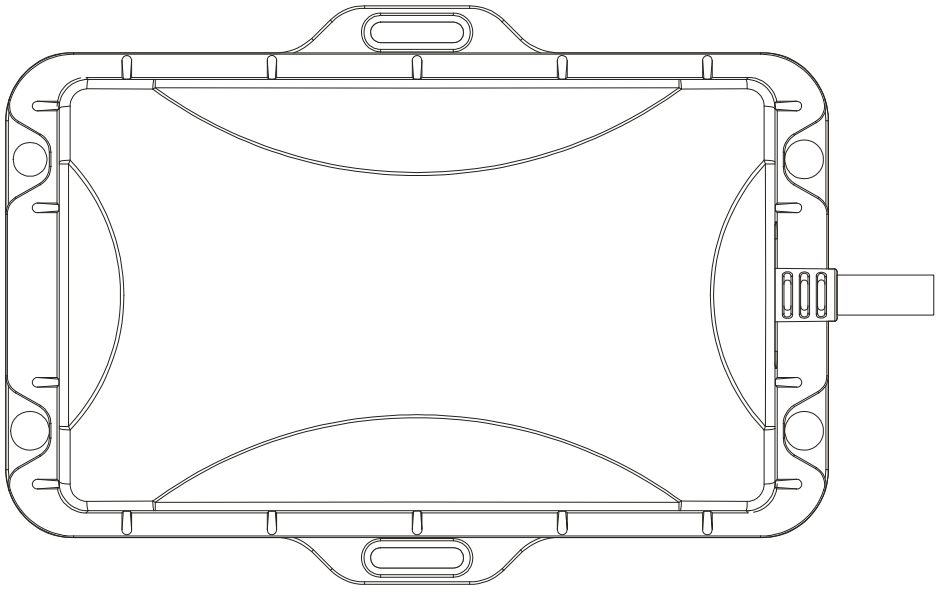
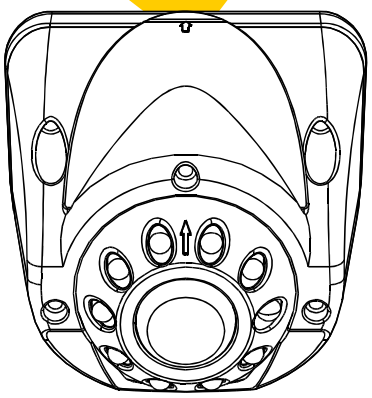
400-120

CARVISION®

BSD-150

Blind Spot Detection Control Box
FOR 2 CHANNELS





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⚠ WARNING:

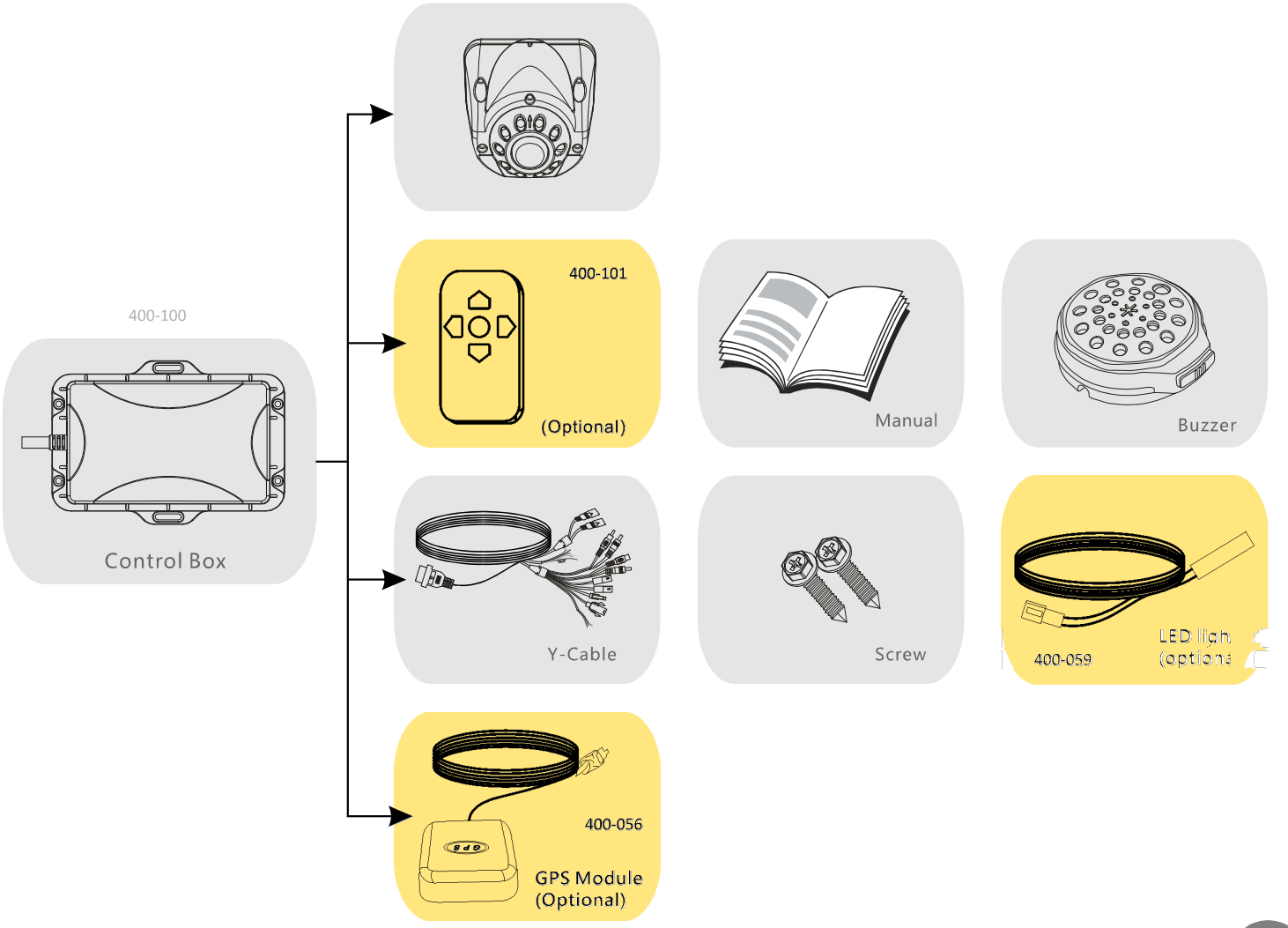
The blind spot detecion system (BSD) only used as an auxiliary equipment, driver needs to take responsibility of safe by himself !

FEATURES

- Integrate with Blind-spot Detection (BSD) System and Lane Departure Warning (LDW) System
- Support one channel detection function and a rear view
- Provide active audio and visual warning to the driver
- Any moving object present in the blind-sport area can be detected
- Auto-activation or shutdown the display by the speed and turn signal that determined by GPS or GPIO signals
- Optional external alarm with warning for pedestrian, cyclists
- BSD or LDW function ON/OFF can be adjusted manually
- Any monitors and rear view cameras can be compatible
- Upgrade the passive camera system to active one

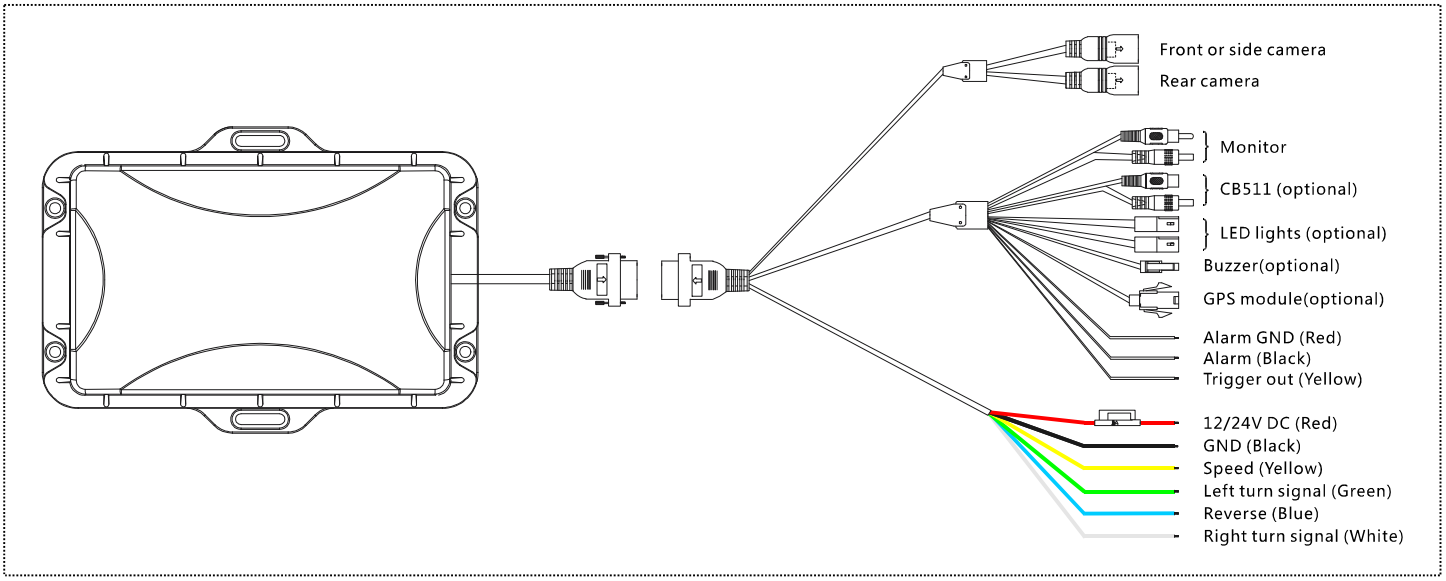
SYSTEM COMPONETS

- **Please unpack the package and check whether you have received the following items.**



CONNECTION

- The red and black wire is connected to DC12/24V power input.
- The trigger wire is connected to camera trigger input and alarm trigger.
  Yellow: trigger for alarm to warning the moving object at the outsider of a vehicle such as pedestrian, cyclists, cars and so on.
  Yellow in a lower place: the wire is optional interface to read the vehicle speed signal. If you use GPS module, it can be disconnect. The front camera is automatically triggered by speed signal.
  Green: trigger for left camera. The wire is connected to left turn signal.
  White: trigger for right camera. The wire is connected to right turn signal.
  Blue: trigger for rear camera. The wire is connected to reverse signal.
- The order of the trigger priority: rear camera>right camera>left camera>front camera.
- The reverse camera is always in highest priority.



Remark:

a. The speed signal is needed for this system. There are two ways to read the speed signal, read it by GPIO (speed wire) or GPS module. The front camera will automatically activated by speed signal.
b. If the speed signal is read by GPIO, manually speed calibration is needed, the manually speed calibration setting is shown in page 4.

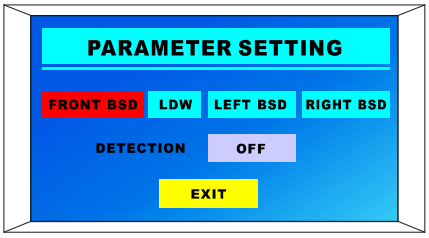
CAUTION

Before making the connection, disconnect the ground terminal of the car battery for avoiding short circuits.

The plugs should fully inserter into the connectors or jacks. Aloose connection may cause malfunctioning of the unit.

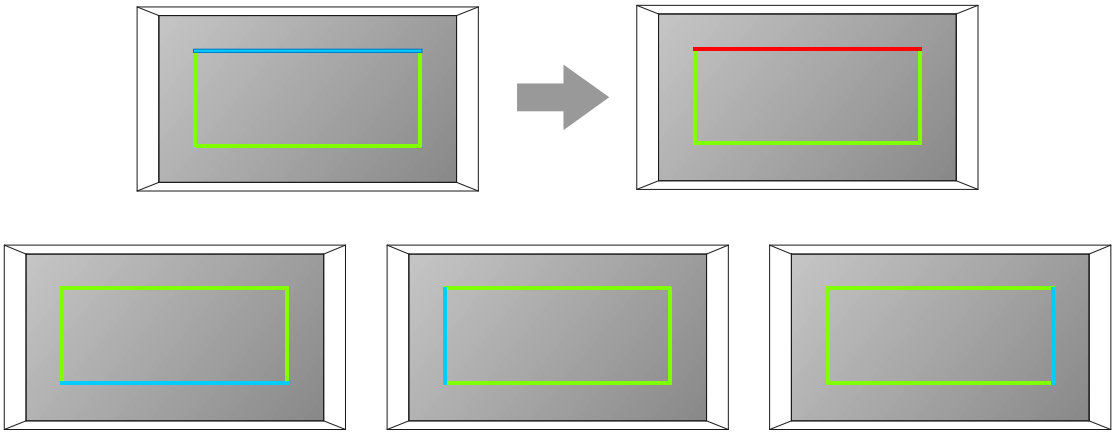
OPERATION

1. Parameter setting of front BSD



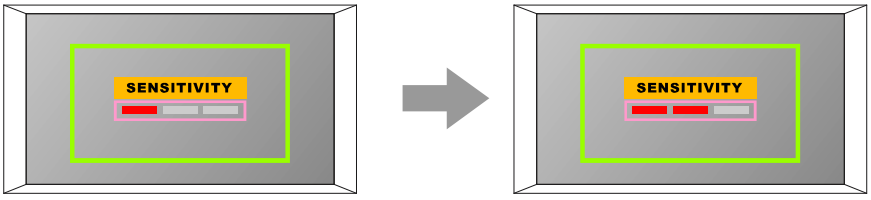
- Press “left” button on Controller to enter the BSD parameter setting main menu.
- Press “center” button to enter the front BSD sub-menu.

1.1 Adjust the blind-spot detection zone area of the front BSD



- Press "left" or "right" to select up/down/left/right lines, press "center" to enter the adjustment interface, the color of blue line turns red, then adjust the position of the line by pressing "left" or "right" , after that press "center" to save the parameter. Repeat the same procedures to adjust the other lines.

1.2 Adjust the sensitivity of the front BSD

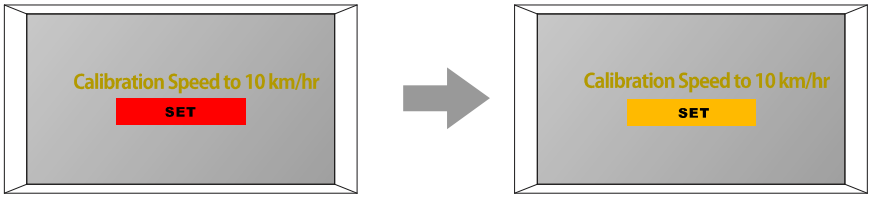


- Complete the blind-spot detection zone area setting, press "right" to enter sensitivity interface, then press "center" to enter the adjustment interface, the color of green bar turns red, then adjust the level of sensitivity by pressing "left" or "right" , after that press "center" to save the parameter.

Remark: The recommended sensitivity setting is level II.

1.3 Vehicle speed calibration

- Different vehicles with different speed signal frequency, so it is necessary for the BSD system to calibrate a certain speed as a basic reference value. The default speed of this system is 10km/hr.

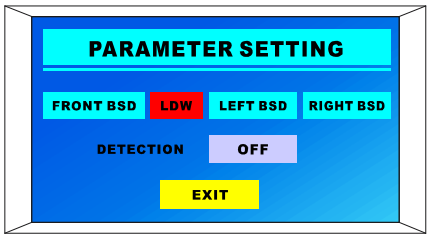


- Complete the sensitivity setting, press "right" to enter speed calibration interface. The letter of "SET" start flashing, then drive the vehicle at the speed of 10km/hr, press "center" to save the parameter, the left/right caution lights will flash and buzzer will make a warning sound means the system setting the data successfully.

1.4 Parameters save

- Complete the speed calibration, press "right" to enter parameter save option. Press "center" to save all the parameters, the system return to BSD main menu automatically.

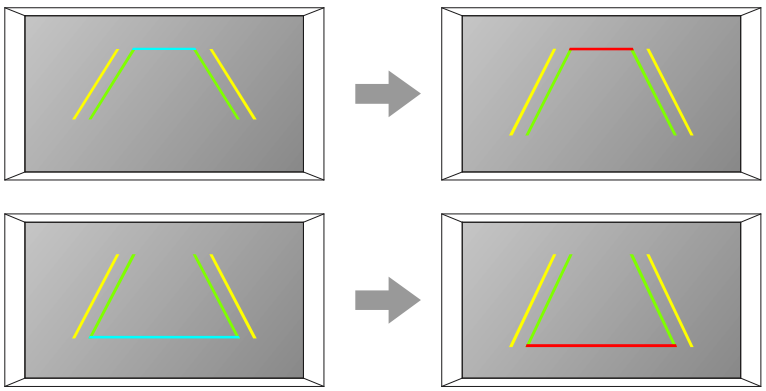
2. Parameter setting of front LDW



- Press "right" button to move the cursor to the LDW, then press "center" to enter the parameter adjustment interface.

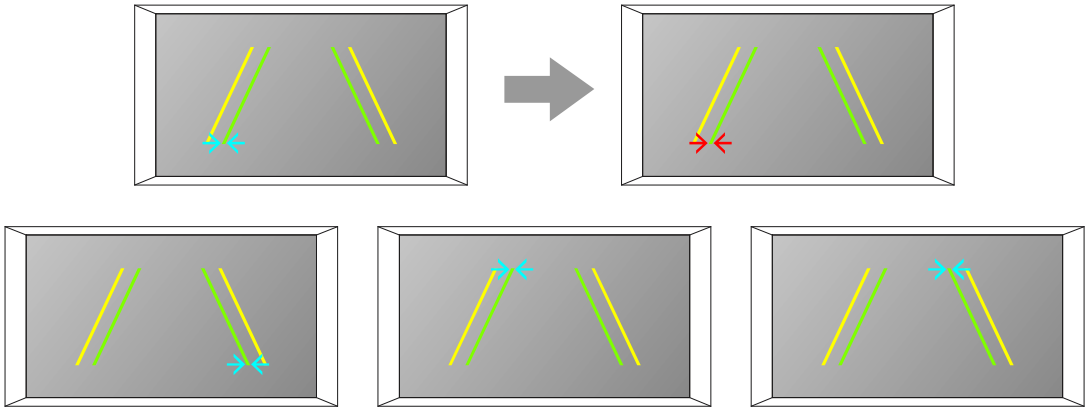
2.1 Adjust vehicle line marks

- Due to the different mounting position and angle of front camera, user have to adjust the line marks according to actual viewing area.



- Press "center" to select the up/down line, the color of blue line turns red, then adjust it by pressing "left" or "right", after that press "center" to save the parameter.

2.2 Adjust the vehicle extension line

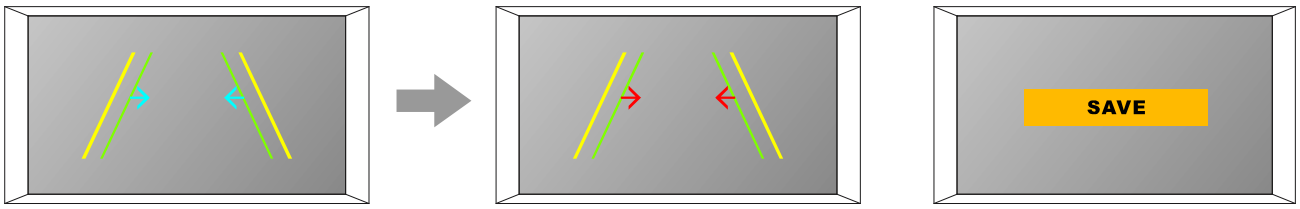


- Complete the angle of vehicle line marks setting, then press "right" to enter detection zone adjustment interface, press "center" to select the arrow, the color of arrow turns red, then adjust it by pressing "left" or "right", after that press "center" to save the parameter. Repeat the same procedures to adjust the other arrows.

Remark:

a. Compare actual lane marks, adjust the virtual line marks of vehicle extension line and lane marks.
b. Green line stands for the virtual-line of vehicle extension line, which is forward from the two sides of the vehicle body.
c. Yellow line stands for the lane line on the ground.

2.3 Adjust vehicle width



- Complete the vehicle extension line, press "+" to enter vehicle width interface. Press "MENU" to set vehicle width. Adjust vehicle width by pressing "+" or "-" , after that press "MENU" to save the parameter.

Remark:

a. Drive your vehicle to the road and make a simulative lane line.
b. You can choose the distance between two lines according to your demand (refer to the above picture).
c. You can block the LDW function by overlapping the vehicle extension line and the lane line.

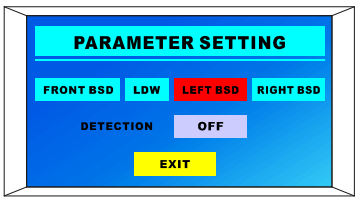
2.4 Parameters save

- Complete all the settings, then press "right" to enter parameter save option. Press "center" to save all the parameters, the system return to BSD main menu automatically.

3. Parameter setting of side BSD

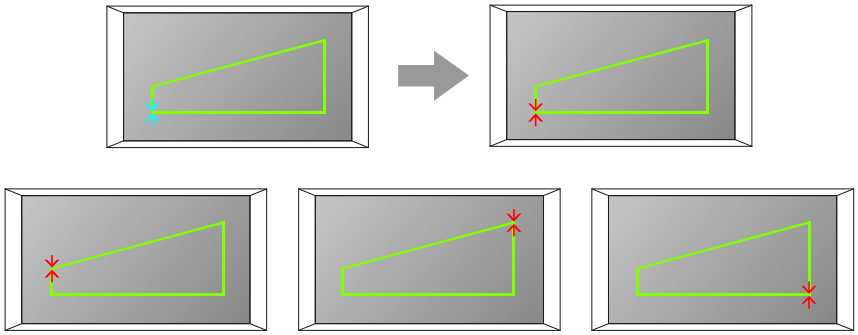
If connect the left camera, please operate the menu as below

3.1 Parameter setting of left BSD



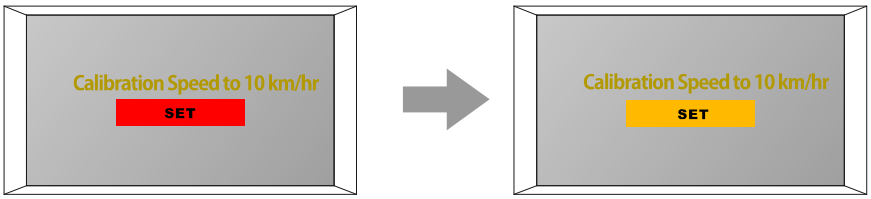
- In the BSD main menu, press "right" button to move the cursor to the LEFT BSD, then press "center" to enter the parameter adjustment interface.

3.2 Adjust the blind-spot detection zone area of the left BSD



- Press "left" or "right" to select up/down/left/right lines, press "center" to enter the adjustment interface, the color of blue line turns red, then adjust the position of the line by pressing "left" or "right", after that press "center" to save the parameter. Repeat the same procedures to adjust the other lines.

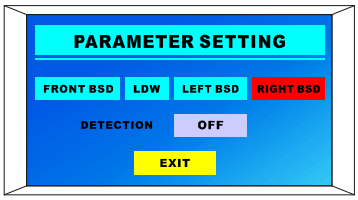
3.3 Vehicle speed calibration



Complete the sensitivity setting, press "+" to enter speed calibration interface. The letter of "SET" start flashing, then drive the vehicle at the speed of 10 km/hr, press "MENU" to save the parameter, the left/right caution lights will flash and buzzer will make a warning sound means the system setting the data successfully.

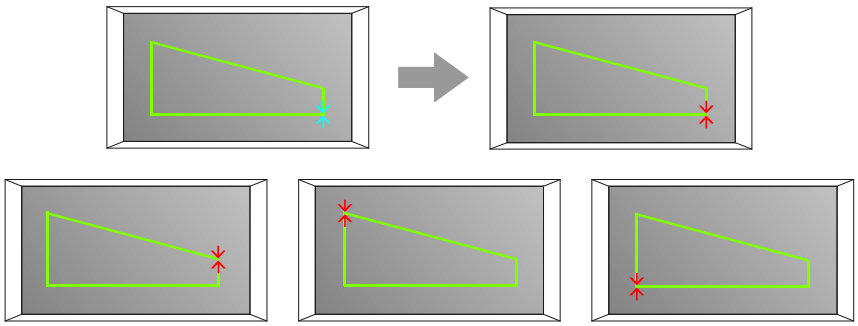
If connect the right camera, please operate the menu as below

3.4 Parameter setting of right BSD



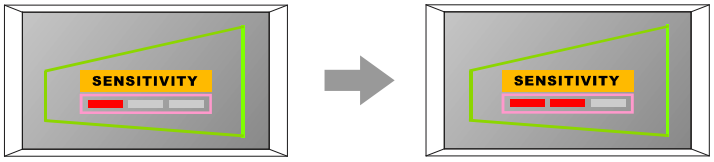
- In the BSD main menu, press "left" or "right" to move the cursor to the RIGHT BSD, then press "center" to enter the parameter adjustment interface.

3.5 Parameter setting of right BSD



Remark:
a.If speed signal is read by GPS module, above vehicle speed calibration do not need.
b.If speed wire is connected to GPIO signal, manually speed calibration is needed.
c.Re-calibration is acceptable.

3.6 Adjust the sensitivity of the side BSD



- Complete the blind-spot detection zone area setting, press "right" to enter sensitivity interface, then press "center" to enter the adjustment interface, the color of green bar turns red, then adjust the level of sensitivity by pressing"left"or"right", after that press "center"to save the parameter.

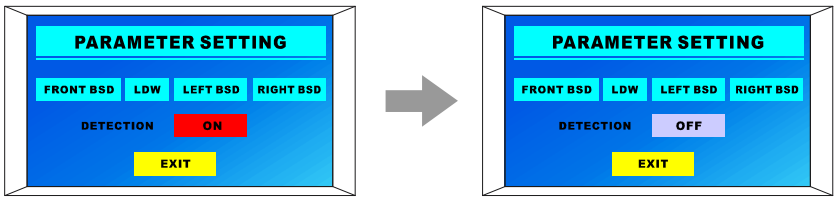
Remark: The recommended sensitivity setting is level II.

3.7 Parameters save

- Complete all the settings, then press "right" button to enter parameter save option. Press "center" to save all the parameters, the system return to BSD main menu automatically.

4. Detection ON/OFF of the system

- Enter the parameter setting main menu, press "right" button to select the detection option, then press "center" to confirm ON/OFF the system detection function.



- DETECTION OFF, all the camera's BSD and LDW function will be shuttled.
- When DETECTION OFF, user could select the display camera by pressing the "POWER" button. When DETECTION ON, camera select function is not available.

Remark: The LDW feature could be disable when DETECTION OFF.

5. Exit the parameter setting OSD menu

- Press "right" button to select the "EXIT" option, press "center" to exit the parameter setting of BSD.

6. System activation by car signals

Camera Mounting Position	System Activation
Front & Rear	**"R" trigger always in priority** • Turn into reverse, display the rearview image **Triggered by speed signal** • 0 Km/hr≤Velocity≤10Km/hr, display front image and automatically activate front BSD function • 10 Km/hr≤Velocity≤15Km/hr, display front image, automatically shutdown front BSD function • 15Km/hr≤Velocity≤60Km/hr, shutdown front image, enter standby mode • 60Km/hr≤Velocity, automatically activate LDW function and when the velocity fall to 55km/hr, automatically shut down LDW function
Left & Rear	**"R" trigger always in priority** • Turn into reverse, display the rearview image **Triggered by left signal** • Display left image and activate the left BSD **Triggered by speed signal** • 0 Km/hr≤Velocity≤15Km/hr,display left image • 15Km/hr<Velocity shutdown left image, enter standby mode
Right & Rear	**"R" trigger always in priority** • Turn into reverse, display the rearview image **Triggered by right signal** • Display right image and activate the right BSD **Triggered by speed signal** • 0 Km/hr≤Velocity≤15Km/hr, display right image • 15Km/hr<Velocity shutdown right image, enter standby mode

CLEANING AND GENERAL MAINTENANCE

- If your vehicle has been parked under direct sunlight, result a considerable rise in temperature inside the vehicle. Allow the unit to cool off before operating.
- Clean the unit with a slightly damp soft cloth. Use a mild household detergent.
- Never use strong solvents such as thinner or benzene as they might damage the finish of the unit.

CLEANING

- Unplug or power off mode before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

VENTILATION

- Holes in the cabinet and of the back or bottom are provided for ventilation, and to ensure reliable operation of the monitor equipment by protecting form overheating. These holes must not be blocked or covered.

OBJECT AND LIQUID ENTRY

- Never push objects of any kind into this monitor equipment through holes as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind of product.

SERVICING

- Do not attempt to service this system by yourself as opening of removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

SPECIFICATIONS

BSD-150

Channel Video Input	2 Channels
Channel Video Output	1 Channel
Video Output Formats	PAL/NTSC(AUTO)
	PAL 720(H)*576(V)、NTSC 720(H)*480(V)
Power Supply	DC12/24V
Power Consumption	≤35W (with camera and monitor)
Operating Temperature	-40℃to+85℃
Housing Protection Class	IP68
Dimension	170(W)*120(H)*40(D)mm
Weight	497g

CAMERA

Sensor Type	1/4" Color Sony CCD
Lens	1.61mm , F2.5 , 150°
Resolution	PAL:500(H)*582(V), NTSC:510(H)*492(V)
Horizontal Resolution	420 TV Line
Signal to Noise Ratio	>48dB (AGC off)
Power Supply	DC12V
Power Consumption	≤2.5W
Operating Temperature	-30℃to+70℃
Housing Protection Class	IP68
IR LEDS	9pcs

CONTROLLER (optional)

Power Supply	DC12V
Power Consumption	≤ 1W
Operating Temperature	-20℃to +70℃
Communication Interface	CAN
Dimension	115(L)*60(W)*26(D) mm
Weight	257g

Remark: Design and specification are subject to change without notice.