

# Intelligent Parking Assist System

**DONMAR**<sup>®</sup>  
**SUNROOFS & ACCESSORIES**



# I Product Introduction:

Easy driving and difficult parking are the common driving experience for novice drivers. Therefore, reversing radar gradually becomes a necessary vehicle safety device, however, blind areas still exist and usually make reversing radar unable while reversing. To meet the trend, more reliable visual-based reversing camera system is becoming more and more prevailing. With DVD Navigation gradually popularized, more broad space for development will be open to visual-based reversing camera system. Intelligent Parking Assist System is such an innovation product to go with the tide, thus makes auto reversing more simple. This Intelligent Parking Assist System (Hereinafter referred to as “the product”) has several outstanding characteristics, such as generating intelligent backward parking trajectory, reading data from original reversing radar, position reference of vehicle body, locking safety bottom line, etc. While reversing maneuvers, two smart backward parking trajectories are generated and clearly shown on Display Screen, and in conjunction with the Steering Wheel movement, the backward parking trajectories would move correspondingly, thus accurately delineate the reversing guide trajectories, and make vehicle reversing as easy as driving.

The product works by reading CAN-Bus data from automotive electronic stability control system, thus can detect the data at low-speed driving, such as magnitude of the steering wheel rotation, speed, and lateral acceleration. Based on the above detected data, the system can generate backward parking trajectory, together with the image derived from the Rear View Camera, they develop into Image-based Trajectory Generation. Thus the backward parking trajectory can be generated for driver assistance.

For some vehicle models, the product is highly integrated with vehicle original equipments, for example, it is able to directly read the data from original reversing radar, and display the obstacle information in the form of Analog Image. Moreover, the product is compatible with all brands of Rear View Cameras, DVD Navigation and other display screen, and applied for variety of vehicle models.



## **Special Note:**

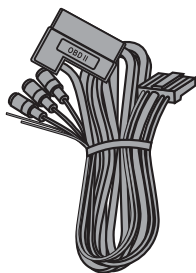
- The Video Output Results are much related to Rear View Camera and Display Screen.
- The product is only used to assist reverse parking, please check the surrounding to ensure safety while reversing.
- It is not guaranteed to apply for all vehicles with ESP system. Before buying, please enquiry the distributor about whether the product is suitable for your car.



## II Main Unit and Its Accessories:



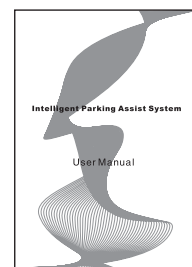
One Host



One Wire Harness



One Magic Sticker



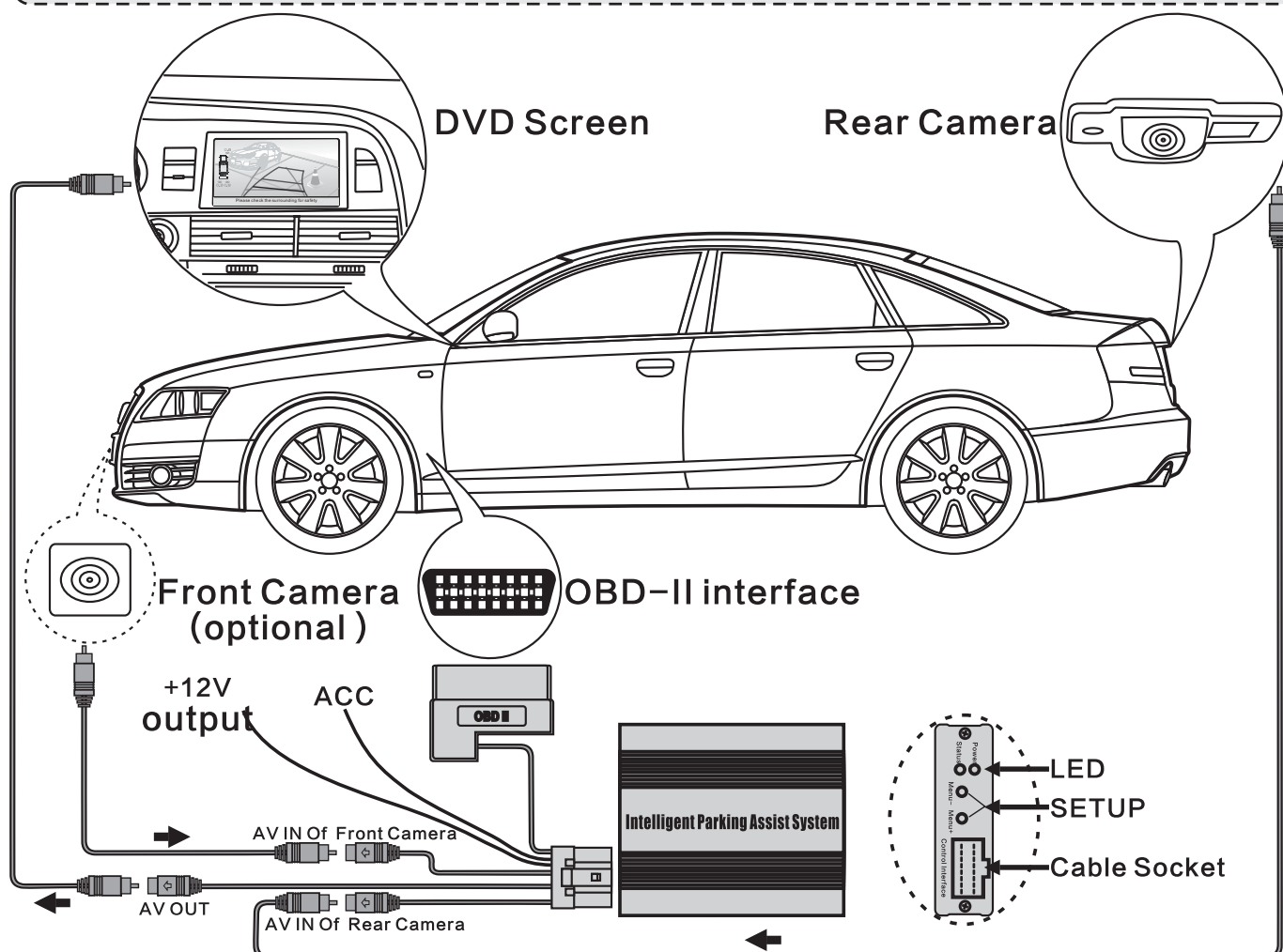
One User Manual

## III Product Connection Diagram and Installation Guide



### Special Notice:

●The product is only fit for part of vehicles equipped with automotive electronic stability control system. Different vehicle makers may have different names for this control system, it could be ESP, ESC, VSC, VSA, etc. To prove it, please shift car key to “ON”, then check whether “ESP”(or ESC, VSC, VSA) is shortly displayed on Auto Meter. The more direct way to prove it, is to check whether “ESP OFF” key existing on the Console or Dash Board, or directly check the technical data from original manufacturers.





## IV Fast Installation Guide

### Special Notice :

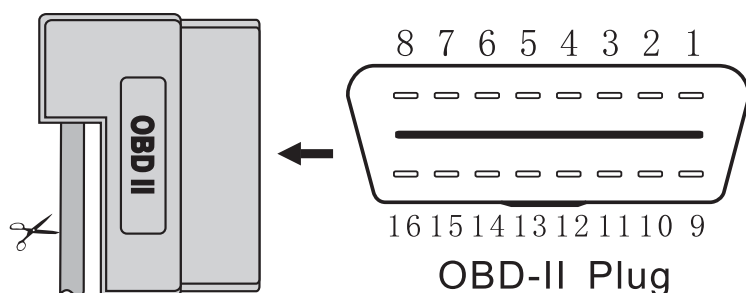
- Please read the User Manual carefully before installation.
- The difficulty level of installation may be different for different vehicle models. To guarantee user interests, it is suggested that the product be installed by professional staff.
- Before installation, please make sure that vehicles must be installed with Rear View Camera and Display Screen(monitor).

1.Insert the Power Plug of OBD wire harness into the Control Interface of the IPAS Control Unit, then insert the Plug of OBD wire harness into the OBD-Ⅱ Interface of the vehicle.

2.Connect the wire ACC of OBD wire harness with the wire of ACC Electricity Power. Connect the Rear Camera AV IN port of OBD wire harness with the Rear View Camera AV OUT cable, and connect the AV OUT port of OBD wire harness with the vehicle Display Screen AV IN port.

3.The yellow wire "12V OUT" can output 12V electricity power and reversing signal, and it can be access to front cameras(optional). If this wire is connected with the Reversing Signal Wire of GPS Monitor, when the gearbox is shifted to "R", the Display Screen will automatically switch on the image from the front cameras for 12 seconds.

For some vehicles, hidden wiring is required because of limited space. In this way, the Plug of OBD wire harness could be cut, and the cable end could be peeled, and then connected to corresponding OBD-Ⅱ wires of the vehicle.



The 4th、 5th Black for GND  
The 6th Red for CAN+  
The 14th Green for CAN-  
The 16th White for Battl +12V  
Note: The color of cable core would be changed, please be subject the pin foot.

### Special Notice :

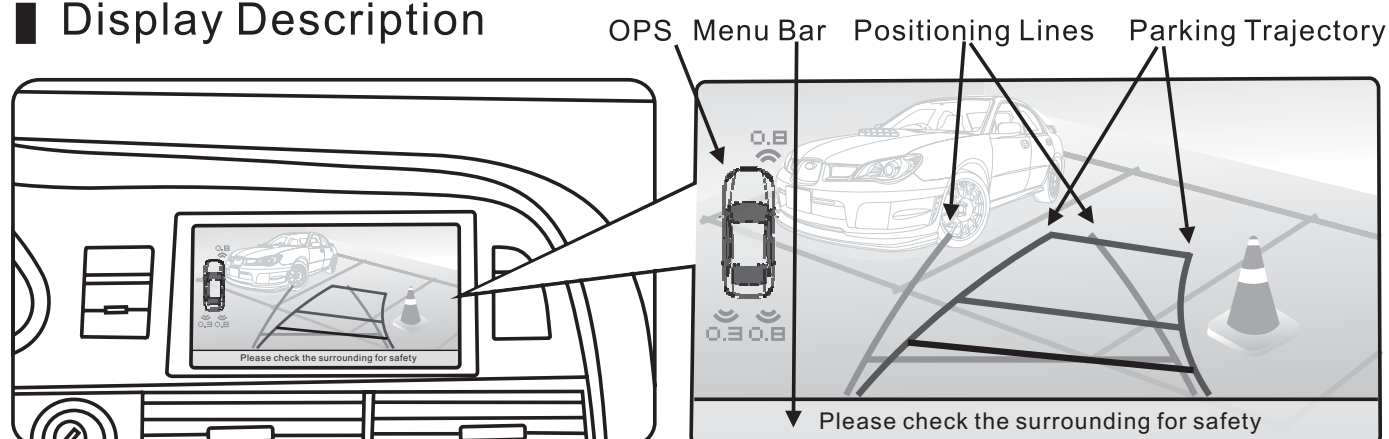
- It is suggested to install the Rear View Camera in the center of vehicle rear. If not, after installation, it is required to adjust the Positioning Trajectory so as to align with the image of parking stall displayed on the screen.
- The product is compatible with variety of vehicle models. After installation, it is required to make the system function settings before normal use.

## V Functions & Operating Instruction:



After wiring connection, setting operation of this product is a must before normal use. Please refer to the following steps.

## ■ Display Description



As is shown above, the stationary lines are named as Positioning Lines, while the motive lines are named as Parking Trajectory. These lines are collectively referred to as Guiding Lines. The red line of the Guiding Lines is named as Safety Bottom line.

The simulation of Body Image shows the radar data from original vehicle. Once an obstacle stands in the way while reversing, it would display azimuth and distance of the obstacle in the form of Analog Image. Please note that this function is only offered by part of vehicles.

## ■ Operating Description

Given a 3-second press on the “MENU+” or “MENU-” key of the Control Unit, the Function Menus will be switched among “1.Vehicle Model Selection/ 2.Positioning Lines Angle Adjustment/ 3.Trajectory V-Position Adjustment/ 4.Trajectory H-Position Adjustment/ 5.Trajectory Max Inclination Adjustment/6.Restore Factory Defaults/7.Return to Monitoring Status”.

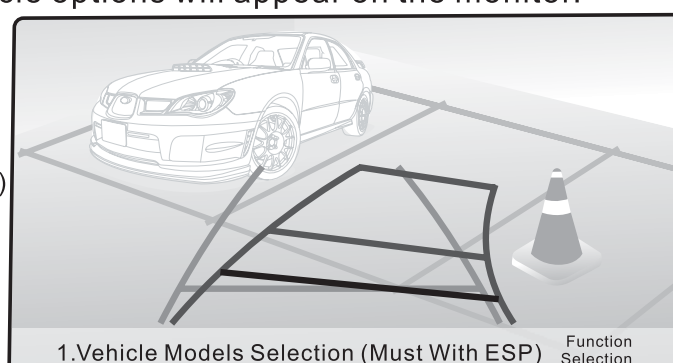
Take AUDI A6L as an example for setting operation.

Given a 3-second press on the “MENU+” or “MENU-” key of the Control Unit, the following Function Menus would appear on the monitor.

### 1.Vehicle Model Selection (Must With ESP)

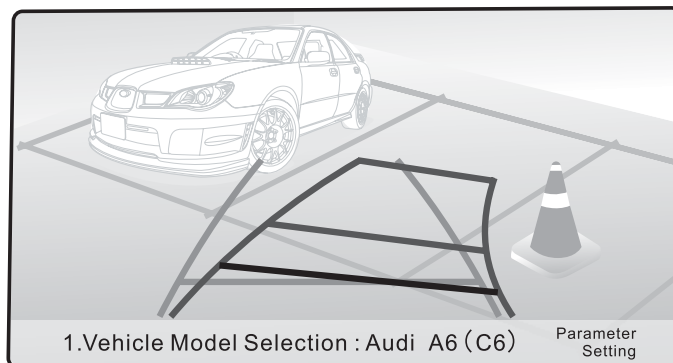
Under the Function Menu of Vehicle Model Selection, given a short press on the “MENU-” or “MENU+” key, the following vehicle options will appear on the monitor.

- 1.Vehicle model selection: Audi A6(C6)
- 1.Vehicle model selection: Audi A4(B8)
- 1.Vehicle model selection: Audi A6(C6,2010)
- 1.Vehicle model selection: VW I
- 1.Vehicle model selection: VW II
- 1.Vehicle model selection: Toyota





- 1.Vehicle model selection: Honda
- 1.Vehicle model selection: GM
- 1.Vehicle model selection: Ford
- 1.Vehicle model selection: Skoda
- 1.Vehicle model selection: Citroen
- 1.Vehicle model selection: Mitsubishi
- 1.Vehicle model selection: HYUNDAI

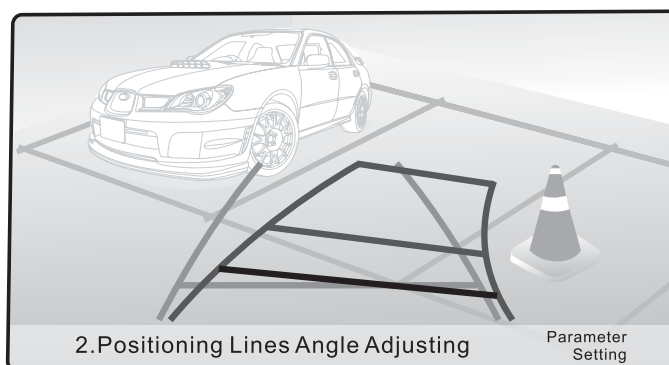
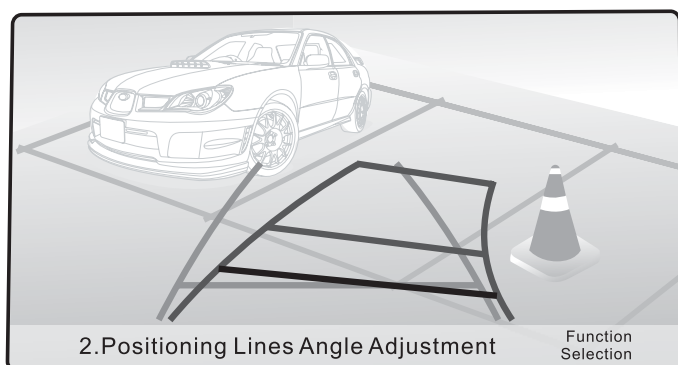


After selecting the matching vehicle model, press the “MENU+” or ”MENU-” key until entering the next Function Menu, the selected vehicle model will be automatically preserved.

#### 💡 Special Notice :

- Not all supported vehicles are listed here. As a result of product edition and production batches, the model list is continually updating.
- If you don't need to make other Function Setting after selecting the matching vehicle model, you can power off the car in the current selection and unplug the car key, thus the selected vehicle model will be automatically preserved as well. The setting of other Function Menu is similar to this, once some function parameter is selected, it will be automatically recognized.

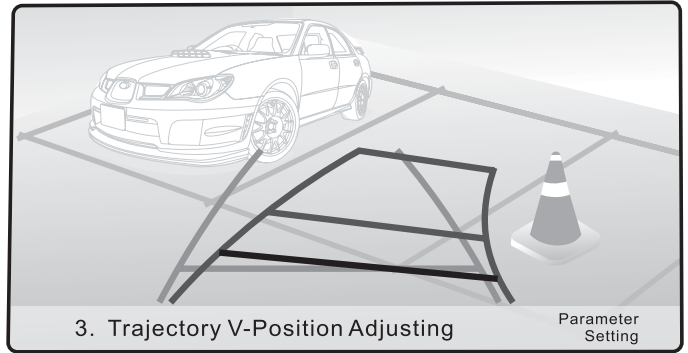
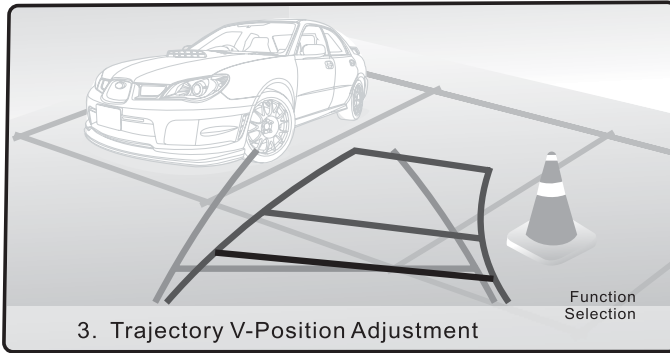
## 2. Positioning Lines Angle Adjustment:



Under the Function Menu of Positioning Lines Angle Adjustment, given a short press on “MENU+” or ”MENU-”, the words “2. Positioning Lines Angle Adjusting...” will appear. Right then, a short press on “MENU+” or ”MENU-” will help to minorly adjust the angle of Positioning Trajectory, with the aim of being consistent with camera image of parking stall. As the Rear View Camera is not probably installed at central position, it is suggested that this parameter shall be adjusted after the system installation is completed. To adjust properly, please make vehicle body level at the parking stall, then adjust the Positioning Trajectory to align with the parking stall. Thus it can be as far as possible to guarantee the trajectory accuracy.

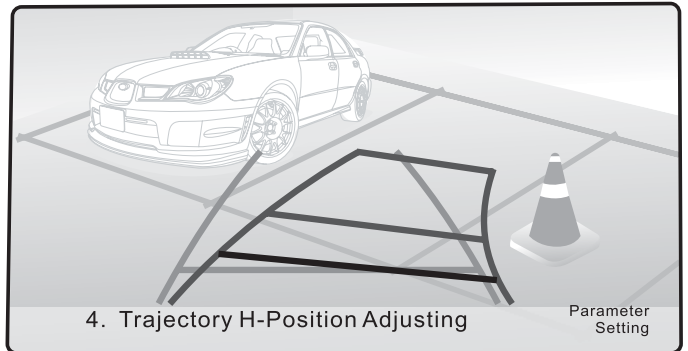
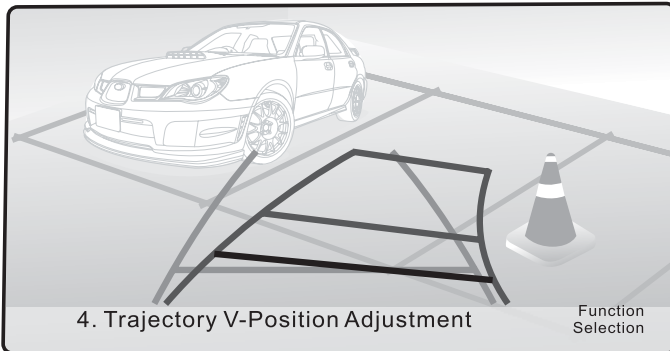


### 3. Trajectory V-Position Adjustment:



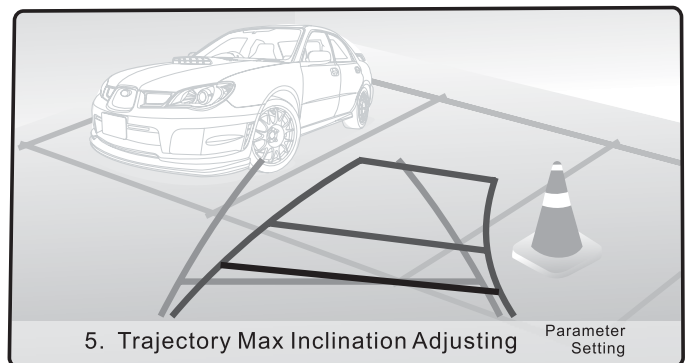
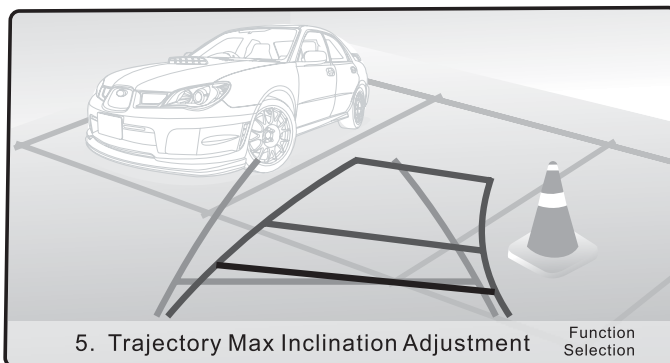
Under the Function Menu of Trajectory V-Position Adjustment, given a short press on “MENU+” or “MENU-”, the words “3. Trajectory V-Position Adjusting...” will appear. Right then, shortly press the “MENU+” or “MENU-” key to adjust upper or lower of the trajectory, until it is in proper display position.

### 4. Trajectory H-Position Adjustment:



Under the Function Menu of Trajectory H-Position Adjustment, given a short press on “MENU+” or “MENU-”, the words “4. Trajectory H-Position Adjusting...” will appear. Right then, shortly press “MENU+” or “MENU-” to adjust right or left of the trajectory, until it is in proper display position.

### 5. Trajectory Max Inclination Adjustment:

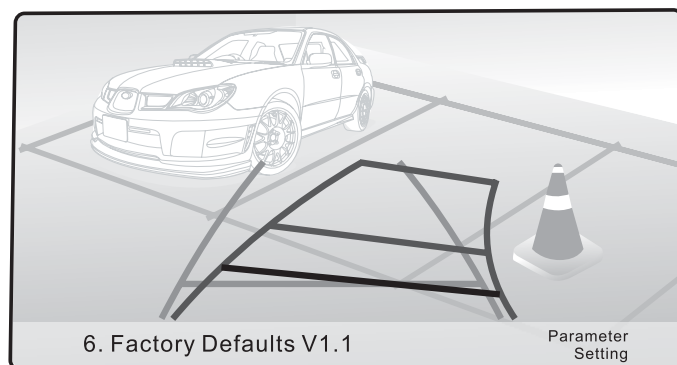
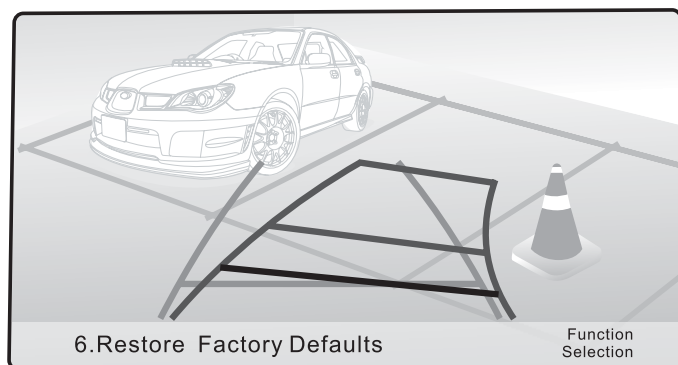


Under the Function Menu of Trajectory Max Inclination Adjustment, given a short press on “MENU+” or “MENU-”, the system will enter adjusting status of trajectory max inclination. Before adjustment, please make sure that Steering Wheel is turned to leftmost or rightmost.



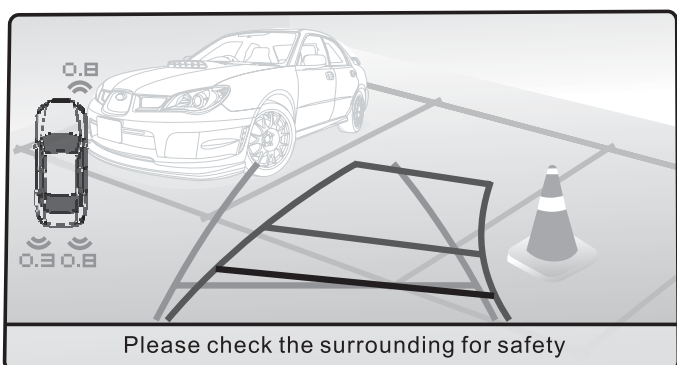
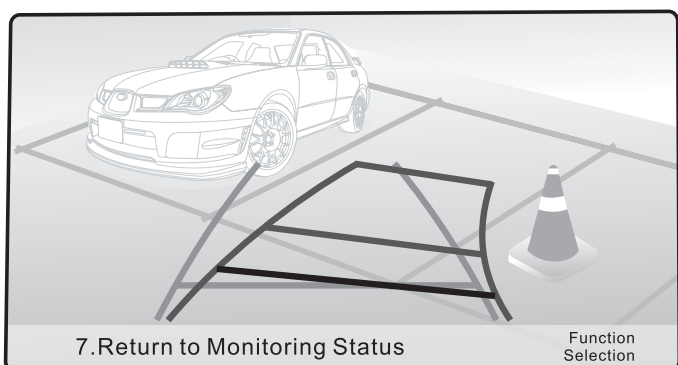
The reason of this parameter adjustment is that as regards different vehicles, total number of Steering Wheel Turns is probably different, therefore maximum angle of front wheels is slightly different accordingly, which would result in different maximum angle of parking trajectory. If it is regarded as necessary adjustment, please adjust according to actual need; if this function parameter remains unadjusted, its default value is median.

## 6. Restore Factory Defaults:



Under the Function Menu of Restore Factory Defaults, given a short press on “MENU+” or “MENU-”, the words “Factory Defaults V1.X”(V1.X is Software Version No.) will appear, which means all function settings have restored to factory defaults.

## 7. Return to Monitoring Status:



Under the Function Menu of Return to Monitoring Status, given a short press on “MENU+” or “MENU-”, the system will switch to normal monitoring status. When reversing, the words “Please check the surrounding for safety” will appear. For some vehicle models, if drivers want to conceal these reminding words, please press both “MENU” keys simultaneously for 10 seconds, then the words would no more display.

## ■ Other setting instructions:

1.To make the system work properly, please restart the vehicle upon selecting the vehicle model.

2.To make the parameters initialize, please restart the vehicle or return to monitoring status upon setting the system parameters.

3. If OBD wire not connection properly then display will notify that OBD wire connection first.



4. For Toyota series and Honda series, the steering wheel requires initialized calibration after selecting the vehicle model. To calibrate properly, it is necessary to make steering wheel centered, then enter the Function Menus to select Restore Factory Defaults, or simultaneously press both “MENU” keys for 3 seconds. (Only once setting is required. But for Honda vehicles, it requires re-calibration after OBD- II Interface is unplugged and re-connected for every operation.)

## **VI Product Specifications:**

Rated Voltage: 12V DC

Rated Current: 300MA

Max Output Voltage: 12V

Working Temperature: -30℃-85℃

Video Input or output: Composite RCA terminal

Standard: PAL/NTSC

Range: 1Vp-p, Synchronization of Negative 0.3Vp-p, Overload 75 Ohm

## **VII Warranty**

All items are guaranteed against manufacturing defects for a period of 12 months from purchase.

### **Product certificate**

QC: \_\_\_\_\_ DATE: \_\_\_\_\_