

New Vehicle Calibration

Components needed:

Calibration Maps, IR Receiver and Remote

Process:

Once the Cameras and Sensor Module installed, please continue to the following instructions:

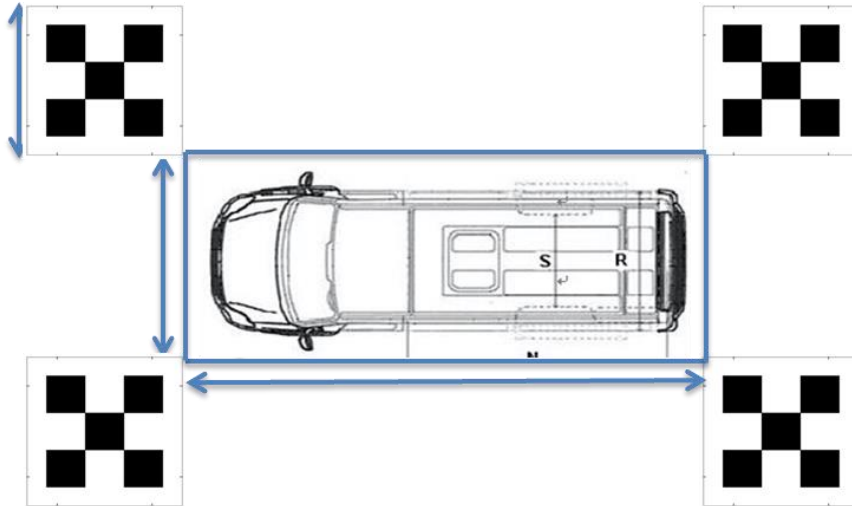
Powering on the Unit

1. When 12 Volts is applied to the Module, an LED on the Harness side will illuminate.
2. Once the Monitor and System have booted up, the initial view seen will most likely be a generic vehicle image showing a Reverse Camera Image and 360 View as shown below:



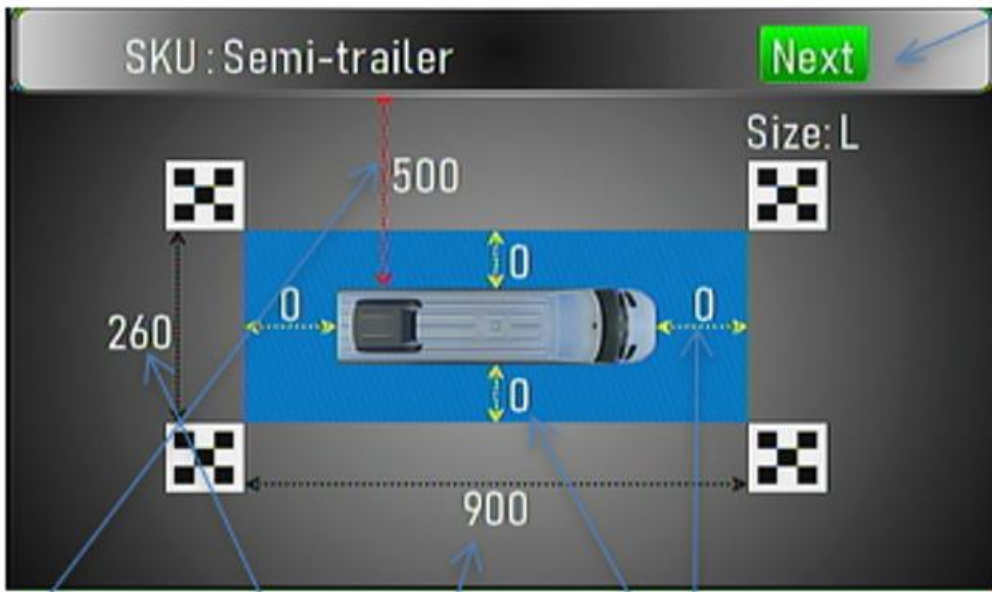
Setting up the Calibration Maps

1. The Calibration Maps will be laid in the orientation around the Vehicle as shown below:

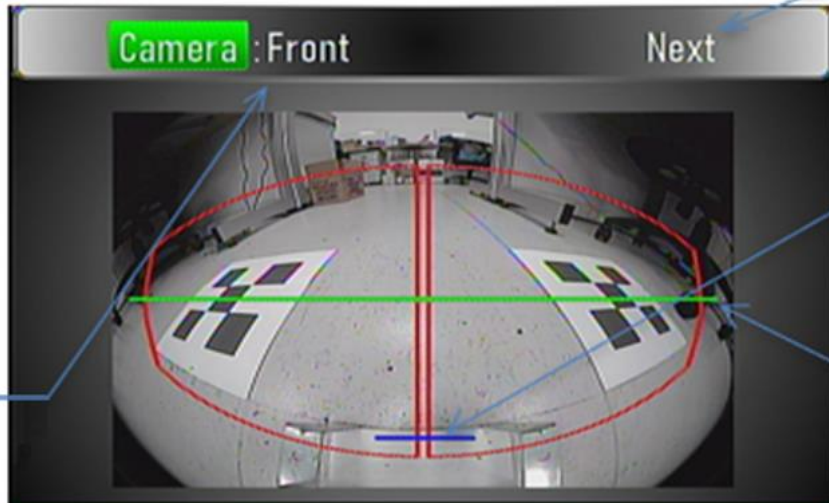


2. Using the remote, enter the code '02580258' to enter the Calibration Mode.

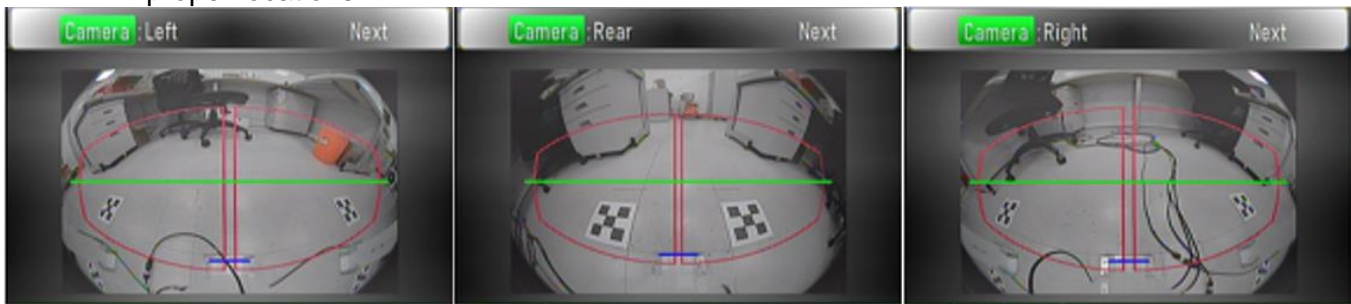
3. Once in Calibration Mode, you will first see the 'Calibration Layout Information Check'
 a. This View will show what SKU and Parameters are present on the Unit.



4. Hit Next and then you will enter 'Camera Check'
 - a. In this Mode, you will place the Maps in the guided areas.
 - b. Each Map will be placed in the Red, half circle area, as shown below:



- c. Pressing the 'down' button, cycle through the other Camera Views to confirm that the Maps in proper locations.



- d. Once all Maps are in place, remove power from the Module and move onto acquiring the needed measurements.

Measurements for Parameter Setup

1. Using a Metric Tape Measurer, obtain the measurements described below in **centimeters**:
 - a. Width of the Maps: taken from the front or the rear of the Vehicle, as shown below:




- b. Length of the Maps: taken from the left or the right of the Vehicle, as shown below:



Creating Vehicle Parameters for Auto-Calibration

1. On the computer, open the Config Creator software

 AVMCFG	1/28/2020 10:32 AM	File folder	
 ASA_cfg_creator	1/13/2020 5:00 PM	Application	2,120 KB

2. The DOS window shown below will appear:

```

C:\Users\kpeek\Desktop\VAVS360A1_Software\ASA_cfg_creator.exe
/* ===== */
/* ASA electronics, INC. */
/* */
/* Voyager 360/270 configuration generator */
/* */
/* Release: Revision 1.0.1 */
/* Snapshot date: 09-10-2019 */
/* */
/* ===== */
/* Copyright (C) 2019 ASA electronics, Incorporated. */
/* All Rights Reserved. */
/* ===== */

/* ===== */
/* Please select surround view monitoring system module */
/* ===== */
1. walk-in Van
2. Bus
3. Heavy duty
4. Semi-trailer
5. SQUID BLUE
==>

```

3. Begin following the prompts to setup the desired SKU and inputting the measurements as requested. (The Width and Length were obtained in the previous steps).

a. The first menu is to set up the SKU. The SKU that is chosen will determine the Width and Length value range shown when those measurements are requested. (Ex. The length range of the Walk-in is 650 to 900 cm. The range of the Bus is 900 to 1400 cm.)

```

/* ===== */
/* Please select surround view monitoring system module */
/* ===== */
1. walk-in Van
2. Bus
3. Heavy duty
4. Semi-trailer
5. SQUID BLUE
==>5

```

b. The second menu option is to select the Pattern Size. This is related to the size of Map being used. (For Walk-ins, the Small is used; for Buses, the Large.)

```

/* ===== */
/* Please select pattern size */
/* ===== */
1. Small (160cm X 160cm)
2. Large (260cm X 260cm)
==>

```

- c. The third menu is where the Width is entered. **Note:** all measurements must be in denominations of 10; this means measurements may need to be rounded up to the next '0'.

```

/* ===== */
/* Please enter pattern width (unit 10cm) */
/* ===== */
The values range from 150cm to 300cm
==>
  
```

- d. The fourth menu is where the Length is entered. **Note:** all measurements must be in denominations of 10; this means measurements may need to be rounded up to the next '0'.

```

/* ===== */
/* Please enter pattern length (unit 10cm) */
/* ===== */
The values range from 650cm to 900cm
==>
  
```

- e. The fifth menu is related to the Setback/Offset* settings for the Front and Rear.

```

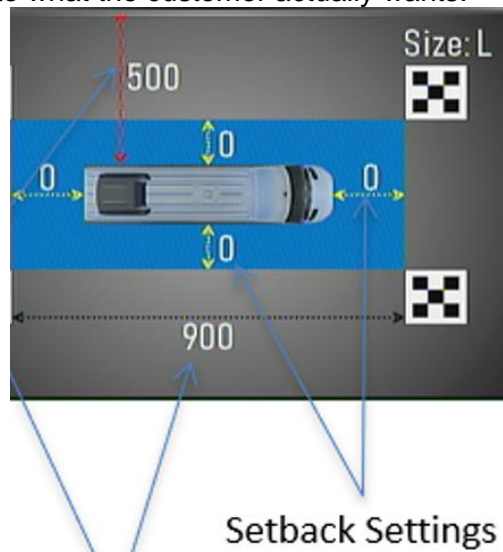
/* ===== */
/* Please enter setback of front & Rear view (unit 10cm) */
/* ===== */
The values range from 0cm to 120cm
==>
  
```

***(Setback Settings Description)**

The Setback setting is related to the image of the Vehicle seen on the Monitor. If the Setback is at '0', the image will be even with the edge of the Camera Image; this means no dead zones created by the image. If the Setback is increased, the image will begin to stretch, thus starting to cover some of the Camera Image that is actually present; this means that if an object/person is against the Vehicle, they may no longer be seen, thus a dead zone has been created.

The reason a customer may want a dead zone is because the image will represent the edge of the Vehicle to the Driver, but in reality they would still have a number centimeters to the actual edge of the real Vehicle. This way you are giving the driver a buffer without them knowing.

This measurement is not something that can be found ahead of time, it may take a few repeated Calibration changes to fine tune to what the customer actually wants.





- f. The sixth menu is related to the Setback/Offset settings for the Left and Right. After the Value is entered, the DOS window will close.

```



/* ===== */
/* Please enter setback of Left & Right view (unit 10cm) */
/* ===== */
The values range from 0cm to 60cm
==>

```

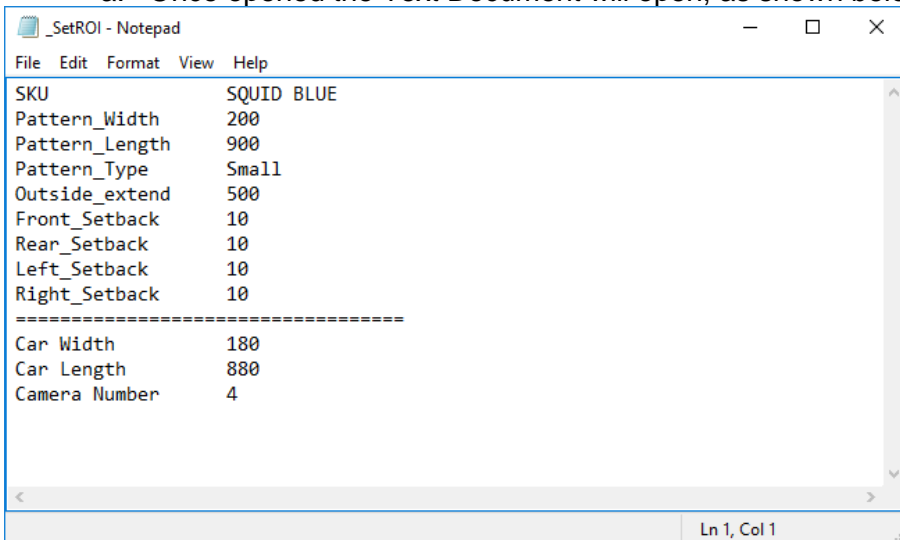
4. Open the AVMCFG Folder:

 AVMCFG	1/28/2020 10:32 AM	File folder	
 ASA_cfg_creator	1/13/2020 5:00 PM	Application	2,120 KB

5. Open the Test Document:

 _SetROI	1/30/2020 9:41 AM	Text Document	1 KB
 calibration.cfg	1/30/2020 9:41 AM	CFG File	1 KB

- a. Once opened the Text Document will open, as shown below:



- b. This will let you confirm that the parameters set in the DOS window are correct before they are uploaded to the Module.

6. Once confirmed, transfer the AVMCFG Folder to a USB Thumbdrive.

Uploading Parameters and Calibrating the System*

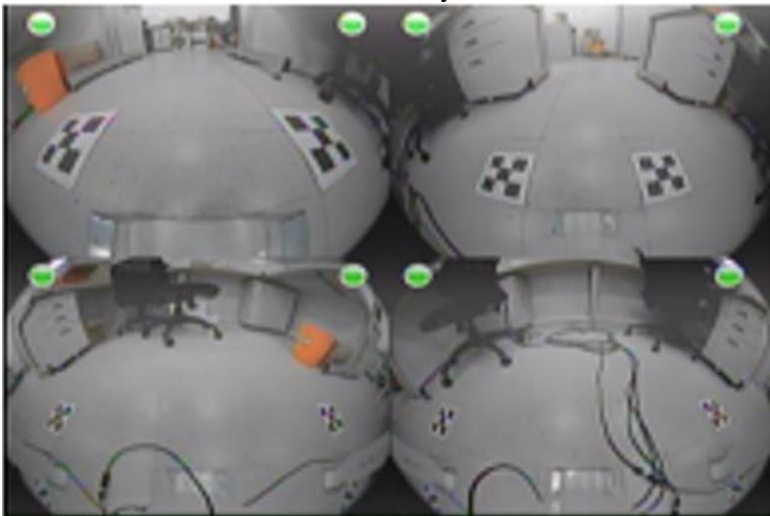
(*The process for Uploading the Parameters and Calibrating is the same)

Uploading Parameters

1. Insert the IR Receiver in the IR Port and the USB Drive into the USB Port, and power on the Module.
2. Enter the Code to enter the Calibration Mode; in the 'Calibration Layout Information Check' screen, the default Parameters will be seen.
3. Confirm the Maps are still in the proper locations by cycling through the Camera Views. Once confirmed, press 'Next' to continue.
4. The next screen will ask if you are ready to Start Auto Calibration, select Yes to begin:



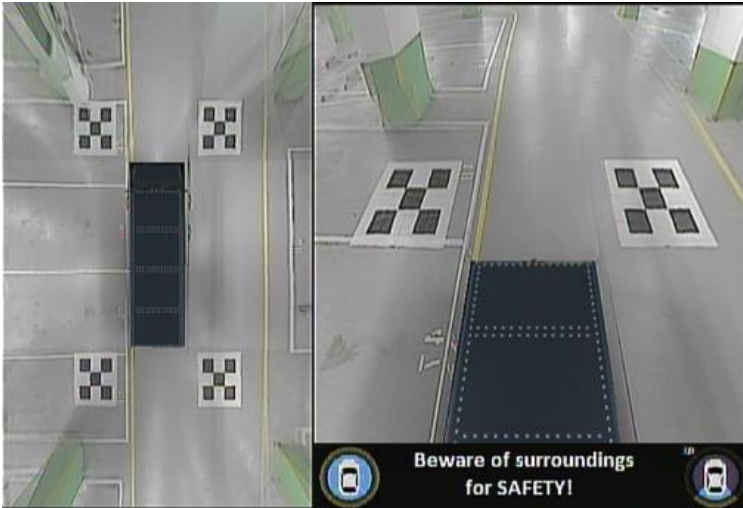
5. The Calibration will begin. Each image is analyzed and when each image passes the Dots go from Red to Green. This should only take 30 to 45 seconds.



6. Once completed the Unit will Calibrate and then reboot. When it is finished, you will see the Maps still won't look right. **This is because only the Parameters were downloaded to the Module.**

Calibrating the System

1. First, remove the USB from the Module. (The Unit will recognize that the Parameters on the USB are the same as what was loaded previously, this means the Con Fig File will be ignored. However, it is good to remove the USB so it doesn't get left behind)
2. The steps to Calibrate the System are the same as above. However, you will see that when you enter into the 'Calibration Layout Information Check', the new Parameters and SKU, if applicable, will be present.
3. Once the process is completed, the image on the screen should look like only Four Maps are around the Vehicle, as shown below:



Final Note: If the Unit already has the proper Parameters and SKU needed, then only the Calibration process needs to be performed once; no USB required. (We can have the Parameters already uploaded from the Supplier, but this is will most likely only happen with our large quantity customers, like Amazon.)

Troubleshooting:

Map(s) look weird, or stretched, after the Calibration has been performed (or the process has been performed twice)?

-Like any computer, the system can get confused for a moment and not do it's job correctly. We have seen this issue, but doing the Calibration one more time usually fixes this issue.

The Calibration gets hung up on one image and takes a couple minutes to complete. However, once it is completed, the image goes to what is shown below:



-This is Manual Calibration Mode. This will allow you to manually move the numbers in the correct orientation to complete the Calibration. This isn't necessarily an 'error', but it does mean that the Auto Calibrate function didn't work. The reason this may occur is because someone walked into view, something may be covering a section of the Map (Like a Bumper or Sideview Mirror) or the Map is not positioned correctly. To exit out of this, cycle the power and perform the Calibration again. Full instructions on Manual Mode can be found on in the Instruction Manual.

During the 'Camera Check', the Maps look very skewed; ex: one is far off from where it should be. Even after the Camera is adjusted, it still doesn't look right.

-This most likely is a bad Camera. Replace the Camera or swap Cameras to see if the problem follows to the new position.