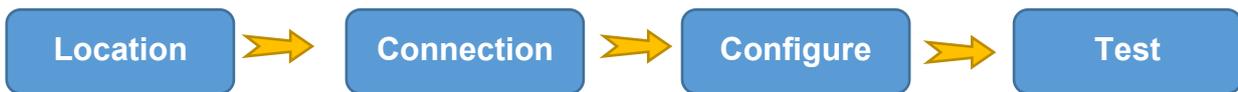


## Package:



## Flow Chart:



## 1. Installation

Choose Location for Counter and Camera.

### 1.1 Counter Installation

- A. Equipment should be placed in a safe place to prevent human damage.
- B. Shock proof fixation: the equipment should be screw fixed. Fire box should be equipped with the conditions allowed. The equipment remains locked, otherwise it will not work.
- C. Make sure that the SD card is inserted and the SIM card is inserted. When the card is plugged, the device must be in a shutdown state and the key opens.

### 1.2 Cameras Placement

When the binocular camera is placed, you must ensure:

- A. Cameras are connected followed Channel NO and Direction of the label on camera.
- B. The side of camera with label **Internal Bus** must toward to passengers in the bus.

The label prompts CH1, corresponding to the host device CAM1. CH2, corresponding to the host port CMA2. Usually CH1 is single Number, CH2 is Even Number.

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C. Vertical installation height = from the lens to steps which 2 count lines are located. Installation height must confirm to the best height range of lens. The height cannot be guaranteed, and the accuracy cannot be guaranteed too. See the camera sticker.

Lens	Best Height Range		Best Width Range	
	New Camera	Old Camera	New Camera	Old Camera
2.1mm	1.9~2.1m	1.8~2.0m	1.0m	1.0m
2.8mm	2.1~2.3m	1.9~2.1m	1.2m	1.2m
3.6mm	2.2~2.4m	2.1~2.3m	1.2m	1.2m
4mm	2.4~2.8m	2.2~2.4m	1.2m	1.2m
6mm	2.8~3.2m	2.4~2.8m	1.0m	1.0m

## D. Width

The default effective width is 0.7-1.0 meters. If the width of the door is too large, we should consult us.

## 2. Cable Connection

### 2.1 Labels on Video Cable

For fast and correct installation in the bus, and for better maintenance, both end of video cable must marked by label.



### 2.2 Power Connection and ACC

Power: 9-36V DC, 5A-10A.

ACC: The ACC line must be connected with the ignition switch so that the equipment and vehicles are started and closed at the same time, and the power is saved. The equipment can be reset to zero, and the accumulative error can be reduced.

The camera is powered by the host and does not need extra power

## 2.3 Antennas

The 3G antenna and the GPS antenna are placed outside to obtain good signals. The two can not be too close, square interference.

## 2.4 Door Sensor

There are three kinds of magnetic signal, must confirm.

1. High /Low Voltage Mode. There is a current to open the door and close the door. When the door is opened, a high, or low voltage signal will be detected. The default mode is high and low level mode.

Remarks: >5V calculates high voltage and vice versa.

2. Switch ON/OFF Mode. When the door is open or closed, one is without a current, and one has a current. The relationship between 0 and 1. The switch mode same setup with high and low level.

3. Pulse Mode.

The pulse mode signal is unstable. First, you must choose "None" for both IO1/IO2 in BPC client. His wiring is IO3, IO4, IO5 and IO6. Then IO3 connect Door 1 Open, IO4 to Door 1 Close. IO5 to Door 2 open and IO6 to Door 2 Close. Then it will work.

## 2.5 Connect Monitor

When the device is on the bus test, it is better to connect to the LCD monitor. If the computer connection is tested, it is not easy to see the image. The image displayed on the monitor is also real-time, and there is no delay, but the computer can only look at the data and not see the image.

## 3. BPC Client Configuration

Configuring the parameters of the device is very important, otherwise the data will be prone to error later.

### 3.1 Check CAM Parameter

Confirm that the camera parameter ID is consistent with the sticker (be sure)

Each camera has a label on which a unique ID code is tagged. The front door CH1 is singular and the back door CH2 is even. In order to facilitate installation and maintenance in the later stage, every parameter file has been upgraded when the device is out of the factory. Therefore, as long as the camera ensures that he can use the connection according to our tagging CH1/CH2, we do not need to check the parameter ID again.

If the camera's parameter ID is not consistent with the connected camera, its statistics are very error prone, and the accuracy is not guaranteed. Then you must **update** the correct parameter files.

### 3.2 Same ON/OFF Direction

During installation and commissioning, 2 /3 doors bus must ensure that the side of the label is all toward the interior of bus. In this way, it is possible to ensure that the number of entry and exit of multiple door statistics is correct.

### 3.3 Best Position of Counting Lines

Passengers going on and off can cause a high degree of change in people, which will result in statistical inaccuracy for the passenger flow equipment that relies on the characteristics of the collector's head. Therefore, we should try to avoid the bad effects caused by the steps.

A. One steps Bus : the best state. In general, large city buses and new buses are low - chassis buses without steps. In this case, the height of the installation of the two two technical lines is consistent. So as long as it is ensured, two technical lines do not go beyond the top and bottom of the door.

B. Ordinary steps bus: double deck bus, long-distance bus, tour bus, small bus.

The multi-step bus is rather complex. In principle, the two technical lines should be placed on the same level, but the technical line can not coincide with any edge of the Taiwan machine, which will reduce the accuracy.

Under special circumstances, the technical line can be placed on two different steps, but we must ensure that the lowest height is also within the effective height.

Unless special circumstances, it is not recommended that the user put the technical line outside the car.

C. Spiral steps: a spiral step can cause a count line to work. Try to avoid this kind of step position.

Very special steps, very irregular steps, the users try to avoid these steps and draw the technical lines outside the irregular steps. In addition to the area of the door, the user has other areas to choose from. For example, long distance buses can be painted on the front door corridor and so on. In special cases, two technical lines can be merged into one.

### 3.4 Save Background

In general, the user is in strict accordance with the signs on the camera and installed correctly, the user only needs to save the image 1-2 times. Many processes can be saved. After the camera is installed, or after it is moved, the image must be saved. After saving, the refresh is saved. Make sure that the image you see is pure gray or black.

Note: you can't refresh the image frequently.

First, "save the background". After the change of the picture, then "refresh image". Repeat the operation 2-3 times.

### 3.5 Others

## A. Update Time

The time of equipment needs to be updated synchronously in time, otherwise the time will not coincide with the real time.

We should also pay attention to the problem of the time zone. The default time zone is the time of China in the East eight. Users in other countries need to synchronize with their local time, and it will be better to synchronize the time with the computer. Users with GPS can update the time through GPS. 3G can give you time through 3G, but if the basic type of equipment, his time will need to update regularly.

## B. Door Sensor Setup

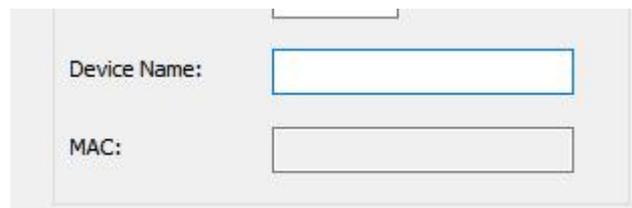
The equipment must be configured to switch, otherwise, there will be no equipment or the number of statistics, not upload. After closing the door, the device is not counting the number, and the site records will be generated and uploaded to the server. Therefore, all test and debug installation must be kept in the open state and the closing state is not tested.

## C. Network Transmission

Check whether the network state is connected to normal. Check whether the server's IP port is correct. If you need to connect to other platforms, you need to remember his MAC address and his corresponding vehicle number.

## D. Vehicle Information

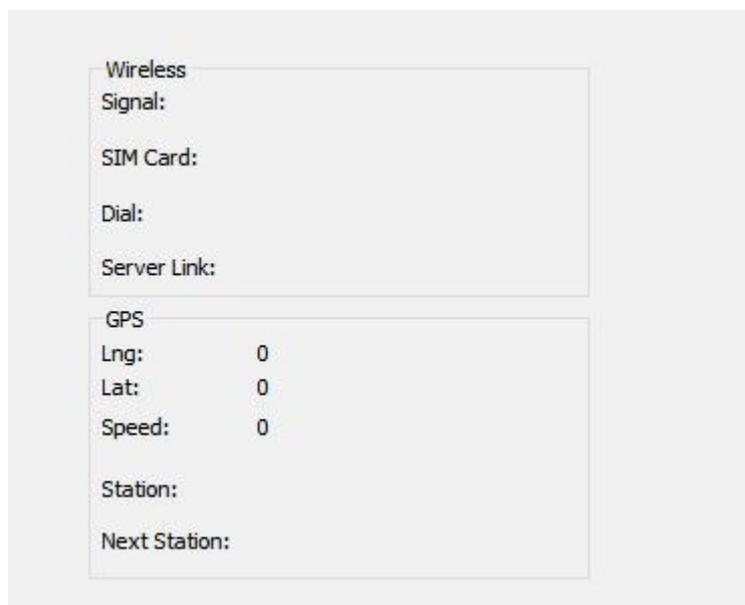
The name of the device is better to use the license plate number. If we use our IPAS, we can realize the binding of one - key license plate and MAC, so that it is convenient to manage the vehicle.



The image shows a screenshot of a web form with two input fields. The first field is labeled 'Device Name:' and the second is labeled 'MAC:'. Both fields are empty and have a light blue border. The form is set against a light gray background.

## E. System Information

Check whether the state of the network is normal. If the server is successfully connected, the 3G is normal. If the GPS coordinates are displayed, the GPS is normal.



## 4. Final Test

### 4.1 Accuracy Test

Need 2 to 3 people to test.

The back door and the front door should be tested separately. Take the front door as an example, use 30 times to get on the car, 30 get off to test, watch the statistical results. If the accuracy is acceptable, the next item is carried out.

Crowding test. Considering the peak time, people are crowded and the accuracy will drop, so we need to simulate the state of crowd congestion. Two people are shoulder to shoulder and three people go next to them. It takes 30 times to get on the car and get off 30 times. If the accuracy is acceptable, test the other door.

### 4.2 Record File in SD Card

If the device is installed with the SD card, the device can save the record file into the SD card. A two 2GB SD card can be kept for several years. Users need to take out the SD card and open it on the computer to ensure that the SD card is working properly.

Users who use SD card encryption technology first need to decrypt operation first, then the decrypted file will cover the secret files in SD card, so that we can check normally.

The local record file is a TXT document.

### 4.3 IPAS Test

The device should be able to go online, see it in the platform, and see the uploaded record, consistent with the local record of the device. No data is lost. The total number is consistent, and the number of cars is in line.

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If you need to collect the bus station or the data from the site, you need to verify the accuracy of the site. This work takes a single time and is completed ahead of time.