



FHD 360° Surround View System with Recording

RVS-02-360



Instruction Manual



A Clarience Technologies Company

© Rear View Safety

TABLE OF CONTENTS

Introduction3

1. Safety Information3-5

2. Product Features7

Standard Configuration - System Content8-9

3. Connection Diagram10

4. Specification11

5. Operation Instructions12-39

Warranty40

Disclaimer41

INTRODUCTION

Thank you for choosing the InView 360™. With this product you are taking an active part in reducing dangerous road traffic events, while keeping yourself, passengers and pedestrians safe. This manual will take you step by step through the installation process and usage of MobileMule™.

PLEASE READ ALL OF THE INSTALLATION INSTRUCTIONS CAREFULLY BEFORE INSTALLING THE PRODUCT. IMPROPER INSTALLATION WILL VOID MANUFACTURER'S WARRANTY.

1. SAFETY INFORMATION

PLEASE READ THE ENTIRE MANUAL AND FOLLOW THE INSTRUCTIONS AND WARNINGS CAREFULLY. FAILURE TO DO SO CAN CAUSE SERIOUS DAMAGE AND/OR INJURY, INCLUDING LOSS OF LIFE. BE SURE TO OBEY ALL APPLICABLE LOCAL TRAFFIC AND MOTOR VEHICLE REGULATIONS AS IT PERTAINS TO THIS PRODUCT. IMPROPER INSTALLATION WILL VOID MANUFACTURER'S WARRANTY.

USAGE : The Vehicle Safety Camera System is designed to help the driver improve their attention on the road and avoid accidents stemming from distractions. However, you the driver, must use it properly. Use of this system is not a substitute for safe, proper or legal driving.

1.1 Storage and Keeping

1. Store the device within a temperature range of -40°F to +185°F and operate it between -4°F and +158°F, with a maximum humidity of 90% RH.
2. Keep the device away from extreme heat, cold, and high-moisture areas such as bathrooms, kitchens, basements, or swimming pools.
3. Avoid exposure to excessive moisture, dust, or smoke.
4. Handle with care to prevent drops, impacts, or vibrations.
5. Do not puncture, scratch, or clean with abrasive materials.
6. Ensure cables are placed securely to prevent damage from pinching or tripping.
7. The Control Box is not waterproof.

1.2 Operating Precautions

1. The device can be powered by either a 12-volt to 24-volt battery, or directly from a vehicle's electrical system.
2. Ensure all cables are securely and correctly connected, paying close attention to polarity. Incorrect connections can cause damage to the system.
3. Disconnect the power cables are not intended to be in use.



THE OPENING OF THE CASE SHOULD BE BY PROFESSIONALS.
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 benzene, as they might damage the finish of the device.



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 a 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 to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

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



A **Clariance Technologies** Company

If you have questions about this product,
please contact us at:

800.764.1028 RVS.Sales@safefleet.net
www.rearviewsafety.com

New York
1797 Atlantic Ave
Brooklyn, NY 11233

Indiana
319 Roske Dr.
Elkhart, Indiana 46516

IN NO EVENT SHALL SELLER OR MANUFACTURER BE
LIABLE FOR ANY DIRECT OR CONSEQUENTIAL DAMAGES OF
ANY NATURE, OR LOSSES OR EXPENSES RESULTING FROM
ANY DEFECTIVE PRODUCT OR THE USE OF ANY PRODUCT.

2. PRODUCT FEATURES

2.1 Basic Features

1. 6pcs 190° FHD 1080P wide-angle fisheye cameras, horizontal view angle 170° inputs.
2. Techniques of dual-core ARM Cotex-A7 and SOC development of built-in high-performance H.264 video encoding/decoding engineer core make it efficient to composite high accuracy seamless images.
3. Support 4 pcs 256GB SD cards as video media.
4. Low-cost calibration tools, simplified calibration procedures.
5. Maximum 6CH 1080P/30 or 6CH 1080P/25 frames video resolution.
6. High definition 1080P video output.
7. Single-step calibration for built-in and peripherals parameters of cameras, no need to bound the cameras and the main unit.

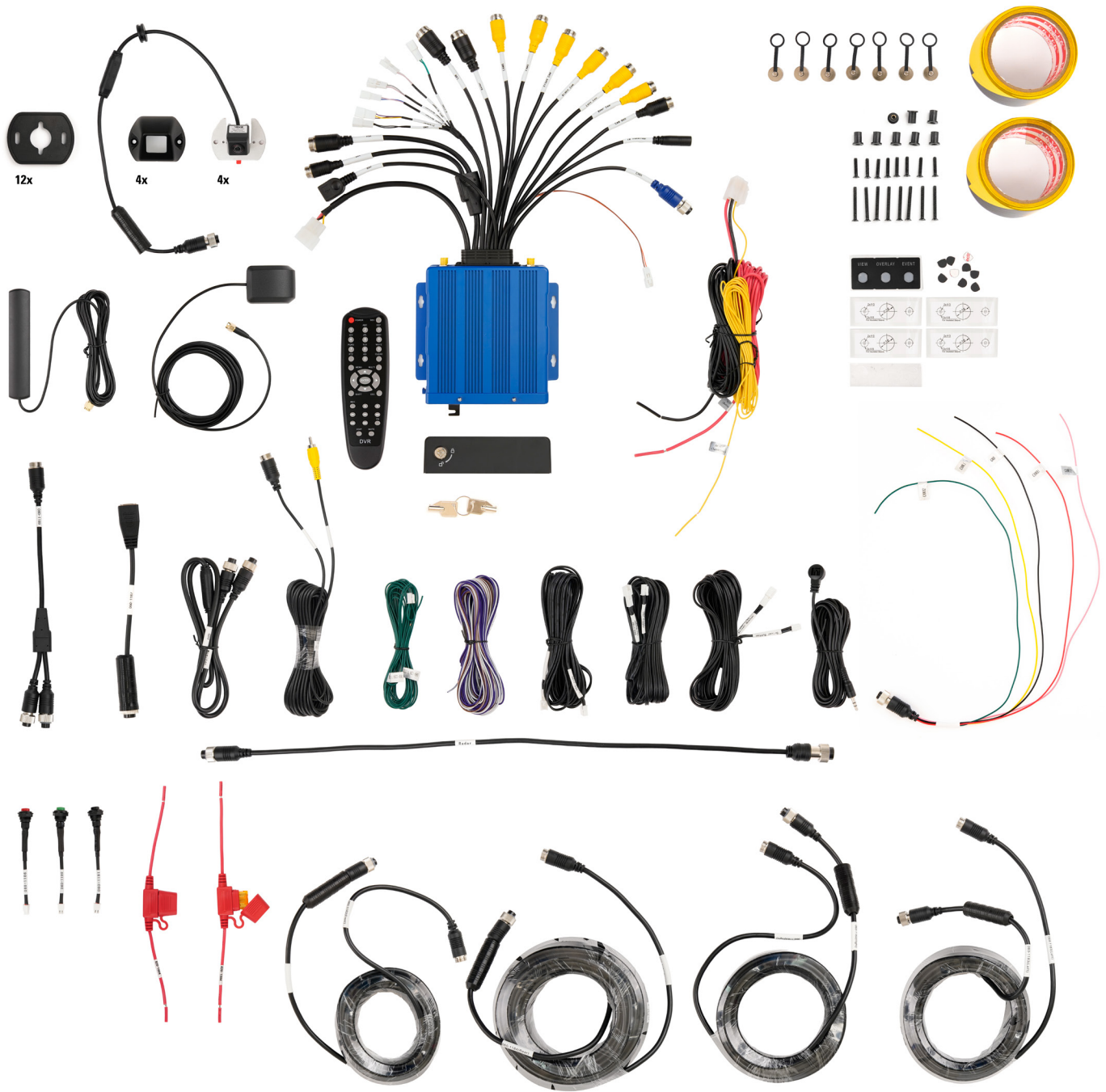
2.2 Application

1. Reverse parking
2. Parallel parking
3. Narrow roads
4. Congested roads
5. Blind spot reduction
6. Lane changes
7. Road hazards
8. Record driving for liability evidence

2.3 Features

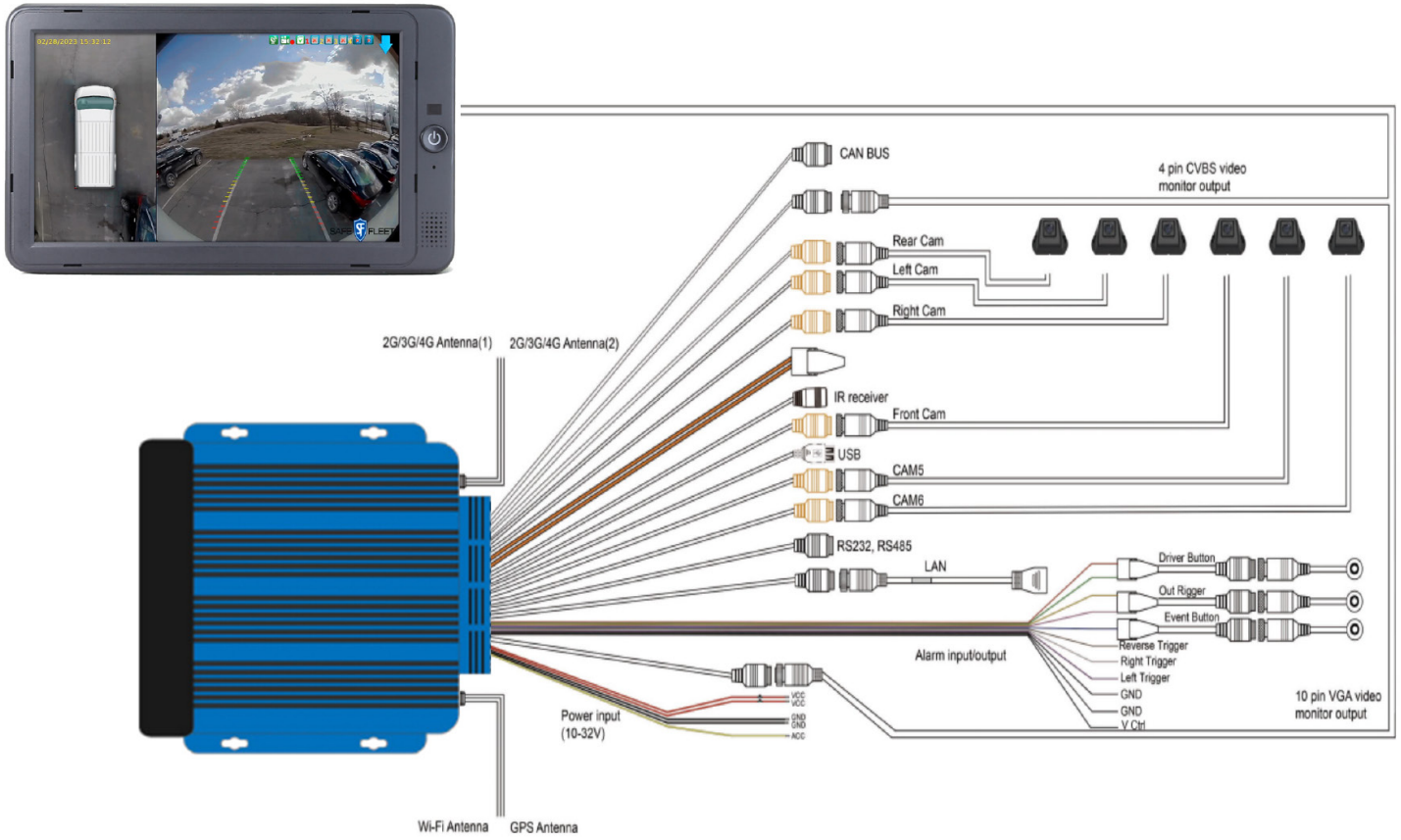
1. Panoramic 360 image
2. Automatic blending & seamless stitching
3. Auto switch to reversing image when reverse wire is triggered
4. Auto switch to left/right image when left/right wire is triggered
5. Installation guide with pictures
6. Drive Recording
7. G-sensor and over speed-triggered event recording
8. Adjustable angle of the four overlapping areas
9. Reverse gridline customization

Standard Configuration - System Content



Item	Configuration	Amount
1	Main ECU box	1
2	FHD fish-eye camera	4
3	34-button remote controller	1
4	Main harness	1
5	8M extension cable for HD camera	1
6	12M extension cable for HD camera	2
7	18M extension cable for HD camera	1
8	CAN BUS extension cable	1
9	CVBS video output extension cable	1
10	LAN extension cable	1
11	WiFi antenna	1
12	GPS antenna	1
13	VGA video output extension cable	1
14	Push button	3
15	HRNS, Extension, Outrigger, 6m	1
16	HRNS, Extension, Driver View, 6m	1
17	HRNS, Extension, Event, 6m	1
18	CBL, V CTRL, Extension, 5.5m	1
19	CBL, Trigger Line Flasher, 5.5m	1
20	HRNS, Video, 4 PIN to RCA	2
21	HRNS, Video Y Cable Adapter	1
22	CBL, Power Line, Extension, 4.5m	1
23	FUSE, 5A, Waterproof, PVC 80P Red, INVIEW360	1
24	PAD ,5 Degree Wedge, Rubber, Black, inView 360 HD	12
25	PLT, Mounting Plate, Button, inView 360 HD	1

3. CONNECTION DIAGRAM



4. SPECIFICATION

System	
Operating Voltage	8 VDC to 32 VDC. Reverse polarity protection on power
Operating Temperature	-20°C to 70°C
Storage Temperature	-40°C to 85°C
Self-Diagnostics	On boot. LED indicators, on-screen indicators
Views:	Top View, 2D stitched around vehicle view / Front / Reverse / Left / Right
	Top view combined with one of the following views Front / Reverse / Left / Right
	Auto-switched based on external signal triggers: Left / Right / Reverse Signals
	Manual-switched with an external push button
	Instantaneous reverse view after engine ignition and reverse gear engaged
	Top View, combined with any side view or driver/cargo view
Bulk Calibration	Supported
Trigger Signal Voltage	6 to 32 VDC
Video Download¹	Via Wi-Fi
Configuration	Via IR, via Wi-Fi, via monitor (touch screen or mouse driven)
Video Recording	Supported; continuous
Frame Rate	1080p @30fps NTSC, @25fps PAL; all channels
Compression/Encoding	H.264
Storage²	Up to 4 SD cards in series; max capacity 256 GB for a total of 1TB max system storage.
Monitor	Supports 720p (CVBS) and /or 1080p (HD); touch screen capable
Video Streaming	RTSP support via ethernet
Vehicle Image Library	Editable
	Overlays preloaded with 8 vehicle types
ECU	
Enclosure	Enclosure: die-cast aluminum ADC12; lockable / removable front cover (metal).
Video Outputs	1080p / CBVS, 2 ports @ 50/60Hz
Video Inputs	Max. 6CH x 1080p @ 25fps or 1080p @ 30fps
Trigger Signals	Left / Right / Reverse / Panic (event marking)
Storage Method	SD Card 4x128GB Max
Compressed Encoding	6CHx1080p Max, H.264
Video Stream	4M/2M
Camera Port Impedance	75 Ω
Video Output Port Impedance	75 Ω
GPS	<28mA @ 3.3V
Dimension	135 x 120 x 40 mm; 5.8 x 6.8 x 1.5 in
IR Sensor	3m extension

Camera	
Sensor	2.9 mega-pixel CMOS
Focal Length	2.8mm
Resolution	1080p (effective pixels 1920 x 1080)
Pixel Size	2.9µm x 2.9µm
Frame Rate	25/30fps
Viewing Angle	>170°(H)
White Balance	Auto
Power	ECU-supplied
Voltage	12VDC @65 mA
Field of View (FOV)	190° (D)
SNR	>80dB
Working Temperature	-20°C ~ +70°C, RH 95% Max
Storage Temperature	-40°C ~ +85°C, RH 95% Max
Waterproof Rating	IP69K
Dimensions	52 x 42 x 40 mm; 2.0 x 1.7 x 1.6 in (approximate)
Enclosure	Die-cast aluminum ADC12 with a 304 stainless steel bracket; IP69K-rated
Dimensions	52 x 42 x 40 mm; 2.0 x 1.7 x 1.6 in (approximate)
Other	
G-Sensor	Equipped; Built-In
GPS	External Receiver
Wi-Fi	External antenna; 802.11 b/g/n/ac
Language	English / French / German / Dutch
Units of Measure	Metric / Imperial
Ports	USB / RS232C / RS485 / Can Bus
Homologation	FCC / EMark / CE
Video Player	HD Player (native) - with routing information H.264 compliant - without routing information Recorded video selectable/filterable by event types

5. OPERATION INSTRUCTIONS

5.1 Remote Controller

ENTER: Access the main menu or confirm a menu selection.

ESC: Exit the current menu or return to the main menu.

LEFT / RIGHT: Navigate left or right. In the main menu, these function as minus/plus buttons. Also used to shift image channels left or right.

UP / DOWN: Navigate up or down. Used to shift image channels forward or backward.

SHIFT: Functions like the Tab key. Switches between quad display modes or exits quad display. Also used to navigate between menu items.

POWER: Toggle video output on or off.

Number Buttons (0–9): Input numeric values.

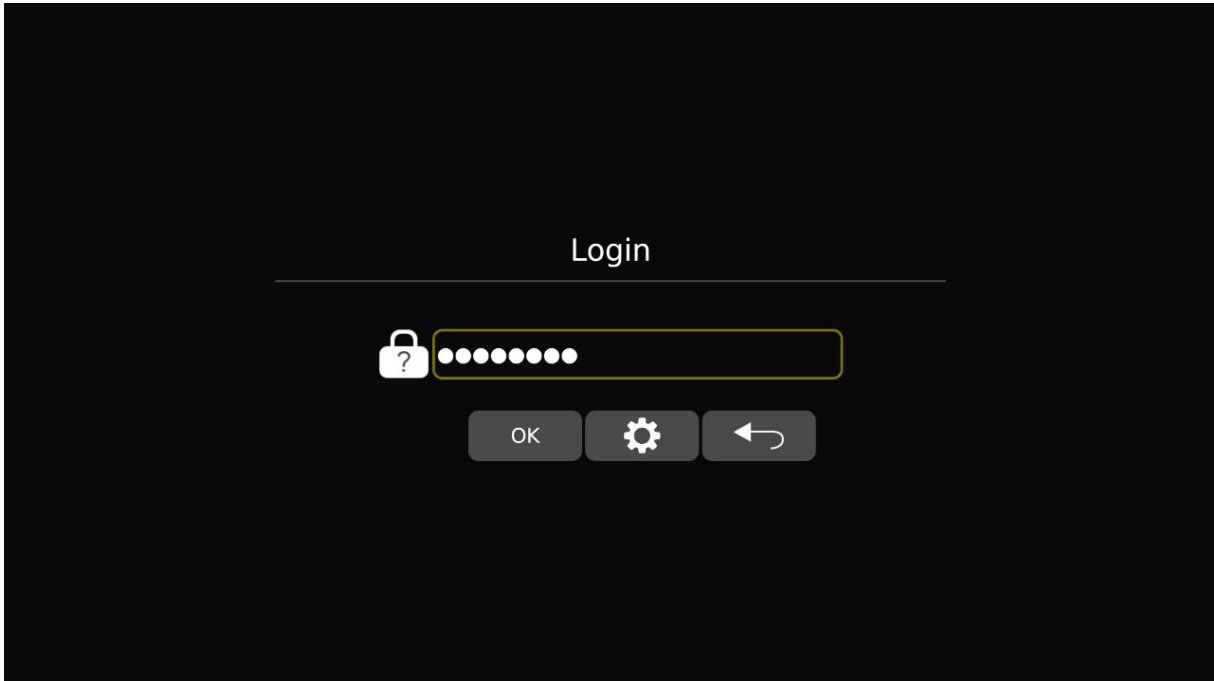
CLEAR: Acts as a backspace to delete a character.

MULTI: Activates full-screen mode.



5.2 User Interface

1. Log in Interface



Password



Default password is 88888888



Confirm to log in

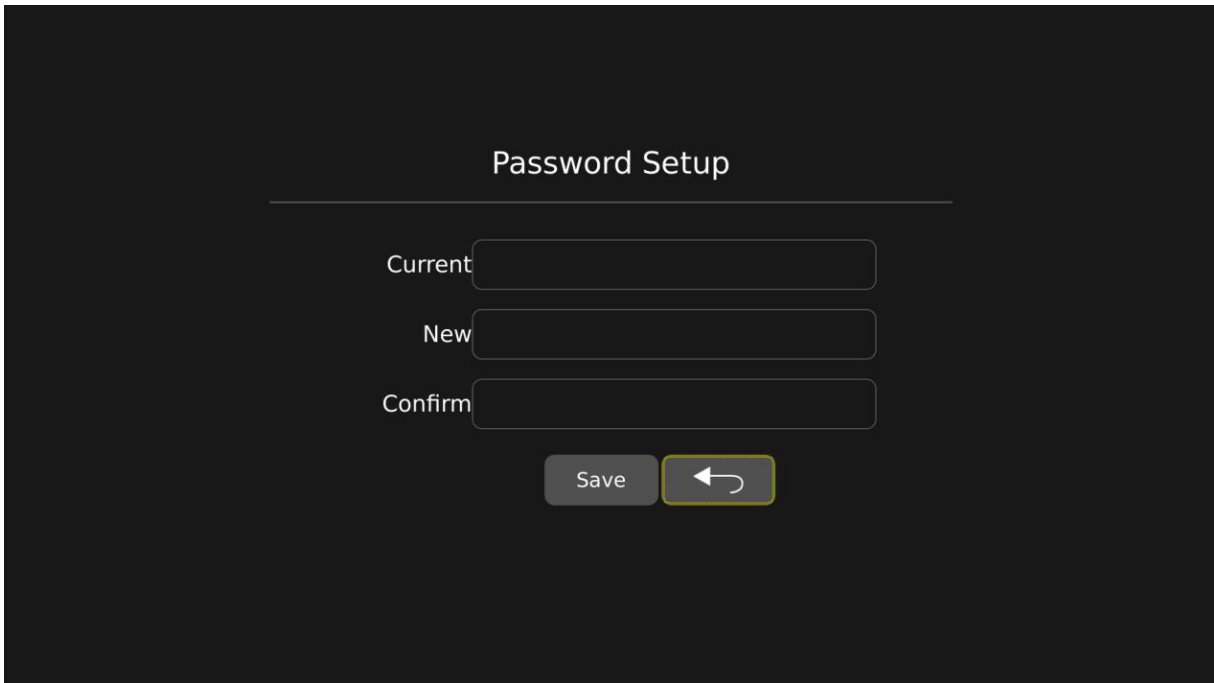


Reset Password



Exit

2. Password Reset




Password Setup

Current

New

Confirm

Save 


Enter the current password once, new password twice, click Save button to complete new password setting.

Current : current password

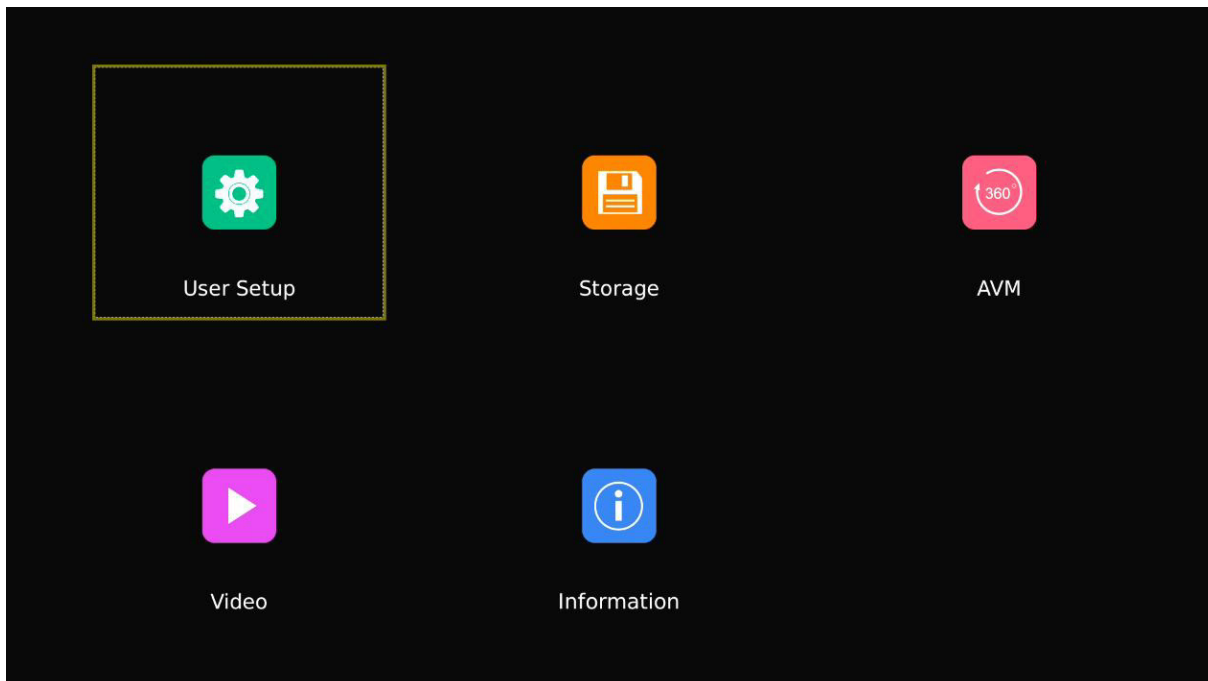
New : new password

Confirm : confirm password

Save : save setting

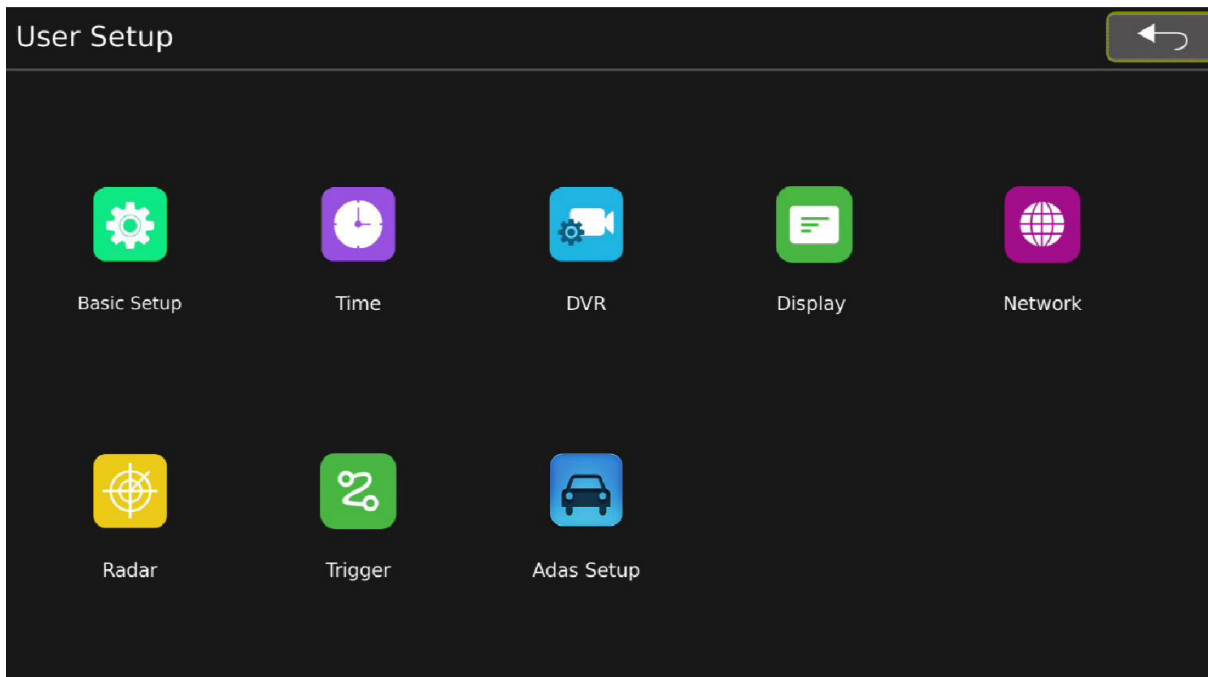
 : Exit (cancel changes)

5.3 User Main Interface



1. **User Setup:** Configure user preferences, including Basic Settings, Time, DVR, Display, Network, Radar, Trigger setup.
2. **Storage:** storage management, can check the SD storage and log file management
3. **AVM** (Around View Monitoring): Automatic Calibration, Calibration File, Vehicle Type, Surround View, Outrigger, and Parking Line settings.
4. **Video:** Video recording and management
5. **Information:** CPU and MCU version info and upgrading

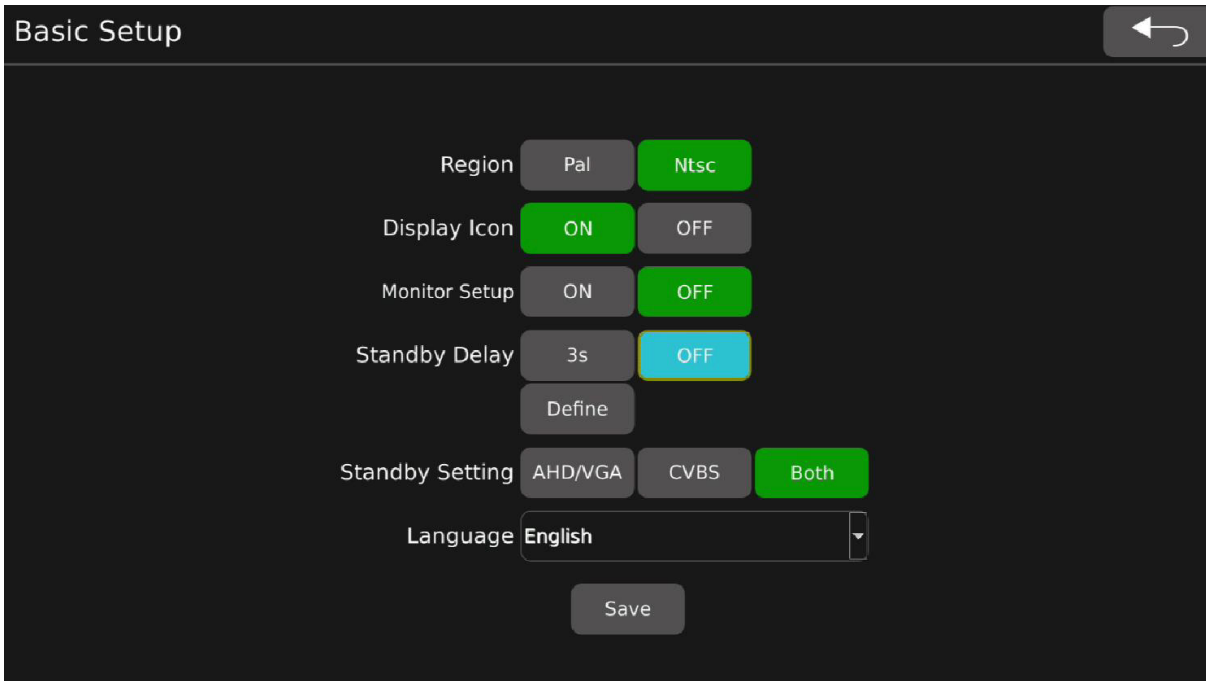
5.3.1 User Setup Interface



User Setup Menu Functions

1. **Basic Setup:** Basic settings
2. **Time:** Time setting
3. **DVR:** Video recording settings
4. **Display:** Display mode settings
5. **Network:** Network settings
6. **Radar:** Radar setting
7. **Trigge:** trigger setting
8. **Adas Setup:** ADAS setting

5.3.1.1 Basic Setup



Basic Setup Functions

1. **Region:** Video format selection, NTSC/PAL option
2. **Display Icon:** Hide display icons on main interface, except direction arrows.
3. **Monitor Setup:** Low speed wake-up switch. When set ON and speed from GPS is lower than the set value, it will trigger standby status. When no GPS signal, will also keep standby delay setting
4. **Standby Delay:** Auto standby time setting, optional settings are 10s, 30s, OFF. After enable and set the automatic standby time, if there is no external trigger and remote control operation, the system will automatically enter the standby state after the set time
5. **Standby Setting:** 1=HD VGA only have HD VGA video output 2=CVBS, only have CVBS video output 3=Both HD VGA and CVBS video output
6. **Language:** Language selection. English, French, German, Dutch.

5.3.1.2 Time - System Time Setup

System Time Setup

Time: 2010-02-16 04:06:30 Set Time

GPS Time Synchronization

Switch: ON OFF UTC: UTC-7

Daylight Saving Time Setup

Switch: ON OFF

Mode: Week Date Offset: 1.0h

Start: Month: Mar. Few: 2nd Weekday: Sun. Time: 02:00

End: Nov. 1st Sun. 02:00

Save

System Time Setup Functions

Time: Manually set the system time. After setting the time, press “Set Time” to save the changes.

GPS Time Synchronization

Switch (ON/OFF): OFF (default): GPS does not set the system time. **ON:** When GPS signal is received, the system automatically updates the time according to the selected UTC time zone.

UTC (Time Zone Setting): Default: UTC-7. Options range from UTC-11 to UTC+12 (24 total).

Daylight Saving Time (DST) Setup

Switch (ON/OFF): OFF (default): DST is disabled. **ON:** Enables daylight saving. If the current time falls within the [Start–End] range, system time is adjusted by the Offset value.

Mode: Week (default): Configure DST using month / week / day / hour / minute.

Example: 2nd Sunday of March at 2:00 AM.

Date: Configure DST by specific date and time (month/day/hour/minute).

Example: March 14 at 2:00 AM.

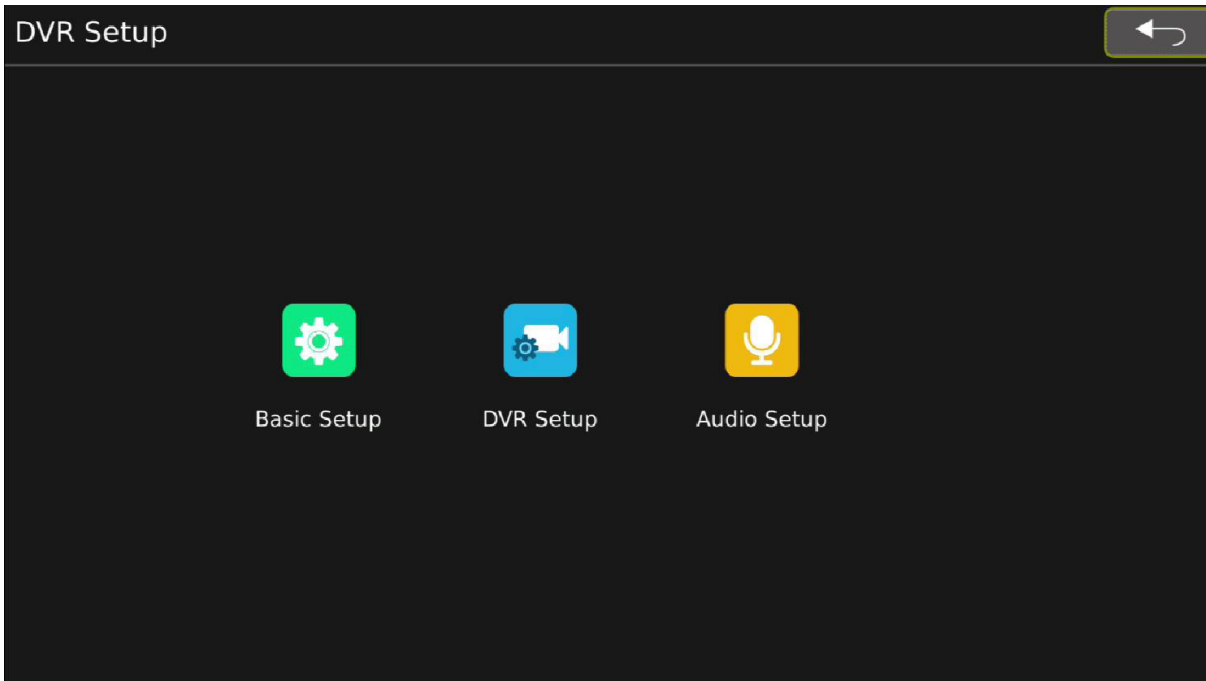
Offset: Sets how much time to add during DST. Adjust using the remote’s up/down buttons.

Step size: 0.5 hours.

Start and End Time:

Define when DST begins and ends: **Month:** Select from 1 to 12. **Few:** Choose the week number (e.g., 1st, 2nd, etc.). **Weekday:** Choose the day of the week (Monday to Sunday). **Time:** Set hour and minute.

5.3.1.3 DVR - DVR Setup: Recording and event recording settings



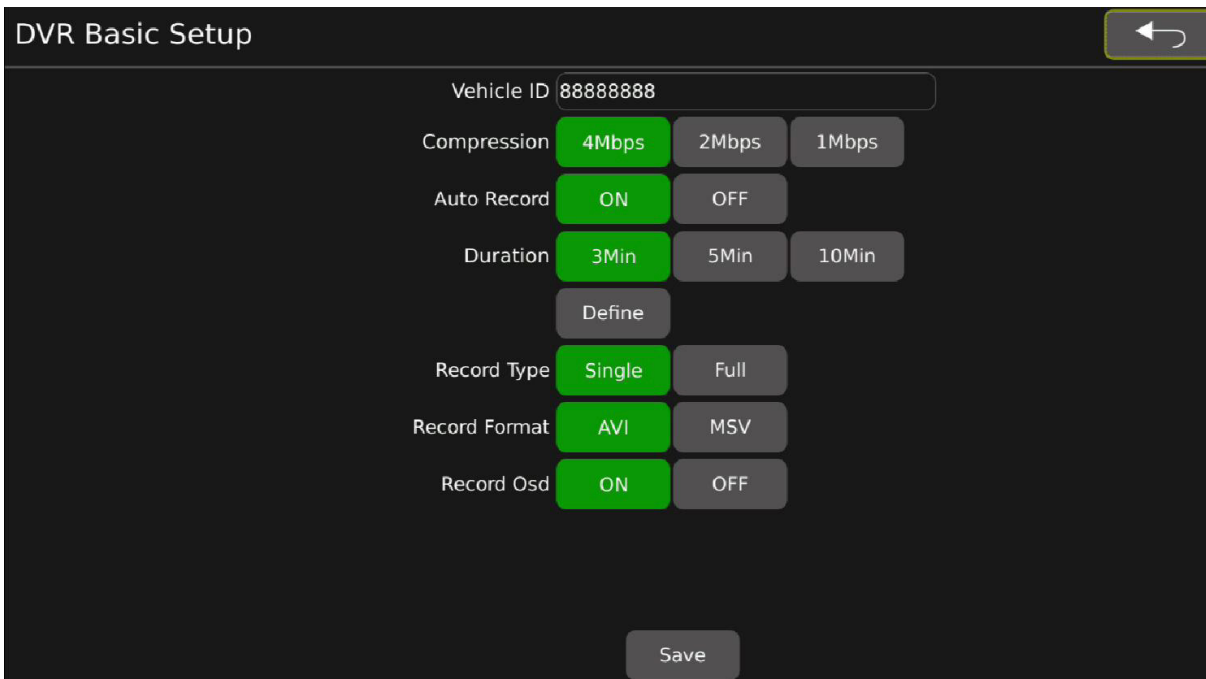
DVR Setup Functions

Basic Setup: Set up recording duration and resolution, etc

DVR Setup: Set G-Sensor ON/OFF, Sensor Sensitivity

Audio Setup: Null - no audio on this system

5.3.1.3.1 DVR Basic Setup



Vehicle ID: License plate number setting, max length is 10 characters

Compression: Recording quality selection, optional setting is 4Mbps - High Quality, and 2Mbps - Low Quality.

Auto Record: Automatic recording switch: ON/OFF. When ON, automatically start recording when boot up. When OFF - recording will not start in any situation (including triggering)

Duration: Recording video file duration: 3Min, 5Min, 10Min, and "Duration" can input value (3min-30min)

Record Type: The default record type is Single. The system will record four single channel's image when set to be Single; it will only record one full screen when set to be FULL.

Record Format: Default format is AVI. The video format can be set to AVI format or MSV format.

Record Osd: Video screen information setting. The default is ON. When set to ON, the recording will have time and channel name information; if set to OFF, the recording will have no time and channel name information.

5.3.1.3.2 DVR Setup - DVR Event Setup

DVR Event Setup

G-Sensor Setup

Sensitivity

GPS Setup

Speed

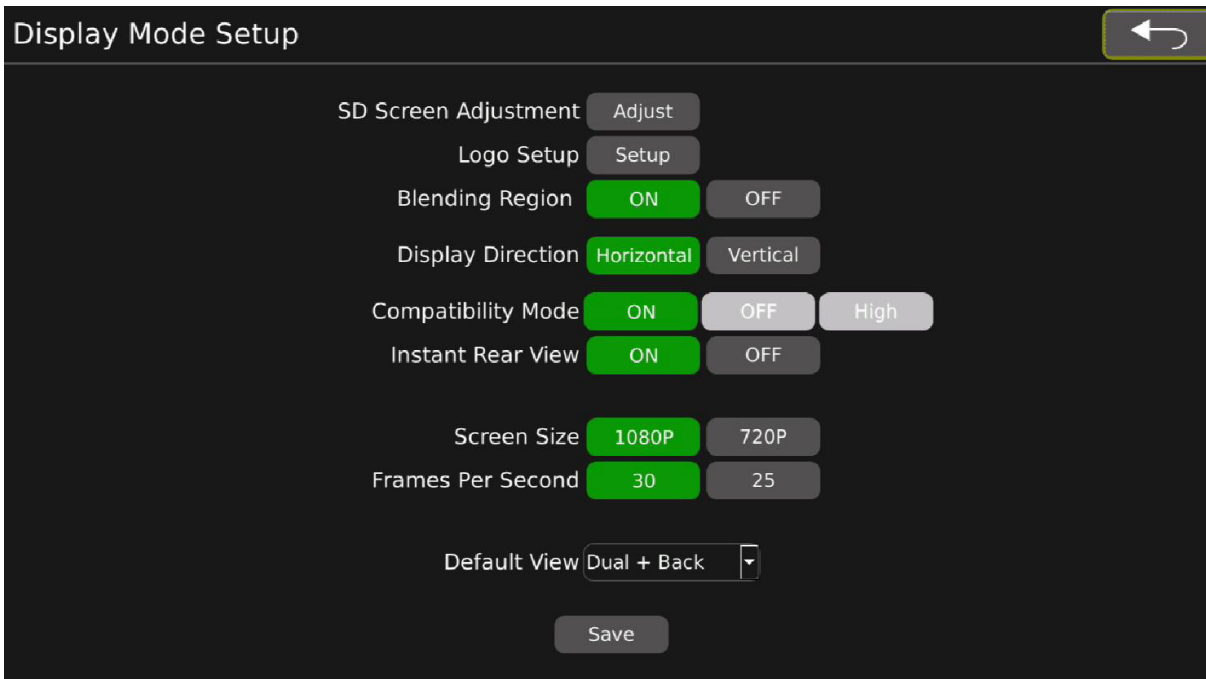
G-Sensor Setup: ON/OFF

Sensitivity: G-sensor sensitivity, can be High/Low

GPS Setup: ON/OFF

Speed: Over-speeding value limit setup, Unit can be km/h or miles/h

5.3.1.4 Display: Screen Adjustment and Display Settings



1. **SD Screen Adjustment:** Use this when the system is using CVBS output. It adjusts how the screen is displayed.
Important: If you switch between NTSC and PAL video formats, you must reset this setting.
2. **Logo Setup:** Allows you to change the boot-up logo. The image must be a 1920x1080 BMP file in 24-bit color depth.
3. **Blending Region:** Turns the overlapping/blending effect ON or OFF. Use this if you want to show or hide where image areas blend.
4. **Display Direction:** Lets you rotate the screen for horizontal or vertical monitor placement. Use this to match the monitor's physical installation.
5. **Compatibility Mode:** Improves compatibility across different screen types. Default is ON. Keep it ON for best performance. Other modes (OFF and High) are not available right now.
6. **Instant Rear View:** When ON: The monitor shows the rear camera immediately at startup (instead of the logo screen). When OFF or no camera is connected: The monitor will show the boot-up logo for 3 seconds.
7. **Screen Size:** Default is 1080P (Full HD). You can change it to 720P, which will switch AHD output to 720P resolution.
8. **Frames Per Second (FPS).** Default is 30fps. You can change it to 25fps, and AHD will output at 25fps instead.
9. **Default View:** Choose what view the monitor displays by default: Dual + Left, Dual + Right, Dual + Front, Dual + Back, Full Dual, Quad View (all four cameras)

5.3.1.5 Network: Network Settings

The screenshot shows a 'Network Setup' screen with a dark background. At the top right, there is a back arrow icon. The settings are organized as follows:

- IP Address:** 192, 168, 24, 125
- IP Mask:** 255, 255, 255, 0
- Route Gateway:** 192, 168, 0, 1
- RTSP Port:** 554
- RTSP Type:** D1, 720P (selected), 1080P
- RTSP EncodeType:** CBR (selected), VBR
- RTSP Quality:** 1M, 2M, 4M, 8M (selected)
- Wifi Switch:** ON (selected), OFF
- Wifi Name:** FHD360_T5
- Wifi Password:** 88888888

A 'Save' button is located at the bottom center of the screen.

IP Address: Network IP address settings

IP Mask: IP subnet mask setting, default 255.255.255.0

Route Gateway: Routing gateway settings, default 192.168.0.1

RTSP Port: Port number setting, default 554

RTSP Type: Network playback video stream resolution setting, default value is D1. D1 / 720P selectable.(1080P not selectable)

RTSP EncodeType: RTSP Decoding settings

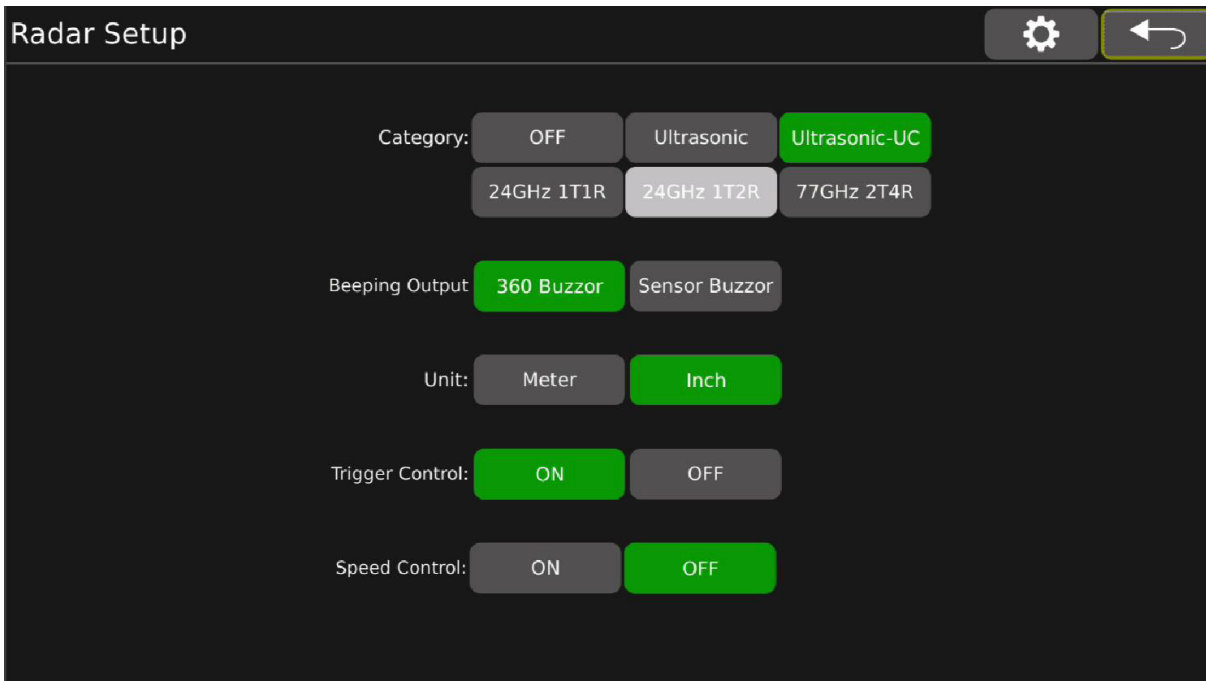
RTSP Quality: RTSP Quality setup

Wifi Switch: WiFi function ON and OFF

Wifi Name: WiFi hotspot name setting. Maximum length is 16 characters

Wifi Password: WiFi password setting. Minimal length is 8 characters, max is 16 characters

5.3.1.6 Radar: Radar Sensors Setup



Category: Radar configuration. When set to OFF, the radar is not available; when set to Ultrasonic, it can work with our company's BSA09 radar. When Ultrasonic-UC is selected, the customer's Ultrasonic 6 sensors can be used. (Note: 24GHz 1T2R is currently unavailable)

Beeping Output: Buzzer settings, 360 Buzzer / Sensor Buzzer selectable.

Unit: Default value of unit parameter setting is Meter. Meter / Inch selectable.

Trigger Control: Trigger control setting. When it is set to ON, the radar will respond when triggered; when it is set to OFF, the radar will not respond.

Speed Control: Speed control setting, the default is OFF. When set to ON, if the current vehicle speed is lower than the configured speed value, the radar responds; if the current vehicle speed is higher than the configured speed value, the radar does not respond. When set to OFF, the radar function is not controlled by vehicle speed.

Ultrasonic radar priority setting: Priority configuration. When multiple channels of radar respond at the same time, a certain channel is displayed first. When set to 1st, the priority is the highest, and so on, 1st>2nd> 3rd> 4th. (Note: This configuration is only displayed when the radar is set to Ultrasonic, otherwise it is blanked.)




Exit Button



Enter radar sensor setup interface

5.3.1.6.1 Ultrasonic Radar Sensors Setup

Ultrasonic Radar Sensor Setup



Location	Sensor ID	Danger	Warning
L1	1	59.06	98.43
L2	2	59.06	98.43
L3	OFF	59.06	98.43
L4	3	59.06	98.43
R1	4	59.06	98.43
R2	OFF	59.06	98.43
R3	5	59.06	98.43
R4	6	59.06	98.43
F1	OFF	59.06	98.43
F2	7	59.06	98.43
F3	8	59.06	98.43
F4	OFF	59.06	98.43
B1	9	59.06	98.43
B2	10	59.06	98.43
B3	11	59.06	98.43
B4	12	59.06	98.43

L1 OFF 59.06 98.43 Setup Reset ↩

Location: The installation position configuration of radar sensor.

User can select sensors L1-L4, R1-R4, F1-F4 and B1-B4

Sensor ID: Sensor ID setting, OFF / 1-12 selectable.

Danger: Dangerous distance setting.

Warning: Warning distance setting.

Setup: Save the setting parameters.

(Note: Press **Setup** button to save the updates each time after setting parameters of each sensor).

Reset: Reset radar parameters.



5.3.1.6.2 Ultrasonic-UC Radar Sensors Setup

Ultrasonic Radar Sensor Setup



Location	Sensor ID	Danger	Warning
S1	1	59.06	98.43
S2	2	59.06	98.43
S3	3	59.06	98.43
S4	4	59.06	98.43
S5	5	59.06	98.43
S6	6	59.06	98.43

S1 OFF 59.06 98.43 Setup Reset ↩

Location: The installation position configuration of radar sensor, user can select sensors S1-S6.

Sensor ID: Sensor ID setting, OFF / 1-6 selectable.

Danger: Dangerous distance setting.

Warning: Warning distance setting.

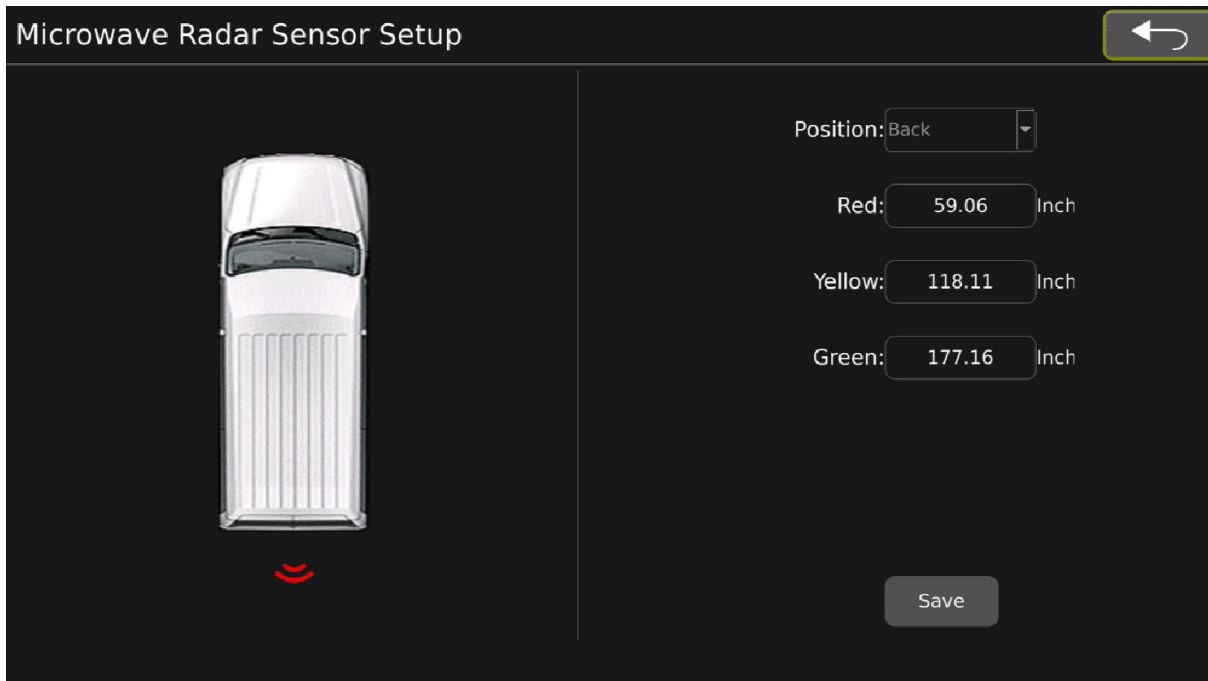
Setup: Save the setting parameters.

Note: Press **Setup** button to save the updates each time after setting parameters of each sensor).

Reset: Reset radar parameters.



5.3.1.6.3 24GHz 1T1R Radar Sensors Setup (Microwave Radar Sensors)



Position: The installation position configuration of radar sensor.

User can select: Left, Right, Front, Back.

Red: Dangerous distance setting.

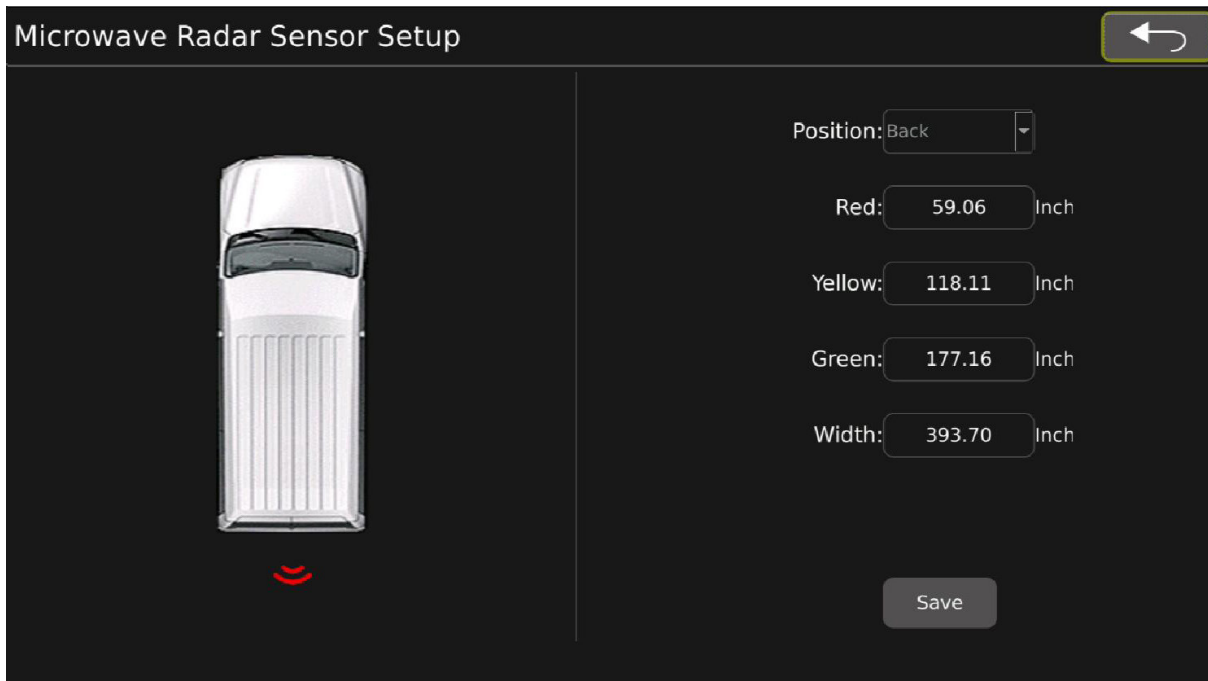
Yellow: Warning distance setting.

Green: Safe distance setting.

Save: Save the settings parameters



5.3.1.6.4 77GHz 2T4R Radar Sensor Setup



Position: The installation position configuration of radar sensor.

User can select: Left, Right, Front, Back.

Red: Dangerous distance setting.

Yellow: Warning distance setting.

Green: Safe distance setting.

Save: Save the settings parameters



5.3.1.7 Trigger: Trigger Setup

Trigger Setup

Trigger Priority
None

Yellow
Dual+Right

White
Dual+Left

Brown
Dual+Back

Red
Full Dual

Save

Trigger Priority: Trigger priority, default value is None. When set to **None:** Single Camera View portion of the monitor will display the first triggered view. For example, when the rear line is triggered, the rear view camera is displayed in a single camera view. At this time, if the left camera is also triggered, the rear camera is still displayed on the right portion of the monitor (single camera view). The left side camera will not be displayed until the rear camera trigger is completed. When set to **Reverse:** When the rear trigger line is triggered, the single camera view will always display the rear camera. If the current other camera is triggered, the rear camera is also triggered, and the single camera view will give priority to displaying the rear camera picture. Set to Left/Right in the same way.

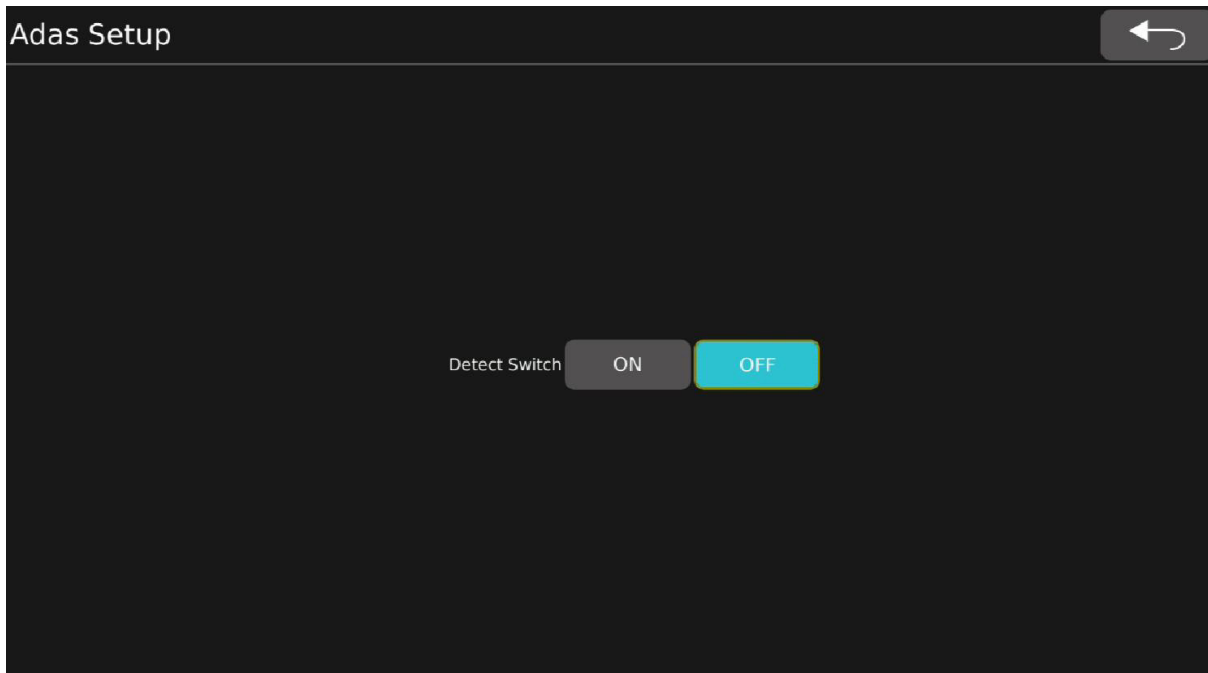
Yellow: After the yellow line is triggered, the configuration of the screen display effect is Dual+Right by default. Configurable: Dual+Left, Dual+Right, Dual+Front, Dual+Back, Single_Right, Single_Left, Single_Front, Single_Back, Quad, Full Dual, IPC.) Note: "Dual" refers to 360° - Bird's Eye View portion of the screen.)

White: After the white line is triggered, the configuration of the screen display effect, the default is Dual+Left. Configurable: Same as above.

Brown: After the brown line is triggered, the configuration of the screen display effect, the default is Dual+Back. Configurable: Same as above.

Red: After the red line is triggered, the configuration of the screen display effect, the default is Full Dual. Configurable: Same as above.

5.3.1.8 ADAS Setup



Detect Switch: default OFF, reserved

5.3.2 Storage: Storage Management

The screenshot displays the 'Storage Management' interface. On the left, under 'Storage Management', there are six rows representing storage devices. The first four rows are labeled '1', '2', '3', and '4' and show 'Lost.' status. The third row also displays 'Total:30522M,Used:10494M,Free:20028M.'. The last two rows are labeled '1' and '2' and also show 'Lost.'. Each row has a 'Format' button. Below this is the 'SD Card Usage' section with a bar chart and four categories: Video (blue), Log (green), Other (orange), and Free (light blue). On the right, the 'Management Logs' section lists four log files: avs360_dmesglog_20180815103624.log, avs360_dmesglog_20180815104644.log, avs360_glog_20180815103624.log, and avs360_glog_20180815104644.log. At the bottom right, there are buttons for 'All', 'None', 'Delete', 'Export', and a back arrow button.

Storage management, supports up to 4 SD cards and 2 USB drives, supports log files exporting.

Format : Format SD cards or USB drive

SD Card Usage: SD storage management

Management Logs: Log files list

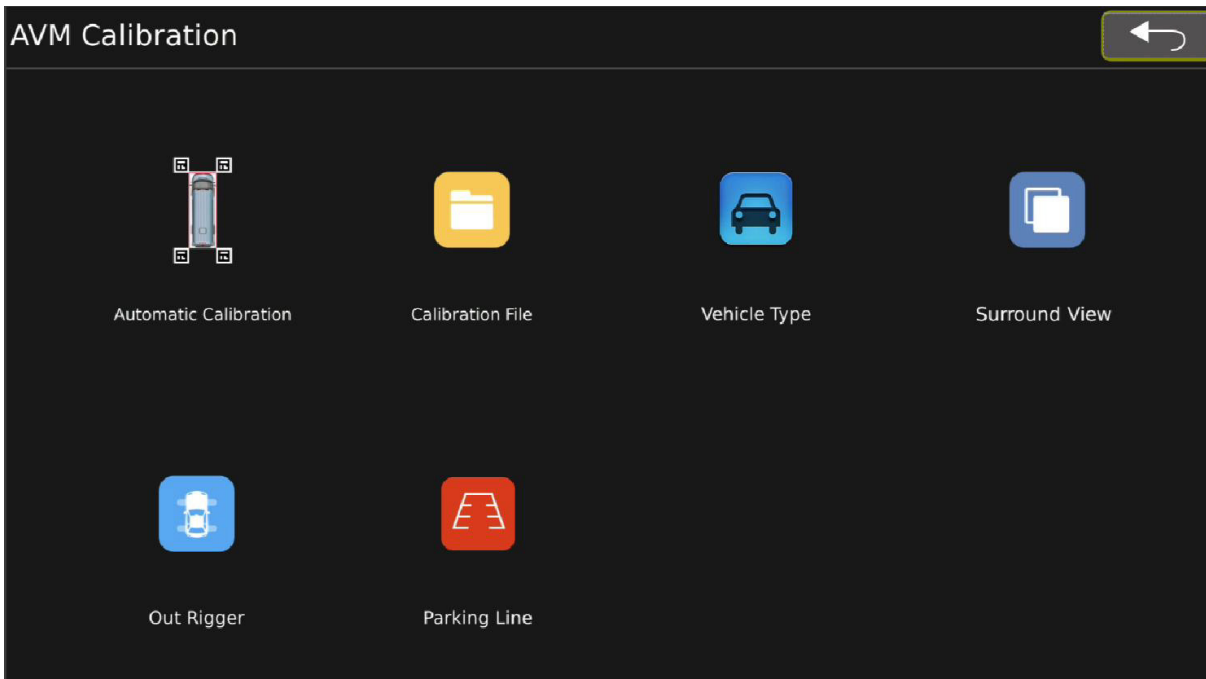
All: Select all log files

None: Select none log files

Delete: Delete the selected log files

Export: Export the selected log files

5.3.3 AVM: AVM Calibration



Automated Calibration: Perform automatic calibration directly through the monitor to ensure accurate surround view alignment and system performance.

Calibration File: Export calibration images for reference or documentation, and import calibration results to apply predefined settings.

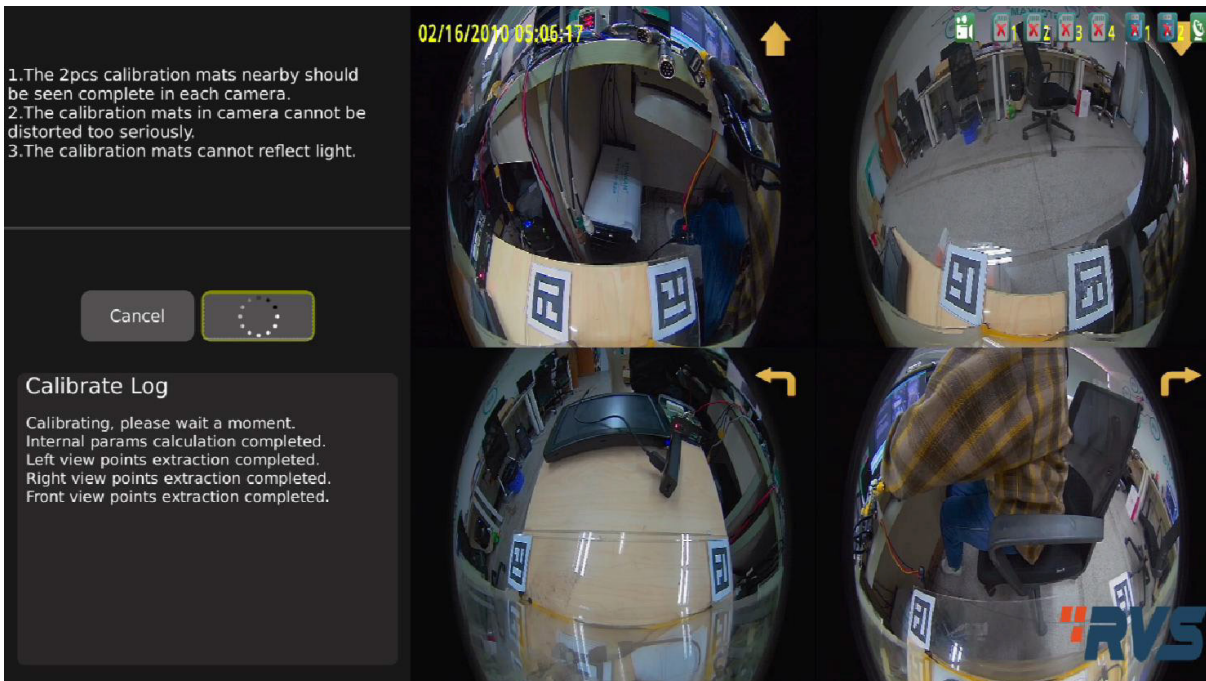
Vehicle Type: Select or change the vehicle type to match system configuration for accurate view rendering.

Surround View: Adjust blending angles and fine-tune surround view parameters for a seamless 360° display.

Outrigger: Configure outrigger parameters to match vehicle-specific dimensions and stabilization requirements.

Reversing Cursor: Adjust the backup guide lines to align properly with the vehicle's path for safer reversing.

5.3.3.1 Automatic Calibration



Cancel: Cancel button, click this to exit calibration interface.

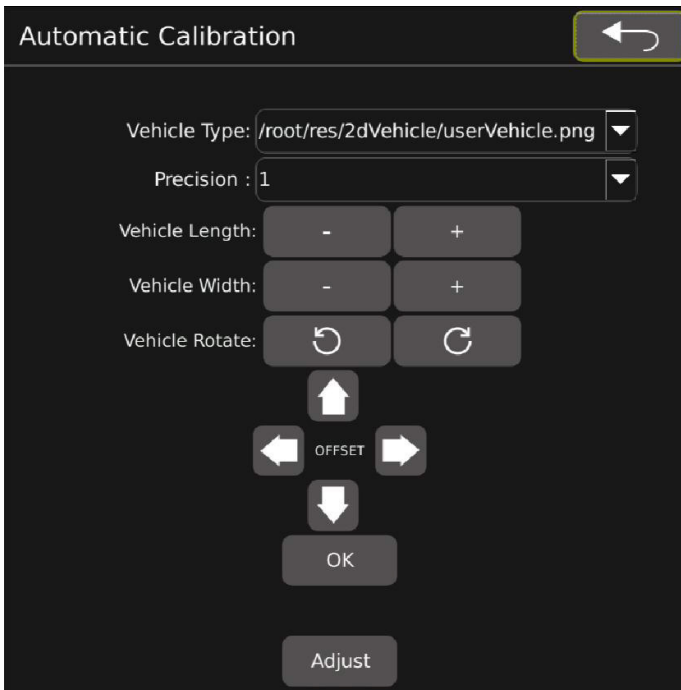
Calibrate: Use the automatic calibration button to initiate automatic calibration (ensure all four pads are placed evenly on the four corners of the vehicle before starting the process).

Calibration Log: This menu displays whether the calibration points are successful or unsuccessful, if unsuccessful please ensure there are no objects around that could cancel the stitching.

Calibration Precautions:

1. Camera View: Make sure each camera can clearly see both of the two nearest calibration mats. Nothing should block the view.
2. Distortion: The calibration mats must appear straight and not bent or distorted on the monitor.
3. Reflections: Avoid strong light reflecting off the calibration mats, as it may affect accuracy.

5.3.3.1.1 Adjustment Interface



Vehicle Type: Use to modify the type of car model (note that the car 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: Use for vehicle length adjustment. Click“-”to decrease vehicle length; Click“+” to increase vehicle length

Vehicle Width: Use for vehicle width adjustment, Click“-” to decrease vehicle width; Click“+”to increase vehicle width

Vehicle Rotate: Use for car model rotation (rotate left or right).



: For car overlay position (up/down/left/right).



: Use to confirm and apply changes.

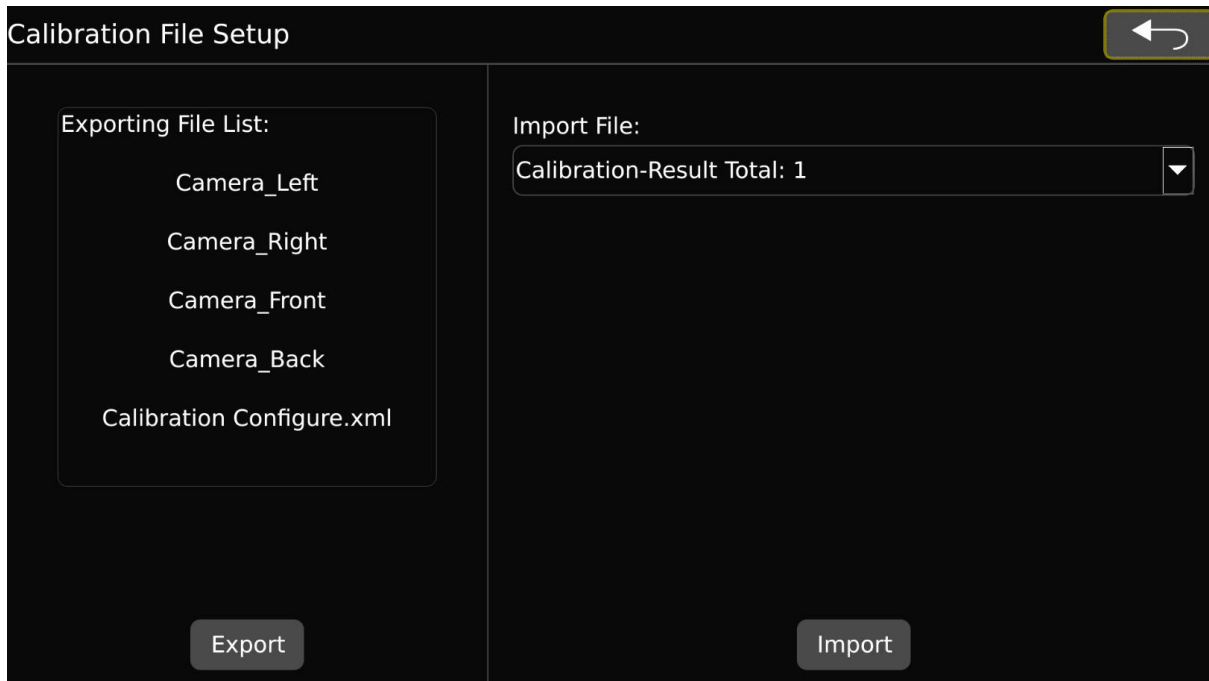
Adjust: Use to go to the calibration internal parameter adjustment interface.

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.

5.3.3.2 Calibration File - Setup Calibration Export and Import

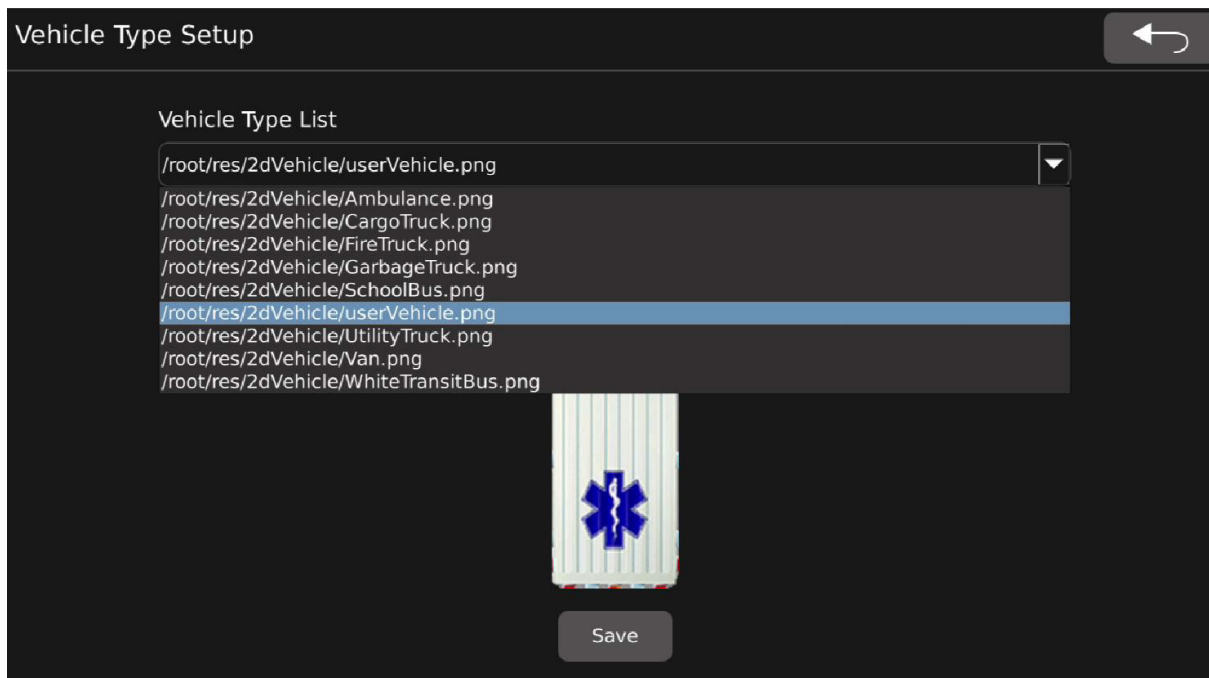


Note: this interface does not refresh USB resources in real time, user must first connect USB before entering this interface.

Export: Export calibration images to USB Drive, including 6channel camera images and XML file

Import: Import the calibrated result to ECU. Make sure that is the correct calibration result

5.3.3.3 Vehicle Type



Vehicle Type Setup Instructions:

Default Vehicle Types:

The system comes with 8 preset vehicle types: Ambulance, Cargo Truck, Fire Truck, Garbage Truck, School Bus, Utility Truck, Van, White Transit Bus

Custom Vehicle Type Setup

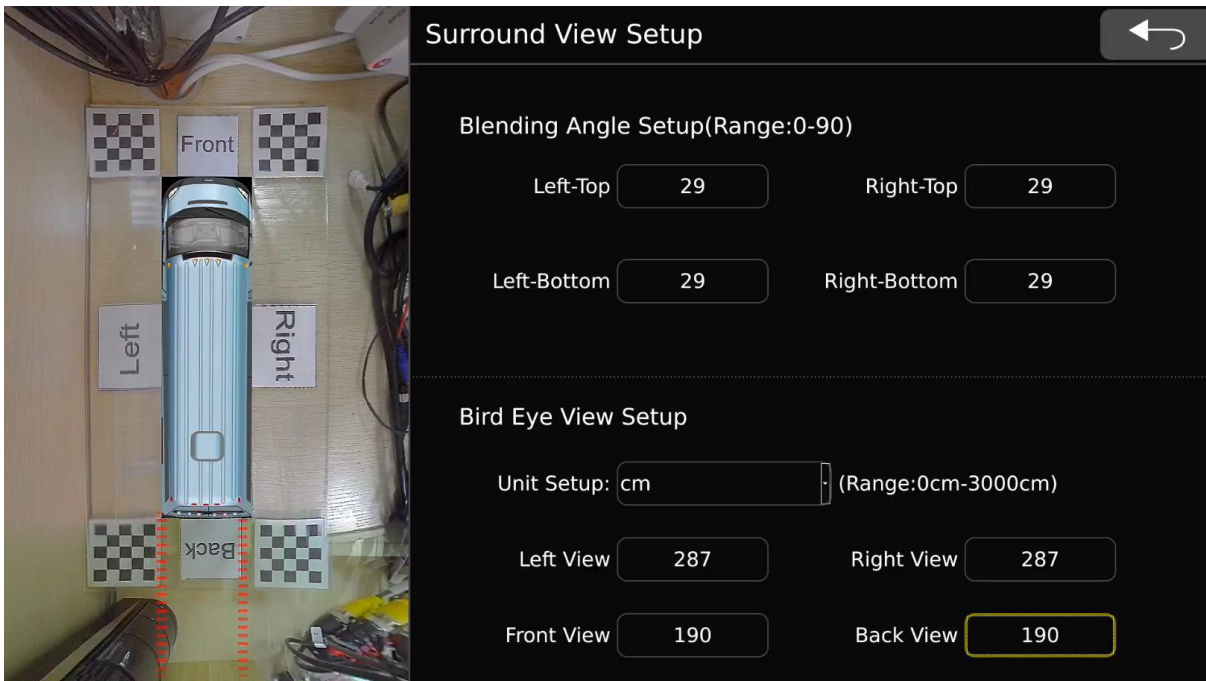
1. Prepare your custom vehicle image in PNG format.
2. Copy the PNG file to a USB flash drive.
3. Insert the USB into the ECU unit.
4. Go to the vehicle type setting screen and select the custom image to set it as the new vehicle type.

Important USB Note

This interface does not refresh USB content in real time.

Make sure the USB drive is connected before entering the vehicle type setting screen.

5.3.3.4 Surround View - Blending angle and surround view parameter setting

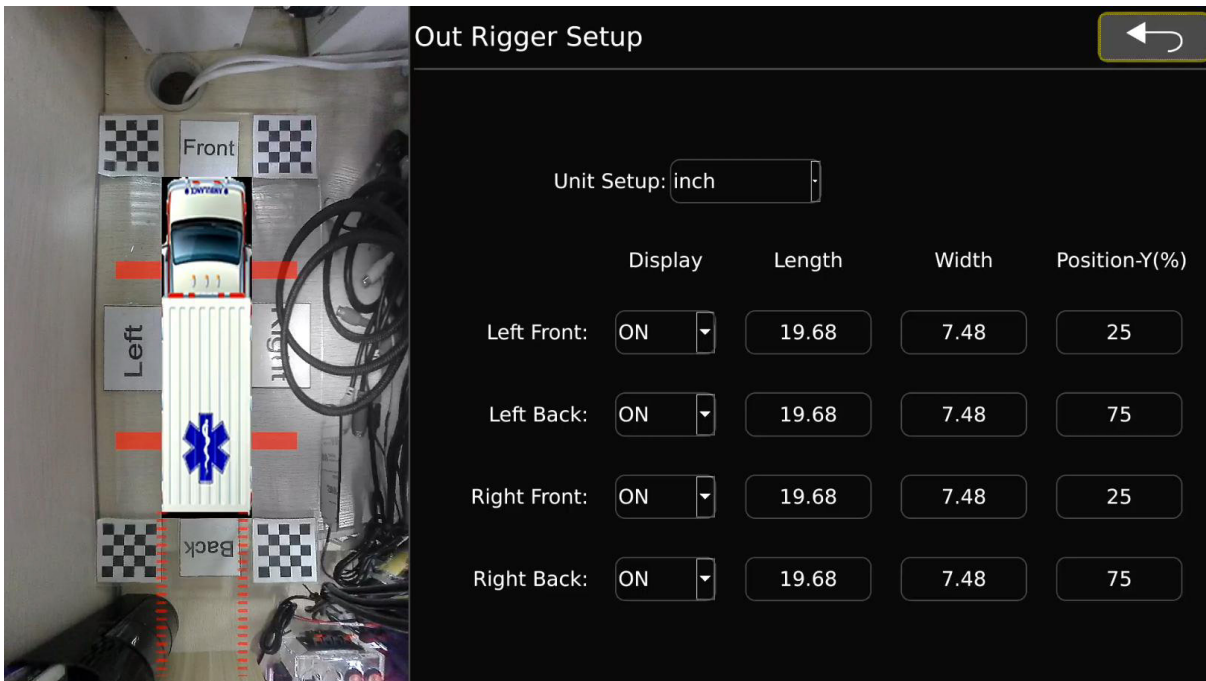


Blending Angle Setup: Blending angle of 4 corners can be set separately, range is 0 to 90°.

Bird Eye View Setup: Width setting per channel. Value of 4 channels can be set separately.

Unit Setup: Unit can be inch/cm

5.3.3.5 Out Rigger - Outrigger setting interface



Unit Setup: You can choose to display measurements in inches or centimeters (cm).

Display (ON/OFF): ON: Shows the outrigger on the screen. OFF: Hides the outrigger display.

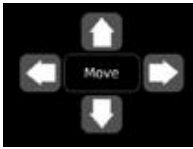
Length: Sets the length of the outrigger: If unit is inch: Range is 0–111 inches.
If unit is cm: Range is 0–284 cm.

Width: Sets the width of the outrigger:

If unit is inch: Range is 0–37 inches. If unit is cm: Range is 0–95 cm.

Position-Y (%): Adjusts the vertical position of the outrigger on the screen.
Set the value as a percentage (%) based on the size of the vehicle.

5.3.3.6 Parking Line: Adjust Backup Lines



Press button : **up, down, left, and right** to move the backup lines

Width Scale: Adjust the width of the reversing cursor.

Height Scale: Adjust the height of the reversing cursor.

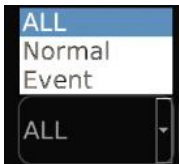
5.3.4. Video - Video Recording Management Interface

The interface is divided into three main sections:

- Calendar:** A monthly calendar for Jan. 2020. The dates 8, 9, and 10 are highlighted in green, indicating recording events.
- Hours:** A grid showing hours for Jan. 10. Hours 9 and 10 are highlighted in green.
- Videos:** A list of video files with timestamps:
 - Normal_01/10/2020 10:04:26
 - Normal_01/10/2020 10:12:34
 - Normal_01/10/2020 10:15:59
 - Normal_01/10/2020 10:18:47
 - Normal_01/10/2020 10:19:20
 - Normal_01/10/2020 10:19:24

At the bottom, there is a recording type selection dropdown menu (showing 'ALL', 'Normal', 'Event') and a set of action buttons: 'All', 'Delete', 'Export', 'Play', and a close button (X).

Video management can only process videos last for three months, ahead and after of the present month. The data color will be green if there is a recording video file.



Recording type selection. You can select ALL, Normal, Event. (includes panic, speed, G force)

Select **ALL** or **NONE** the video recording files in the list.

Delete: Delete the selected recording file

Export: Export the selected recording file.

Play: Play back the selected recording file

5.3.5. Information - CPU and MCU Version Info and Upgrading

The screenshot shows a dark-themed web interface titled 'Information'. It is divided into several sections:

- Current Version:** Displays CPU: 02.v1.1.01-0.0-1459:20211222, MCU: 00-V1.1.18, and Linux: 4.9.170.
- Upgrade:** Features a dropdown menu and an 'Upgrade' button.
- System Setup:** Features a dropdown menu and three buttons: 'Reset', 'Import', and 'Export'.
- Upgrade Configure:** Features a dropdown menu and an 'Upgrade' button.
- Specification:** A large empty area for technical specifications.

A back arrow icon is located in the top right corner of the 'Information' header.

Current Version:

CPU: Current CPU version

MCU: Current MCU version info

Linux: system info

Upgrade: CPU upgrading; make sure that the right firmware package is chosen to be updated.

System Setup

Reset: Restore factory setting

Import: Import configuration file

Export: Export configuration file

Upgrade: Upgrade configuration file

ONE YEAR WARRANTY

REAR VIEW SAFETY, INC. WARRANTS THIS PRODUCT AGAINST MATERIAL DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF PURCHASE.

WE RESERVE THE RIGHT TO REPAIR OR REPLACE ANY SUCH DEFECTIVE UNIT AT OUR SOLE DISCRETION.

REAR VIEW SAFETY, INC. IS NOT RESPONSIBLE FOR A DEFECT IN THE SYSTEM AS A RESULT OF MISUSE, IMPROPER INSTALLATION, DAMAGE OR MISHANDLING OF THE ELECTRONIC COMPONENTS.

REAR VIEW SAFETY, INC. IS NOT RESPONSIBLE FOR CONSEQUENTIAL DAMAGES OF ANY KIND.

THIS WARRANTY IS VOID IF: DEFECTS IN MATERIALS OR WORKMANSHIP OR DAMAGES RESULT FROM REPAIRS OR ALTERATIONS WHICH HAVE BEEN MADE OR ATTEMPTED BY OTHERS OR THE UNAUTHORIZED USE OF NONCONFORMING PARTS; THE DAMAGE IS DUE TO NORMAL WEAR AND TEAR, THIS DAMAGE IS DUE TO ABUSE, IMPROPER MAINTENANCE, NEGLIGENCE OR ACCIDENT; OR THE DAMAGE IS DUE TO USE OF THE REAR VIEW SAFETY, INC. SYSTEM AFTER PARTIAL FAILURE OR USE WITH IMPROPER ACCESSORIES.

WARRANTY PERFORMANCE

DURING THE ABOVE WARRANTY PERIOD, SHOULD YOUR REAR VIEW SAFETY PRODUCT EXHIBIT A DEFECT IN MATERIAL OR WORKMANSHIP, SUCH DEFECT WILL BE REPAIRED WHEN THE COMPLETE REAR VIEW SAFETY, INC. PRODUCT IS RETURNED, POSTAGE PREPAID AND INSURED, TO REAR VIEW SAFETY, INC. OTHER THAN THE POSTAGE AND INSURANCE REQUIREMENT, NO CHARGE WILL BE MADE FOR REPAIRS COVERED BY THIS WARRANTY.

WARRANTY DISCLAIMERS

NO WARRANTY, ORAL OR WRITTEN, EXPRESSED OR IMPLIED, OTHER THAN THE ABOVE WARRANTY IS MADE WITH REGARD TO THIS REAR VIEW SAFETY, INC.

REAR VIEW SAFETY, INC DISCLAIMS ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE AND ALL OTHER WARRANTIES IN NO EVENT SHALL REAR VIEW SAFETY, INC. LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES OR FOR ANY COSTS, ATTORNEY FEES, EXPENSES, LOSSES OR DELAYS ALLEGED TO BE AS A CONSEQUENCE OF ANY DAMAGE TO, FAILURE OF, OR DEFECT IN ANY PRODUCT INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOSS OF PROFITS.

DISCLAIMER

REAR VIEW SAFETY AND/OR ITS AFFILIATES DOES NOT GUARANTEE OR PROMISE THAT THE USER OF OUR SYSTEMS WILL NOT BE IN/PART OF AN ACCIDENT OR OTHERWISE NOT COLLIDE WITH AN OBJECT AND/OR PERSON. OUR SYSTEMS ARE NOT A SUBSTITUTE FOR CAREFUL AND CAUTIOUS DRIVING OR FOR THE CONSISTENT ADHERENCE TO ALL APPLICABLE TRAFFIC LAWS AND MOTOR VEHICLE SAFETY REGULATIONS. THE REAR VIEW SAFETY PRODUCTS ARE NOT A SUBSTITUTE FOR REAR VIEW MIRRORS OR FOR ANY OTHER MOTOR VEHICLE EQUIPMENT MANDATED BY LAW. OUR CAMERA SYSTEMS HAVE A LIMITED FIELD OF VISION AND DO NOT PROVIDE A COMPREHENSIVE VIEW OF THE REAR OR SIDE AREA OF THE VEHICLE. ALWAYS MAKE SURE TO LOOK AROUND YOUR VEHICLE AND USE YOUR MIRRORS TO CONFIRM REARWARD CLEARANCE AND THAT YOUR VEHICLE CAN MANEUVER SAFELY. REAR VIEW SAFETY AND/OR ITS AFFILIATES SHALL HAVE NO RESPONSIBILITY OR LIABILITY FOR DAMAGE AND/OR INJURY RESULTING FROM ACCIDENTS OCCURRING WITH VEHICLES HAVING SOME OF REAR VIEW SAFETY PRODUCTS INSTALLED AND REAR VIEW SAFETY AND/OR ITS AFFILIATES, THE MANUFACTURER, DISTRIBUTOR AND SELLER SHALL NOT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, INCIDENTAL OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INTENDED USE OF THE PRODUCT. IN NO EVENT SHALL REAR VIEW SAFETY AND/OR ITS AFFILIATES HAVE ANY LIABILITY FOR ANY LOSSES (WHETHER DIRECT OR INDIRECT, IN CONTRACT, TORT OR OTHERWISE) INCURRED IN CONNECTION WITH THE SYSTEMS, INCLUDING BUT NOT LIMITED TO DAMAGED PROPERTY, PERSONAL INJURY AND/OR LOSS OF LIFE. NEITHER SHALL REAR VIEW SAFETY AND/OR ITS AFFILIATES HAVE ANY RESPONSIBILITY FOR ANY DECISION, ACTION OR INACTION TAKEN BY ANY PERSON IN RELIANCE ON REAR VIEW SAFETY SYSTEMS, OR FOR ANY DELAYS, INACCURACIES AND/OR ERRORS IN CONNECTION WITH OUR SYSTEMS FUNCTIONS.



A Clarience Technologies Company

Engineered For Vehicle Safety™

If you have questions about this product,
please contact us at:

800.764.1028 RVS.Sales@safefleet.net
www.rearviewsafety.com

New York

1797 Atlantic Ave
Brooklyn, NY 11233

Indiana

319 Roske Dr.
Elkhart, Indiana 46516