VR 3D PLAYER™

360º VEHICLE SURROUND VIEW MONITORING SYSTEM

MANUAL BOOK

Contents

Introduction

This guide is to provide users with an understanding of the system installation procedure, camera calibration steps, and interaction with the system menu.

The VR3D Player 360º Vehicle Surround View Monitoring System synthesizes images from four cameras to create a true 3D view of a vehicle's surroundings. The technology enables flexible omni-directional monitoring around a vehicle from a dynamically definable perspective or "free eye point." This technology is able to capture a complete 360º view surrounding the vehicle, eliminating blind spots for safe driving and parking. This system offers various SVM configurations such as -HDMI/LVDS/AV with either 2D or 3D, as well as integrated four channel car DVR function with 24-hour video loop recording supported.

■ Safety Tips

Please read this manual carefully before using.

Serious traffic accidents may be caused by constant viewing of the screen or by operating the system while driving.

SVM is a parking and driving assistant system which offers full view of the vehicle's surrounding, eliminating blind spots and providing a guide for safe driving and parking. There may be inconsistencies between the image on the screen and the surroundings of the vehicle. Please use caution when driving with this system.

Never hotplug the host device when power is connected. The host device cannot be exposed to liquid. Please pay attention to heat dissipation.

Please contact professional installation service providers in case of any abnormal situations.

Product Features

■ 4X 180º ultra-wide fish-eye cameras.

■ Seamless video merging based on dual core ARM CPU and hardware high-efficiency acceleration engine.

■ Choose between Arbitrary and dynamic 3D mode view angle for better view of surrounding environment.

■ Independent fish-eye calibration parameter and algorithm for each camera.

■ Pixel statistic engine for realtime brightness balance across four camera channels.

■ 3D video de-interlacing and noise reduction technology for CVBS signal decoding.

■ Supports alternative recording media for TF card or USB disk.

■ Simple calibration with calibration tape and packing box, applicable for almost all types of vehicles including buses, trucks, lorries, limousines, tanks, and even jumbo jets. Typical length of the vehicle is 5.5m, 6.5m, 10m & 13m.

■ Smart power management for conserving vehicle battery.

■ High video recording resolution up to 1440x960.

■ OE quality for main chipset with protected circuit and devices to provide the best system performance and stability.

TYPE	SPECIFICATION	
Video	Video Interface	Mini plug connector
	Input / Output Impedance	75Ω
	Amplitude	Typical 1Vpp, 1.2Vpp Maximum
	Bandwidth	8MHz
	Sampling Frequency	13.5MHz
	DP(Differential Phase)	<0.8°TYP
	DG(Differential Gain)	<3%TYP
	SNR	70dB
Indicator Lamp /Blinker	High beam	Optional
	Left/Right Turning Blinker	Yes
	Reversing Lamp	Yes
G-sensor	BM250E	Bosch
Compression	Algorithm	H.264 Baseline@L3.1
	Resolution	1440*960@30fps
	Bitrates	5Mbps，3Gbyte/Hour
	Recording Media	USB Disk(High Priority)/TF
Disk Capacity	TF CARD	128G SDIO3.0/SDIO2.0
	USB Disk	128G USB2.0
Power Consumption	4-CH DVR + SVM mode	600mA
	4-CH DVR mode	440mA
	Sleep Mode	<10mA
Dimension	L*W*H	123*81*25mm(Host Metal box)
Weight	220g	
Environments	Normal Working	-20℃~+85℃
	Storage	-40℃~+105℃
	Relative Humidity	0~95%
Voltage Tolerance	Working Voltage	9.5V~36V

Installation Instructions

- **1) Wire Routing Inside the Car**
  Please refer to wiring diagram for more details.
  Please pay close attention to the color and connector size of each extending cable. Wire routing should be installed from cameras to the host device side. All the cables should be gathered to the host device side.

- **2) Camera Installation**
  Please refer to the corresponding section for detailed installation steps. Embedded or out-cell installation for side cameras depends on the size of the side mirrors as well as the space available for installation, especially for large vehicles. Proceed with caution when dissasembling the side mirrors or drilling installation holes to ensure that they do not break.

- **3) Host Installation**
  It is strongly recommended that the host be installed inside or behind the tool cabinet, as this will ensure that the TF card or USB disk is easily accessible.

- **4) Wiring Test**
  Double check all of the wire connections before turning on the power. Do not plug in live connections.

- **5) Functional Test**
  Test the main functions and settings of the host device.

- **6) Side Camera's Angle Adjustment**
  Adjust the camera to select the proper angle at which side calibration tape is overlapping with the reference guide line on the screen.
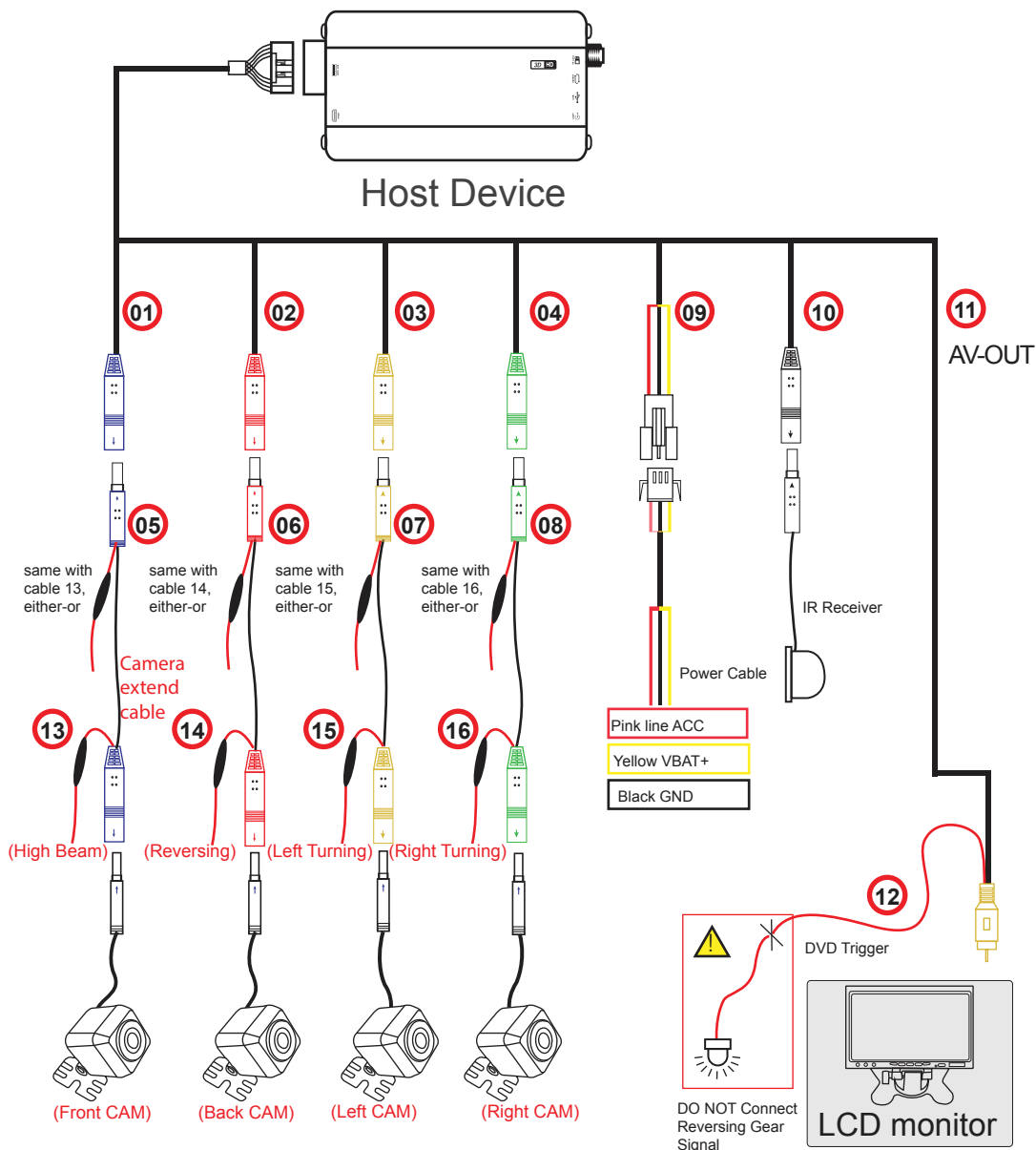
- **7) Camera Calibration**
  Step-by-step camera calibration can be accessed in the system menu. Once the calibration data is completely collected, the system software will automatically complete the video merging.
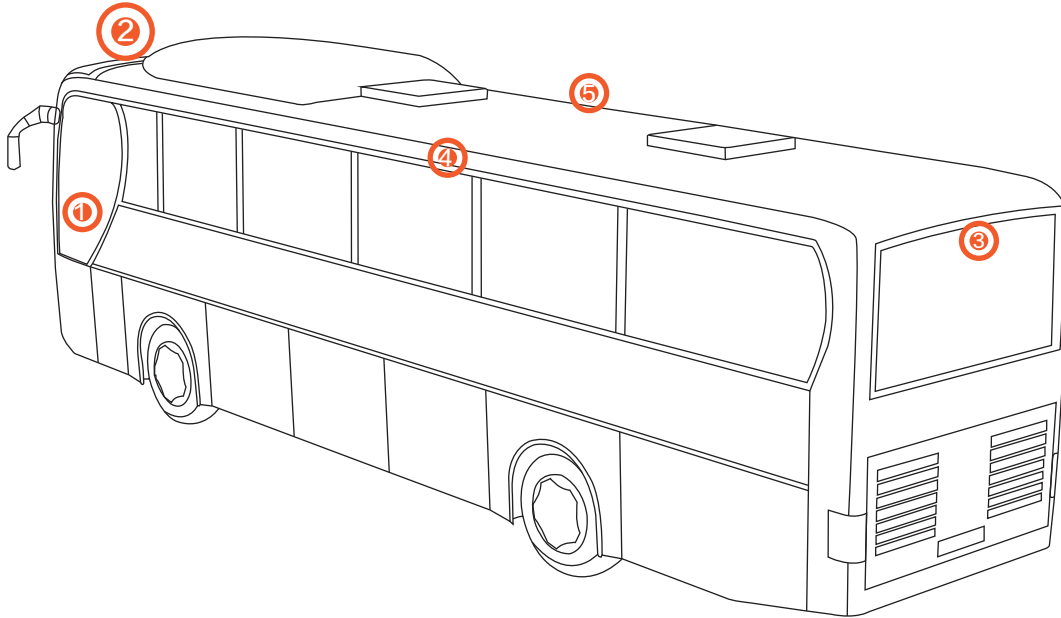
- 8) Device Fixing
  Fix the wire connections, cameras and host device.

- 9) Reconversion
  Recover all the parts of the vehicle.

  NOTE: Please install in cable extension kit in the proper order according to the vehicle length. Standard extension cable lengths are as listed:
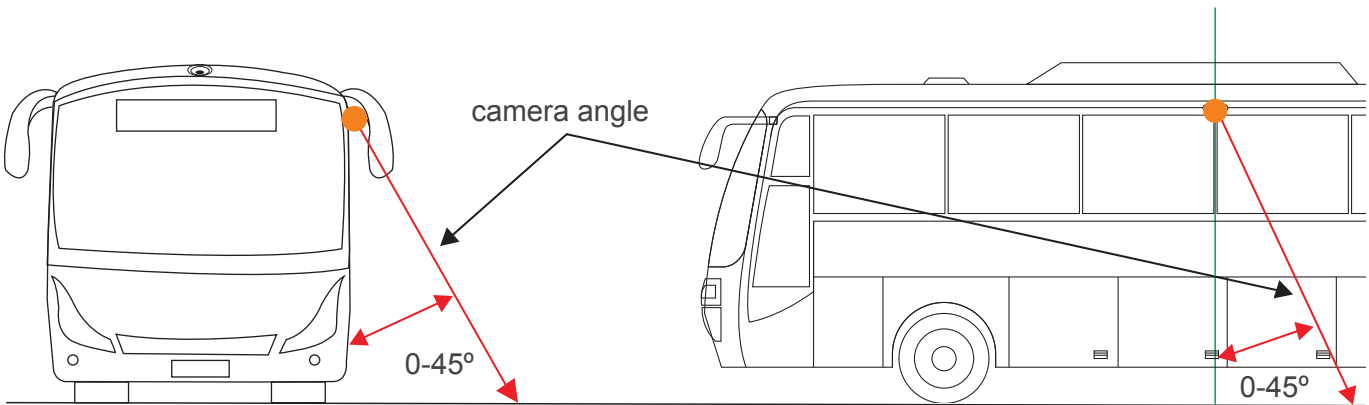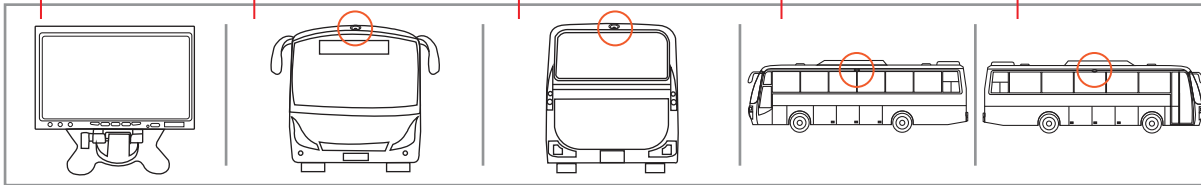 Front Camera: 4M*2
 Rear Camera: 6.45M*2
  Left Camera: 3.45M*2
  Right Camera: 3.45M*2

Host Device

01 02 03 04 09 10 11
AV-OUT

05 06 07 08

same with cable 13, either-or
same with cable 14, either-or
same with cable 15, either-or
same with cable 16, either-or

IR Receiver

Camera extend cable

13 14 15 16

Power Cable

Pink line ACC
Yellow VBAT+
Black GND

(High Beam) (Reversing) (Left Turning) (Right Turning)

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DVD Trigger

⚠ ✕

DO NOT Connect Reversing Gear Signal

LCD monitor

(Front CAM) (Back CAM) (Left CAM) (Right CAM)

■ Bus Installation

① LCD Monitor ② Front Camera ③ Rear Camera ④ Left Camera ⑤ Right Camera

camera angle

0-45°

0-45°

Truck Installation

① LCD Monitor	② Front Camera	③ Rear Camera	④ Left Camera	⑤ Right Camera

camera angle

0-45°

0-45°
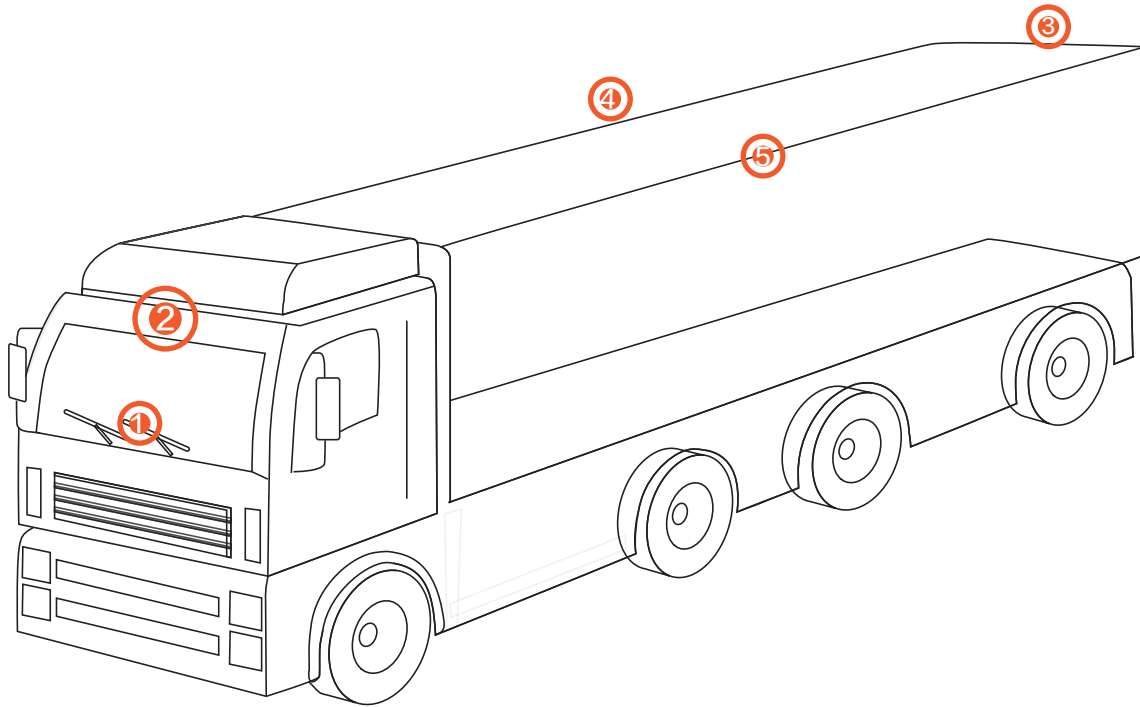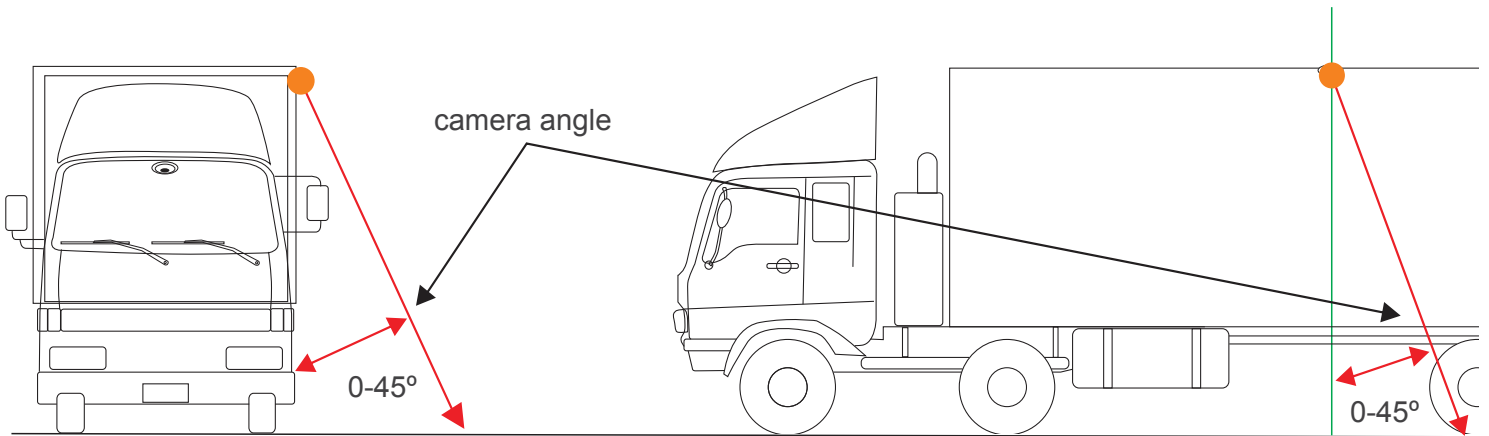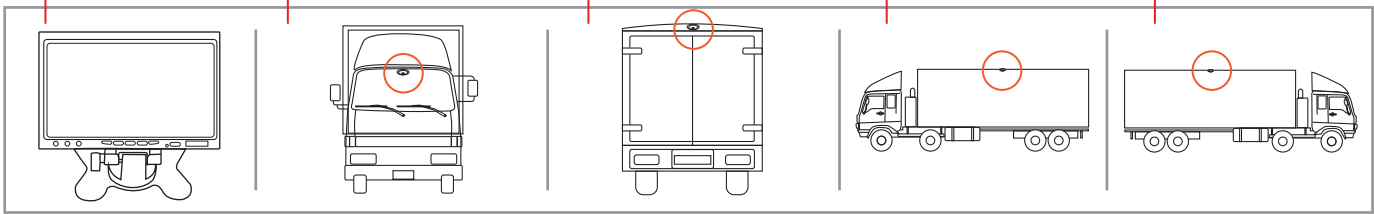
■ Host Device Installation Instructions

- 1) Disassemble the panel of the central control unit, and connect the reversing video channel of the LCD monitor or other display screen(AV in).

- 2) For IR mode, put the infrared receiver in the proper position.

- 3) Please connect the anode of the left/right turning signal from the fuse box to the host wire harness, or from the side mirror turning LED indicator to the camera side of the extending cable.

- 4) Connect the power cable to battery supply line and connect the wire harness to the host device.

- 5) Fix the host device in the tool cabinet or the space behind the central control panel.

- 6) Connect all the cables for the function testing and debugging process, and assemble the panel back to the control unit.

■ Remote Control Instructions
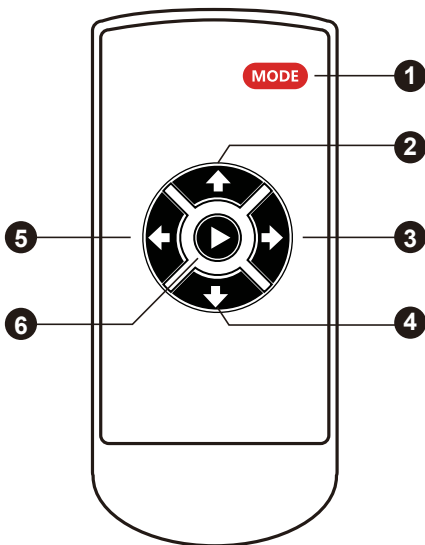
Key Number	Description	Function
[1]	MODE	Enter setting menu.
		In 3D mode, press and hold for 2 seconds to enter 4CH recording mode.
[2]	UP	While in menu screen, toggle through icons.
		In SVM mode, press to toggle between high beam mode and SVM mode.
[3]	RIGHT	In SVM mode, press and hold to enter 360 rotatable menu.
[4]	DOWN	In SVM mode, press and hold to enter reversing gear mode.
		In menu screen, select next menu option.
[5]	LEFT	In SVM mode, press and hold to enter 360 rotatable mode.
[6]	CONFIRM	Confirm selected option.

■ Camera Calibration

Press the "MODE" button on the remote controller to enter system menu settings. Select the correct calibration size for the applied vehicle model. If you are not sure about the sensor type, set each step of the shadow setting to 5cm as default.
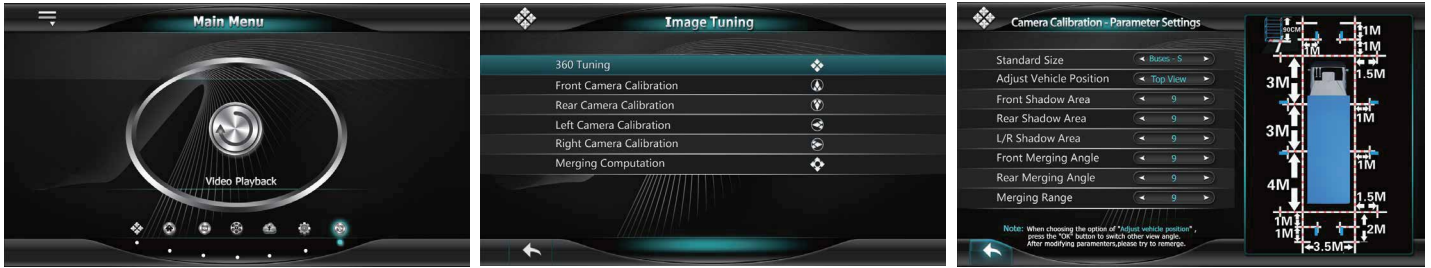

■ Calibration for Buses and Trucks
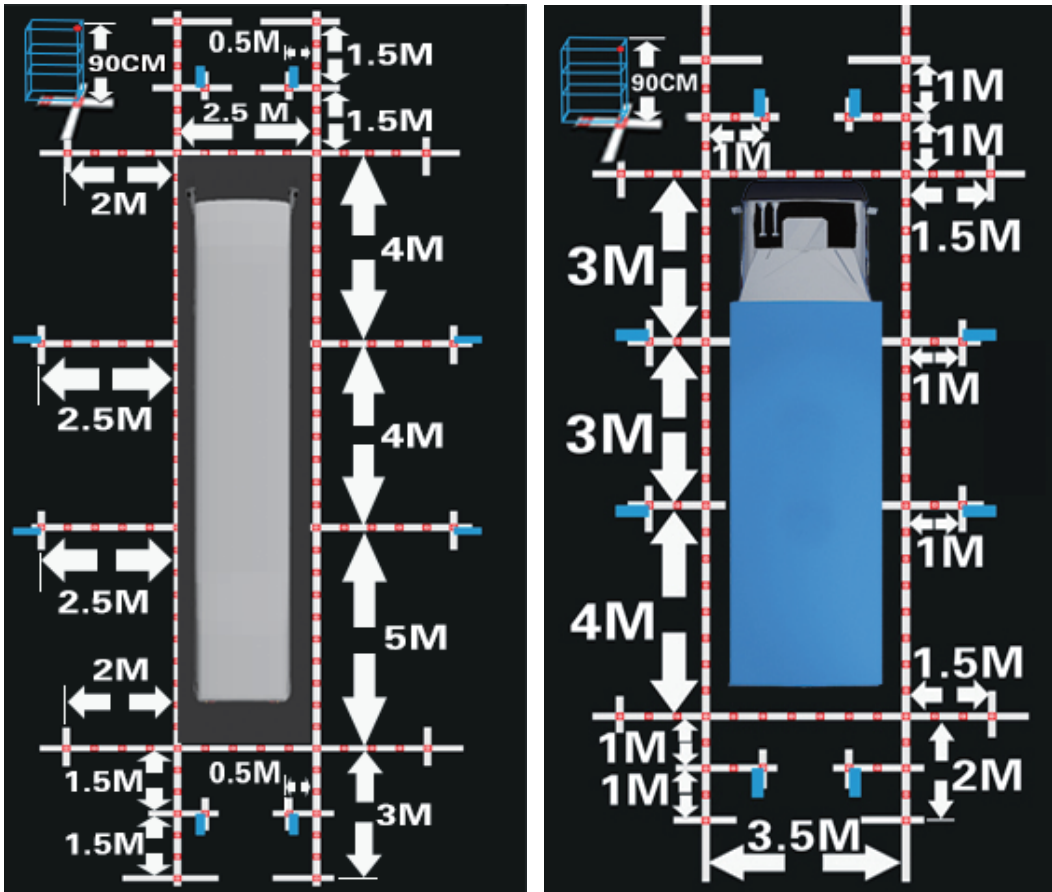
Past the calibration tape around the vehicle as shown in the diagram. Please refer to the calibration pictures of different vehicle models and sizes to select the correct one for your vehicle.

Position Calibration

There are 8 calibration points for each camera which need to be marked in the screen. The third pixel point and fourth calibration point are always the diagonal corner of the packing box. The packing boxes can be divided so that each packing box can be used for calibration 1 camera each time.
NOTE: Put the 3 packing boxes in the correct position as illustrated in the previous diagram. You may also use other boxes with dimensions of 90cm in height instead as a calibration reference objects.
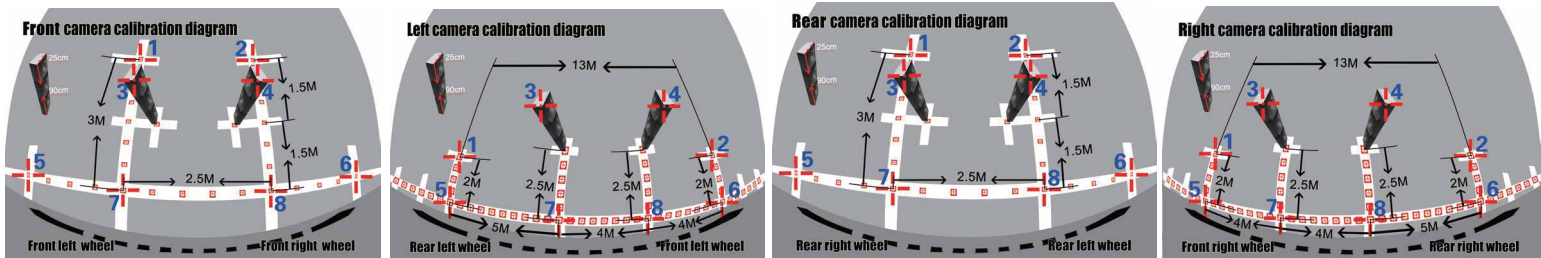
Once the cursor starts blinking, you can begin calibrating the four cameras one at a time. Move the cursor to the corresponding locations by pressing the directional buttons on the remote control, then press "ok" to mark the current calibration point on the screen. The system menu will guide you to the next calibration pixel point in order from 1 to 8, one at a time. Please see the correct location and sequence of the calibration points as illustrated below:
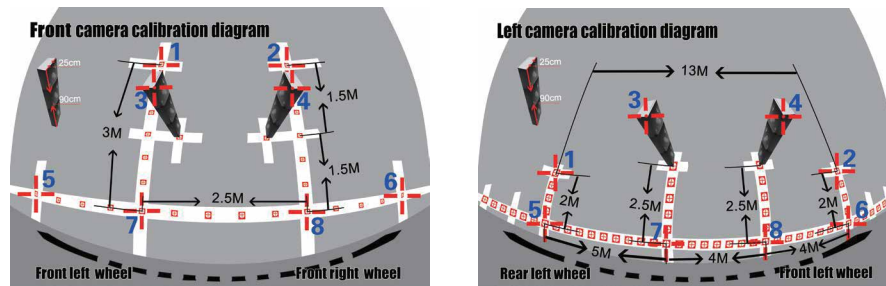
Press "MODE" to toggle to previous calibration point selection when needed.
NOTE: The locations of the 7th and 8th calibration pixel points are different between the front and rear cameras and the left and right cameras. The more accurate calibration points you mark, the better quality the panoramic image merging will be.

◼ Merging Calculation

Press "OK" to start image merging.
Do not turn off the system during this operation,
The system will reboot automatically after image merging is finished.

◼ Function Settings

Menu Item	List Options	Description
Turn Signal Wake Up	ON/OFF	Turning Signal is optional after engine is turned on. This option is a global switch for left and right turning indicators: when turned on, the system will respond when a turning event is triggered and vice versa.
Activate Turn Signal	ON/OFF	When the SVM is in standby mode, this option can control whether the system can be activated through turning signals.
Emergency Blinker Wake Up	ON/OFF	When the SVM is in standby mode, this option can be used to control whether the system is activated by Emergency Blinker. You may also use the Emergency Blinker to set it back to standby mode when this option is set to ON.
High Beam Function	ON/OFF	The high beam signal can be used to toggle the free-eye point and change the view angle for surround safety.
3D Dynamic Angle Function	ON/OFF	Set static or dynamic angle switching when responding to trigger events.

◼ Interface Settings

Menu Item	List Options	Description
Language Setting	English/Simplified Chinese	Set the user interface language.
Vehicle Brand Setting	Vehicle Type 1-3	Set the 3D car model.
System Mode Setting	Full Screen	Set view mode to fullscreen or split screen.
Adjust the Screen Y Position	-9 ~ +9 Pixel	Screen TCON horizontal front and back control.
Adjust the Screen X Position	-9 ~ +9 Pixel	Screen TCON vertical front and back control.
Reversing Mode	Mirrored View	Set different view angle when reversing.
Turning Mode	Front Side View	Set different view angle when turning.
Driving Mode	Standard View	Set different view angle when driving.

◼ Upgrade and Restore

Menu Item	List Options	Description
System Restore	Default/User Preference	Default is not functional at this time. Choose user preference to restore video settings, window configurations, etc.
Upgrade Options	Upgrade 3D Mode	Use this menu to adjust the UI, calibration data, and apps.
Version Information	SW.6030.R2.14	Check the hardware/firmware/software version.

■ Other Settings

Menu Item	List Options	Description
Hazard Blinker Trigger Duration	1min - 5min; 3S - 30S.	The system can be activated through the external Emergency Blinker. When setting the duration time, ensure you that you first turn ON the Emergency Blinker Activation Function in the Function Settings Menu.
Display Turn Delay	30S - 5min	This option is used to set the delay for the generated reversing indication signal to inform the monitor that the input video is ready.
Trigger Delay	30S - 5min	This option is used to set the latency to respond to the release event of the turning signal.
Reversing/Turning Trigger Duration	30S - 5min	Set the duration for the monitor display after it is turned on by the reversing/turning signal.
Parking Surveillance	Disable	Set surveilance mode for parking.

■ Video Settings

Enter video settings to adjust the saturation, brightness, contrast, or sharpness of the image between -9 to +9.

■ Video Recording Functions

1. Press and hold "MODE" to enter the recording system menu.
2. Press "OK" to stop current recording.
3. Press the up or down directional buttons to navigate between recorded files per date and timeline.
4. Press "OK" to playback. You may enlarge any of the 4 cameras to full screen mode by pressing the directional buttons.

■ Smart Power Management

1) Silent Driving Mode
Silent Driving Mode will continuously record the footage as compressed video on recording media such as a TF card or USB disk. Note that USB disks have priority over TF cards.

2) Driving/Parking Assistant Mode
In this mode, maximum power is expected to be consumed as both the recording board and SVM core board are fully functional. This mode is intended to be used for short periods of time. Driving Assistant Mode will usually work for several seconds, and Parking Assistant Mode will usually work for 1-2 minutes.

3) Standby Mode
In this mode the recording system is in standby. If any vibration is detected by the G-sensor, the SVM system will trigger the external cameras and LEDs and immediately begin recording video.

4) Power Off Mode
In this mode the system is turned off except for the Real Time Clock chip and G-sensor. The system will still be triggered from vibration, except under circumstances where the battery life is under 11V.

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About Wireless Prime Inc.

As Cinegears was founded in 2010 with the soul purpose in mind to drive video transmission technology to new heights and provide high quality professional grade products; so it was a natural progression to create Wireless Prime to help bridge the gap between the professional market and the consumer market.

Enhancing your way of living while reducing the headache of everyday life is what Wireless Prime is here for. Just as our wireless prime video transmission system revolutionized how we interact with wireless technology at work, school and home so will our new car and home surveillance systems change how you feel safe. With plug and play technology these systems are as simple and easy as it gets while offering the highest resolution available. Stay connected to your car or home 24/7 with the mobil app, you will never be out of the loop.

Wireless Prime enhancing your future.

Customer Support

If you encounter any issues with any of our products please contact us directly via the details provided below. DO NOT CONTACT THE RETAIL STORE.

Wireless Prime Inc. (USA)
47 East South Street, Suite 401
Frederick, Maryland 21701, USA
Tel: 1 360 746 8011
Toll Free: 1 800 693 8883

Wireless Prime Inc. (Canada)
2nd floor 2010- 9111 Beckwith Rd
Richmond, BC V6X 1V7 Canada
Tel: 1 604 499 9778
Toll Free: 1 800 693 8883