ADAS 501

User Manual

Before operating the unit, please read the instruction carefully

Precaution

Power

1. **Supply to DC9~36V. Please confirm power voltage before using the kit.**

Safety

1. **Avoid dust and high humidity.**
2. **Avoid strong dropping and impacting.**
3. **Make sure the product is not in direct sunlight.**
4. **If any liquid or solid materials enter machine, cut off the power immediately.**
5. **If any faults happened, please return the kit to the shop, let the technicians repair the kit. Do not fix by your own.**

Assemble

1. **Please assemble the kit at airiness place to prevent the kit from overheated.**
2. **Keep the kit from radiators, over-humid, strong magnetic field. For these will cause the product damage.**
3. **Memory card is consumable item. The warranty is not guaranteed in case of image lost if memory card damages.**

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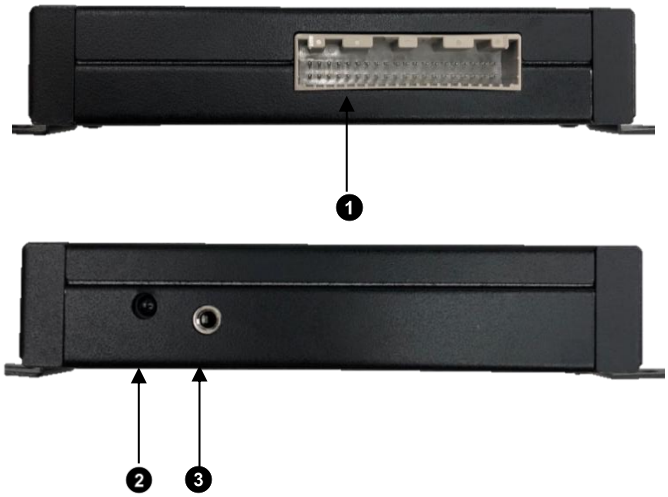
Item			
Description	Rear Extension Cable (20M)	Remote Control	IR Receiver Cable
QTY	1	1	1
Item			
Description	User Manual		
QTY	1		
Item			

Control Box Description

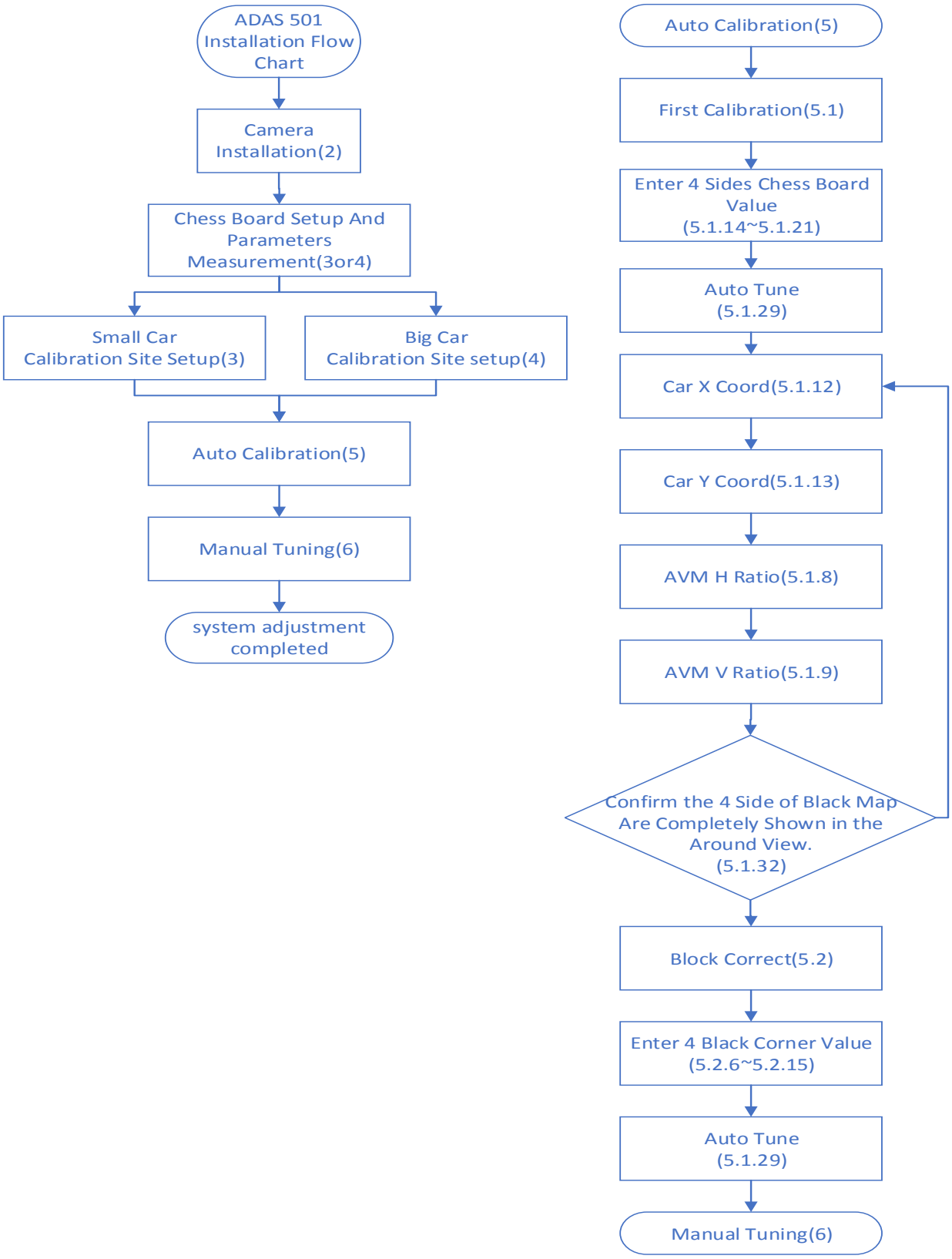


❶ Power/Camera Cable Input

❷ Infrared Receiver

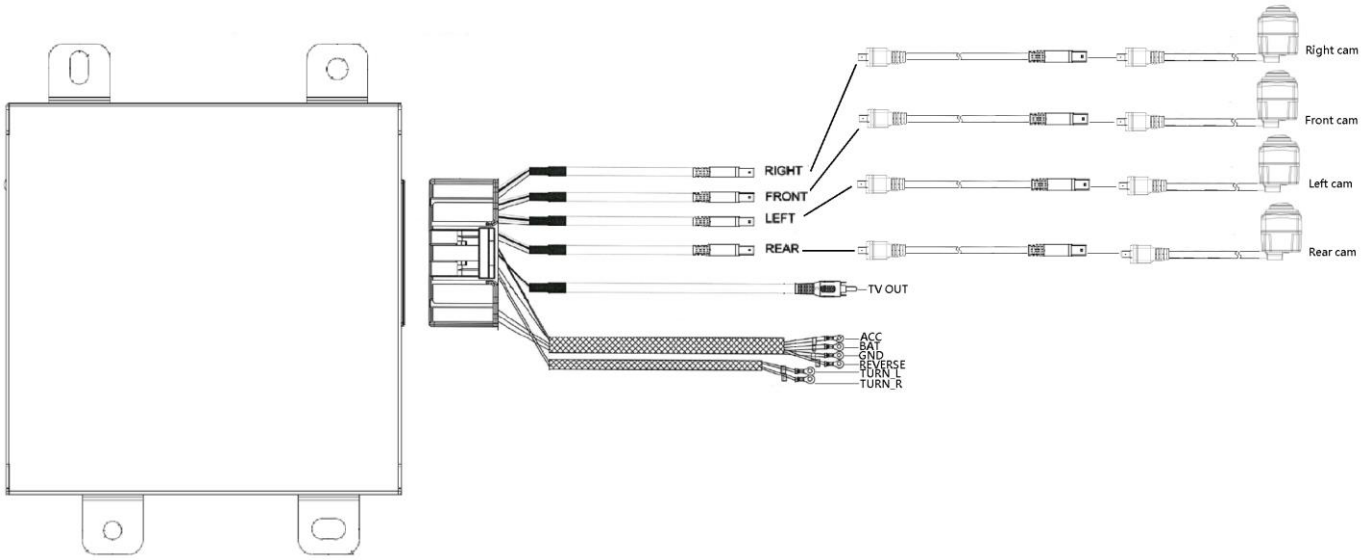
❸ IR Receiver Cable Input

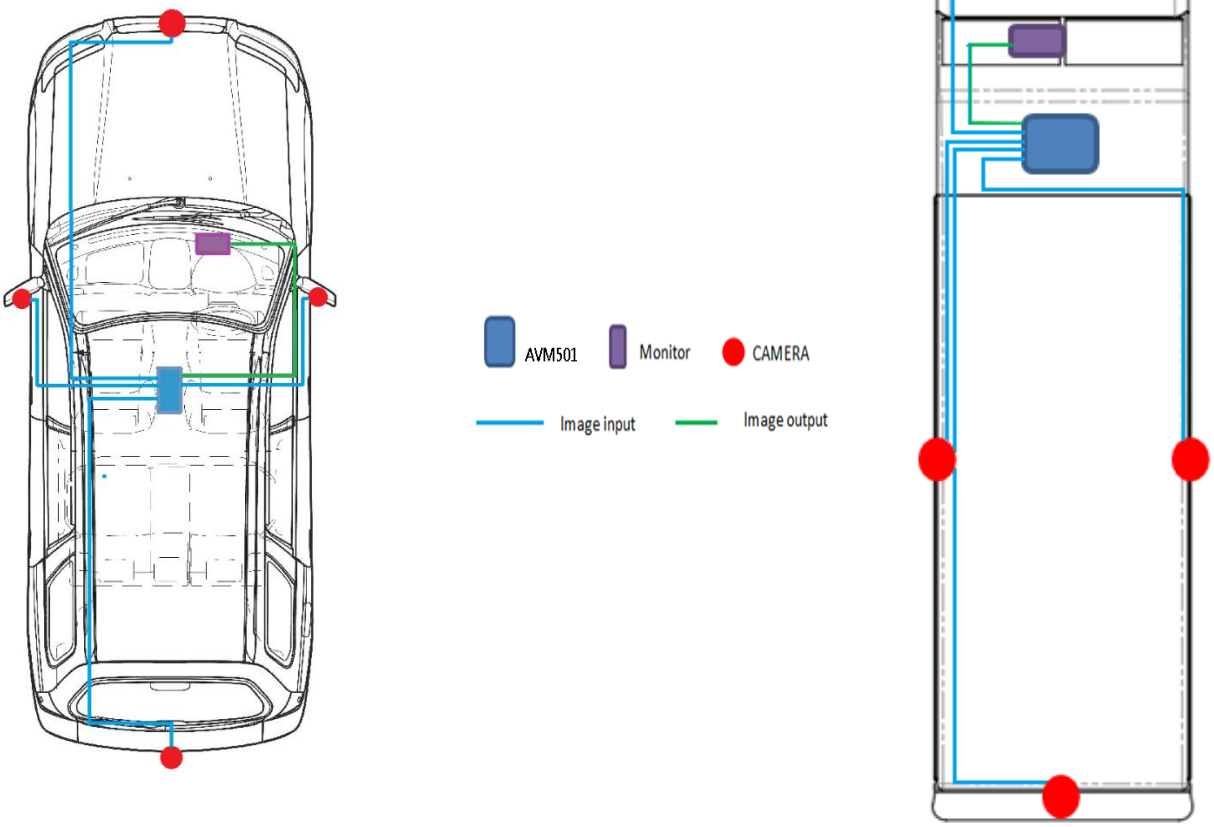
Installation Flow Chart



System Connection

1 Wiring Diagram





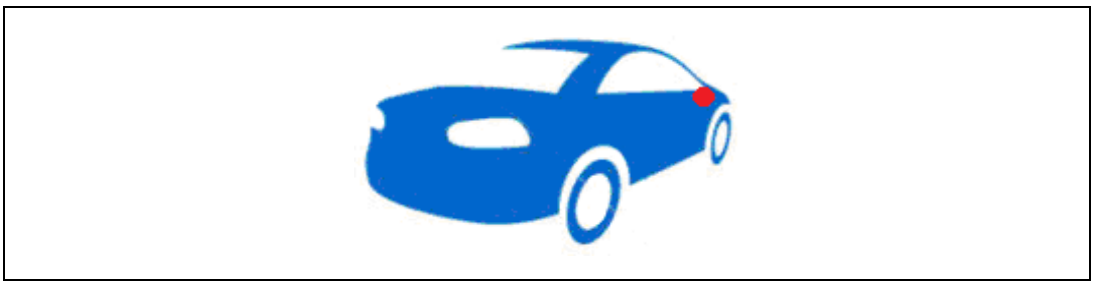
Camera Installation

2 Camera Installation

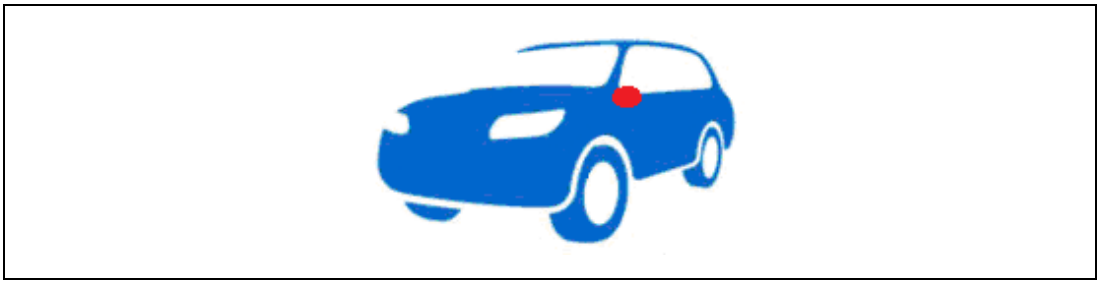
Example of 4 camera install locations:

2.1 Front camera: The suggested position is the center of the front side, above the grid of the car, as shown below. Mind the flatness and the vertical, keep the camera straight.

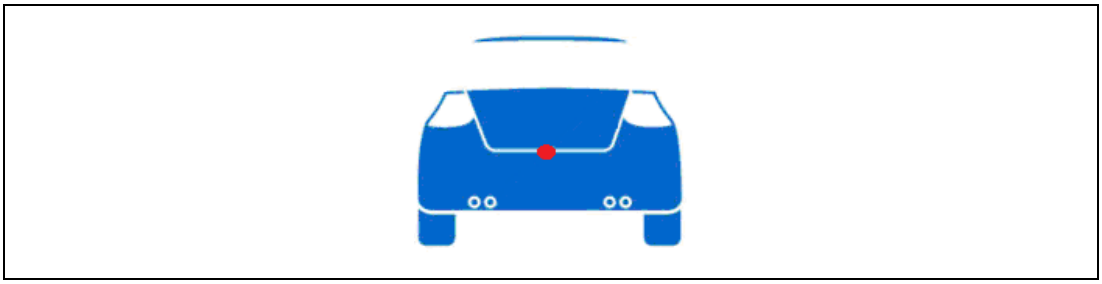
2.2 Right camera: The suggested position is the center of the right side, as shown below. Mind the flatness and the vertical, keep the camera straight.



2.3 Left camera: The suggested position is the center of the left side, as shown below. Mind the flatness and the vertical, keep the camera straight.

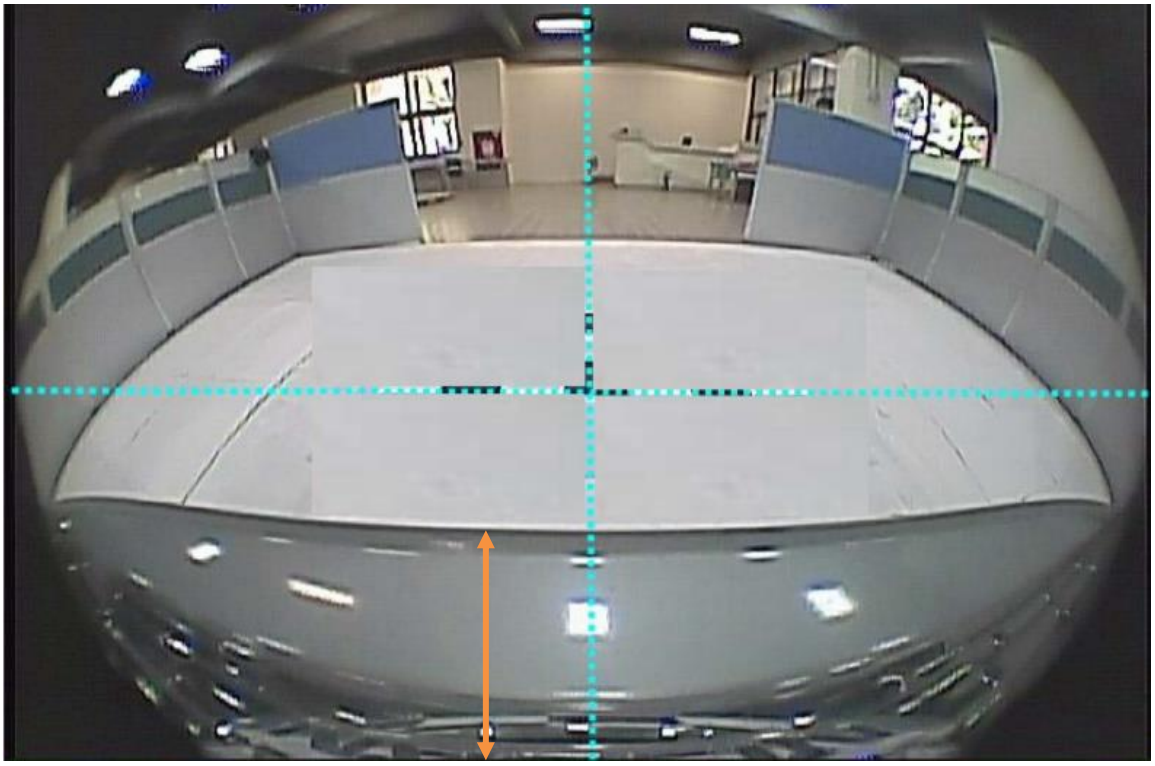


2.4 Rear camera: The suggested position is the center of the rear, as shown below. Mind the flatness and the vertical, keep the camera straight.



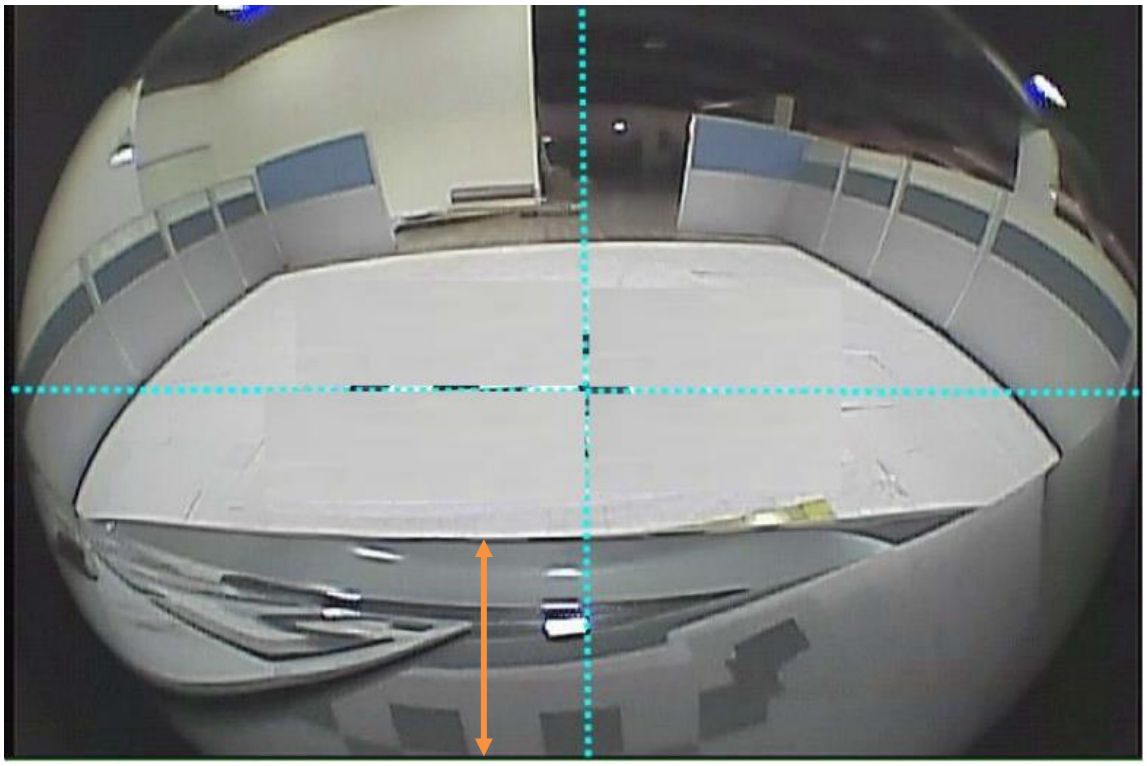
A. Front Camera Image

Adjust front camera angle, recommend the bumper occupy the lower 1/4 of the image. Reference as below:



B. Rear Camera Image

Adjust rear camera angle, recommend the bumper occupy the lower 1/4 of the image. Reference as below:



C. Left Camera Image

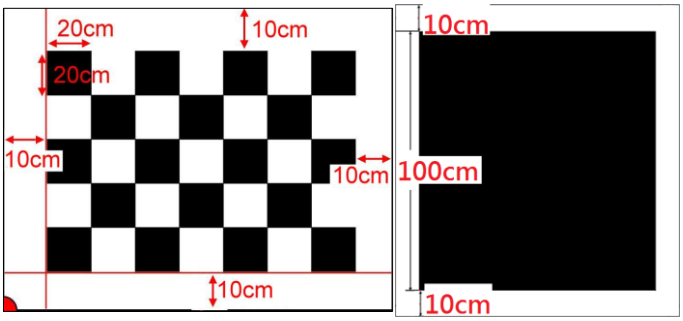
Adjust left camera angle, make sure the car body, front and rear wheel can be seen in the image, and the two wheels should be as horizontal as possible. Reference as below:

D. Right Camera Image

Adjust right camera angle, make sure the car body, front and rear wheel can be seen in the image, and the two wheels should be as horizontal as possible. Reference as below:

Chess Board Setup And Parameters Measurement

3 Small Car Calibration Site Setup (3~8M Car)



3.1 Calibration Map Size:

I. hess board calibration map size: 1.6M*1.2M
Black map calibration map size: 1.2M*1.2M

II. Chess board size: 0.2M*0.2M(20cm*20cm)
Black map size: 1M*1M(100cm*100cm)

III. Chess board calibration map is formed by black and white block with size 5*7.

IV. Map material is “not reflective”, which is easier for image definition.

3.2 Site Instruction of Chess Board and Black Map

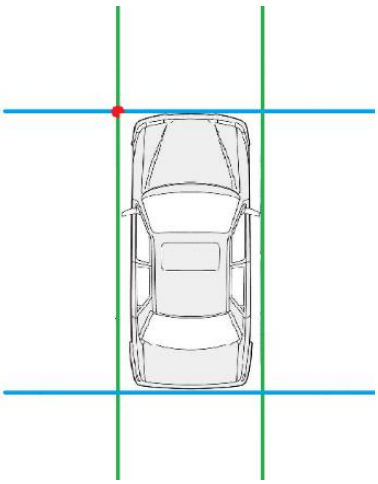
3.2.1 Tool :

I. Chess Board Calibration Map with size 1.6*1.2M, total 4 pcs.

II. Black Map Calibration Map with size 1.2M*1.2M, total 4 pcs.

III. Vehicle Dimension Marking Line

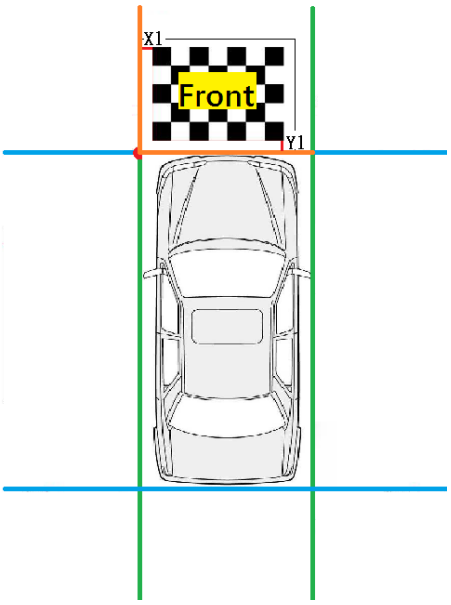
3.2.2 Set the measuring marking line around the vehicle. The marking line should be against the vehicle body, and can be seen on the screen.



3.2.3 Instruction of Front Chess Board and Black Map

I. The white area of chess board calibration map is align with the front and left side of vehicle body. (As shown below orange area.)

II. Measure the distance of X1 and Y1. (EX: X1=100mm,Y1=100mm) For One time calibration. (5.1.14~15)



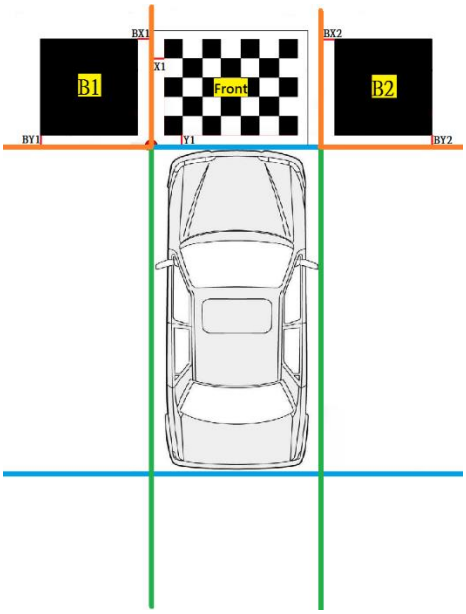
X1: The distance between the measuring tape (color orange) and the left of chess board. The unit is “mm”.

Y1: The distance between the measuring tape of front vehicle (color orange) and the rear of chess board. The unit is “mm”.

I. Place the black map at the two sides of front chess board.

II. The white area of black map is align with the two sides of front chess board and the front vehicle edge. (As shown below orange area.)

III. Measure the distance of BX1 to BY1, and BX2 to BY2.(EX : BX1 = 100mm, BY1 = 100mm, BX2 = 100mm, BY2 = 100mm) For second calibration. (5.2.6~9)



BX1: Distance between the right of black map (B1) to the measuring tape. The unit is “mm”.

BY1: Distance between the rear of black map (B1) to the measuring tape. The unit is “mm”.

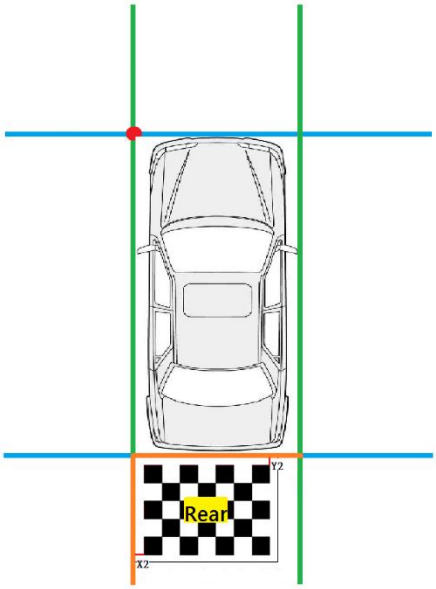
BX2: Distance between the left of black map (B2) to the measuring tape. The unit is “mm”.

BY2: Distance between the rear of black map (B2) to the measuring tape. The unit is “mm”.

3.2.4 Instruction of Rear Chess Board and Black Map

I. The white area of chess board calibration map is align with the rear and left side of vehicle body. (As shown below orange area.)

II. Measure the distance of X2 and Y2. (EX: X2=100mm,Y2=100mm) For One time calibration. (5.1.16~17)



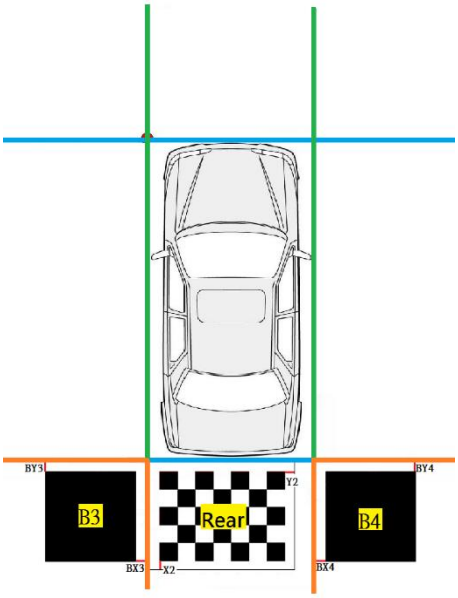
X2: The distance between the measuring tape (color orange) and the left of chess board. The unit is “mm”.

Y2: The distance between the measuring tape of rear vehicle (color orange) and the front of chess board. The unit is “mm”.

III. Place the black map at the two sides of rear chess board.

IV. The white area of black map is align with the two sides of rear chess board and the rear vehicle edge. (As shown below orange area.)

V. Measure the distance of BX3 to BY3, and BX4 to BY4.
(EX : BX3 = 100mm, BY3 = 100mm, BX4 = 100mm, BY4 = 100mm) For second calibration. (5.2.10~13)



BX3: Distance between the right of black map (B3) to the measuring tape. The unit is “mm”.

BY3: Distance between the rear of black map (B3) to the measuring tape. The unit is “mm”.

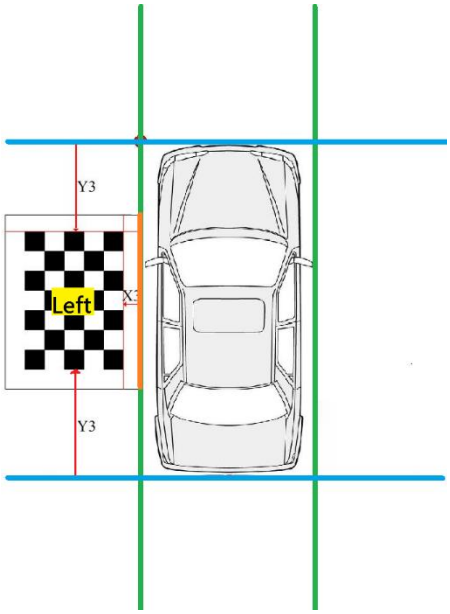
BX4: Distance between the left of black map (B4) to the measuring tape. The unit is “mm”.

BY4: Distance between the rear of black map (B4) to the measuring tape. The unit is “mm”.

3.2.5 Instruction of Left Chess Board

I. The chess board is placed in the middle of the side vehicle body, align with the measuring tape. (As shown below.)

II. Measure the distance of X3 and Y3. (EX: X3=100mm) For One time calibration. (5.1.18~19)



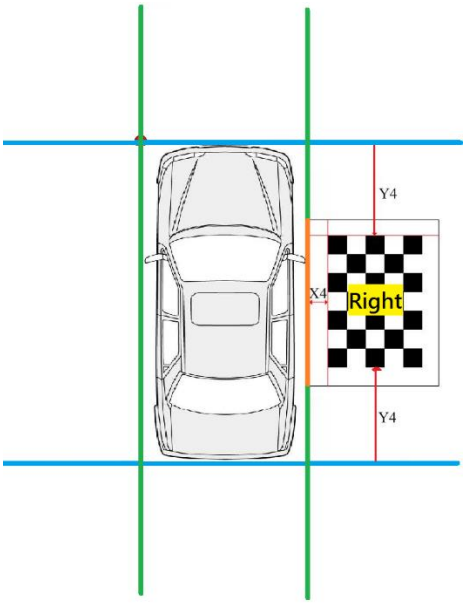
X3: The distance between the measuring tape (color orange) and the right of chess board. The unit is “mm”.

Y3: The distance between the measuring tape of front vehicle (color blue) and the right of chess board. The unit is “mm”.

3.2.6 Instruction of Right Chess Board

I. The chess board is placed in the middle of the side vehicle body, align with the measuring tape. (As shown below.)

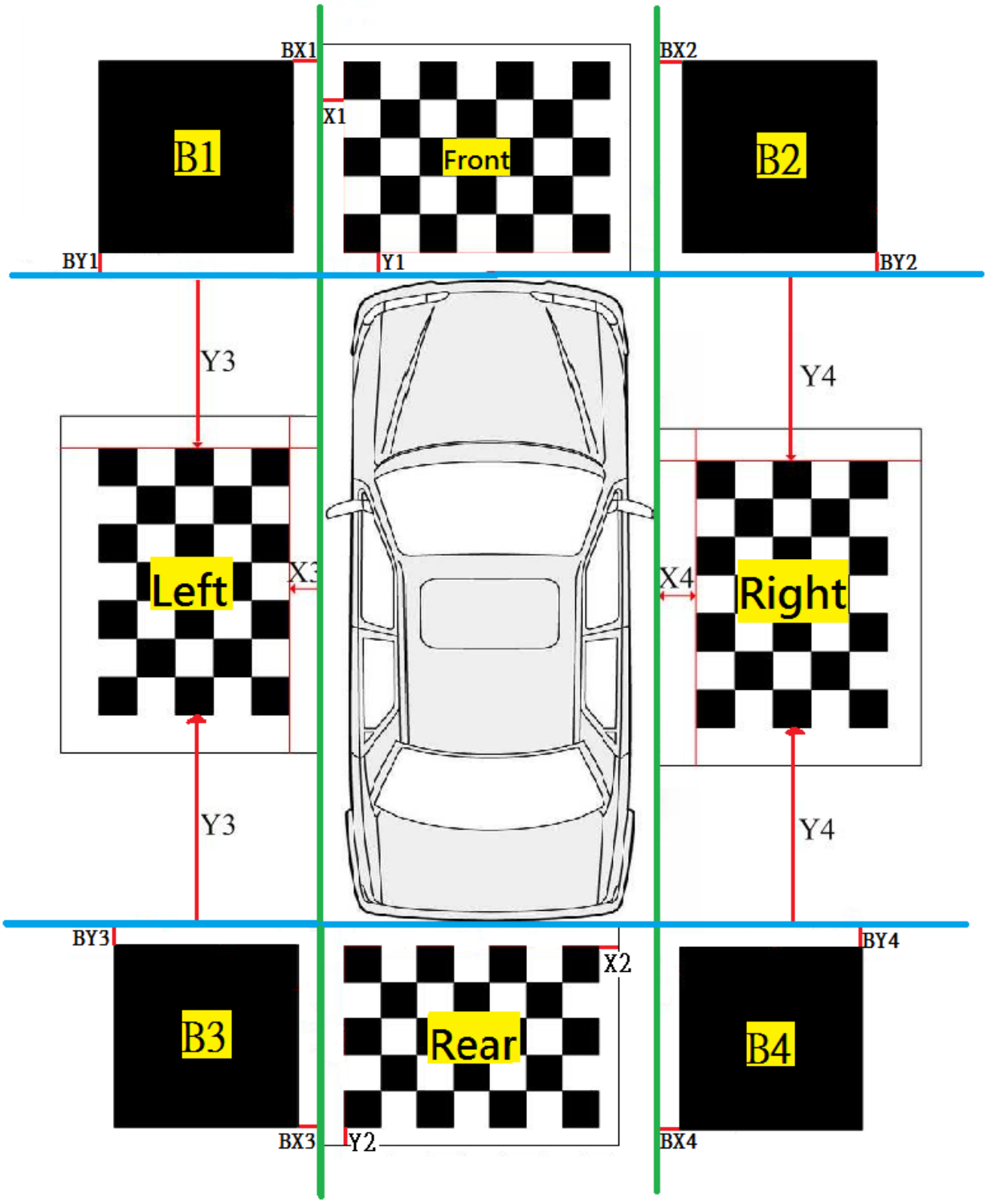
II. Measure the distance of X4 and Y4. (EX: X4=100mm) For One time calibration. (5.1.20~21)



X4: The distance between the measuring tape (color orange) and the left of chess board. The unit is “mm”.

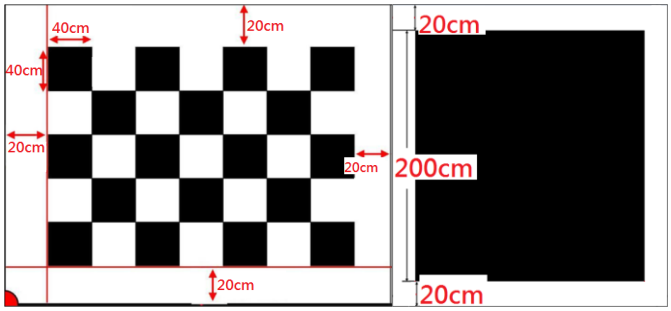
Y4: The distance between the measuring tape of front vehicle (color blue) and the left of chess board. The unit is “mm”.

3.2.7 Complete Setup



Front	X1	mm	Rear	X2	mm	Left	X3	mm	Right	X4	mm
	Y1	mm		Y2	mm		Y3	mm		Y4	mm
Block1	BX1	mm	Block2	BX2	mm	Block3	BX3	mm	Block4	BX4	mm
	BY1	mm		BY2	mm		BY3	mm		BY4	mm
Car length			mm			Car width			mm		

4 Big Car Calibration Setup(6~12M Car)



4.1 Calibration Map Size

I. Chess board calibration map size: 3.2M*2.4M

Black map calibration map size: 2.4M*2.4M

II. Chess board size: 0.4M*0.4M(40cm*40cm)

Black map size: 2M*2M(200cm*200cm)

III. Chess board calibration map is formed by black and white block with size 5*7.

IV. Map material is “not reflective”, which is easier for image definition.

4.2 Site Instruction of Chess Board and Black Map

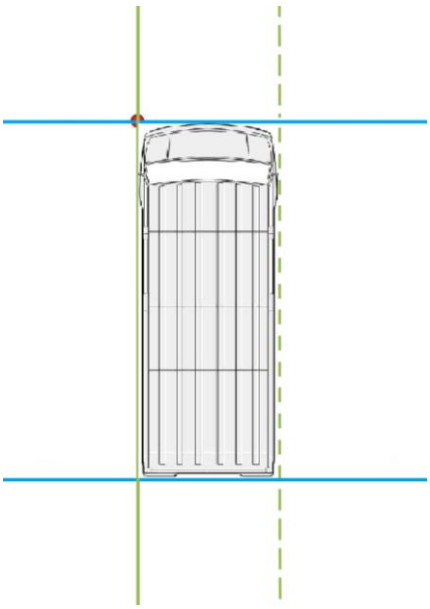
4.2.1 Tool

I. Chess Board Calibration Map with size 3.2M*2.4M, total 4 pcs.

II. Black Map Calibration Map with size 2.4M*2.4M, total 4 pcs.

III. Vehicle Dimension Marking Line

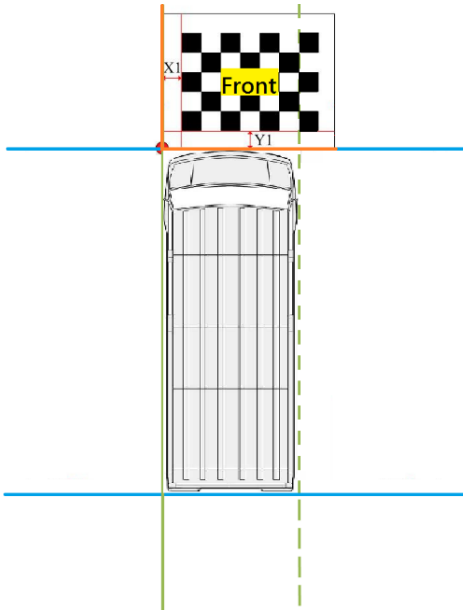
4.2.2 Set the measuring marking line around the vehicle. The marking line should be against the vehicle body, and can be seen on the screen.



4.2.3 Instruction of Front Chess Board and Black Map

I. The white area of chess board calibration map is align with the front and left side of vehicle body. (As shown below orange area.) If the size of chess board is larger than the vehicle width, which is over the right side vehicle body edge, please place the map on the measuring tape edge for system study.

II. Measure the distance of X1 and Y1. (EX: X1=200mm,Y1=200mm) For One time calibration. (5.1.14~15)

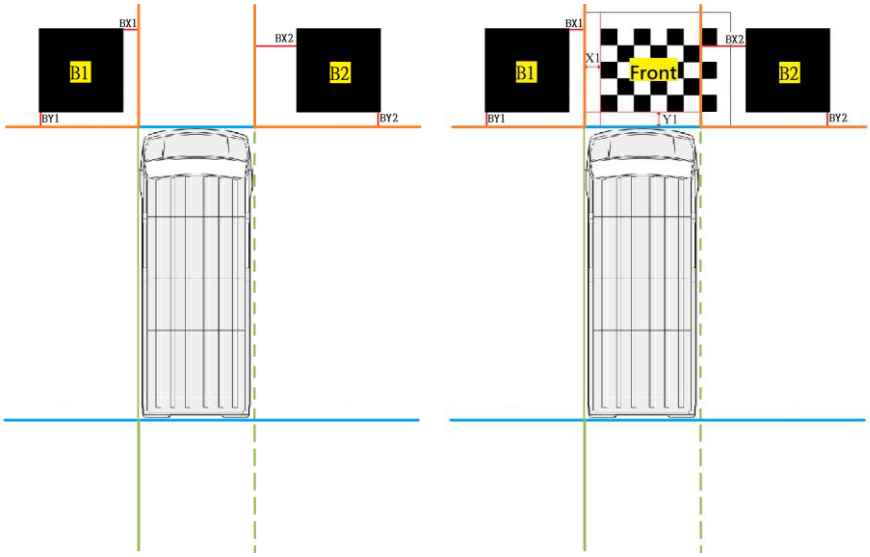


X1: The distance between the measuring tape (color orange) and the left of chess board. The unit is “mm”.

Y1: The distance between the measuring tape of front vehicle (color orange) and the rear of chess board. The unit is “mm”.

III. The white area of black map is align with the two sides of front chess board and the front vehicle edge. (As shown below orange area.)

IV. Measure the distance of BX1 to BY1, and BX2 to BY2.(EX : BX1 = 200mm, BY1 = 200mm, BX2 = 200mm, BY2 = 200mm) For second calibration. (5.2.6~9)



BX1: Distance between the right of black map (B1) to the measuring tape. The unit is “mm”.

BY1: Distance between the rear of black map (B1) to the measuring tape. The unit is “mm”.

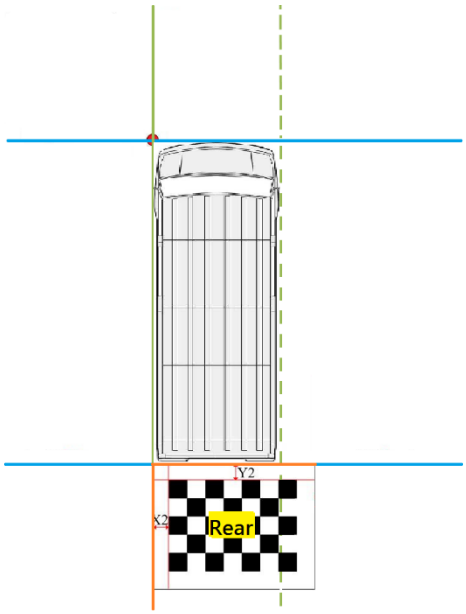
BX2: Distance between the left of black map (B2) to the measuring tape. The unit is “mm”.

BY2: Distance between the rear of black map (B2) to the measuring tape. The unit is “mm”.

4.2.4 Instruction of Rear Chess Board and Black Map

I. The white area of chess board calibration map is align with the rear and left side of vehicle body. (As shown below orange area.) If the size of chess board is larger than the vehicle width, which is over the right side vehicle body edge, please place the map on the measuring tape edge for system study.

II. Measure the distance of X2 and Y2. (EX: X2=200mm,Y2=200mm) For One time calibration. (5.1.16~17)

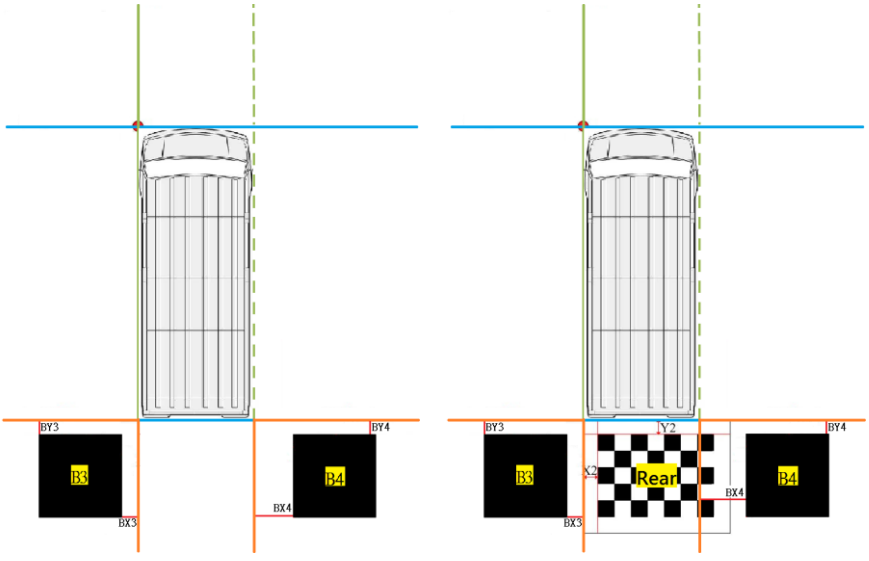


X2: The distance between the measuring tape (color orange) and the left of chess board. The unit is “mm”.

Y2: The distance between the measuring tape of rear vehicle (color orange) and the front of chess board. The unit is “mm”.

III. The white area of black map is align with the two sides of rear chess board and the rear vehicle edge. (As shown below orange area.)

IV. Measure the distance of BX1 to BY1, and BX2 to BY2.(EX : BX3 = 200mm, BY3 = 200mm, BX4 = 200mm, BY4 = 200mm) For second calibration. (5.2.10~13)



BX3: Distance between the right of black map (B3) to the measuring tape. The unit is “mm”.

BY3: Distance between the rear of black map (B3) to the measuring tape. The unit is “mm”.

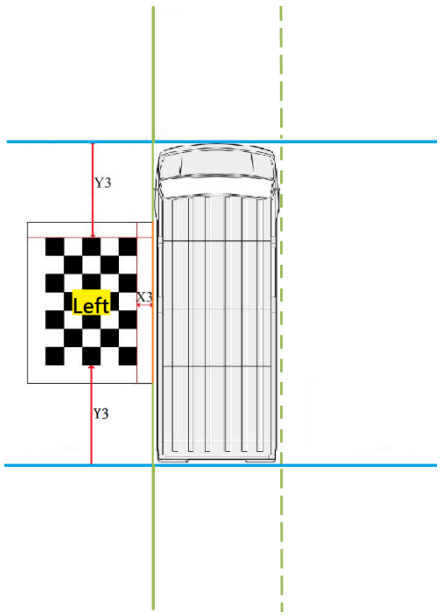
BX4: Distance between the left of black map (B4) to the measuring tape. The unit is “mm”

BY4: Distance between the rear of black map (B4) to the measuring tape. The unit is “mm”.

4.2.5 Instruction of Left Chess Board

I. The chess board is placed in the middle of the side vehicle body, align with the measuring tape. (As shown below.)

II. Measure the distance of X3 and Y3. (EX: X3=200mm) For One time calibration. (5.1.18~19)



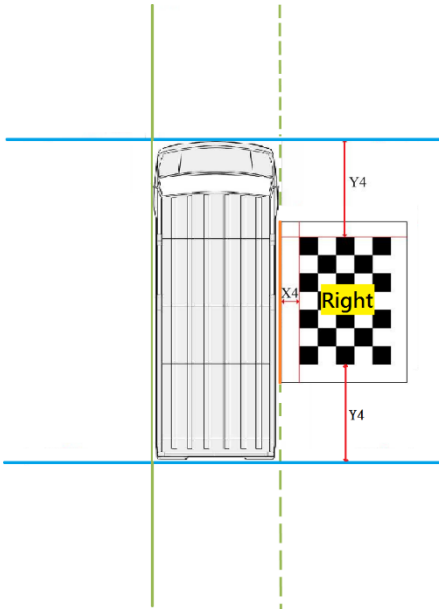
X3: The distance between the measuring tape (color orange) and the right of chess board. The unit is “mm”.

Y3: The distance between the measuring tape of front vehicle (color blue) and the right of chess board. The unit is “mm”.

4.2.6 Instruction of Right Chess Board

I. The chess board is placed in the middle of the side vehicle body, align with the measuring tape. (As shown below.)

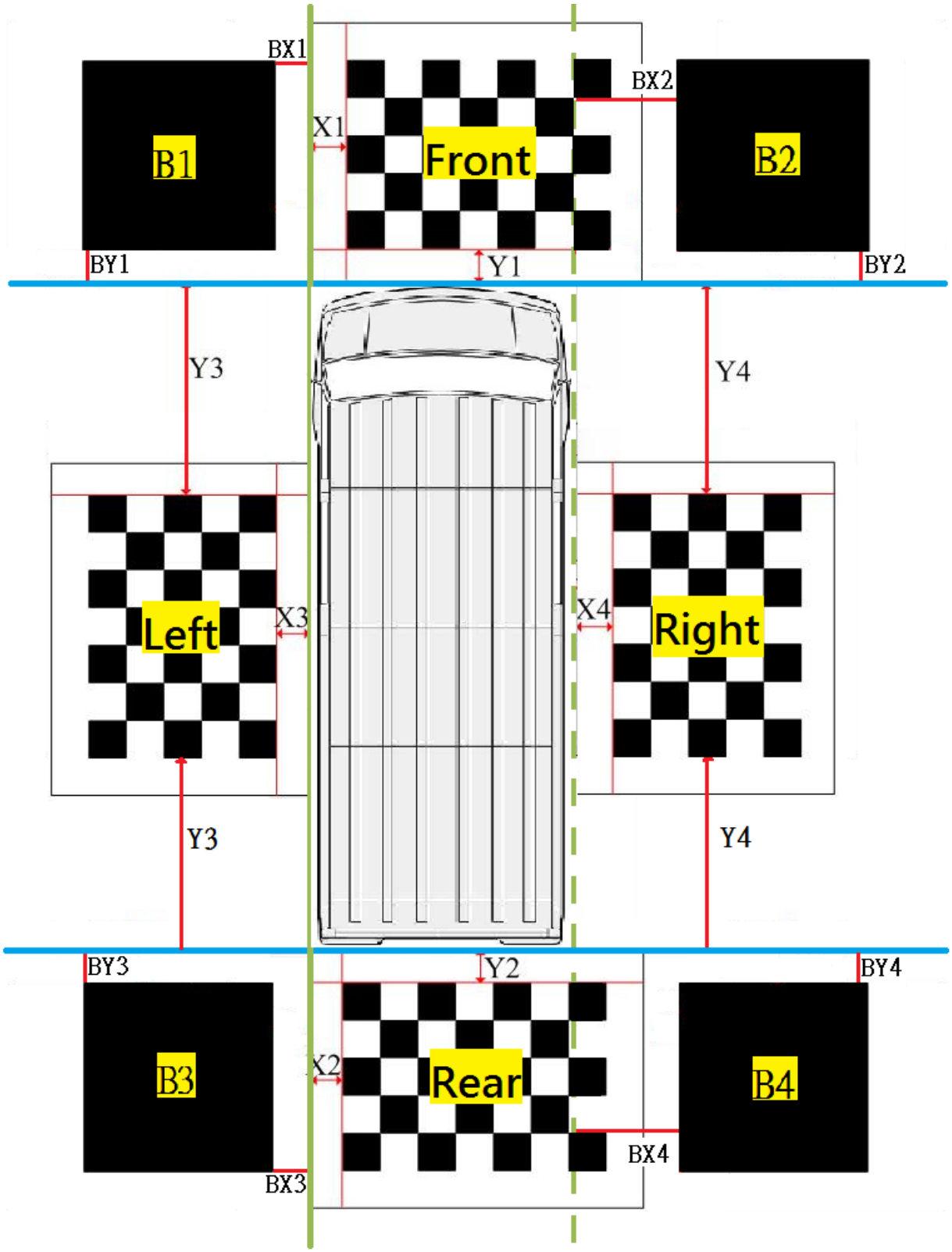
II. Measure the distance of X4 and Y4. (EX: X4=200mm) For One time calibration. (5.1.20~21)



X4: The distance between the measuring tape (color orange) and the left of chess board. The unit is “mm”.

Y4: The distance between the measuring tape of front vehicle (color blue) and the left of chess board. The unit is “mm”.

4.2.7 Complete Setup



Front	**X1**	mm	**Rear**	**X2**	mm	**Left**	**X3**	mm	**Right**	**X4**	mm
	Y1	mm		**Y2**	mm		**Y3**	mm		**Y4**	mm
Block1	**BX1**	mm	**Block2**	**BX2**	mm	**Block3**	**BX3**	mm	**Block4**	**BX4**	mm
	BY1	mm		**BY2**	mm		**BY3**	mm		**BY4**	mm
Car length			mm			**Car width**			mm		

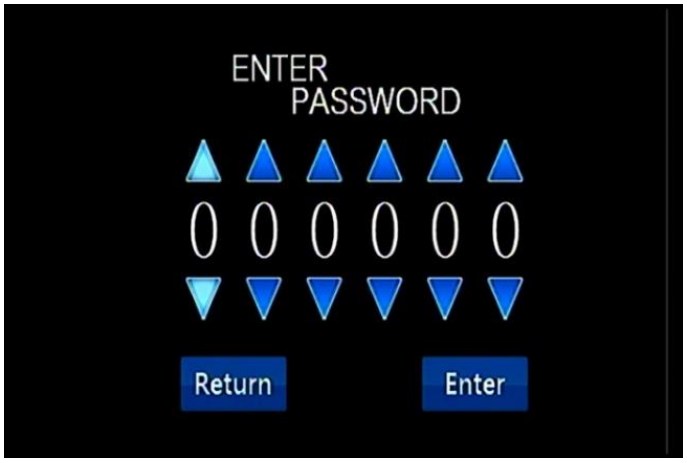
Auto Calibration

5 Auto Calibration

Auto calibration is defined as First Calibration and Second Calibration. Input password “123456” to enter First Calibration page. Input password “123457” to enter Block Correct page.

5.1 One time calibration

5.1.1 Press  on remote controller to enter engineer mode.



5.1.2 Enter "123456" as password to enter AVM setup page.

password

AVM setup page

5.1.3 Press ▲ ▼ ◀ ▶ to move cursor and press OK to enter parameter setting.

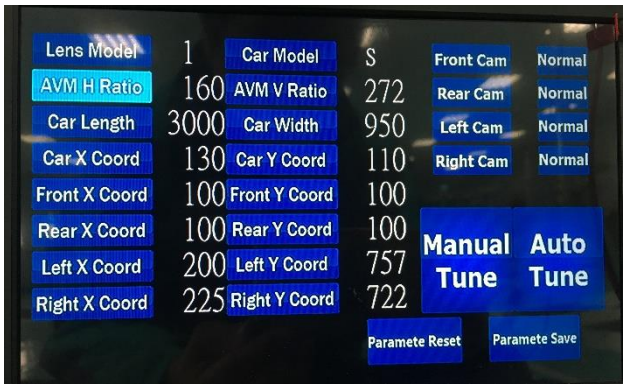
5.1.4 Press ▲ ▼ ◀ ▶ to select option or 0 ~ 9 to input numerical parameters, and press OK to set parameter.

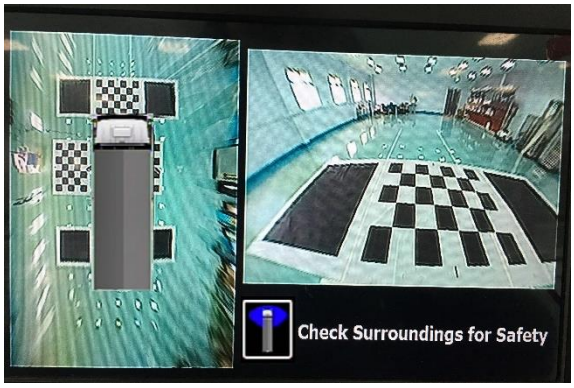
5.1.5 Parameters meaning as below,

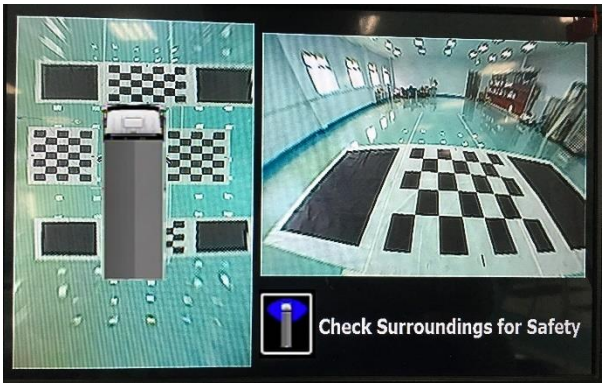
5.1.6 Lens Model refer to different fisheye lens correction model. Default setting is [1]. The system has built-in calibration parameters of the fisheye lens, thus we recommend DO NOT change this parameter.

5.1.7 Car Model Press ◀ ▶ of the remote control to select the vehicle size. When the vehicle is larger, the overall view range is larger. The abnormal area of the 360 bird view can be sifted out through this selection.

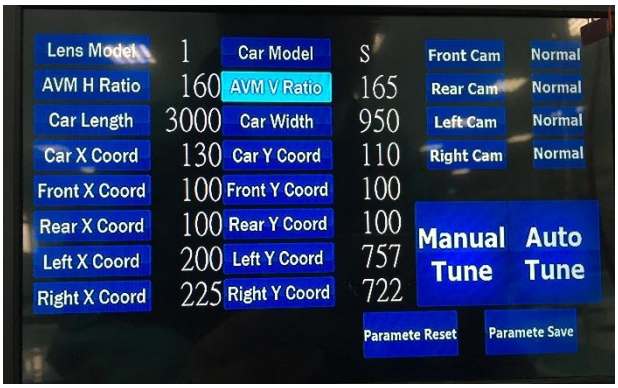
5.1.8 AVM H Ratio Right side view range selection adjustment. When the value is smaller, the overall view range is smaller.

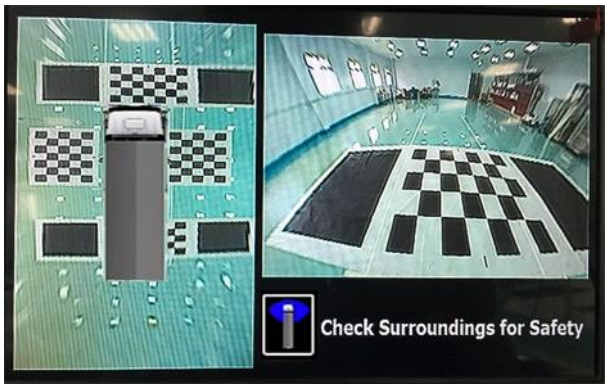


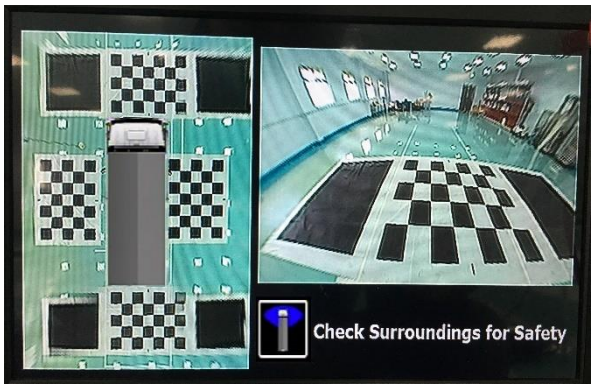




5.1.9 AVM V Ratio Rear side view range selection adjustment. When the value is smaller, the overall view range is smaller.



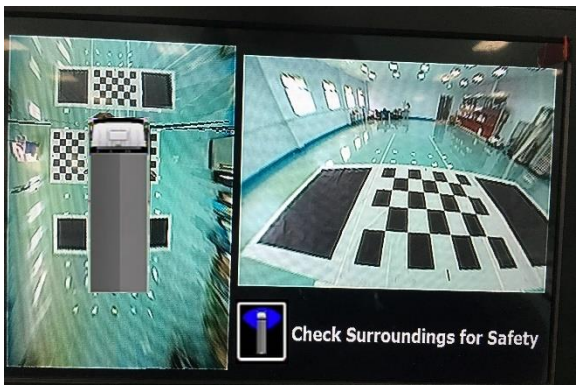




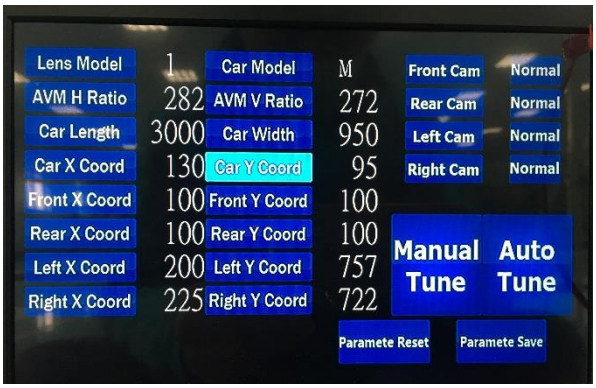
5.1.10 Car Length refer to[Car length] measured at the calibration field. Unit: mm

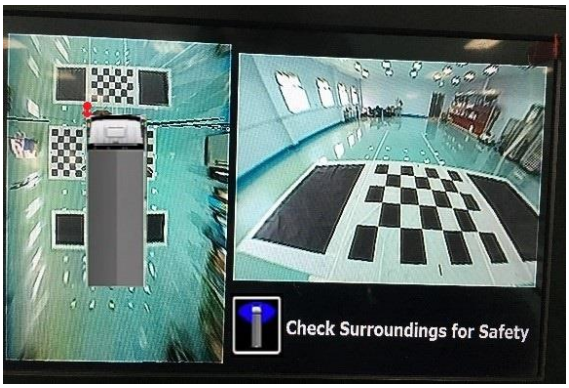
5.1.11 Car Width refer to [Car width] measured at the calibration field. Unit: mm

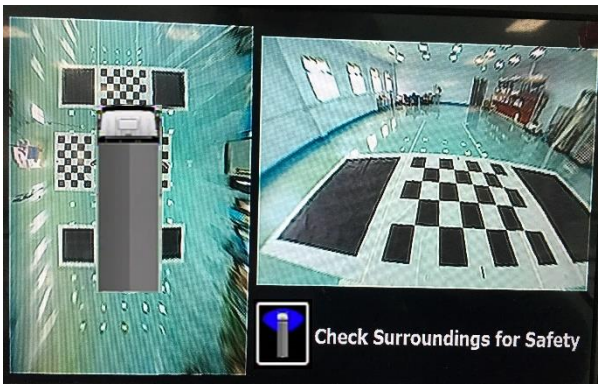
5.1.12 Car X Coord X-coordinate adjustment. When the value is larger, vehicle image is close to the right side. When the value is smaller, vehicle is close to the left side.



5.1.13 Car Y Coord Y-coordinate adjustment. When the value is larger, vehicle image is close to the bottom side. When the value is smaller, vehicle image is close to the upper side.







5.1.14 Front X Coord refer to the [X1] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit : mm

5.1.15 Front Y Coord refer to the [Y1] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value. Unit : mm

5.1.16 Rear X Coord refer to the [X2] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit : mm

5.1.17 Rear Y Coord refer to the [Y2] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit : mm

5.1.18 Left X Coord refer to the [X3] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit : mm

5.1.19 Left Y Coord refer to the [Y3] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit : mm

5.1.20 Right X Coord refer to the [X4] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit : mm

5.1.21 Right Y Coord refer to the [Y4] length measured at calibration field. (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit : mm

5.1.22 Front Cam has [Normal]/[Mirror] options, which refers to front camera input image to be Normal or Mirror image.

5.1.23 Rear Cam has [Normal]/[Mirror] options, which refers to rear camera input image to be Normal or Mirror image.

5.1.24 Left Cam has [Normal]/[Mirror] options, which refers to left camera input image to be Normal or Mirror image.

5.1.25 Right Cam has [Normal]/[Mirror] options, which refers to right camera input image to be Normal or Mirror image.

5.1.26 Paramete Reset reset all parameters above to default setting.

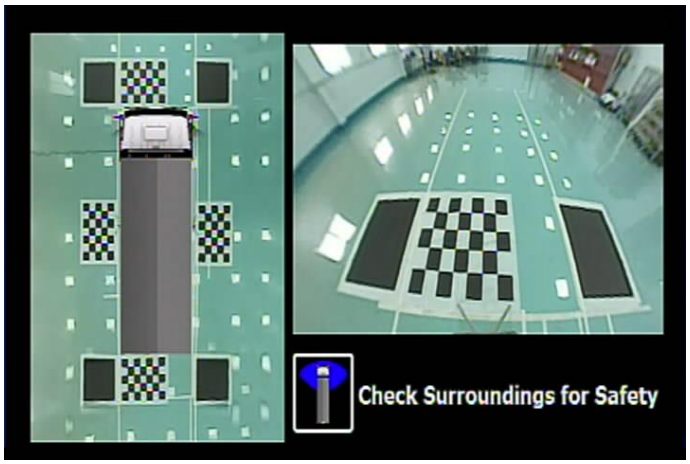
5.1.27 Paramete Save save all parameters above to present setting.

5.1.28 Manual Tune activate this icon to enter[Manual Tune] page, which will describe at next section.

5.1.29 Auto Tune activate this icon to run auto calibration process based on present parameters setting.

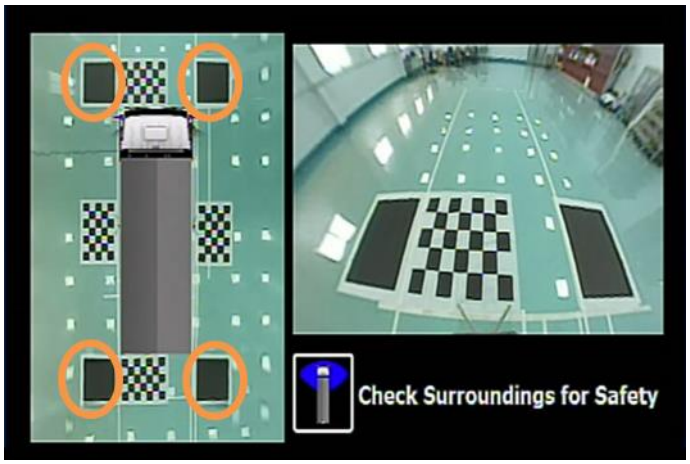
5.1.30 After all the parameters are set, activate Paramete Save to save present setting.

5.1.31 Activated Auto Tune icon to run auto calibration process, after auto calibration process is finished, the image will go back to [Main Display] as below.



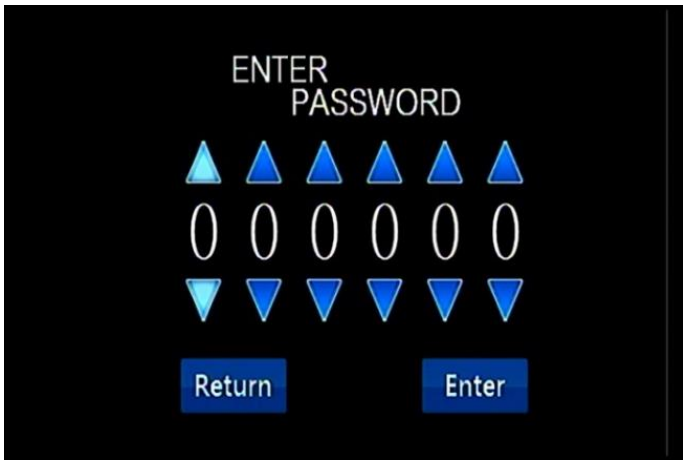
Main Display

5.1.32 Confirm the 4 side of black map are completely shown in the Around View, then proceed with demarcation of black map.



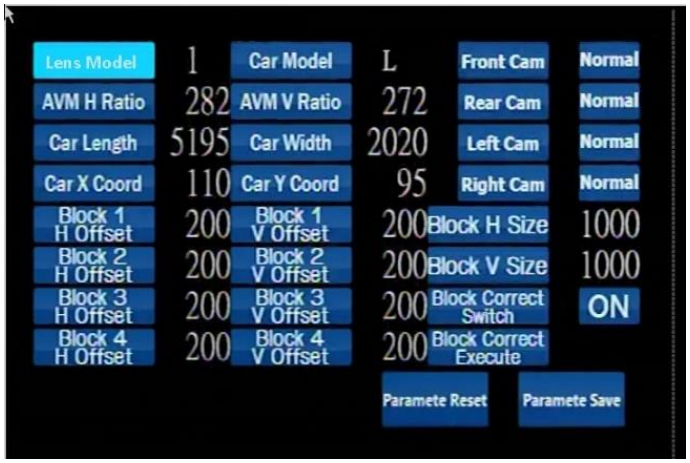
5.2 Block Correct

5.2.1 Press  on remote controller to enter engineer mode.



5.2.2 Enter "123457" as password to enter [Block Correct] page.

password



AVM setup page

5.2.3 Press  to move cursor and press  to enter parameter setting.

5.2.4 Press  to select option or  to input numerical parameters, and press  to set parameter.

5.2.5 Parameters meaning as below,

5.2.6 

Key in the length of the demarcation area (BX1). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.7 

Key in the length of the demarcation area (BY1). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.8 

Key in the length of the demarcation area (BX2). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.9 

Key in the length of the demarcation area (BY2). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.10 

Key in the length of the demarcation area (BX3). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.11 

Key in the length of the demarcation area (BY3). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.12 

Key in the length of the demarcation area (BX4). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.13 Block 4 V Offset Key in the length of the demarcation area (BY4). (When using the big calibration map, please divide the measuring value by 2 before entering the value.) Unit is mm.

5.2.14 Block H Size Key in the horizontal length of the black map during Second Calibration. Unit is mm.

5.2.15 Block V Size Key in the vertical length of the black map during Second Calibration. Unit is mm.

5.2.16 Block Correct Switch To select if to release the function of Second Calibration.

5.2.17 Block Correct Execute If the function of Second Calibration is released, use the parameter of coordinate to proceed with auto second calibration.

5.2.18 After all the parameters are set, activate Paramete Save to save present setting.

5.2.19 After calibration, power off then restart the system.

Notices of Auto Calibration:

Notice 1: The consistent light intensity is needed, and no side effects to cause shadows for the recognition objects, which will lead to recognition error occurred. If the calibration field fails to meet the basic factory requirements, we are unable to ensure the correctness of stitching. In addition, it is recommended to have the ground intensity greater than 200 Lux for object recognition.

Notice 2: Keep the calibration field in a horizontal level, and no other objects within the around view range. It is recommended to use anti-glare material for the Chess-board and 4 black square cloths to get better recognition effect.

Manual Tuning

6 Manual Tuning

After Auto calibration is finished, the image of the junction edge may not appear perfectly. Now you may turn on the manual tuning to adjust the surround view image by human eyes to get more idealistic images.

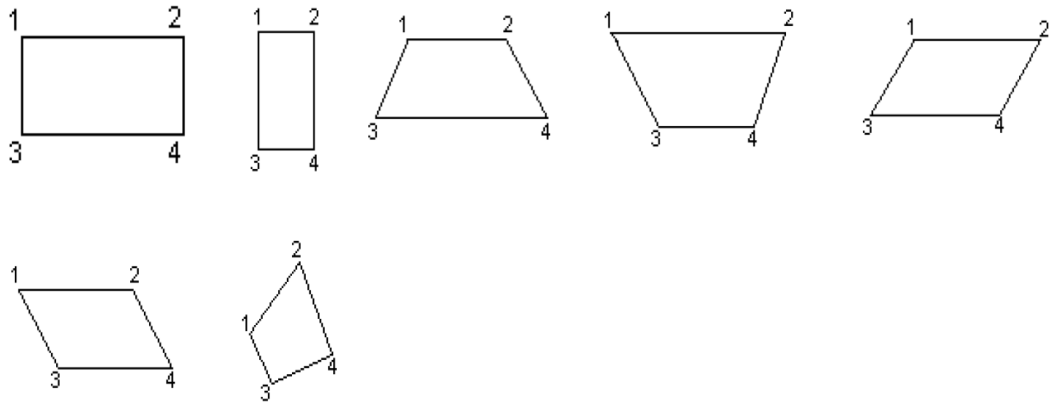
6.1 Adjustment Concept: Surround view image is composed by 4 fish-eye cameras images:

6.2 Fish-eye correction -> Space projection -> 4 Windows were stitched together -> Displaying image

The basic concept of Space projection is 4 points conversion, and so the [Manual Tune] provides 4 windows (front/rear/right/left) for conversion. By remote control selection, the stitching image can be reinforced.

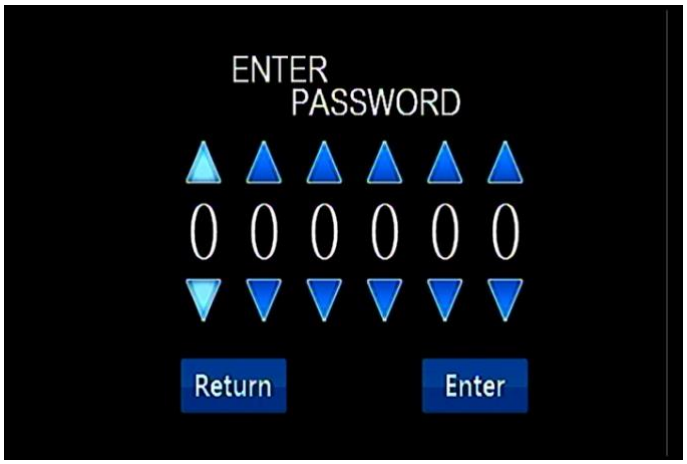
Refer to the figure on right side 

, each window has 4 DP point (target point) for moving and scaling the window shift. By adjusting the DP point (target point), the window shape will change as below figure for a better stitching effect.



6.3 The Manual Tune procedures are as below:

6.3.1 Press  on remote controller to enter engineer mode.



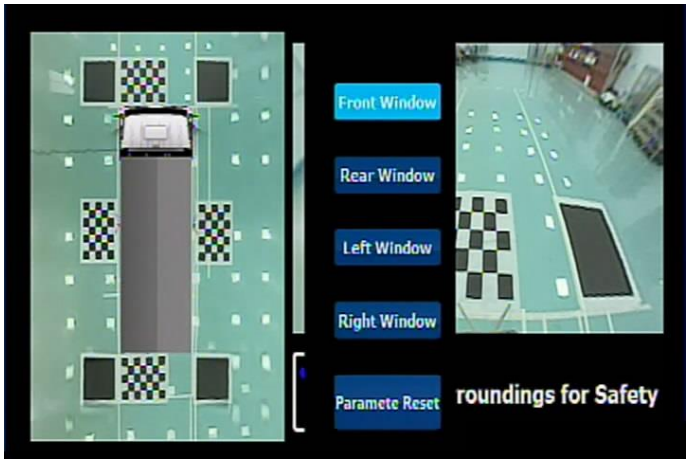
6.3.2 Enter "123456" as password to enter AVM setup page.

password

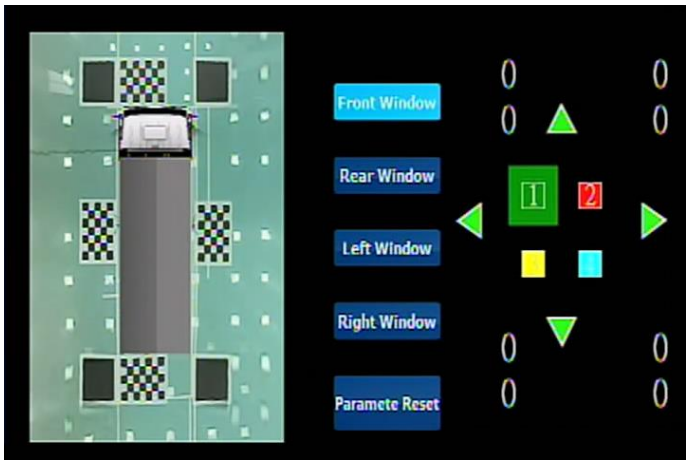
AVM setup page

6.3.3 Activated 

icon to enter [Manual Tune] screen as below.



Manual Tune



4 points adjustment

6.3.4 Move the cursor to 

, press 

to enter [4 points adjustment] page as below.

6.3.5 In [4 points adjustment] page, press 

to select DP1->DP2->DP3->DP4->DP12->DP13->DP24->DP34->DP1234, which will appear repeatedly.

And then press  button to move the correspondent point selected by the window upward/downward/left/right, so that the junction line can get better stitching effect.

When finishing adjusting this window, press  and return to [Manual Tune] screen.

6.3.6 Repeat above 4,5 process for other 3 windows to get better stitching performance of the surround view image.

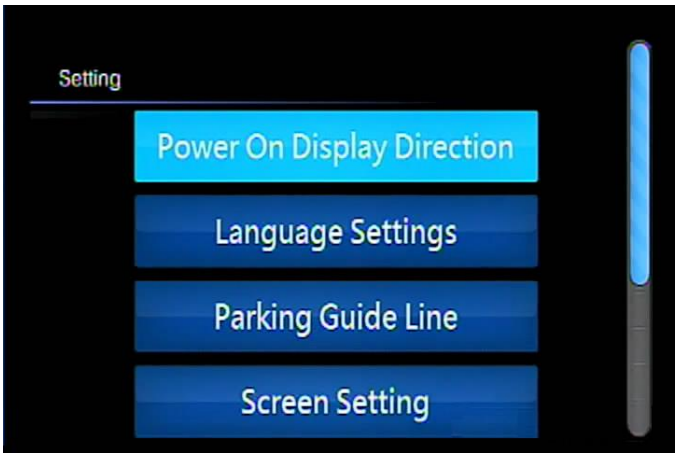
6.3.7 After manual tuning process of all the 4 windows are done and back to [Manual Tune] screen, press  back to [AVM setup] page, move cursor to Paramete Save to save present setting.

6.3.8 If any problem occurs during the manual tuning process, move cursor to Paramete Reset at [Manual Tune] screen and activate to restore the status before manual tuning process.

System Setting

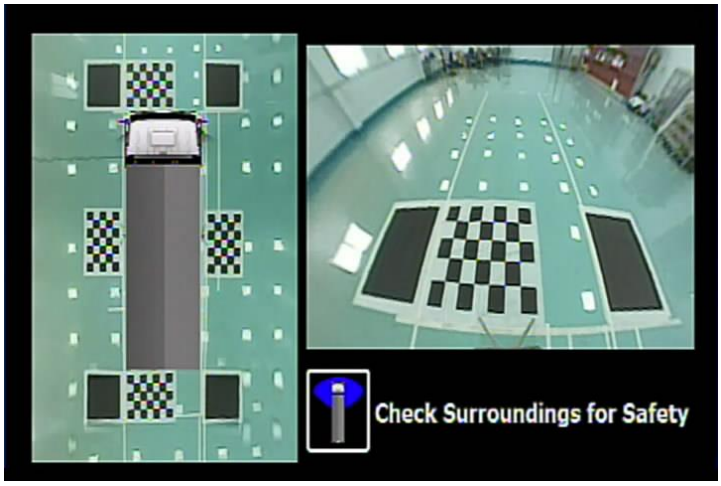
7 System Setting

7.1 Press  on remote controller to system [Setting menu] as below,



Setting menu

7.2 Press  again on remote controller to return to [Main Display] screen,

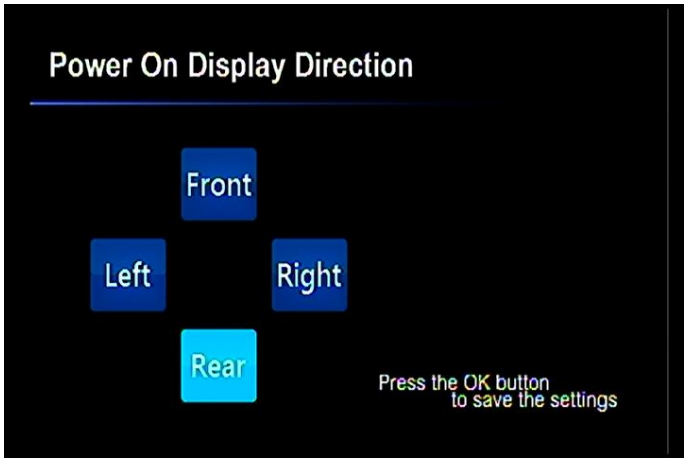


Main Display

7.3 Power On Display Direction

This function can preset which camera image will display at the right half of the main display screen after power on.

At [Setting menu] page, activate Power On Display Direction to enter [Power On Display Direction] page as below,



Power On Display Direction

move cursor to select which camera image will display at the right half of the main display screen after power on. Press OK to save the setting and back to main display screen. The setting will become effective at next power on.

7.4 Language Settings

This function set the language using in the AVM system. There are two language options: English and Traditional Chinese.

At [Setting menu] page, activate Language Setting to enter [Language Settings] page as below,

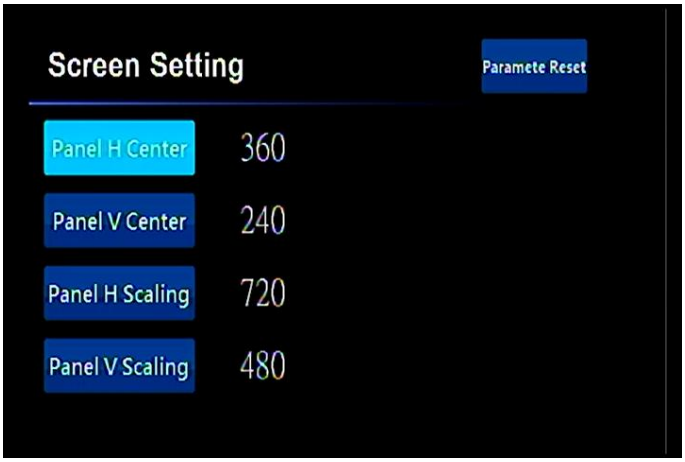
Language Settings

press ◀ ▶ to select language options and press ⚙ to back to [Main Display] screen. This setting is effective immediately.

7.5 Screen Setting

This function set image display location and scale on the monitor.

At [Setting menu] page, activate Screen Setting to enter [Screen setting] page as below,



Screen setting

7.5.1 Panel H Center press ◀ ▶ to shift the display to the left or right.

(Maximum: 520; Minimum: 200) Default: 360. EX: input image resolution is 720*480 and the Panel H

Center will be 720/2=360.

7.5.2 Panel V Center press ◀ ▶ to shift the display upward or downward.

(Maximum: 340; Minimum: 140) Default: 240. EX: input image resolution is 720 *480 and the Panel V Center will be 480/2=240.

7.5.3 Panel H Scaling press ◀ ▶ to enlarge or shrink the display horizontally.(Maximum: 940; Minimum: 500) Default: 720. EX: input image resolution is 720*480.

7.5.4 Panel V Scaling press ◀ ▶ to enlarge or shrink the display vertically.(Maximum: 640; Minimum: 300) Default: 480. EX: input image resolution is 720*480.These settings are effective immediately, after setting press ⚙ to back to [Main Display] screen. If any problem occurs during the screen setting, move cursor to Paramete Reset and activate to restore the default values.

8 DVR

8.1 Recording Status: Auto recording after main system power on. Press  on AVM image to switch to DVR surface.

 : Switch to the default page.

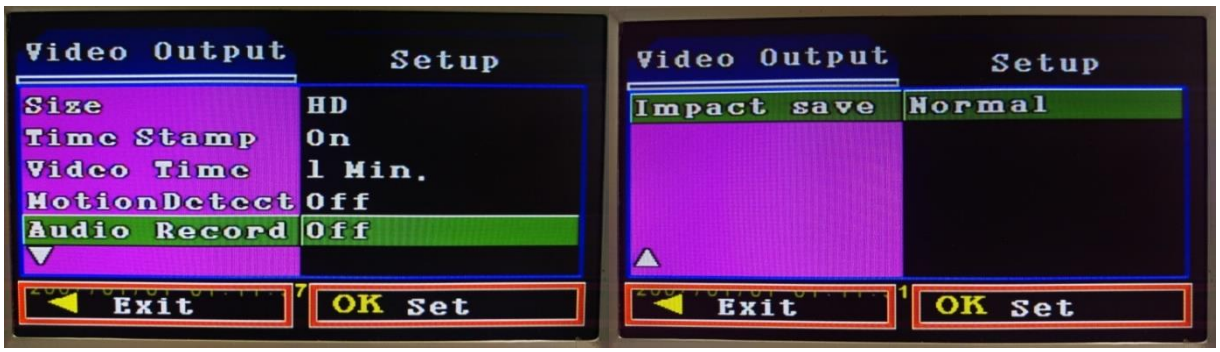
 : Switch to display.

: Stop / Start recording.

 Emergency recording On/Off.

8.2 Video output setup:

Setup the recording resolution and recording period.



8.3 DVR config setup:

Time adjustment, format record, language setup, system reset.

8.4 File Display: Press  on DVR surface, then switch to display surface. Press  to switch to recording surface.

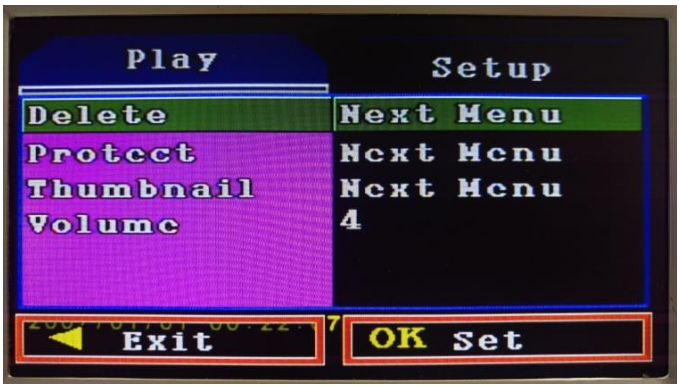
: Select video.

Display or stop: Display speed adjustment.

OK: Display / Stop

: Enter PLAY SETTING

8.5 Display setup: Setup the file image, delete the file, lock the file.



Notice : Connect the battery cable of control box to the vehicle battery, to avoid the parameter and time of DVR to be vanished.

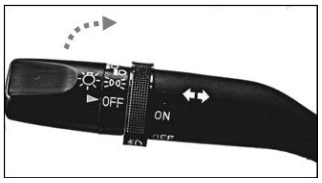
Function Mode

9 Function Mode

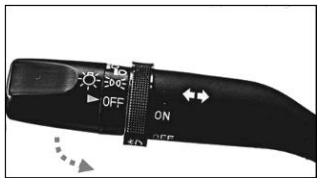
9.1 When system is powered on, monitor shows function as follows.

9.2 Mode: SV + SV (Surround view + Single view)

I. Single view switches to right side image when right turn signal is on.



II. Single view switches to left side image when left turn signal is on.



III. Single view switches to rear view image when reversing signal is on.

Product Specification

Control Box Spec	
Power Supply	DC 9 ~ 36V
Power Consumption	ECU 6W(MAX), Camera * 4 - 6W(Max)
Working Temp	-30 ℃ ~ +80 ℃
Storage Temp	-40 ℃ ~ +85 ℃
Input Signal	CVBS
Video Input	CAMERA * 4
Output Signal	CVBS / NTSC (640 * 480 Pixel)
Video Output	RCA A/V terminal
Function mode	2D round view, single view
Reverse voltage	Vrrm（Maximum repetitive peak reverse voltage）35V
Dimension	130 x 130 x 26 mm

DVR	
Display Mode	Input the 4 camera images to calibrate as a image
Recording Resolution	D1/HD/Full HD
Recording Frame	1 minute / 3 minutes / 5 minutes
Internal Storage	16G
File formats	MOV

CAMERA	
Image Sensor	1/4“ CMOS Image Sensor
Resolution	NTSC 720H*487V
System	NTSC
Supply Voltage	DC+5V
Min Illumination	1.0LUX
Water Resistance	IP67
Horizontal View Angle	190°±5°
Vertical View Angle	140°±5°
Operation Temp	-30 ℃ ~ +70 ℃
Storage temperature	-40 ℃ ~ +85 ℃
Camera Output	NTSC_CVBS（1Vpp75Ω）
Casing Material	CAM housing (ABS+PBT+30%GF)
Weight	25g/pcs

Trouble Shooting Guide

Situation	Cause	Corrective Action
No power	Bad connection of power in	Please check ADAS501 power connection
No image on screen	Monitor signal cable is not connected	Please check if the monitor signal cable is connected
Fuzzy screen on the monitor	Dirt on the surface of the lenses	Please clean the lenses with soft and clean fabric
The screen image is not clear	Monitor resolution is too low	Resolution with 720X480 or above is recommended
Dark image on screen	Signal cable of camera is not connected	Please check if signal cable is connected
	Lens default	Please change lens
No function of left/right/reverse trigger	Trigger signal is not connected	Please check if the trigger signal is connected
No function of control knob	Disconnection of control knob cable	Please check if the cable is connected