

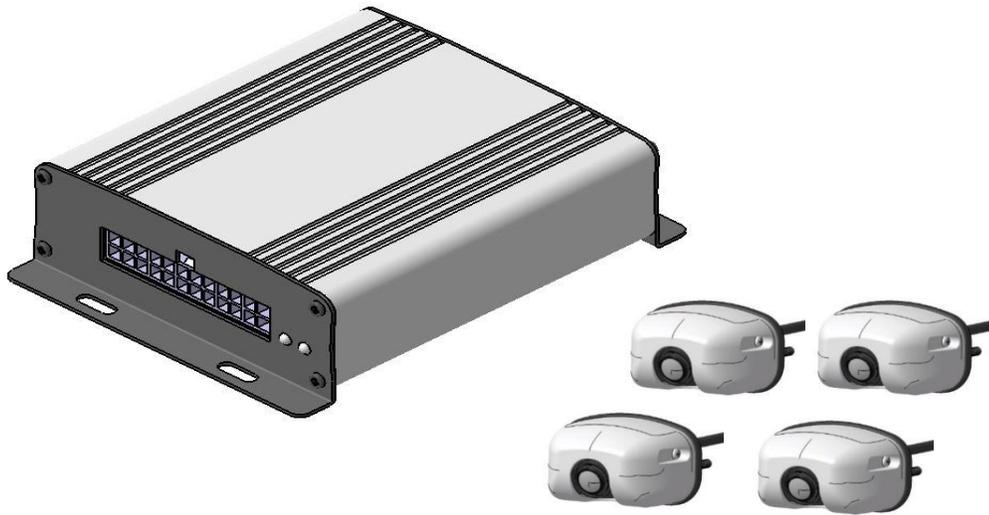


Around View Monitoring System Around View Monitoring System

User Manual User Manual

Before operating the unit, please read the instruction carefully





Precaution

Power

1. Supply to DC9V~16V. Please confirm power voltage before using the kit.
2. Please unplug the unit when not using for longer period of time.

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.
Please ask professional technicians to examine before reapply to power.
5. If any faults happened, please ask technicians to examine or contact with distributors.
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, exhausts area, downpour, over-dust, over-humid, strong magnetic field, for these will cause vibration or shock to the product.
3. Memory card is consumable item. The warranty is not guaranteed in case of image lost if memory card damaged.

Installation restrictions

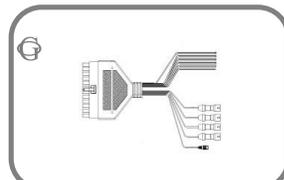
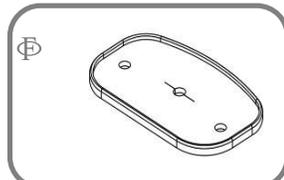
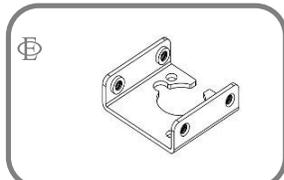
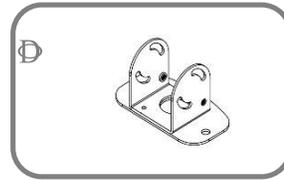
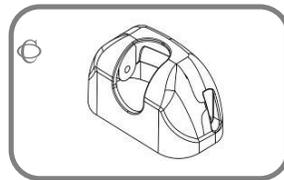
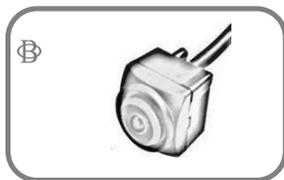
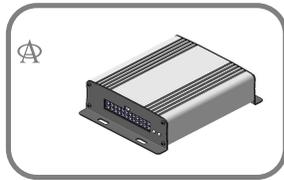
Vehicle Comparison Chart				
Model	Vehicle Length (M)	Vehicle Height (M)	Software Name (TC VIP Lounge)	Software Revision
Sprinter	6	2	Sprinter	20160728 ASA Sprinter V1.0
Utilimaster	8	3	Utilimaster	20170110 ASA Utilimaster V1.1
Berkshire	10	3	Berkshire	20170318 ASA BerkShire V1.0

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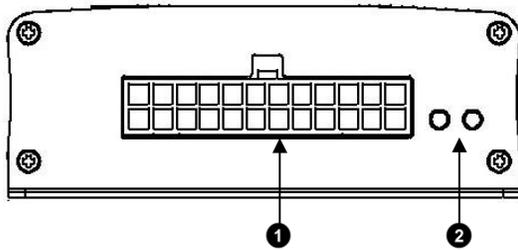
Description	Q'ty	Description	Q'ty
○A VAVS100 Control Box	1	○F Camera Rear seal	4
○B Camera	4	○G Power/Camera cable input	1
○C Camera Housing	4	○H Host Screw Pack	1
○D Camera Bracket	4	○I Camera Screw Pack	1
○E Camera Bracket	4	○J User manual	1



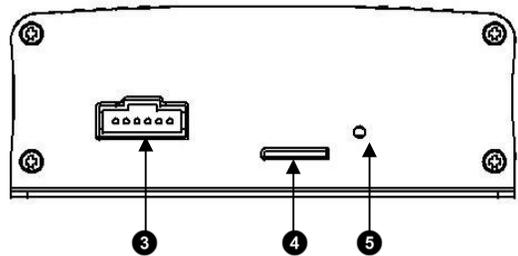
Toolkit			
Description	Q'ty	Description	Q'ty
○A control knob	1	○B SD Card	1



Panel Descriptions

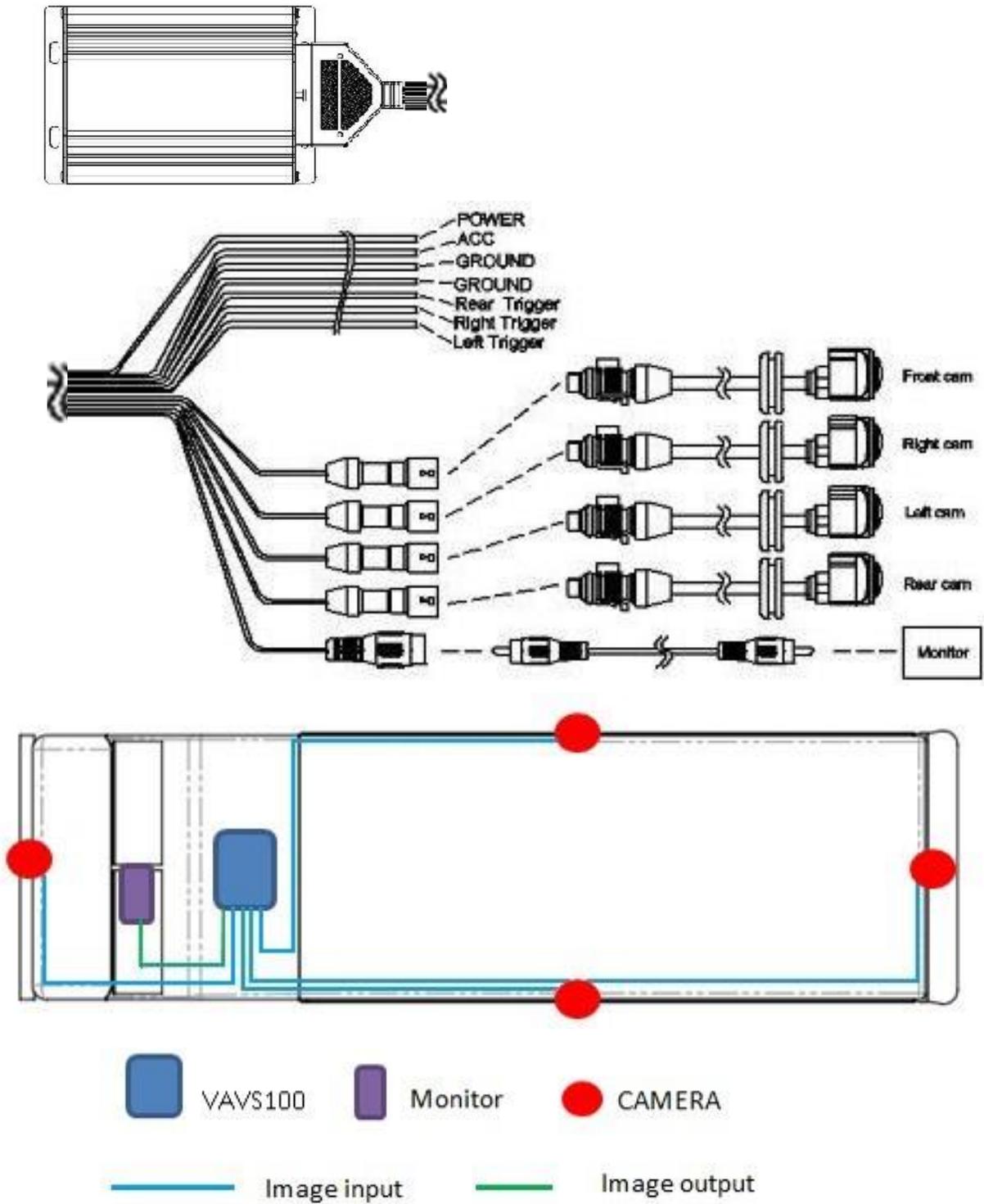


- 1
 - 2 Power/Camera cable input
- Power Indicator



- 3
 - 4
 - 5
- Control knob cable input
- SD card slot

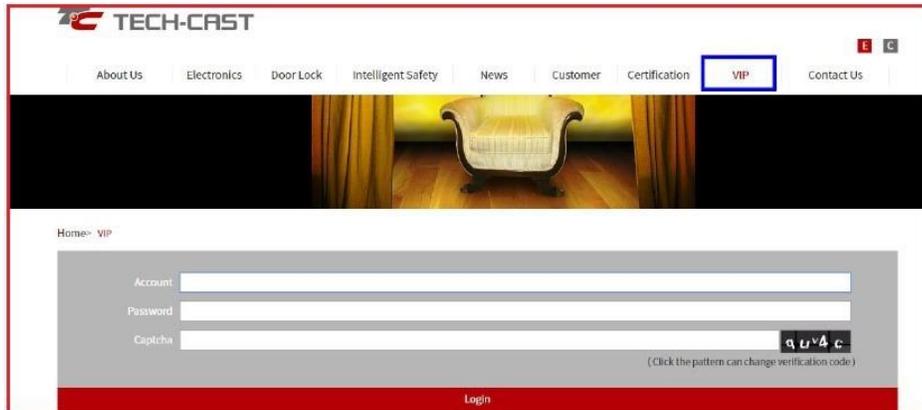
System Connection



Software Preparation

1 Software download :

1.1 Please go to Tech-Cast website: www.techcast.com and log in to “VIP” as below.



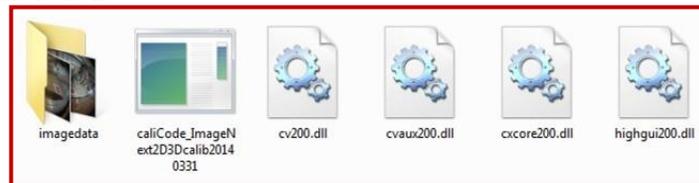
1.2 After log-in, you will find two files: AVM update and Camera Calibration, please download them and save to computer first (the files are RAR file).

Attention: You may find several files of AVM update, please download the correct one based on your vehicle type to prevent confusing AVM unit with wrong software that might jeopardize current system.

1.3 Unzip AVM update downloaded and saved to SD card, then you will see five files in SD card, as below:



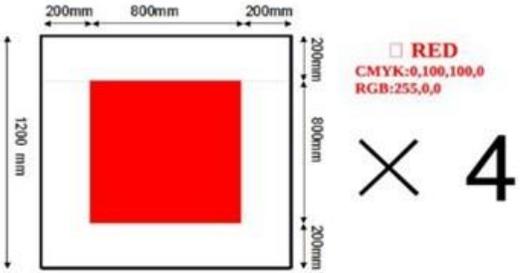
1.4 Unzip file of Camera Calibration.RAR in SD card and save to desktop, you will see 6 files, shown as below. Please make sure the folder must contain 6 files. Now you are ready for calibration.



These files will be supplied by ASA if we are on-site to fulfill the software needs.

2 Calibration Mat Construction

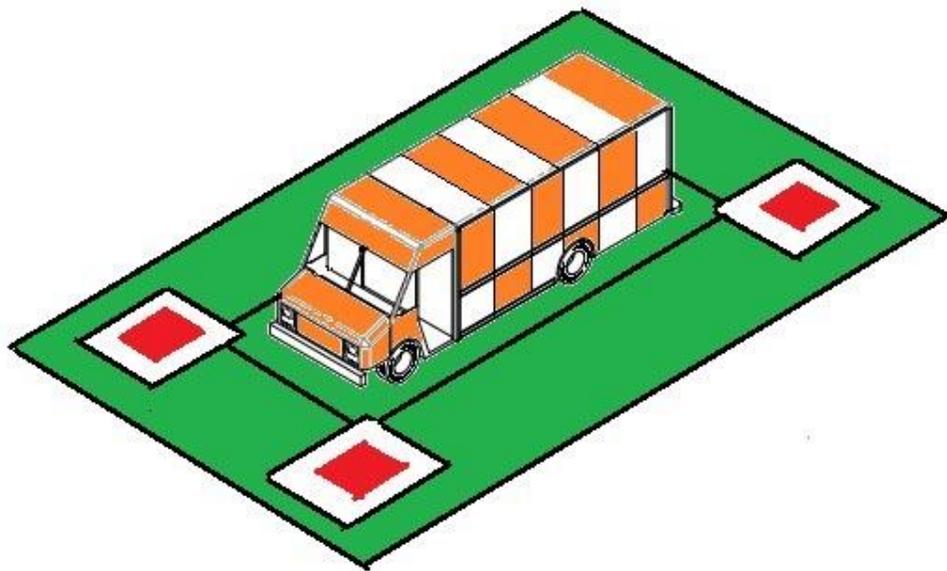
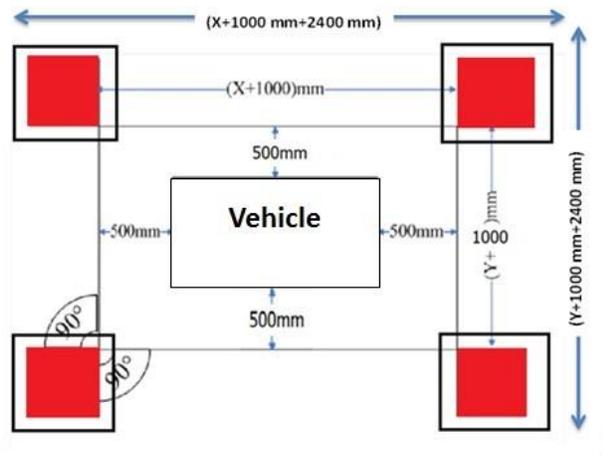
2.1 Follow mat size requirements below:



2.2 Material used: Any material can be used such as, non-woven fabric, plywood boards, laminated paper, etc.. Keep Calibration Mats as flat as possible.

3. Demarcation Floor site setup

3.1 Position the calibration mat at four corners by the vehicle, shown as below:



3.2 To make the box around the vehicle to make the Floor Site, measure 19.6” from the furthest edges of the vehicle. Use tape to mark the distance on the floor and then use a chalk line to make the lines around the vehicle.

3.3 It should be noted that the floor site be in a well-lit area. (Low lighting can cause pictures to be unclear)

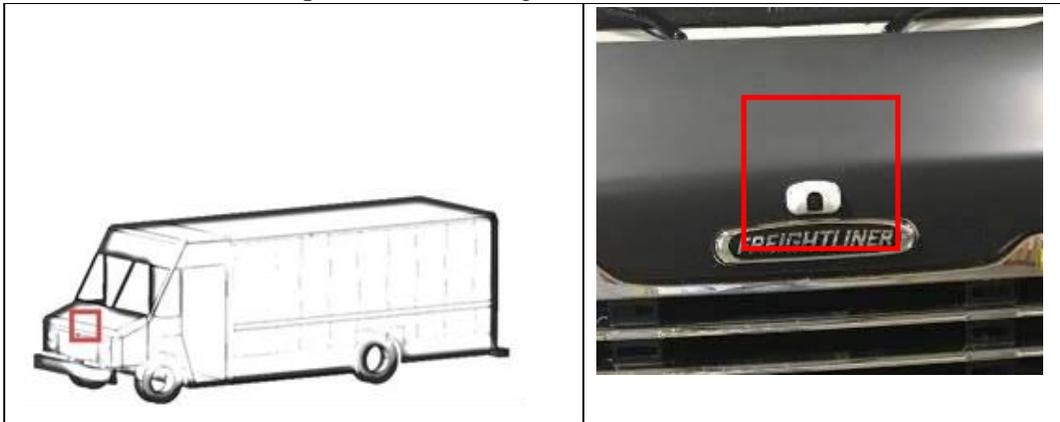
Camera Installation

4 Initial installation of cameras

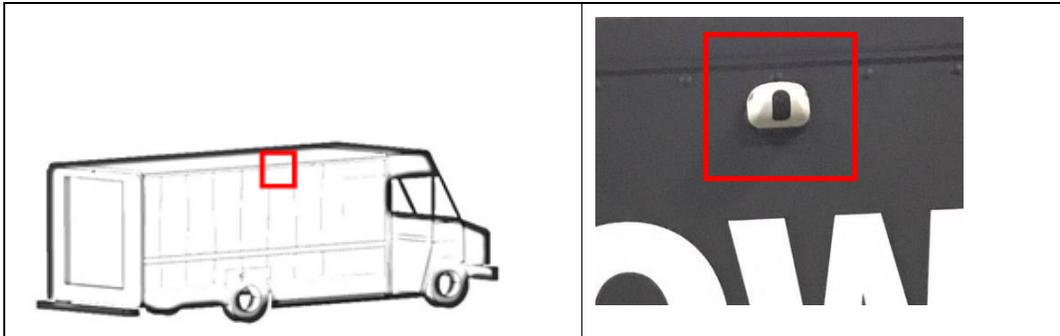
Below, find proper position on each side of vehicle for camera placement:

*If this is a first time install, affix the camera with tape for placement. This will ensure proper placement before holes are drilled into the vehicle.

4.2 Front camera: center of the front side, above or in the upper portion of the grill on the vehicle is the suggested position, shown as below. Keep in mind the flatness and the vertical of the vehicle to keep the camera straight.



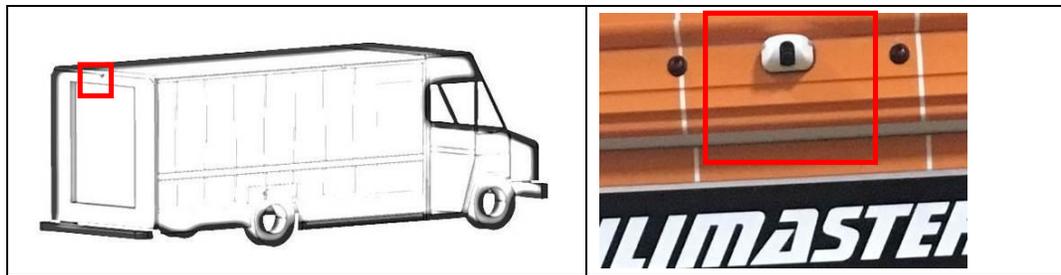
4.2 Right camera: center of the right side, shown as below. Keep in mind the flatness and the vertical of the vehicle to keep the camera straight.



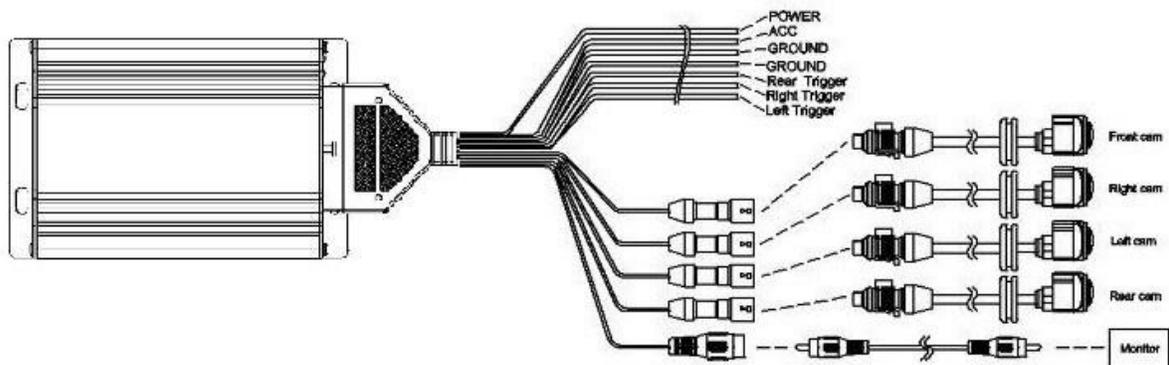
4.3 Left camera: center of the left side, shown as below. Keep in mind the flatness and the vertical of the vehicle to keep the camera straight.



4.4 Rear camera: center of the rear, shown as below. Keep in mind the flatness and the vertical of the vehicle to keep the camera straight.



4.3 Once Cameras are in position connect cameras to the VAVS100, shown below:

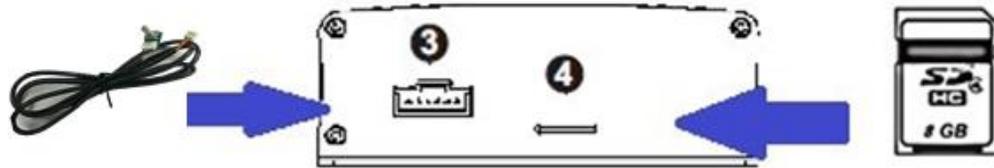


System Screenshot

5 Photo snapshot

Use the snapshot software in SD card, the snapshot will be used for demarcation process on computer.

5.1 To enter Photo Snapshot mode connect the Control Knob and SD Card before power is applied:



Once SD Card and Knob are install into VAVS100 and then power on, then you will enter photo snapshot mode automatically. Rotate the control knob and confirm Calibration Mats are visible shown as below. (Please adjust camera direction if the photo is upside down.)



5.2 The Calibration Mats need to be at same horizontal with the top of the Mats in the center of the Monitor Screen. Adjust the camera angle and position Mats are in the proper location on the Monitor Screen.



5.3 To acquire photo snapshots, press the control knob once and the snapshot will be saved in SD card once the countdown is complete. The snapshots are saved to SD Card, named as H_front1000.bmp、 H_right1000.bmp、 H_back1000.bmp、 H_left1000.bmp, shown as below.

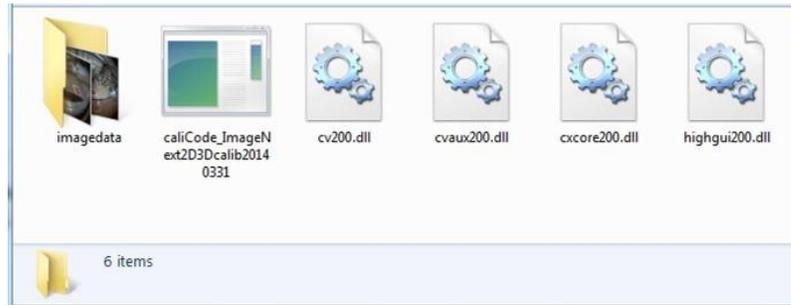


Calibration

6 Calibration on computer

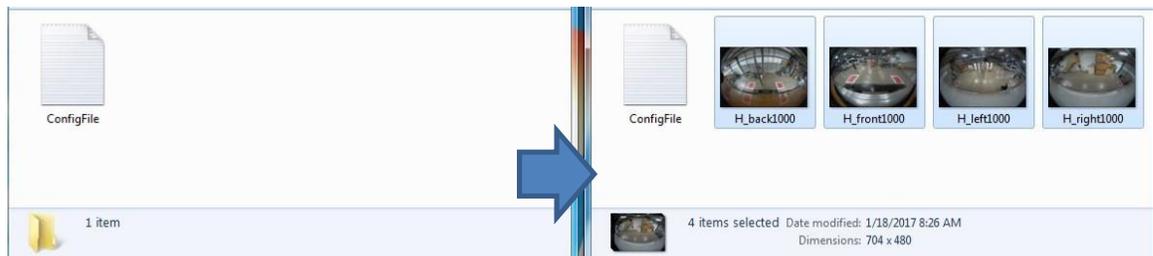
Save the snapshot photos into the computer to start demarcation, the files will be used on AVM demarcation.

6.1 Open the downloaded file “Camera Calibration”, make sure the folder must contain 6 files, as below.

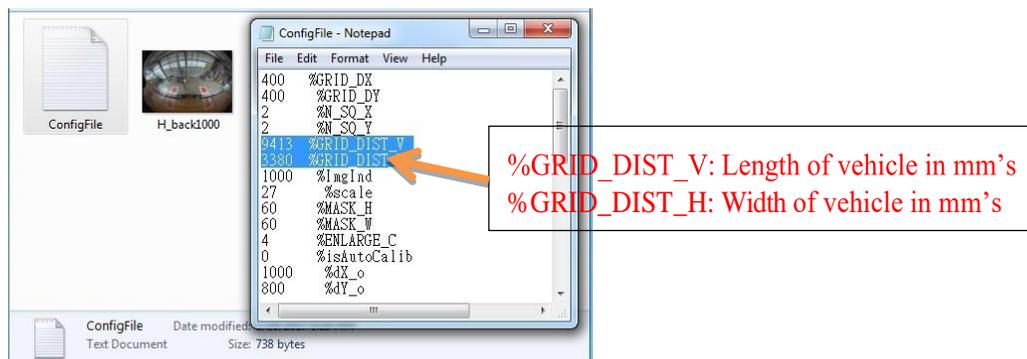


6.2 Open the file “imagedata”, keep only “ConfigFile.txt” and delete any other files listed from previous demarcation, if applicable.

6.3 Copy the 4 snapshot photos: H_front1000.bmp, H_right1000.bmp, H_back1000.bmp, H_left1000.bmp in SD card to file “imagedata”, as below.



6.4 Open “ConfigFile.txt” in ”imagedata” and modify the size of the calibration site based on different size of vehicle since they have different length and width.

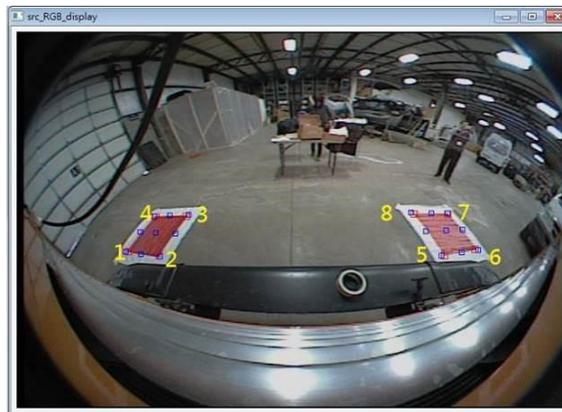


6.5 Open "caliCode_ImageNext2D3Dcalib20140331" for demarcation process, as below.

6.6 Put the mouse at the red corner and the photo will be enlarged (shown as below). One left click and first demarcation is completed.



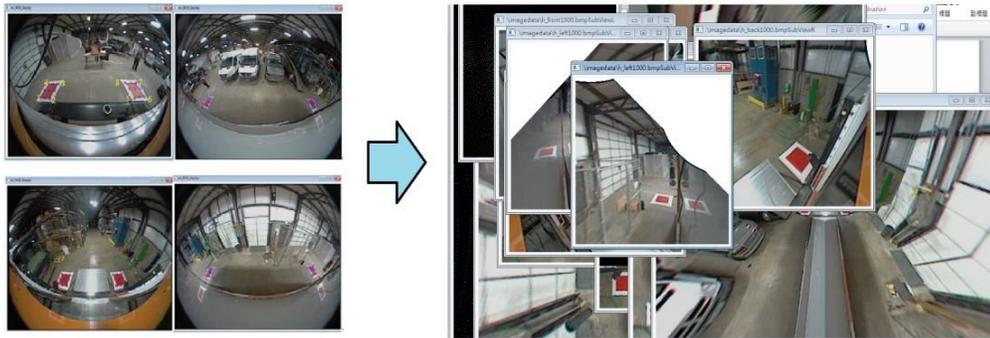
Demarcation order is shown as below:



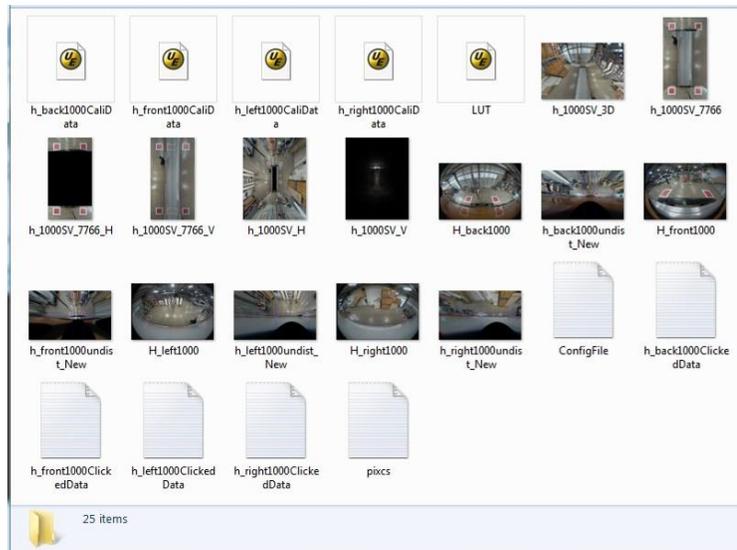
6.7 After demarcation of all 8 corners and press "enter", then you'll be asked if you wish to keep the demarcation, as below.



6.8 The software will proceed through photo collage after 4 camera demarcations are completed; keep on pressing “Enter” until photo collage is completed, as below.



You can check the photo collage in “imagedata” of Camera Calibration.



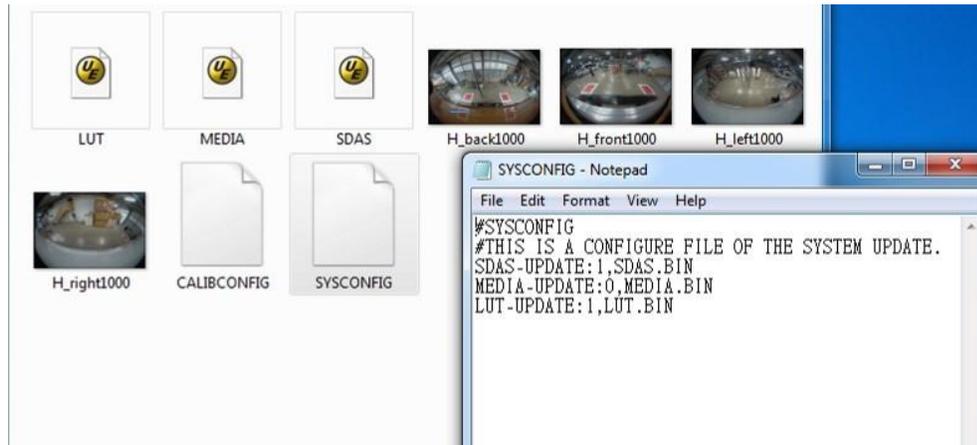
Update

7 VAVS100 update

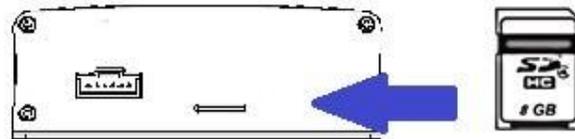
To update the photo collage in VAVS100

7.1 Copy “LUT.BIN” of “imagedata” in file “Camera Calibration” to SD card and replace the old file, as below.

7.2 Open ” SYSCONFIG” in SD card with text file, make sure the parameter of “LUT-UPDATE” and “SDAS-UPDATE” to be 1, then save the file, as below.



7.3 Put SD card into SD card slot, as below.



7.4 Press down the control knob and do not release the button, power on again, then you will see update window, as below.



7.5 Keep on pressing the control knob button until you see the window as below. This means the update is processing, please wait for 5 minutes to complete.



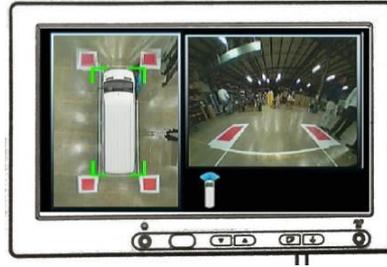
7.6 After the update is completed, you will see the window as below,



7.7 Power down the Unit, remove the SD Card and power on again, and the update is now complete.

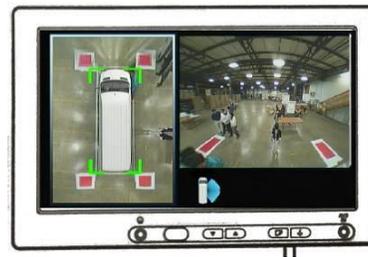
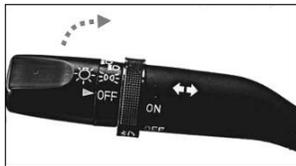
Function Mode

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

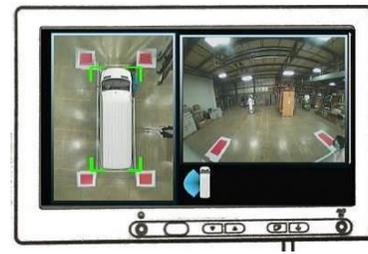
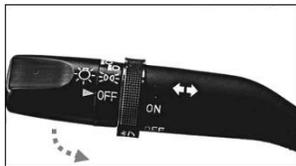


2. Mode: SV + SV (Surround view + Single view)

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

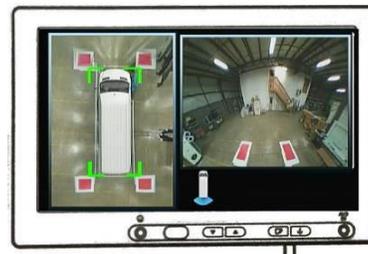


- II. Single view switches to left side image when left signal is on.



turn

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



AVM	
Power Supply	DC 12V (9 ~ 16V)
Power Consumption	Camera: 5W(Max)/4PCS ECU: 10W(Max)
Working Temp	-40 °C ~ +85 °C
Storage Temp	-40 °C ~ +95 °C
Output Power	5V
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	V _{rrm} (Maximum repetitive peak reverse voltage) 100V
Dimension	134.5 x 93 x 35 mm

CAMERA	
Image Sensor	1/3.7" CMOS Image Sensor
Resolution	NTSC 720H*480V
System	NTSC
Supply Voltage	DC+5V
Min Illumination	≤1.0LUX
Water Resistance	IP67
Horizontal View Angle	195°±5°
Vertical View Angle	145°±5°
Operation Temp	-40 °C ~ +85 °C
Storage temperature	-40 °C ~ +90 °C
Camera Output	NTSC_CVBS (1V _{pp} 75Ω)
Casing Material	CAM housing (ABS+PBT+30%GF)
Weight	25g/pcs

Troubleshooting Guide

Situation	Cause	Corrective Action
No power	Bad connection of power in	Please check VAVS100 power connection
No image on screen	Monitor signal cable is not connect	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	TV resolution is not enough	Resolution with 480X234 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 nob cable	Please check if the cable is connected