



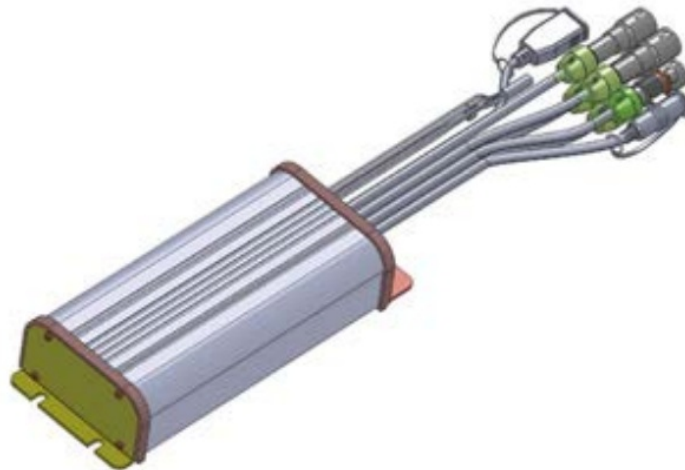
Voyager VAVSMOD2 360 Camera System User Manual

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VOYAGER

VAVSMOD2
Voyager 360 Camera System
User Manual



Version 1.2

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Content List

Item	Description	QTY
A	ECU (electronic control unit/module) with Harness	1
B	User Manual	1

A



B



Additional Products Required (Sold Separately)

Compatible Camera

Item	Part Number	Description	QTY
C	VAVSCAM2	Camera and camera hardware	1

*NOTE: 4x VAVSCAM2 required for full system

Calibration Tools

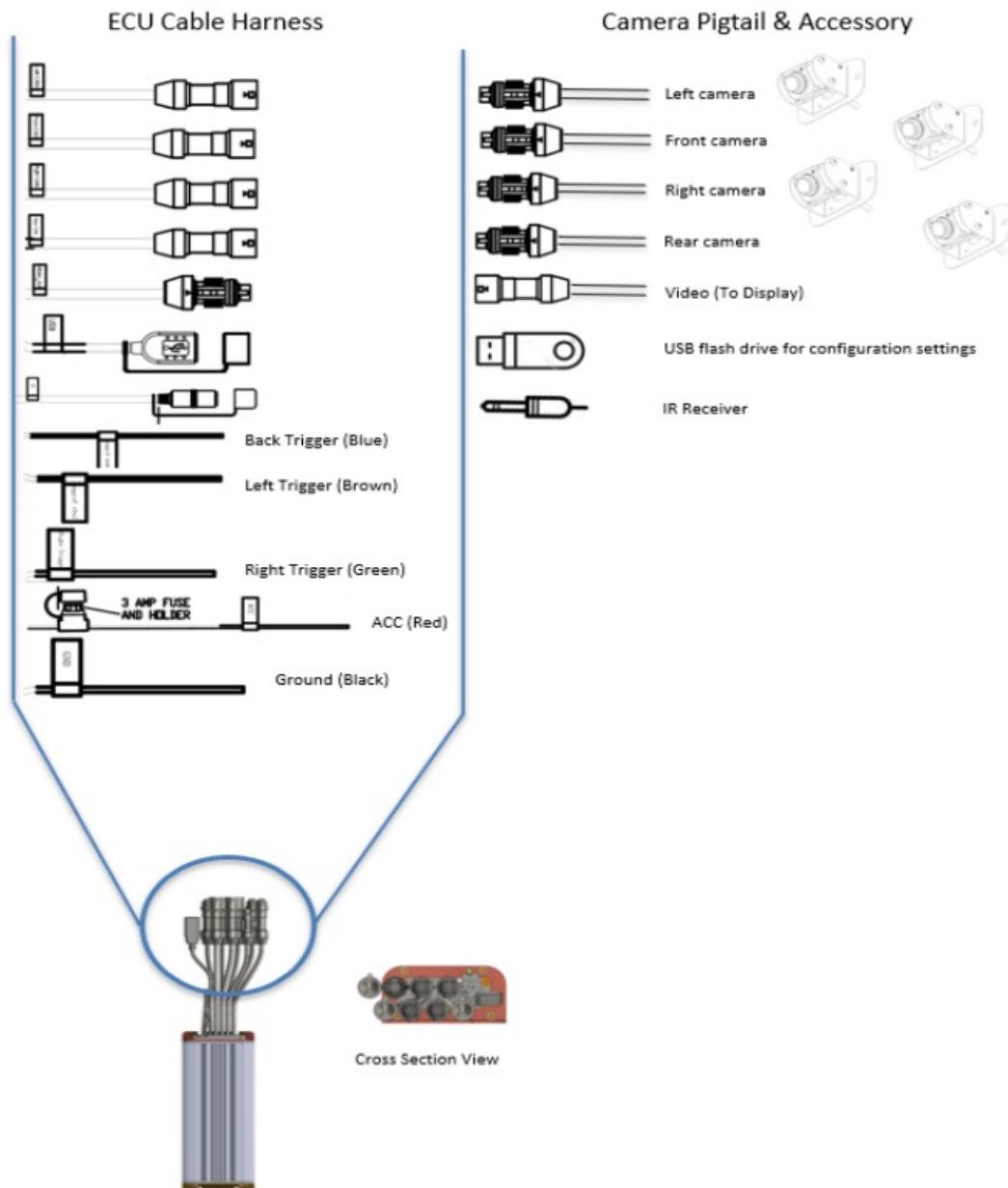
D



E

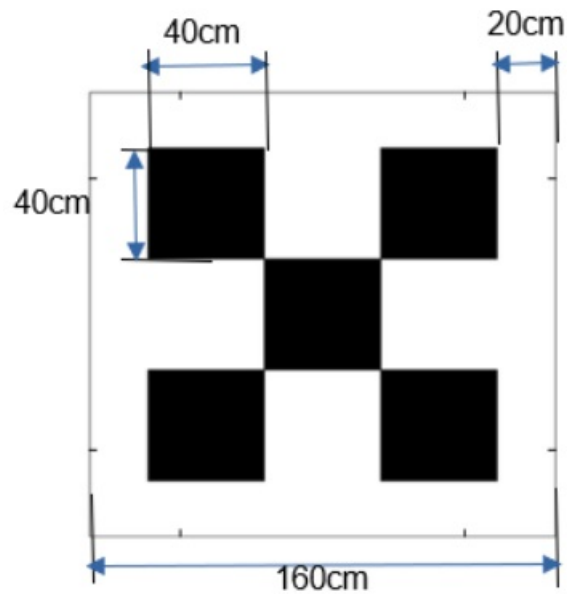


System Connections



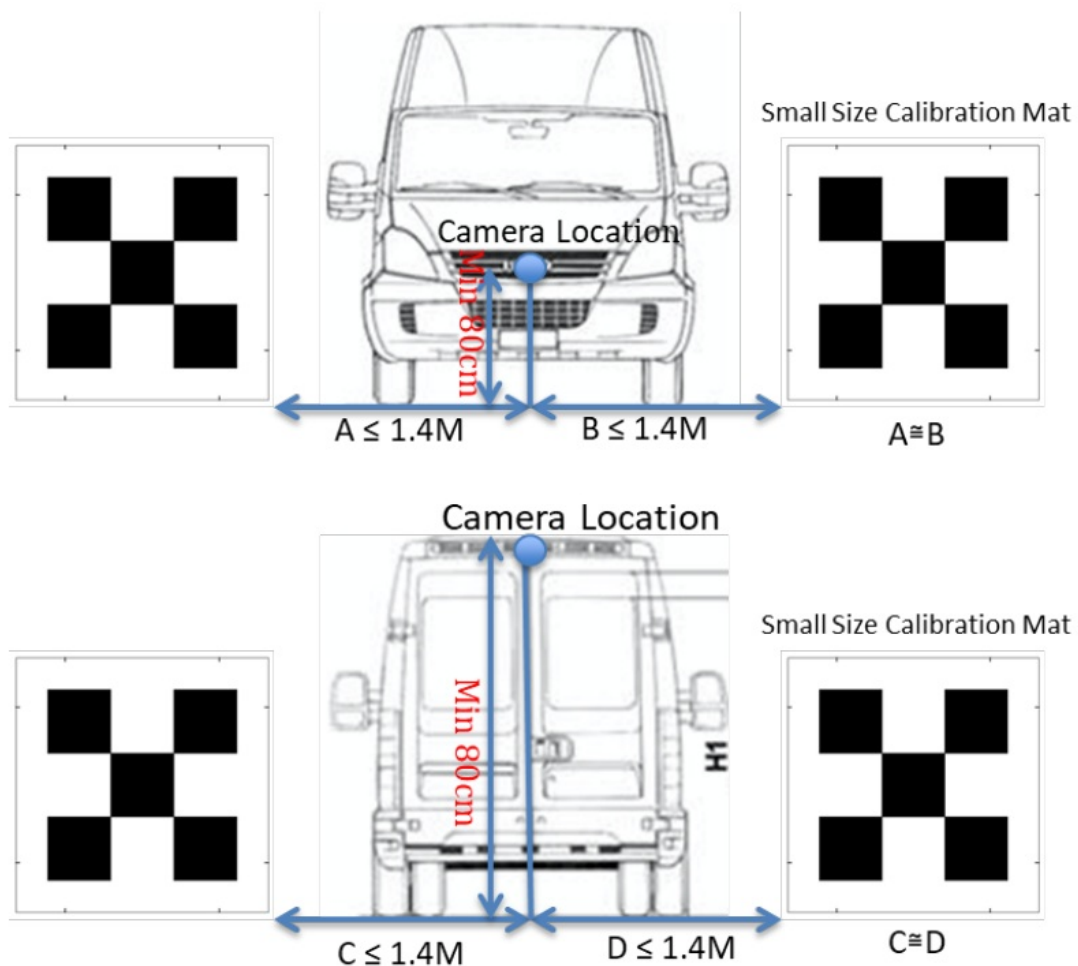
Camera Installation and Calibration Layout with Small Mat

4.1 Mat Dimension



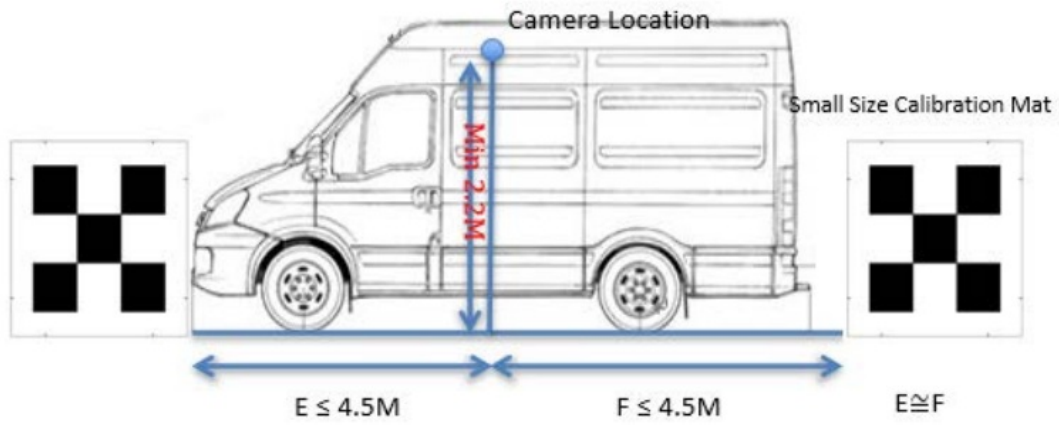
4.2 Camera Installation Front and Rear View

The camera is recommended to be mounted at the center ($A \approx B$, $C \approx D$), and the tolerance between C and D could be as much as ± 30 cm if the Camera is mounted on the Roof.

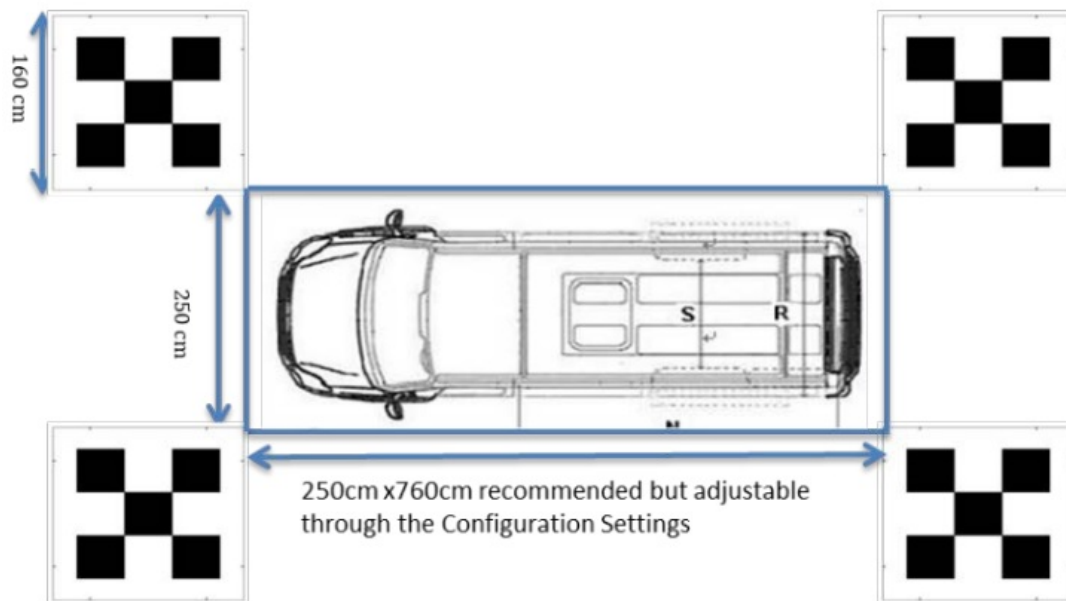


4.3 Camera Installation Side View

The camera is recommended to be mounted at the center ($E \approx F$), and the tolerance could be as much as ± 30 cm.

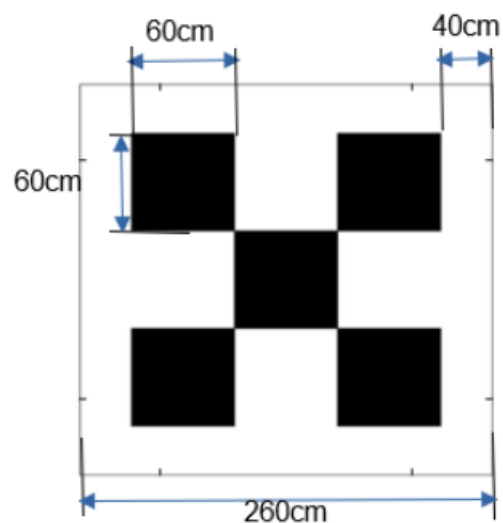


4.4 Calibration Layout Top View



Camera Installation and Calibration Layout with Large Mat

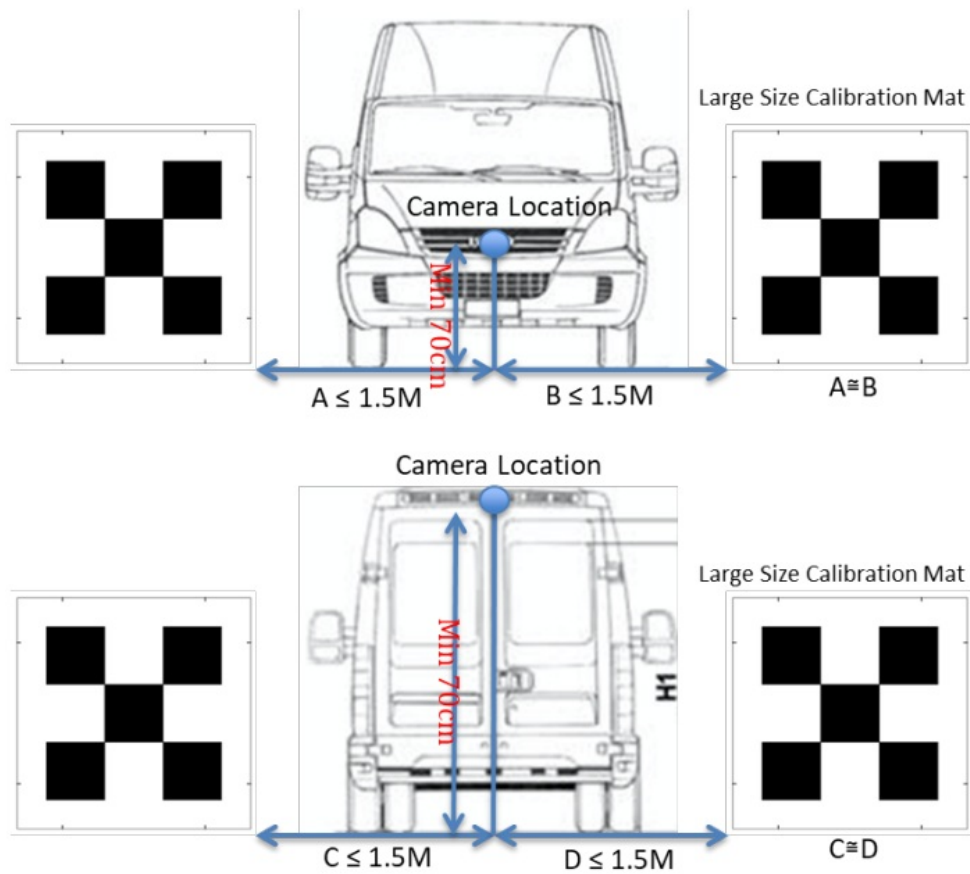
5.1 Mat Dimension



5.2 Camera Installation Front and Rear View

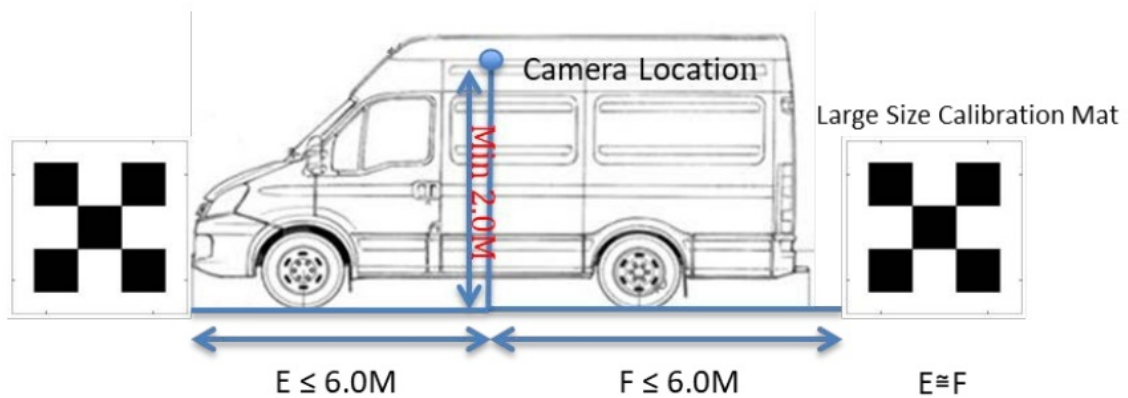
The camera is recommended to be mounted at the center ($A \cong B$, $C \cong D$), and the tolerance between C and D

could be as much as +/- 30 cm if the Camera is mounted on the Roof.

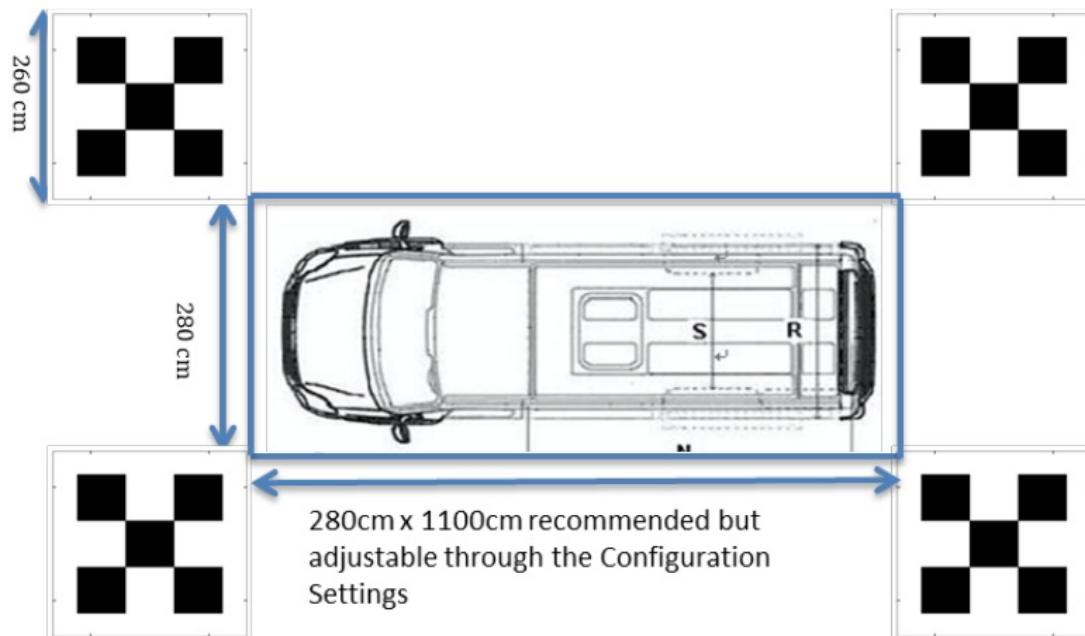


5.3 Camera installation Side View

The camera is recommended to be mounted at the center ($E \approx F$), and the tolerance could be as much as +/- 30 cm.



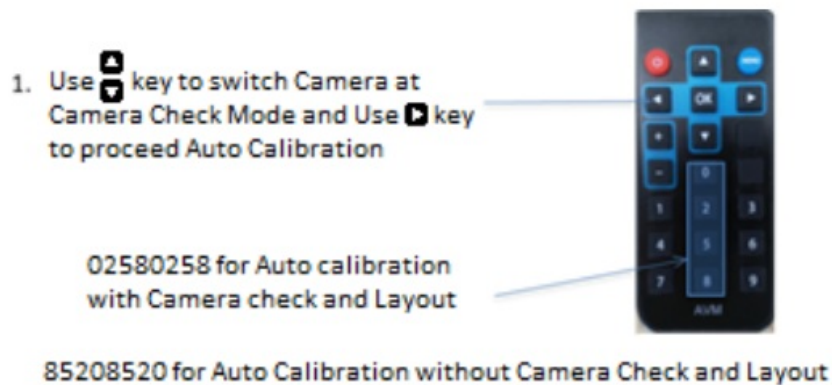
5.4 Calibration Layout Top View



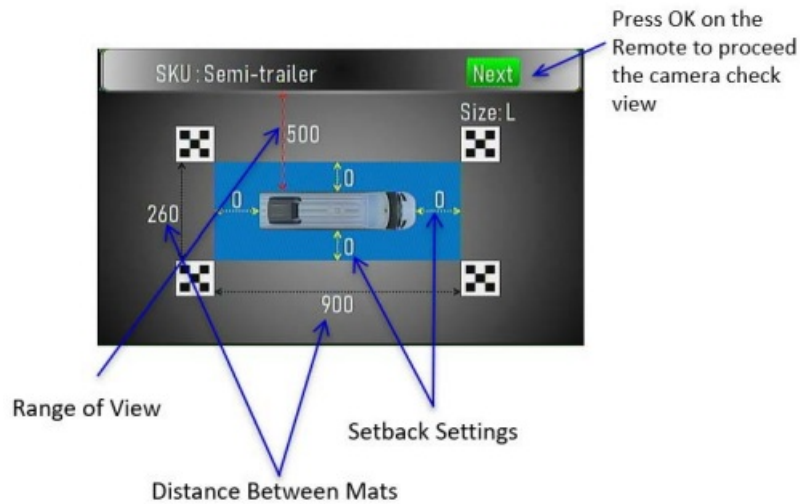
Auto Calibration

1. Plug the IR receiver into the connector labeled IR of ECU
2. If a new calibration layout, new SKU, or new Vehicle Image deployment is needed, plug the USB Disk into the connector labeled USB of ECU,
3. Use the Remote Control to process the Auto/ Manual Calibration
4. Press 02580258 on the Remote Control for Auto Calibration with Camera Check View.

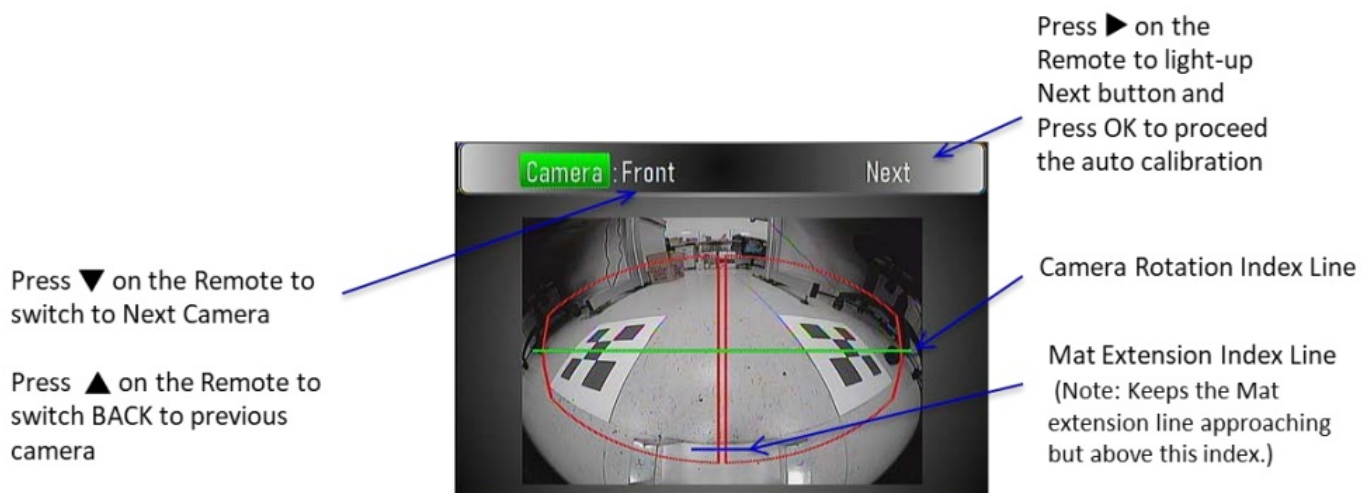
NOTE: As each button is pressed, you should see a red asterisk (*) appear on the screen indicating the button press was received by the ECU module. Once eight asterisks (*****) are shown on the screen, the unit will enter the calibration process.



5. Calibration Layout Information Check View

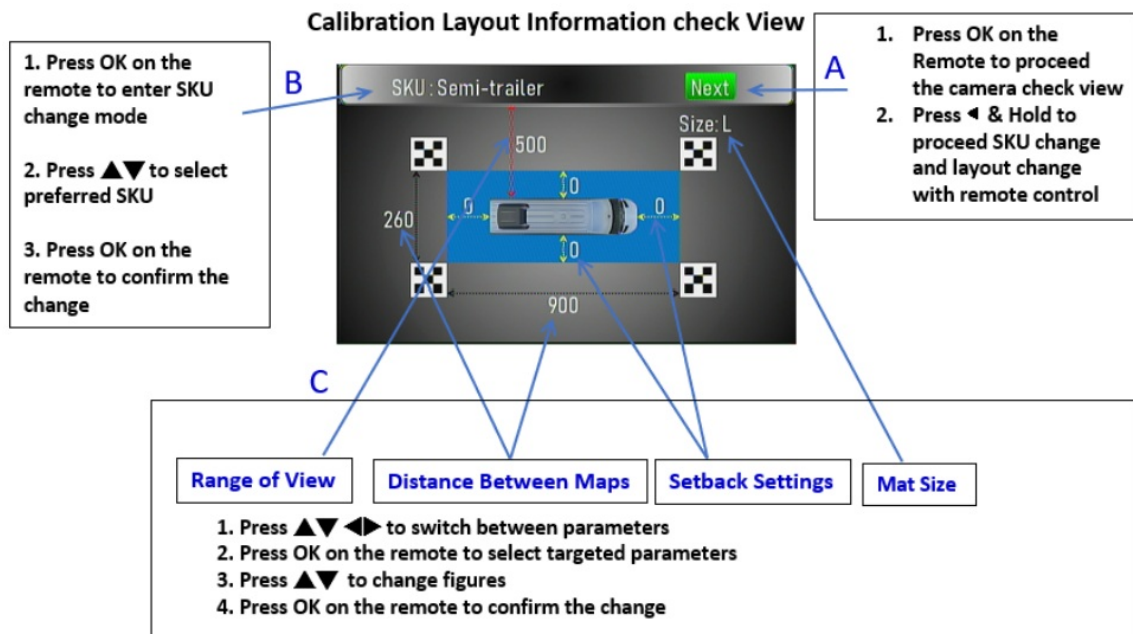


6. Camera Check View



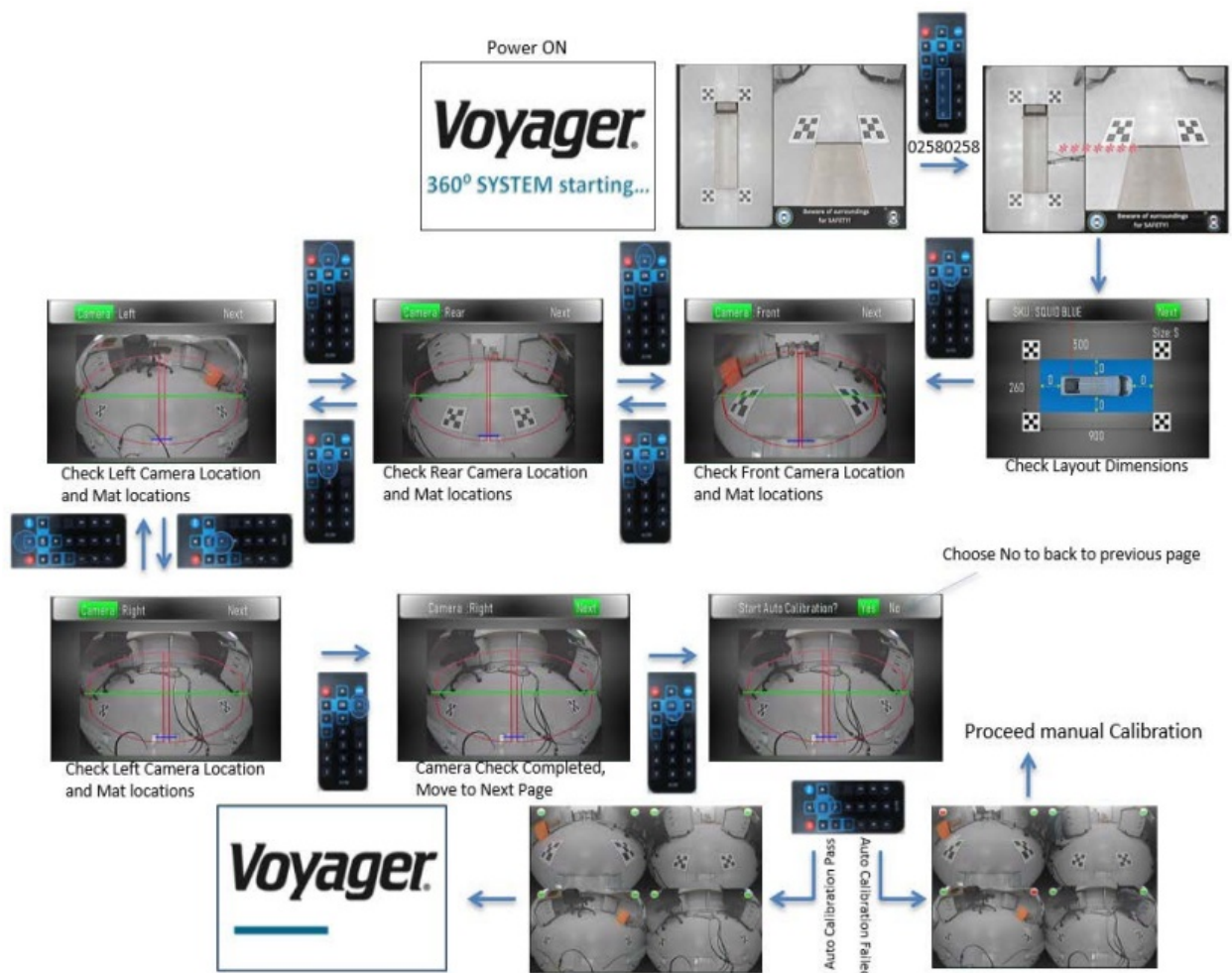
6.1 SKU, Layout, and Mat Selection

1. In Calibration Layout Information Check View, press ◀ the key and hold to proceed with SKU, Layout, and Mat size selection with remote control
2. Move the cursor to SKU and press OK to enter SKU change mode
 - Press ▲ ▼ to select the preferred SKU
 - Press OK to confirm the change
3. Move the cursor to the target parameter and press OK to enter the parameter change mode
 - Available parameters are Range of View/ Distance between mats/ Setback setting/ Mat size
 - Press ▲ ▼ to select a preferred value
 - Press OK to confirm the change
4. Move the cursor to NEXT and press OK to proceed with the camera check view

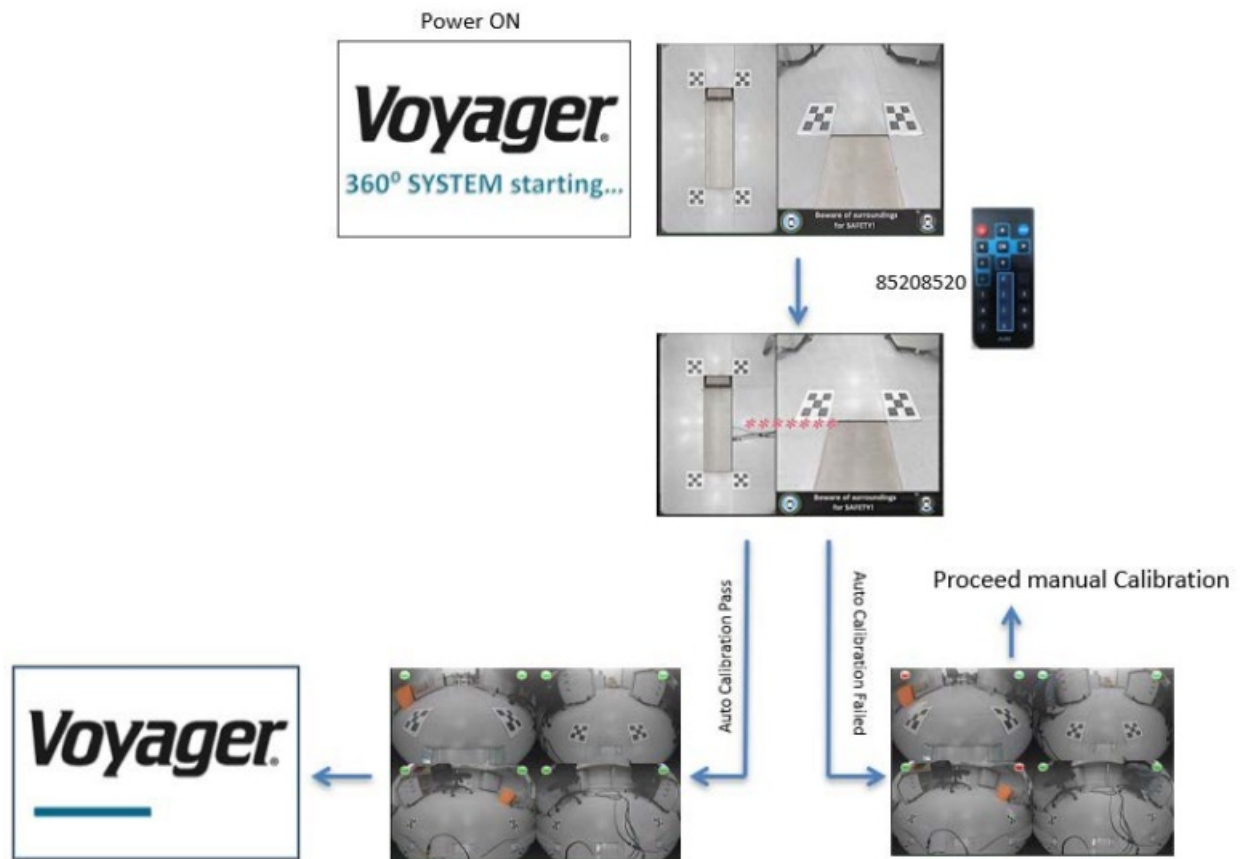


6.2 Auto Calibration Flow

- Press 02580258 on the Remote to access Auto-calibration with Layout/Camera Check View



- Press 85208520 on the Remote to access Auto-calibration without Layout/Camera Check

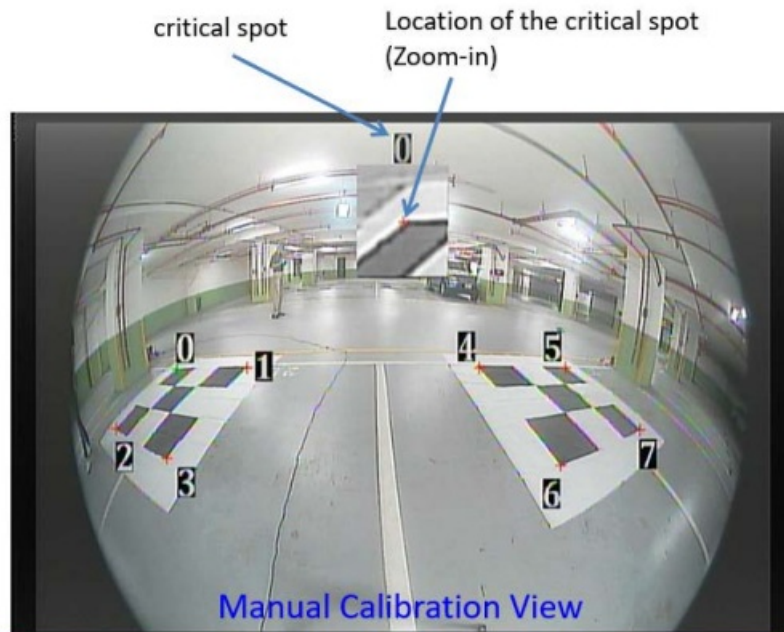


Manual Calibration

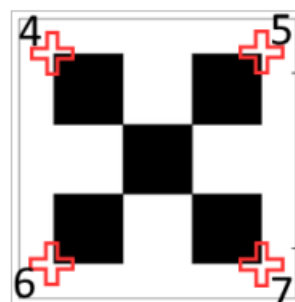
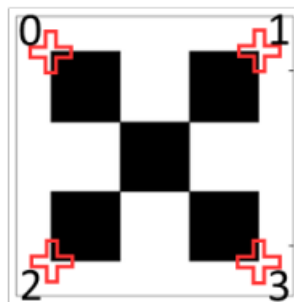
When the system failed to complete the auto calibration, it will lead to manual calibration.
(However, it is recommended to find the obstruction which caused the failure and remove it from the layout area.
Then reattempt the auto-calibration process.)

Manual Calibration Process:

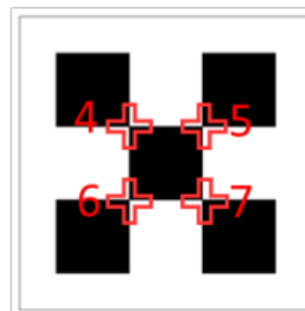
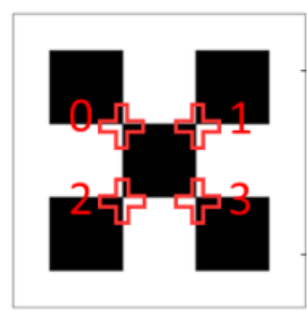
1. Use the numerical keys (0-7) on the remote to choose the critical spot which is NOT in the correct location.
2. Use the cursor (▲ ▼ ◀ ▶) to move the critical spot to the correct location and check the zoom-in window to confirm.
3. Use "MENU" key to switch cameras and inner/outer critical spot views



The Correct Locations of each outer critical spot



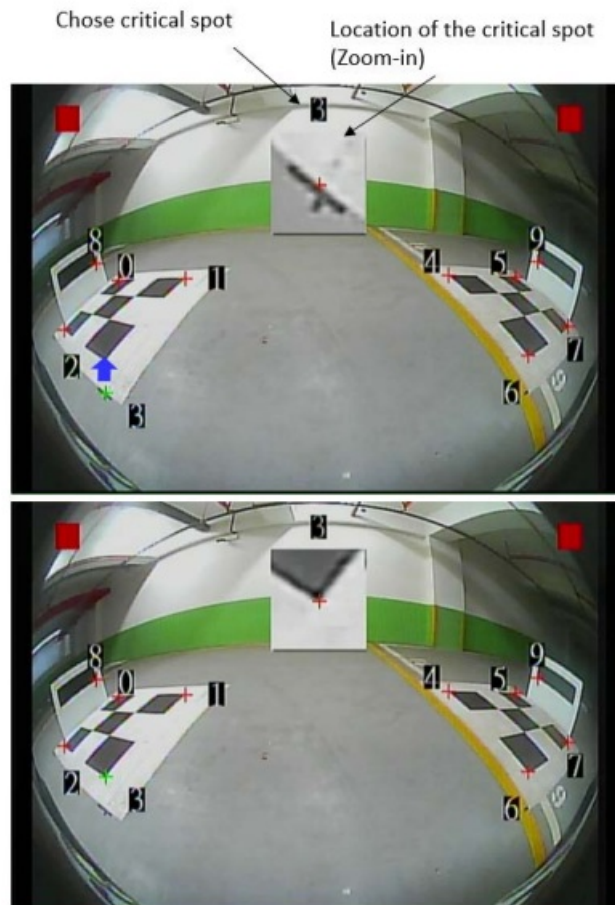
The Correct Locations of each inner critical spot



7.1 Manual Calibration Flow

1. Use the numerical keys on the remote to choose the critical spot which is NOT in the correct location. (in this case #3)
2. Use the Remote cursor (▲ ▼ ◀ ▶) to move the cursor to the correct location. (The Zoom-in window at the top helps with accuracy)
3. Once finished with the adjustments, Press the "MENU" key to switch to the inner 8 critical spots of the same camera and repeat the adjustment, if needed.
4. When step 3 is finished, the Remote the "MENU" key to switch to the next camera and repeat steps 1, 2, and 3.
5. When all four cameras (Front -> Rear-> Left-> Right -> Front), Press "OK" to complete manual

calibration setup. The system will reset and process the calibration.



Trigger Views

If the vehicle is driving forward without turn signals triggered, the VAVSMOD2 will give the driver a top view and Rear view



If the Left Turn Signal is triggered, the VAVSMOD2 will give the driver a top view and left-side view



If the Right Turn Signal is triggered, the VAVSMOD2 will give the driver a top view and a Right-side view



If the vehicle gear is set to Reverse, the VAVSMOD2 will give the driver a full-screen Rear view



Note: Reverse trigger has the top priority. Whenever the turn light and backward are both triggered, the VAVSMOD2 shows the backward view.

Specification

VAVSMOD2 ECU	
Power Supply	DC 12V
Power Consumption	700 mA (Max)
Working Temp	-40 °C ~ +85 °C
Storage Temp	-40 °C ~ +95 °C
Input Signal	AHD 720P
Video Input	Camera * 4
Video Output	CVBS/NTSC (640 * 480 Pixel)

IR port	1
USB port	1
VAVSCAM2 CAMERA (SOLD SEPARATELY)	
Image Sensor	1/3" (SONY)
Resolution	1.2M
Optical Lens	2G4P + IR Cut
Aperture	2.0
FOV	190° (H)/ 140° (V)
Optical Decenter	5 Pixel
Operating Temperature	-20°C ~ 70°C
Min Illumination	0.1 Lux
Power Supply	DC 12V
Water Resistance	IP67


Trouble Shooting Guide

Issue	Possible Causes	Corrective Actions
No power	Bad connection of power input	Please check AVM power and ground connection
No image on the screen	Monitor signal cable is not connected	Please check if the monitor signal cable is properly connected or if any pins inside the connector are bent
The 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	Monitor display resolution is too low	Resolution with 480X234 above is recommended
The dark image on the screen	Camera video cable of the camera is not connected to the VAVSMOD 2 ECU module	Please check if the camera video cable is connected or if any pins inside the connector are bent
	Camera is damaged	Please replace the camera (may require re-calibration)
No function of left/right/reverse trigger	The trigger signal is not properly connected	Please check if the trigger signal is connected
The system will not auto-calibrate	The calibration Mat is obstructed	Check for objects obstructing the camera view of the Mats. Fold in side mirrors if they are obstructing.
	Calibration Mats are not within the Red Box	Perform calibration camera check (press 02580258 on the remote). Check that the Mats are <u>within the red box</u> AND <u>above the blue Mat Extension Index Line</u> .

	Poor lighting or Shadows on the calibration Mats	Check for poor lighting conditions or shadows that are being cast onto the calibration Mats. Correct the poor light condition.
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July 26, 2021

Documents / Resources

 <p>VAVSMOD2 User Manual Voyager 360 Camera System</p>	<p>Voyager VAVSMOD2 360 Camera System [pdf] User Manual VAVSMOD2, 360 Camera System, VAVSMOD2 360 Camera System</p>
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