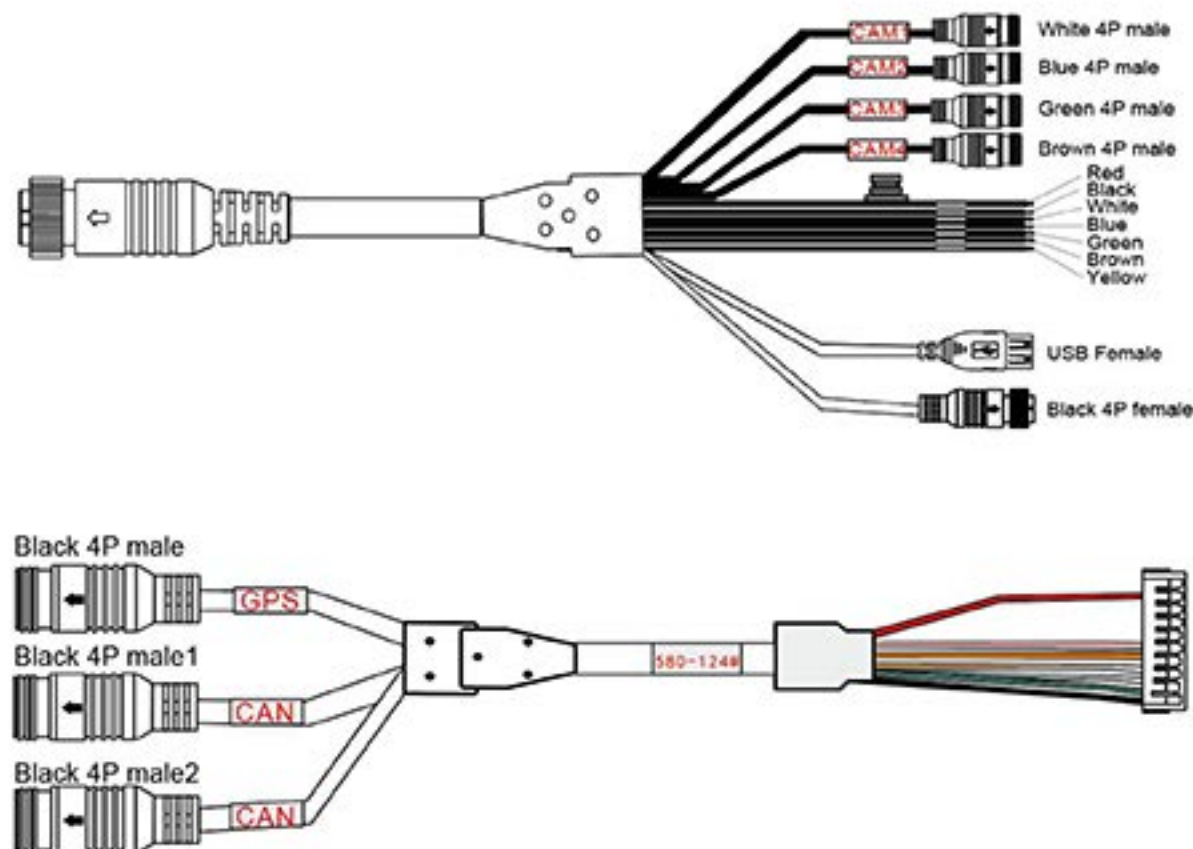
2.3 Features

- (1) Panoramic image.
- (2) Blending seamless stitching.
- (3) 360° no blind spot.
- (4) Clear Around-view.
- (5) Auto switch to reversing image when reverse wire is triggered.
- (6) Auto switch to left/right image when left/right wire is triggered.
- (7) Installation guide with pictures.
- (8) Automatic plane correction.
- (9) Sensor or Gps are optional.
- (10) Adjustable angle of the four overlapping areas.
- (11) Reversing track function added.

2.4 Standard Configuration

NO	Item	Quantity
1	Monitor	1
2	FHD eye-fish camera	4
3	34-button remote controller	1
4	Main harness	1

3.Connection Diagram



- (1) White 4P male for Camera 1.
- (2) Blue 4P male for Camera 2.
- (3) Green 4P male for Camera 3.
- (4) Brown 4P male for Camera 4.
- (5) Single red wire to power wire of DC: 10-32V.
- (6) Single black wire to GND.
- (7) Single white wire to positive power wire of Camera 1.
- (8) Single blue wire to positive power wire of Camera 2.
- (9) Single green wire to positive power wire of Camera 3.
- (10) Single brown wire to positive power wire of Camera 4.
- (11) For hardware that does not support video recording, the single yellow trigger wire is reserved,
For hardware that supports video recording, the yellow trigger wire needs to be connected to the positive pole.

- (12) USB Female for USB flash disk.
- (13) Black 4P female aviation connector for CVBS monitor.
- (14) Black 4P male aviation connector for GPS.
- (15) Black 4P male aviation connector 1 for CAN communication (such as 77GHZ radar).
- (16) Black 4P male aviation connector 2 for CAN communication (such as 77GHZ radar).

4.Specification

4.1 Video Parameter

Panoramic video parameter	Video input		Max.4CH× 1080P25f/30f
	Display mode		2D
	High definition output	Resolution	1080P
		Refresh rate	50/60
	Standard definition output	Resolution	D1
		Refresh rate	25f / 30f

4.2 Working Parameter

Parameter	Parameter Ranges
Working Voltage	DC: 10~32V
Working voltage range for external trigger signals	DC: 10~32V
working electric current	<2A / 12V
Working temperature range	-20℃ ~ +60℃
Storage Temperature	-30℃ ~ +80℃
Working humidity	10%~90%

4.3 Camera Parameter

Image Device	1/2.9"2Mega CMOS
Frame Rate	25 / 30
Effective Pixels	1920 (H) x 1080 (V)
Pixel Size	2.9 μm x 2.9 μm
Resolution	1080P
Video Output	1.0Vp-p,75Ohm
White Balance	Auto
Viewing Angle	>170(H)
Power Supply	12V
Working temperature range	-20°C~ +70°C,RH95%MAX.
Storage Temperature	-40°C~ +85°C,RH95%MAX.
Waterproof rating	IP69K

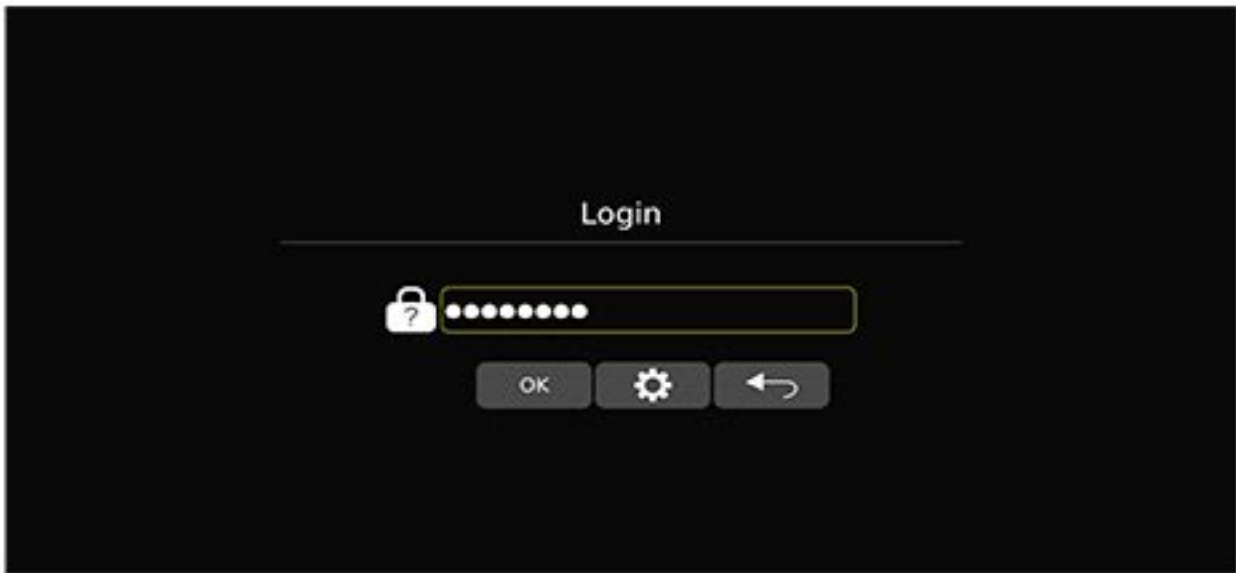
5.Remote Control Manual

- ENTER: Enter main menu or confirm menu selection.
- ESC: Exit main menu interface/return to main menu interface.
- LEFT/RIGHT: Left,Right /Minus,Plus button. Shift image channel to left/right view,or operate plus/minus in main menu interface.
- UP/DOWN: Front/Back button.Shift image channel to front/back view.
- SHIFT: Same function as Tab button to shift to quad display or exit from quad display. It's used for switching menu selection in main menu interface.
- POWER: Turn on/off video output.
- Number button 0~9: (0~9)Input numbers.
- CLEAR: Back space button,Delete a character.
- MULTI: Full screen function.
- PTZ: Decimal point input.

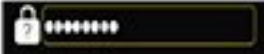


6.User interface

6.1 Log in



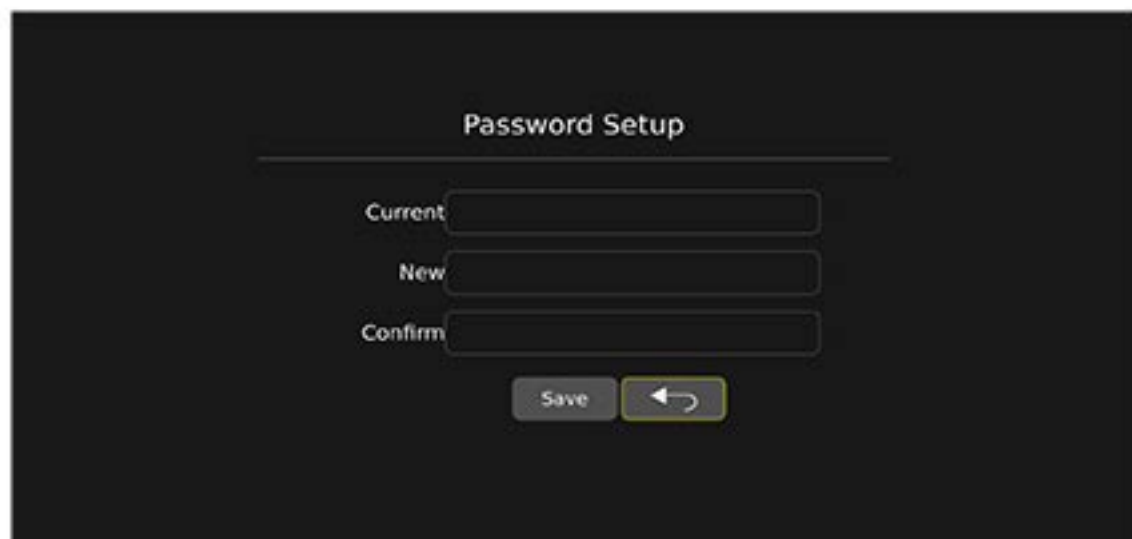
Description:

- : Password (factory default is 88888888).
- : confirm to log in.
- : reset password.
- : exit.

Note:

- (1) Initial password: 88888888 (8 个 8) . The password consists of numbers and letters, and the password length supports up to 16 characters. If you forget your password, please contact the manufacturer to apply for a key and you can perform initialization operations.
- (2) You don't need to re-enter the password within 10 minutes; Once it times out, restarting the device or waking up the device, you must enter the password again.

- Reset the password

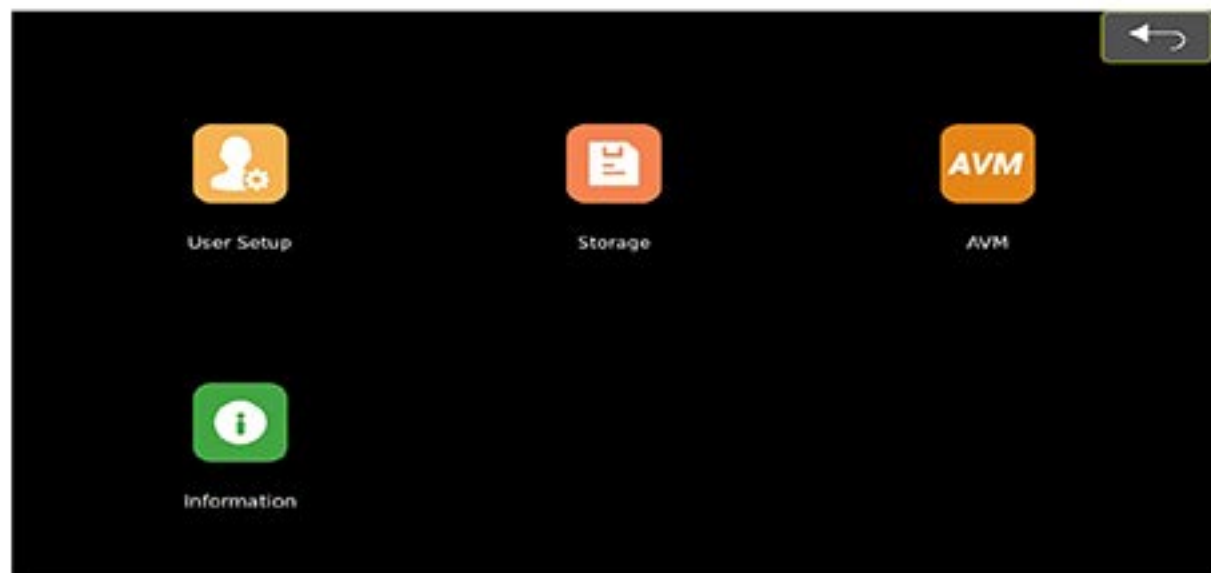


The image shows a 'Password Setup' screen with a dark background. At the top, the title 'Password Setup' is centered. Below it, there are three input fields labeled 'Current', 'New', and 'Confirm'. At the bottom, there are two buttons: 'Save' and a back arrow button.

Function description: Enter the old password once, enter the new password twice, and press Save to save.

- Current: old password input.
- New: new password input.
- Confirm: new password confirm.
- Save: save setting.
- : Exit (cancel changes).

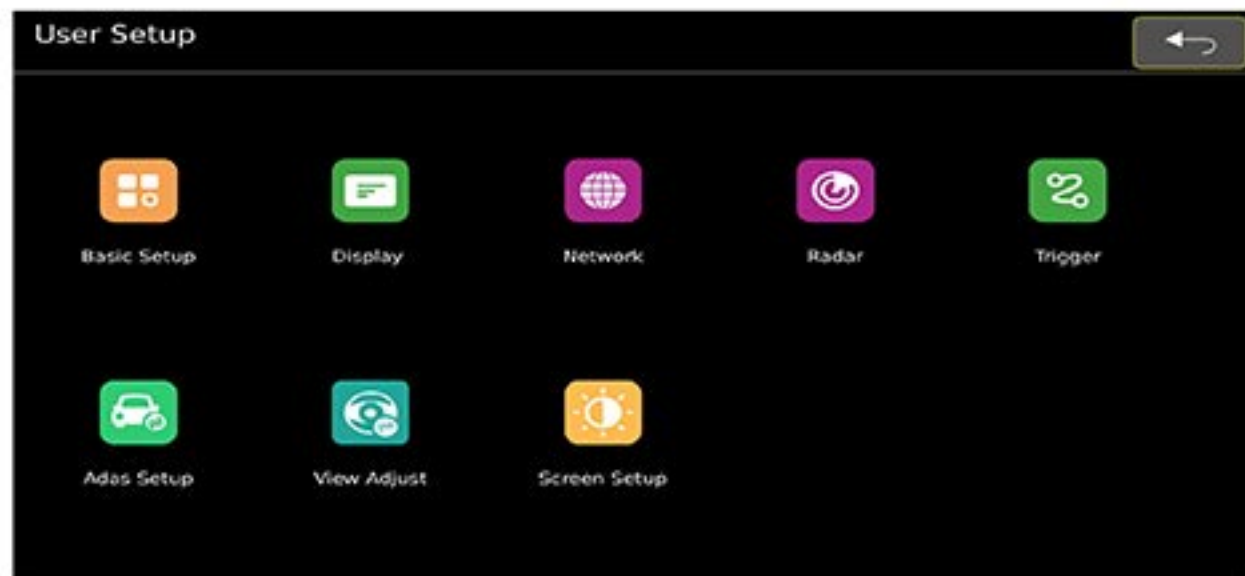
6.2 User main Interface



Description:

- User Setup: User settings, including setting up basic setup, display, etc.
- Storage: Storage management, able to check the SD storage and log file management.
(Currently there is no video recording function, this interface is only used for customers to format the SD card through USB)
- AVM: Including automatic calibration/ calibration file input and output/ vehicle model switch/surround view, etc.
- Information: Software version information and upgrade.

6.3 User settings Interface



Description:

- Basic Setup: basic settings.
- Display: display mode settings.
- Network: trigger line setting interface.
- Radar: radar setting interface.
- Trigger: trigger wire setting interface.
- Adas Setup: intelligence assistance setting.
- View Adjust: camera setting interface.
- Screen Setup: screen setup.

6.3.1 Basic configuration interface

Display Icon	<input checked="" type="button" value="ON"/>	OFF
Speed WakeUp	ON	<input checked="" type="button" value="OFF"/>
Standby Delay	3s	<input checked="" type="button" value="OFF"/> Define
Uart Type	GPS	Radar
Standby Setting	AHD	CVBS <input checked="" type="button" value="Both"/>
Language	English	

Save

Description:

- **Display Icon:** hide display icons on main interface. When set to ON, the main interface will display all icons above the interface; if set to OFF, the main interface will hide all icons above the interface (except direction arrows).
- **Speed Wake-Up:** Low speed wake-up switch. When set to ON and speed from GPS is lower than the set value, it will wake up display screen; and speed from GPS is larger than the set value it will enter standby mode. When set to off, the speed wake-up function is off.
- **Standby Delay:** Auto standby time setting is set to off by default. When set to 3s, the system will automatically enter the standby state after 3s; When set to off, the system will always be on; When set to Define, you could OFF. After enable and set the automatic standby time, if there is no external trigger and remote control operation, the standby time can be customized, and the configuration range is 3-30s.
- **Uart Type:** When GPS is selected, there will be GPS signal if GPS module is connected. When Radar is selected, ultrasonic sensors / radars will be working if they are connected. (not open currently).
- **Standby Setting:** The default setting of screen standby control function is Both. When set to AHD, when in standby, only the AHD output will enter the standby state; when set to CVBS, in standby, only the CVBS output will enter the standby state; when set to Both, when in standby, both AHD and CVBS output will enter the standby state.
- **Language:** English and Chinese are available.

6.3.2 Display Mode Setup

Display Mode Setup

CVBS ☒ ON ☐ OFF

SD Screen Adjustment

Blending Region ☒ ON ☐ OFF

Display Direction

Instant Rear View ☐ ON ☒ OFF

Quad View Cut ☒ ON ☐ OFF

Grid Lines ☒ ON ☐ OFF

View Mode

View Ratio

Front Cursor ☐ ON ☒ OFF

Vehicle Model Offset ☐ ON ☒ OFF

Svm Color Balance ☒ ON ☐ OFF

Color Balance Osd ☐ ON ☒ OFF

Color Balance Optimize ☒ ON ☐ OFF

Color Balance Frame 5

Default View Dual+front

Description:

- CVBS: CVBS output switch is on by default. When set to ON, the hardware can output a quad-split screen when connected to the CVBS screen.
- SD Screen Adjustment: CVBS, AHD output screen parameter adjustment.
(Note: Re-adjustment is required after switching to NTSC or PAL)
- Blending Region: The blending region is ON by default. When set to ON, the overlap areas of the surround views overlap; when set to OFF, the overlap areas of the surround views do not overlap.
- Display Direction: The default display direction is horizontal. When set to Horizontal, the screen appears as a horizontal screen effect; when set to Vertical, the screen appears as a vertical screen effect. (The current function is not enabled)
- Instant Rear View: Default setting is ON. When set to OFF, there will be a splash screen display before the panoramic view is shown. When it is ON, a single view picture will be

- displayed in 3 seconds before the panoramic view is shown. The single view of the rear should be in mirrored image. (That is to replace logo with back single view)
- **Quad View Cut:** The cut setting of the quad-split screen of the CVBS output screen is turned on by default. When set to on, the quad-split screen is a cropped screen.
- **Grid Lines:** Back single view cursor switch configuration, the default is ON; when set to ON, the cursor is displayed in the back single view; when set to OFF, the cursor is not displayed in the back single view.
- **View Mode:** The default display mode switch is 3D. When set to 2D, the screen display effect is 2D surround view + single view; when set to 3D, the screen display effect is 2D surround view + 3D surround view.
- **View Ratio:** The settings for the surround view and single view/3D screen ratio are 1: 2 by default. When set to 1: 2, the surround view occupies 1/3 of the entire screen, and the single view/3D occupies 2/3 of the entire screen; when set to 2: 3, the surround view occupies 2/5 of the entire screen, and the single view/3D occupies 3/5 of the entire screen; set to 1: 1, surround view occupies 1/2 of the entire screen, single view/3D occupies 1/2 of the entire screen.
- **Front Cursor:** The front single view cursor switch configuration, the default is OFF; When set to ON, the cursor is displayed in the front single view; when set to OFF, the cursor is not displayed in the front single view.
- **Vehicle Model Offset:** Quick drawing configuration, the default is OFF. When set to ON, switching to left channel, the surround view moves right and the single view switches to the left; Switching to right channel, the surround view moves left and the single view switches to the right. When vehicle Model Offset is set to off, the view is switched, the surround view car model is centered, and the single view is switched normally.
- **Svm Color Balance:** The brightness balance is set to off by default.
- **Color Balance OSD:** The color balance OSD is off by default. It's prohibited to modify without manufacturer's approval.
- **Color Balance Optimize:** The color balance optimization is off by default.
- **Color Balance Frame:** The color balance frame is 5 by default.
- **Default View:** The default booting view is Dual +Front, The options will be as Dual+2Left ,Dual +Right ,Dual +Front ,Dual +Back,Quad,Full Dual.

6.3.3 Network Setup

Network Setup

IP Address

192

168

117

117

IP Mask

255

255

255

0

Route Gateway

192

168

0

1

RTSP Port

554

RTSP EncodeType

CBR

VBR

RTSP Quality

1M

2M

4M

8M

Save

Description:

- IP Address: The IP address is 192.168.117.117 by default.
- IP Mask: The IP Mask is 255.255.255.0 by default.
- Route Gateway: The Route gateway is 192.168.0.1 by default.
- RTSP Port: The RTSP port is 554 by default.
- Stream Encode Type: The stream encode is VBR by default.
- Stream Quality: The default value is 1M. 1M,2M,4M and 8M are optional.

6.3.4 Radar Setup

Radar Setup



Category

OFF

Ultrasonic UC

77GHz 2T4R

Unit:

Meter

Inch

Trigger Control:

ON

OFF

Speed Control:

ON

OFF

20

Km/h

Save

Description:

- Category: When category is set to OFF, radar is unavailable. (Note: The ultrasonic radar is unavailable now)
- Unit: The unit is Meter by default. Option: Meter and Inch.
- Trigger Control: The trigger control is OFF by default. When set to ON, the radar will respond to any trigger; When set to OFF, radar is not affected by trigger wires.
- Speed Control: The speed control is OFF by default. When set to ON, if the current vehicle speed is lower than the configured speed value, the radar will respond; When set to OFF, the radar function is not controlled by the vehicle speed.
- : Exit.
- : Enter to configure the sensor parameters.

Note:

- (1) When an obstacle is detected within a range of 0.5 meters, the display will keep beeping.
- (2) When the radar icon displays red and yellow, the corresponding sounds will also be different.

Microwave Radar Sensor Setup



Position: Back

Red: 1.50 M

Yellow: 3.00 M

Green: 4.50 M

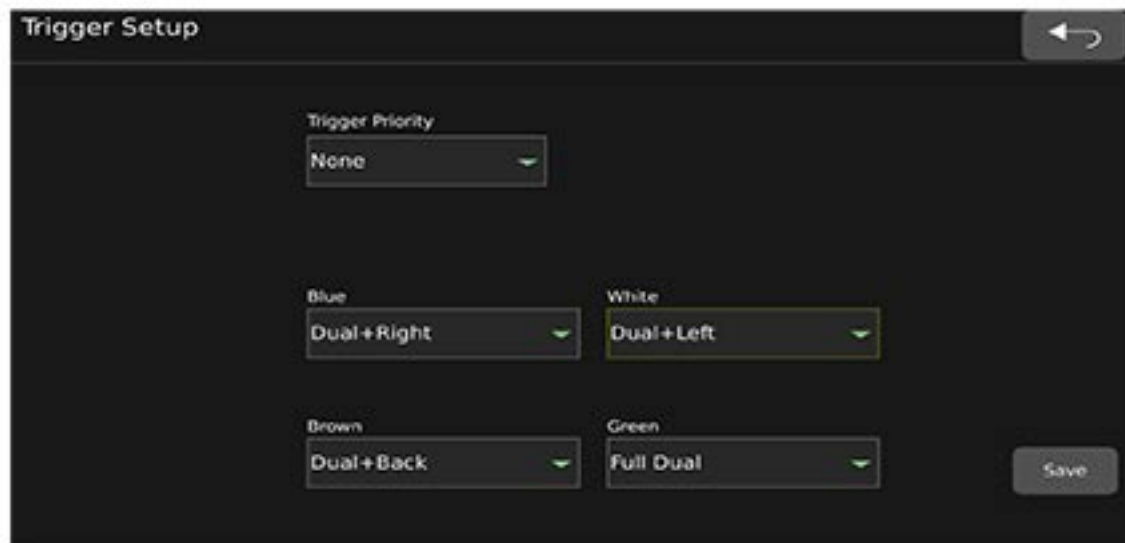
Width: 10.00 M

Save

Description:

- Position: The sensors could be installed in the left, right, front and rear position.
- Red: Dangerous distance.
- Yellow: Warning distance.
- Green: Safe distance.
- Width: Detection Width.
- Save.

6.3.5 Trigger Setup



Description:

- **Trigger Priority:** The default trigger priority is None by default. When set to None, the monitor will show first triggered image. For example, when the rear view is triggered, the monitor just displays the rear view image. Meanwhile, if the left view is also triggered, the monitor will still display the rear view image before the rear trigger is finished. Once finished, it will display left rear view image. When the rear trigger line is triggered, the panorama will always display the rear camera view. If other camera and the rear camera are triggered at the same time, and the monitor will give priority to displaying the rear camera picture. Set to White/Blue/Green in the same way.
- **Blue:** It is Dual+Right by default. When the blue trigger wire is triggered, the monitor will display Dual + Right. Other options: Dual+Left, Dual +Right, Dual +Front, Dual +Back, Single_Left, Single_Right, Single_Front, Single_Back, Quad, Full Dual.
- **White:** It is Dual+Left by default. When the white trigger wire is triggered, the monitor will display Dual + Left. Other options as above.
- **Brown:** It is Dual+Back by default. When the brown trigger wire is triggered, the monitor will display Dual + Back. Other options as above.
- **Green:** It is Full Dual by default. When the green trigger wire is triggered, the monitor will display full dual. Other options as above.
- **Save.**
- : Exit.

Note: Trigger latency is 3 seconds. When the trigger disconnects, it will return to the default interface within 3s.

6.3.6 Adas Setup

1) FCW

Adas Setup

FCW PDS PDS(ADA37)

Detect Switch ON OFF

Draw OSD ON OFF

Detect Type Normal TTC

Detect Speed 60 km/h

Alarm Time 800 ms

Filter Distance 80 cm

Filter Width 120 cm

Fake Speed 0 km/h

Save

Description:

- Detect Switch: The front vehicle detect switch is OFF by default.
- Draw OSD: When set to ON, A box will appear when detecting a vehicle ahead. **Any modification is prohibited without confirmation from the seller.**
- Detect Type: It is Normal by default. (Only Normal is available)
- Detect Speed: When GPS speed is over detect speed, the front vehicle detect switch function will work. The default value is 60km/h.
- Alarm Time: When the distance to the vehicle in front/GPS speed value is less than or equal to the set time, it will give an alarm. The set time is 800ms by default.
- Filter Distance: Filter targets are centered on the vehicle's central axis, when distance of left to the central axis or distance of right to the central axis sides are greater than the filtering distance. The set filter distance is 80cm by default.
- Filter Width: Filter width is to filter set width value. The set width is 120cm by default.
- Fake Speed: When there is no GPS connection or there is no GPS signal (set Fake Speed > Detect Speed to enable the pedestrian detection function); when there is a GPS signal and Fake Speed is 0, the actual vehicle speed is decided by GPS.
- Save.

2) PDS—Stitch Line

Adas Setup

FCW

PDS

PDS(ADA377)

Stitch Line

Normal

Filter Height

100

cm

Filter Width

30

cm

Filter Distance

300

cm

Confidence

80

%

Max Speed

20

Km/h

Channel Select

Both

LR

FB

Detect Switch

PDS

Off

LeftFront

OFF

RightFront

OFF

CenterLeft

OFF

LeftBack

OFF

RightBack

OFF

CenterRight

OFF

Save

Description:

- **Filter Height:** The filter height is 100cm by default, and that is to filter objects whose height is lower than 1m.
- **Filter Width:** The filter width is 30cm by default, and that is to filter objects whose width is shorter than 0.3m.
- **Filter Distance:** The filter distance is 300cm by default, and that is to filter objects outside 3m*3m.
- **Confidence:** The filter confidence is 80%, and that is to filter objects whose confidence is lower than 80%.
- **Max Speed:** The max speed is 20km/h by default. That is, pedestrian detection will only be enabled when the GPS speed is below 20km/h. If set to 0km/h, the pedestrian detection algorithm will be turned off.
- **Channel Select:** Both: Left/Right/Front/Rear; LR: Left/Right; FB: Front/Rear.
- **Detect Switch:** The default detect switch is PDS.
- **Detection area switches at four corners:** It is OFF by default.

3) PDS—Pedestrian Detection System

Adas Setup

FCW

PDS

PDS(ADA37)

Stick Line

Normal

Red Zone:

Width

500

cm

Length

500

cm

Yellow Zone:

Width

900

cm

Length

900

cm

Confidence:

Lower

50

%

Upper

80

%

Switch:

Camera

Back

▼

Speed Trigger:

Policy

Disabled

▼

Threshold

20

km/h

Other Trigger:

Policy

Disabled

▼

Pedestrian Marker

ON

OFF

Save

Description:

- Red Zone: Red detection area setup.
- Yellow Zone: Yellow detection area setup.
- Confidence: The system will filter out suspected targets that are lower than this value. If the value is too low, there will be a large performance overhead. If the value is too high, it will lead to missed detection. The default is 50%; confidence level Upper: Targets higher than this value will be marked in the view, the default is 80%.
- Switch: Detection type configuration currently only supports rear cameras, and the configuration cannot be changed for subsequent expansions.
- Speed Trigger: There are three modes: triggering below the threshold, triggering above the threshold, and not triggering. When the speed trigger meets the conditions and other subsequent trigger configurations also meet, the pedestrian detection function will be turned on. The default is no triggering.
- Threshold: Speed setting.
- Other Triggers: here are 3 modes: Close, Always on and Trigger wire. It only supports rear view triggering. When set to Always on, it will respond only when switching to the rear view channel. If only one of the two trigger settings is set to disable, this function will not respond.
- Pedestrian marker: it is OFF by default. When set to ON, it will be development mode. **Any modification is prohibited without confirmation from the seller.**

Adas Setup

	FCW	PDS	PDS(A37)
Chn		Switch	Priority
LEFT	ON	OFF	Third
RIGHT	ON	OFF	Fourth
FRONT	ON	OFF	First
BACK	ON	OFF	Second
Auto Transparent Vehicle		ON	OFF
Red Alarm	3	M	Yellow Alarm
			6

Save

Descriptions:

- Switch: The 4CH switch setup of pedestrian detection, the default is OFF.
- Priority: When multiple channels pedestrian detection distance is less than set distance of Yellow alarm zone, it switches to view with the highest priority according to the priority order of front, rear, left and right.
- Curve: It is OFF by default. When set to ON, the red and yellow prompt line appears in the single view image.
- Auto Transparent Vehicle: It is ON by default. After turning on, the transparency of vehicle model will be automatically changed when the pedestrian is detected in the 3D state.
- Red Alarm: Red alarm distance, When the pedestrian detection distance is less than the distance set by red alarm, the red and yellow icon appears alternately on the ring view, the buzzer and display give an alarm, switching to surround view+corresponding single view. The default is 3m.If multiple channels are less than the distance set by Red Alarm, switching to the view with highest priority according to the priority order of Front, Back, Left, Right.
- Yellow Alarm: Yellow alarm distance, when the pedestrian detection distance is less than distance set by yellow alarm, but greater than distance set by red distance, only yellow icon appears in surround view. The default is 6m.

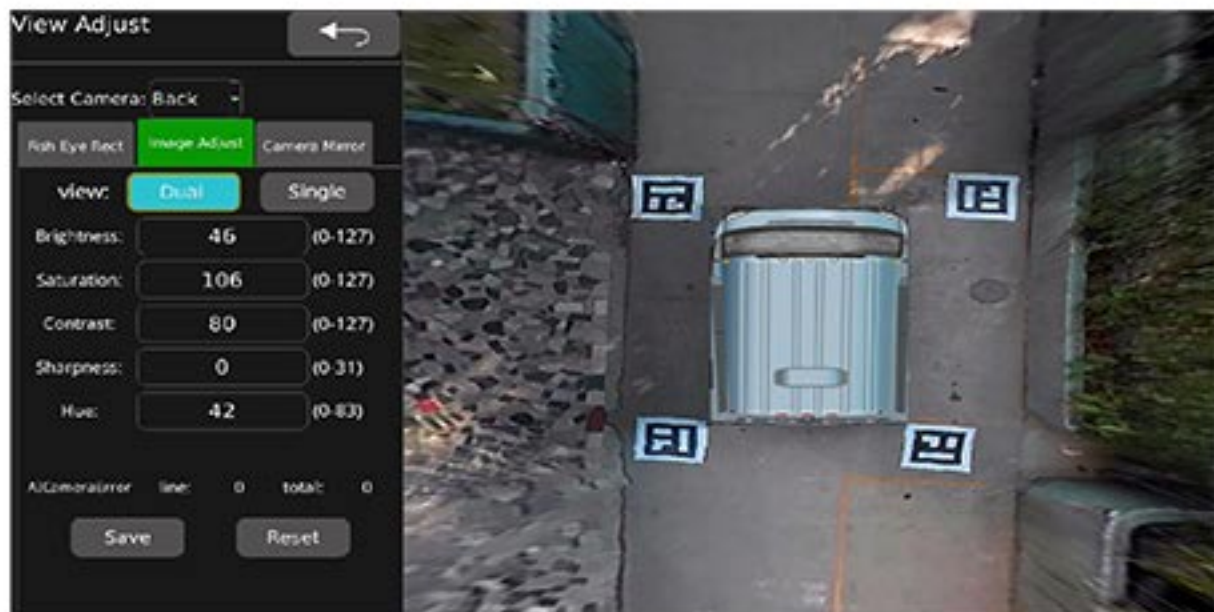
6.3.7 View Adjust



Descriptions (Fish Eye Rect):

- **Select Camera:** Select the camera to adjust. There are four channels, Left, Right, Front, Back. The default is left.
- **Fish Eye Rectify:** The fish eye correction switch is OFF by default. The image of right camera is fish-eye status. When turning on, the right camera image is non-fish eye status.
- **Camera Rotate Angle:** The camera rotation angle is 0 by default. A negative value indicates counterclockwise rotation, and a positive value indicates clockwise rotation. Note: when adjusting camera rotation angle, the display will delay.
- **View Parameters:** Angle parameter, W: Capture display width; H: Capture display height; (U, V) coordinates of the center point. (W defaults to 2200, H defaults to 1100, U defaults to 1100, V defaults to 550).
- **Update:** Update angle parameter, the right view corresponds to parameter values.
- **Reset:** Reset. Go back to the original View Adjust view.
- : Back and confirm whether to save. If not, you will go back to the original View Adjust image even if you update.

Note: Fisheye corrected cameras will still display fisheye image in quad view, calibration interface, recording, playback, but will show non-fisheye image in single view.



Description (Image Adjust):

- View: When choosing to "Dual", the right view is surround view; When choosing to "Single", the right side is the corresponding single view of selected camera.
- Brightness: Brightness, the default value is 46. The value ranges from 0 to 127.
- Saturation: Saturation, the default value is 106. The value ranges from 0 to 127.
- Contrast: The default value is 80. The value ranges from 0 to 127.
- Sharpness: The default value is 0. The value ranges from 0 to 31.
- Hue: The default value is 42. The value ranges from 0 to 83.
- Save.
- Reset: Set to the default value.

6.3.8 Screen Setup



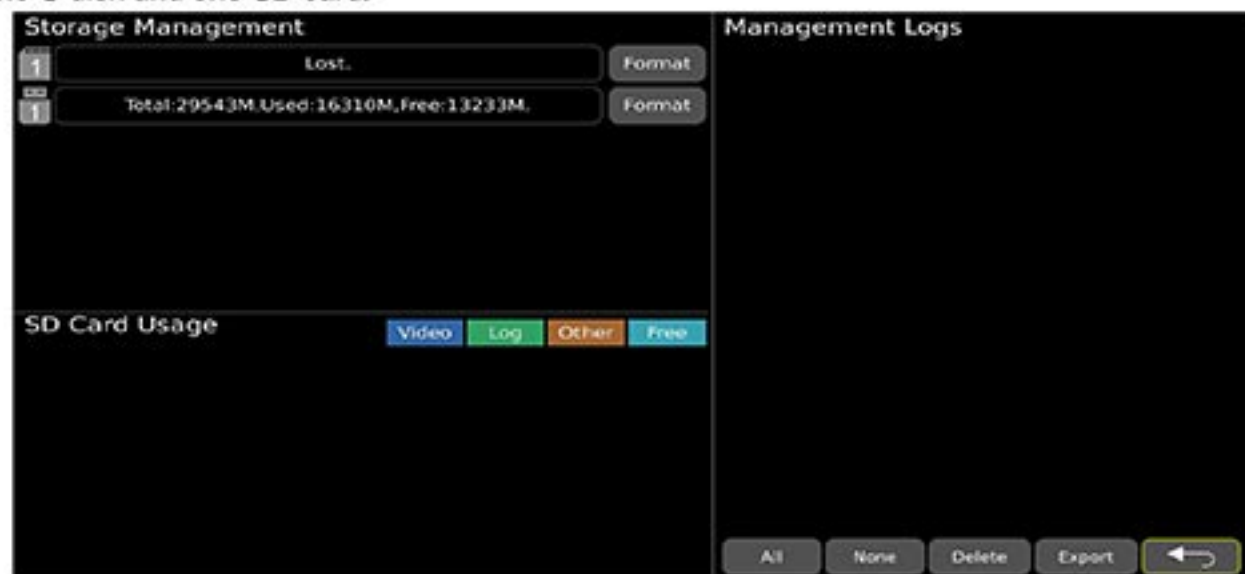
- Volume: Set the screen volume (Note: Unavailable now) .
- Brightness Setup: The user could choose low, mid, high and auto. When set to "Auto", monitor will turn on the automatic backlight function, that is, the screen will become brighter in a bright environment (day mode) and dim in a dim environment (night mode).

6.4 Storage Management

Only one USB:



One U disk and one SD card:

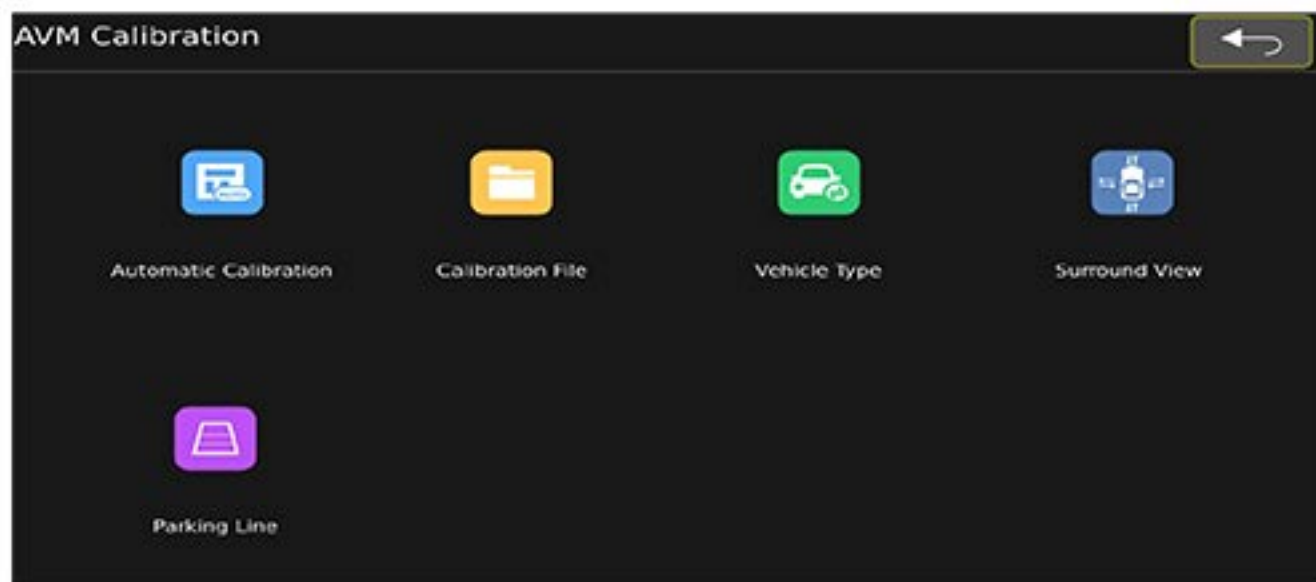


Description: There are 2 versions. When the hardware does not support recording function, it only supports one U disk and log file export; when the hardware supports recording function, there are one U disk and SD card.

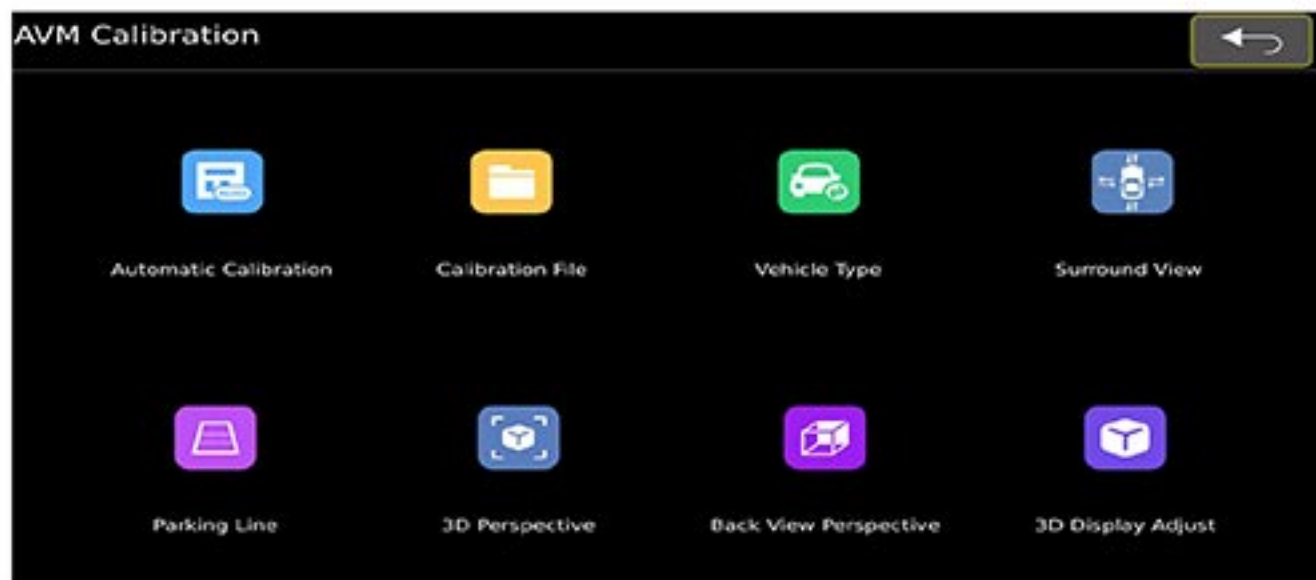
- Storage Management.
- Format: Format the SD card / U disk.
- SD Card Usage: Currently unavailable.
- Management Logs.
- All: Select all logs. The selected log is displayed in blue.
- None: No logs are selected. Unselected logs, shown in white.
- Delete: Delete the selected log.
- Export: Export selected logs.

6.5 AVM Interface

2D:



3D:



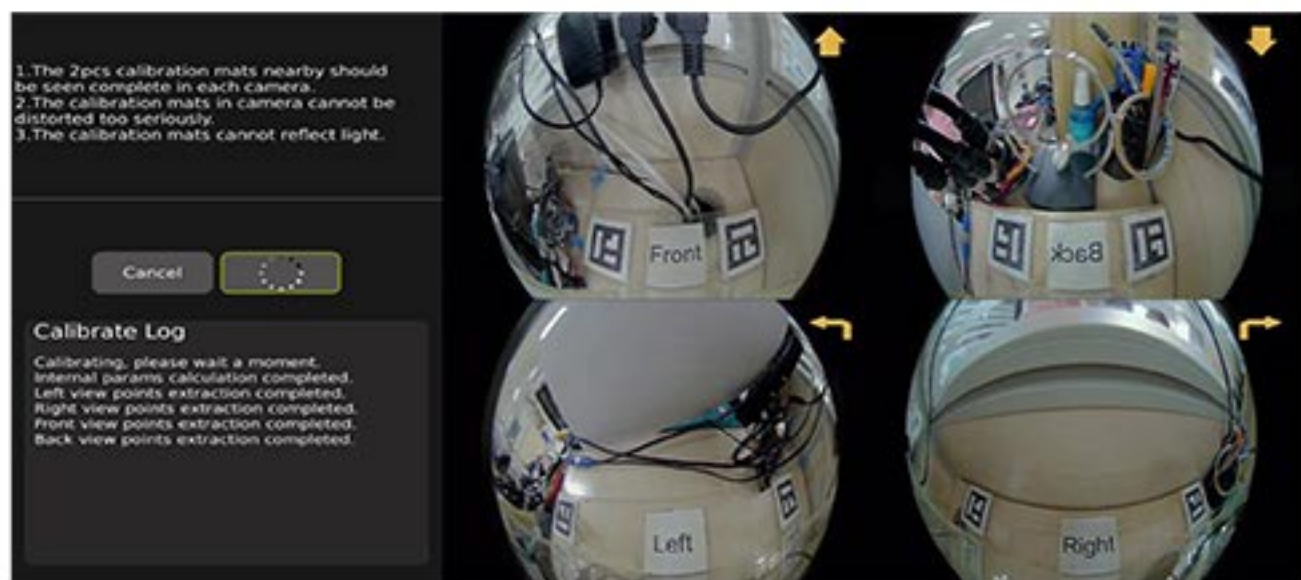
Feature Description:

- Automatic Calibration.
- Calibration File: Export calibration picture resources and import calibration files.(mainly used in PC's calibration).
- Vehicle Type: Switch Vehicle type.
- Surround View: Overlap angle and surrounding visual range setting.
- Parking Line: Adjustment of the reversing cursor.
- 3D Perspective: 3D perspective view point setting.(This configuration item is displayed only

- when the view mode is configured as 3D; if the view mode is configured as 2D, the configuration item is hidden).
- **Back View Perspective:** 3D rear view view point setting.(This configuration item is displayed only when the view mode is configured as 3D; if the view mode is configured as 2D, the configuration item is hidden).
- **3D Display Adjust:** 3D display setting.(This configuration item is displayed only when the view mode is configured as 3D; if the view mode is configured as 2D, the configuration item is hidden).

6.5.1 Automatic Calibration

1) Calibration interface

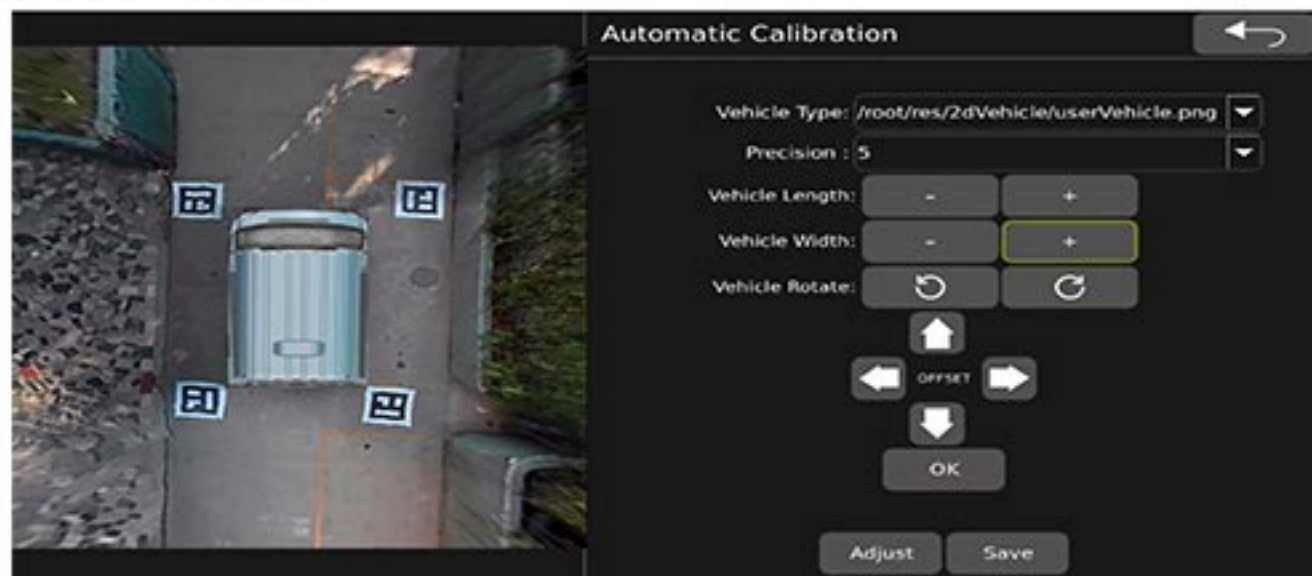


Descriptions:

- **Cancel:** Click "Cancel" button to exit calibration interface.
- **Calibrate:** Automatic calibration button, click to enter automatically calibration mode.
- **Calibrate Log:** Calibration log display.

Note:

- (1) Each camera should fully see the 2 nearby calibration mats and cannot be blocked by objects.
- (2) The calibration mast in the camera screen cannot be severely distorted.
- (3) The calibration mats should not have serious reflected light.



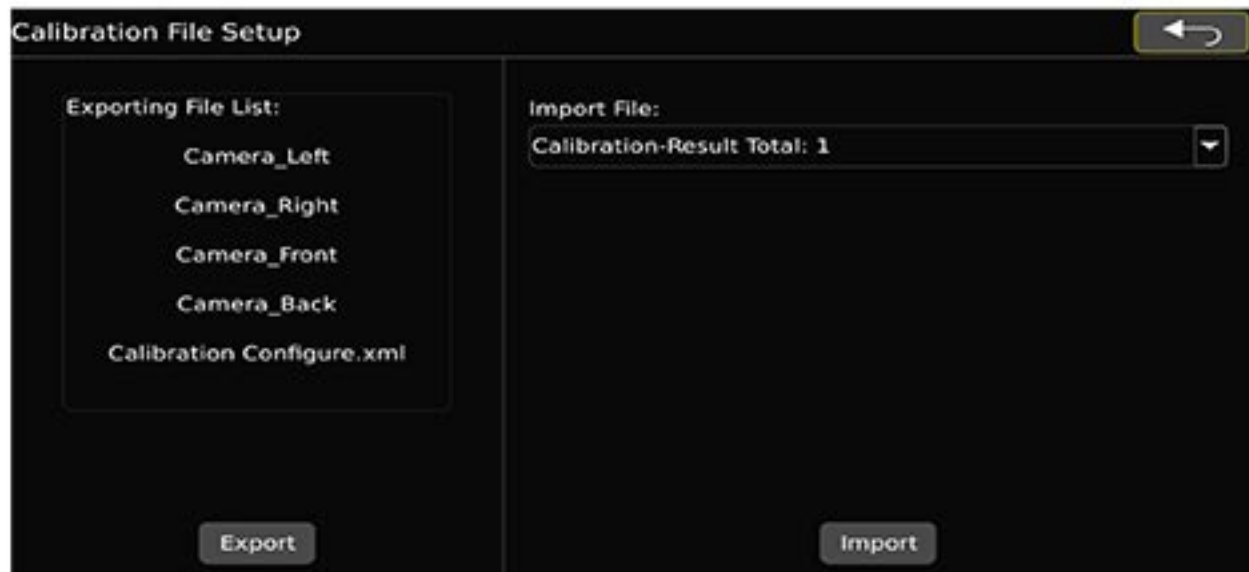
Description:

- **Vehicle Type:** Used to modify the type of vehicle model. (Note: model here is only for auxiliary calibration reference and does not need to be saved)
- **Precision:** Accuracy adjustment of vehicle length, width and model movement, default value is 1. (optional values 1, 5, 10, 15 pixels)
- **Vehicle Length:** Used for vehicle length adjustment. Click "-" to decrease vehicle length; Click "+" to increase vehicle length.
- **Vehicle Width:** Used for vehicle width adjustment, Click "-" to decrease vehicle width; Click "+" to increase vehicle width.
- **Vehicle Rotate:** Used for vehicle model rotation. (turn left or right).
- **↑/↓/←/→** are used for vehicle model movement.
- **OK:** Used to update the calibration effect button after adjusting the overall effect.
- **Adjust:** Used to jump to the calibration internal parameter adjustment interface.
- **Save:** Save the calibration results.

Kind Reminder:

- (1) It is recommended to use the quad screen of the display screen to monitor the installation effect in real time when the camera is installed. It is required that the car body can still be observed at the center of each screen.
- (2) When calibrating, it is recommended to stick zebra tape (or other marks) close to the periphery of the vehicle and adjust the parameters of the car model until you can see the zebra tape all around.

6.5.2 Calibration File



Description: Used for export calibration picture and import calibration file.(mainly used in PC)

- Export: Export the calibration picture file to USB, the resources include: 4-channel image.(The resources will also include xml file if you already finished the calibration)
- Import File: List of calibration files. Click to expand the list, all calibration files in the U disk will be displayed in the list, and you can select the file to be imported.
- Import: Import selected calibration files.

Note:

- (1) As files can only be imported into USB, User must first access the USB before entering this page.
- (2) It is normal phenomenon for this system to restart after the confirm of import calibration files.

6.5.3 Vehicle Type Setup



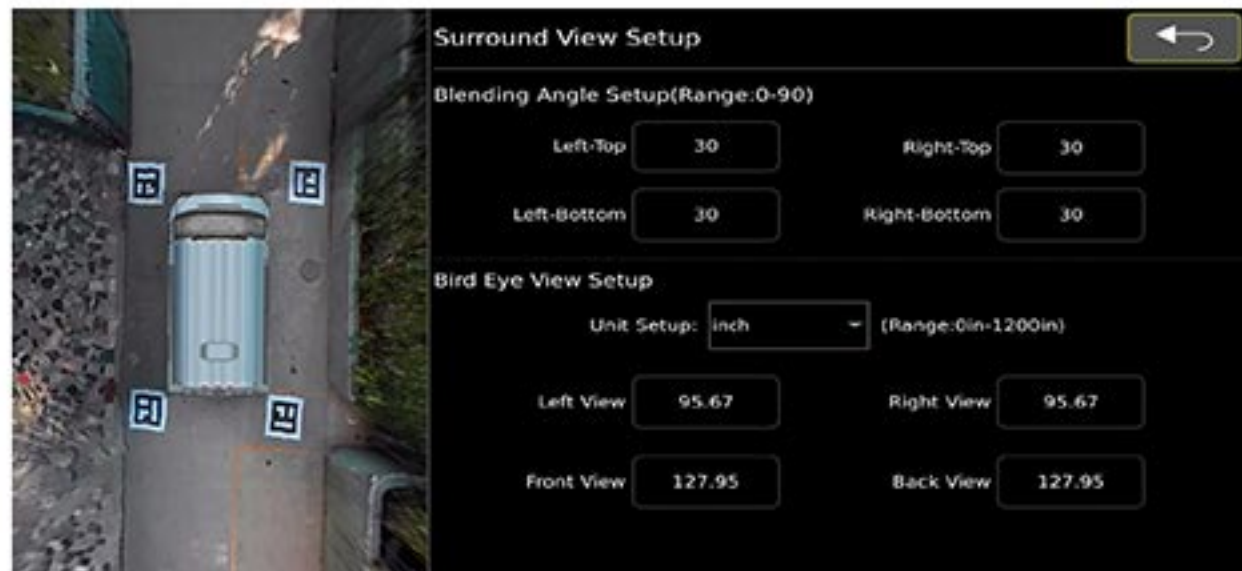
Descriptions:

- Vehicle Type List: Use to modify vehicle model picture

Precautions for importing customized vehicle models:

- (1) The car model picture must be a 32-bit deep, png format picture, otherwise there will be phenomena such as failure to import or bad car model pictures.
- (2) The car model pictures need to be placed in the top directory of the U disk, otherwise the system will not be able to read the car model pictures.
- (3) Please connect the U disk well before entering into this interface, otherwise the system may not be able to read the picture of the vehicle mode normally.
- (4) The background of the model is transparent with vehicle mode facing up.

6.5.4 Surround View for blending angle and visual area



Descriptions:

- Blending Angle Setup
- Left-Top: Setting of left-top overlap angle, the default value is 30, and the value can be set in the range of 0-90.
- Left-Bottom: Setting of left-bottom overlap angle, the default value is 30, and the value can be set in the range of 0-90.
- Right-Top: Setting of right-top overlap angle, the default value is 30, and the value can be set in the range of 0-90.
- Right-Bottom: Setting of right-bottom overlap angle, the default value is 30, and the value can be set in the range of 0-90.
- Bird Eye View Setup
- Unit Setup: Unit configuration, the default is inch. Can be set: inch/cm. (the unit is switched to CM, only for conversion display, not for permanent storage. After completely returning to the main interface, the unit will change back to the default value of inch).
- Left View: Set the visible width on the left side of the surround view.
- Right View: Set the visible width on the right side of the surround view.
- Front View: Set the visible width on the front side of the surround view.
- Back View: Set the visible width on the rear side of the surround view.

Note: The parameters on this page will be reset after importing a new calibration file, If there are customized parameters, they need to be reconfigured.

6.5.5 Parking Line



Descriptions:

- Move: The reversing cursor moves up, down, left and right.
- Width Scale: Adjust the width of the reversing cursor.
- Height Scale: Adjust the height of the reversing cursor.

6.5.6 3D Perspective setting page



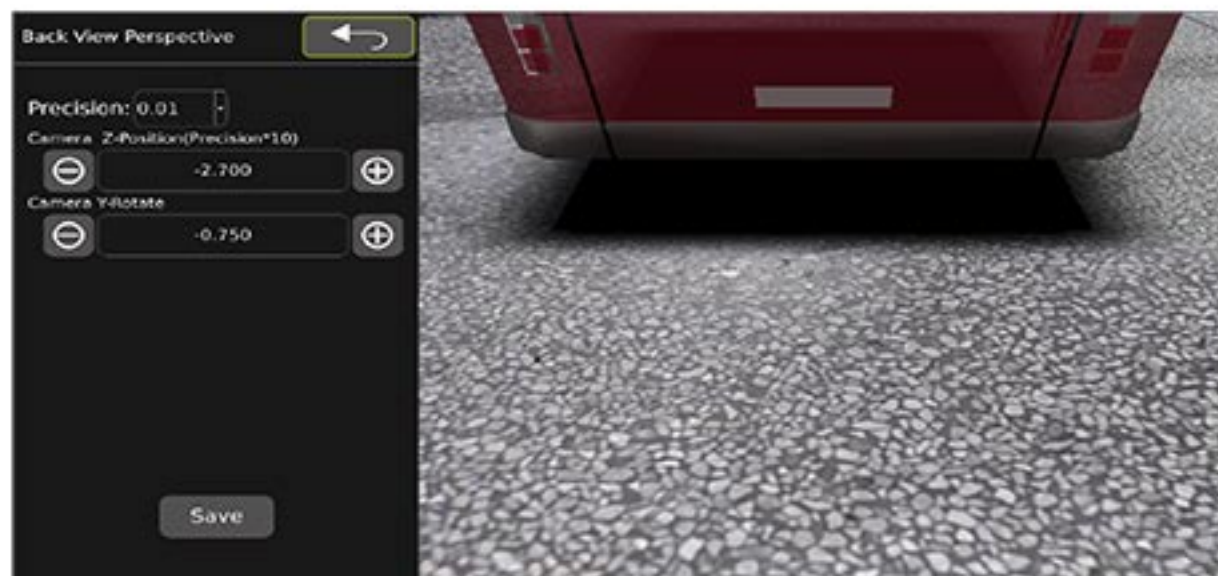
Description:

- Vehicle Transparency: Vehicle model transparency setting, default value is 0.8. (range:

0.1-1).

- Precision: Precision setting, default value is 0.01 (range: 0.01-0.1).
- Camera Z-Position: 3D view zoom setting. Default value is -3.000.
- Camera Y-Position: 3D view up/down rotation setting. Default value is -0.850.

6.5.7 3DBack View Perspective Setup

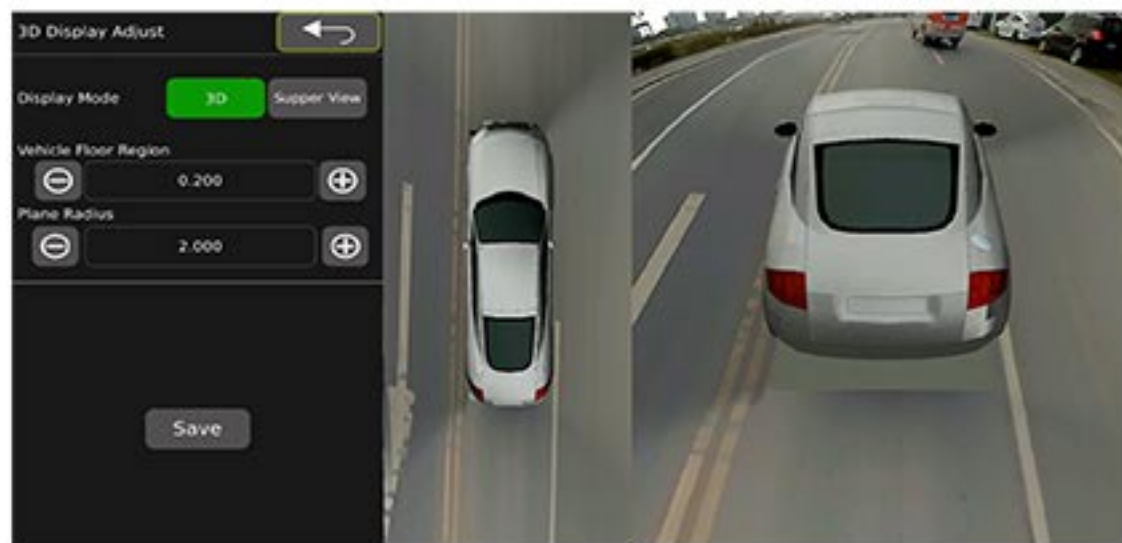


Description:

- Position: Precision setting, default value is 0.01 (range: 0.01-0.1)
- Camera Z-Position: 3D view zooming setting.
- Camera Y-Rotate: 3D view up/down rotation setting.

6.5.8 3D Display

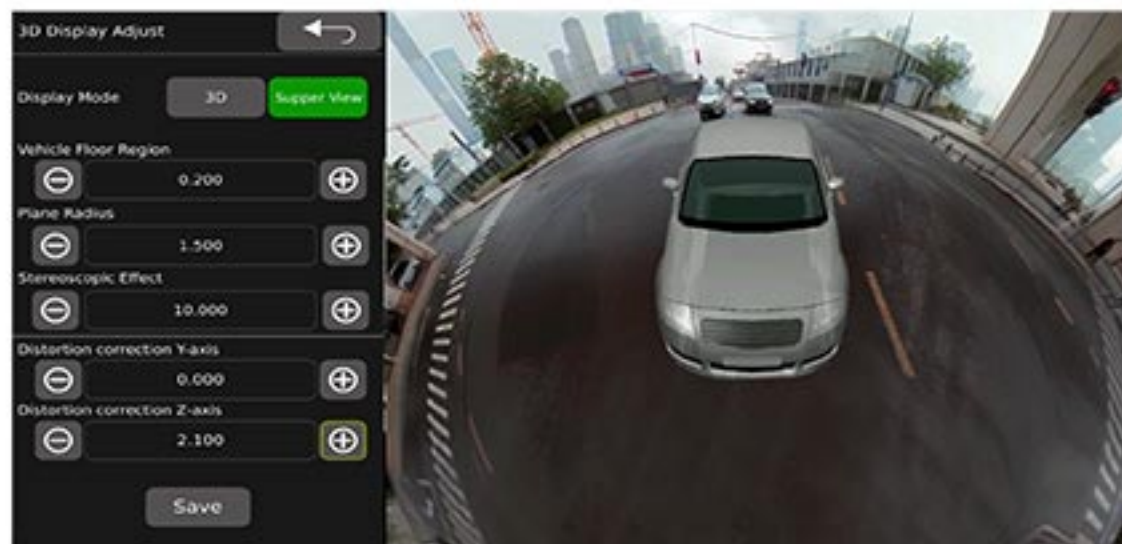
1) Display Mode is 3D:



Description:

- Display Mode: 3D / Supper View are selectable. The default value is 3D.
- Vehicle Floor Region: New 3D rendering method, the default is OFF. The default value is 0.200
- Plane Radius: Ground radius setting, the larger the radius, the smaller the 3D field of view. Default value is 2.000.

2) Display Mode sets to Supper View:



Description:

- Vehicle Floor Region: Set the size of the floor region under the vehicle model. The default

value is 0.200.

- Plane Radius: Ground radius setting, the larger the radius, the smaller the 3D field of view. Default value is 1.500.
- Stereoscopic Effect: Object 3D effect settings, default is 10.000.
- Distortion correction Y-axis: The Y direction offset setting of the virtual projection camera. Default value is 0.000.
- Distortion correction Z-axis: The height offset setting of the virtual projection camera. Default value is 1.000.

7.Video Management Interface

Information		
Current Version Software: HQ04-00-V10-20240223 MCU: 00-V0.0.12	Upgrade HD269-UPDATE-00.v1.1.01-20240223 Upgrade	System Setup Reset Import Export
Upgrade Configure Upgrade	Specification	

Descriptions:

Current Version: Current version information.

Upgrade Configure: Configuration file upgrade.

Upgrade: select the version that needs to be upgraded and click "update" button.

System Setup

- Reset: Reset to factory setting.
- Import: Import configuration file.
- Export: Export the configuration file.(currently the configuration file does not include AVM configuration parameters)

Note:

- 1) Do not remove the SD card or U disk during the upgrade process.
- 2) Do not power-off system during the upgrade.