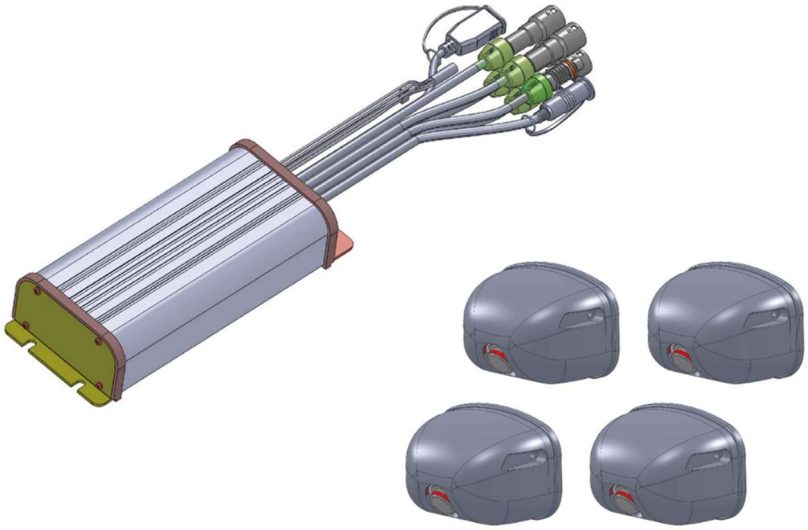
VAVS360A1 User Manual

Voyager 360 Camera System



Version 0.8

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TABLE OF CONTENTS

1. Content List 3
2. System Connections 4
3. Camera Installation and Calibration Layout with Small Map 5

3.1 Map Dimension 5

3.2 Camera Installation Front and Rear View 5

3.3 Camera Installation Side View 6

3.4 Calibration Layout Top View 6

4. Camera Installation and Calibration Layout with Large Map 7

4.1 Map Dimension 7

4.2 Camera Installation Front and Rear View 7

4.3 Camera installation Side View 8

4.4 Calibration Layout Top View 8

5. Auto Calibration 9

5.1 Auto Calibration Flow 10

6. Manual Calibration 12

6.1 Manual Calibration Flow 13

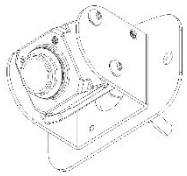
7. Trigger Views 14
8. Specification 15
9. Trouble Shooting Guide 16

1. Content List

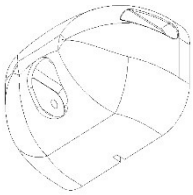
Item	Description	QTY
A	ECU with Harness	1
B	Camera w/ Bracket & Pigtail	4
C	Camera Cover	4
D	Camera Rear Seal	4
E	Camera Mounting Screws	16
F	User Manual	1

A

B



C



D

E

F

Toolkit		
Item	Description	QTY
A	Calibration Map	4
B	IR Receiver	1
C	IR Remote Control	1

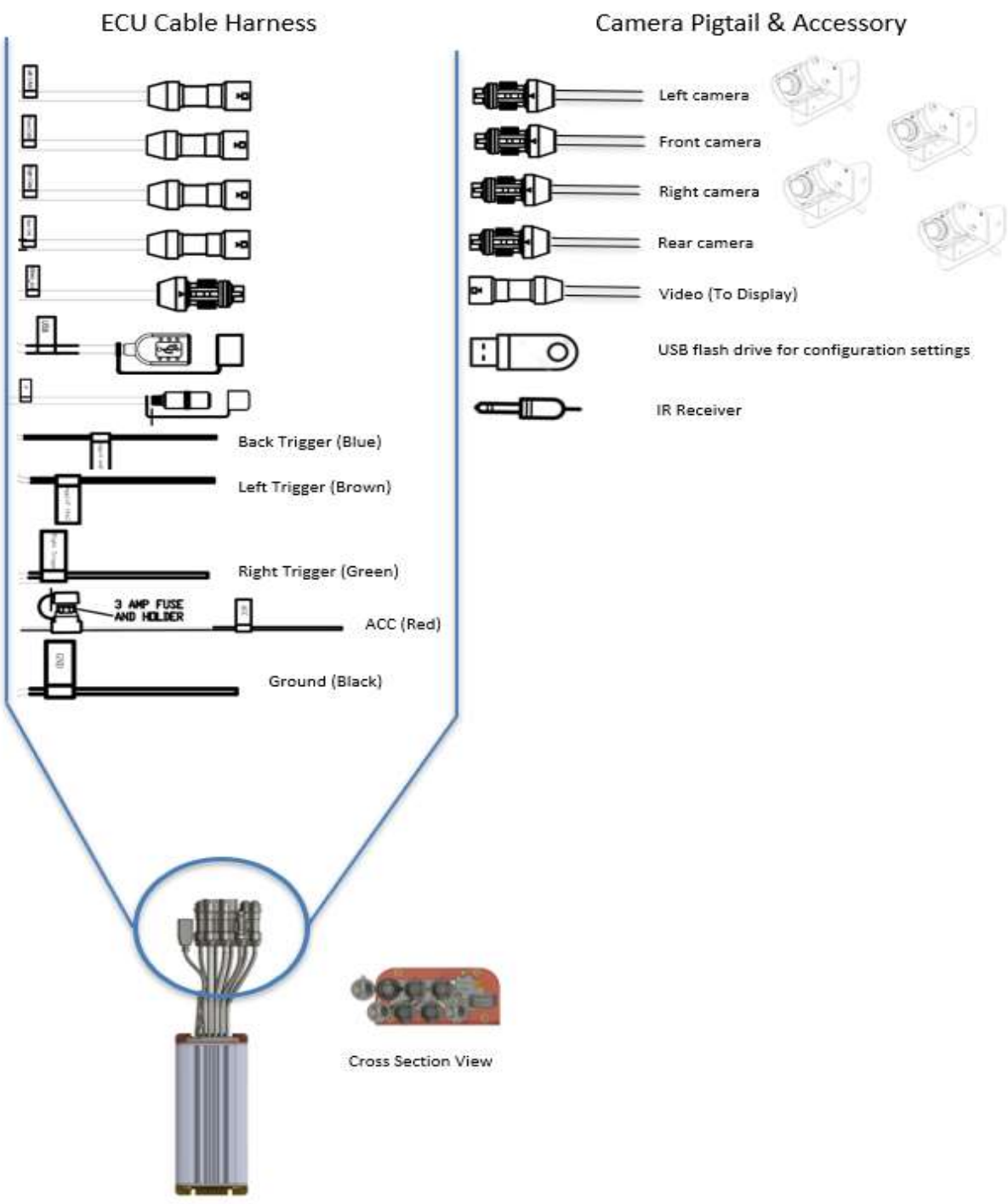
A

B

C

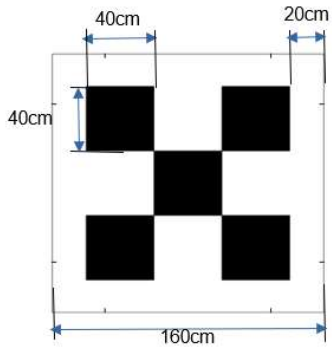
Note: Calibration Maps, IR receiver, and Remote Control are service kit items. They do NOT come with the unit and sold separately as an installation kit.

2. System Connections



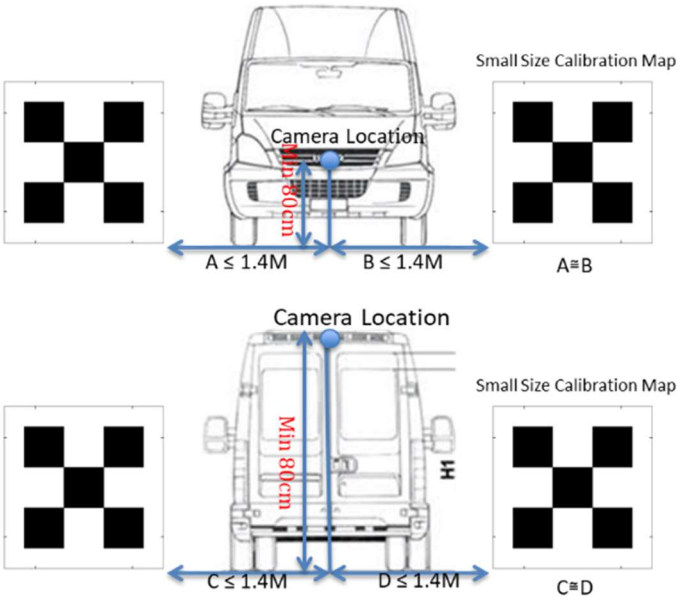
3. Camera Installation and Calibration Layout with Small Map

3.1 Map Dimension



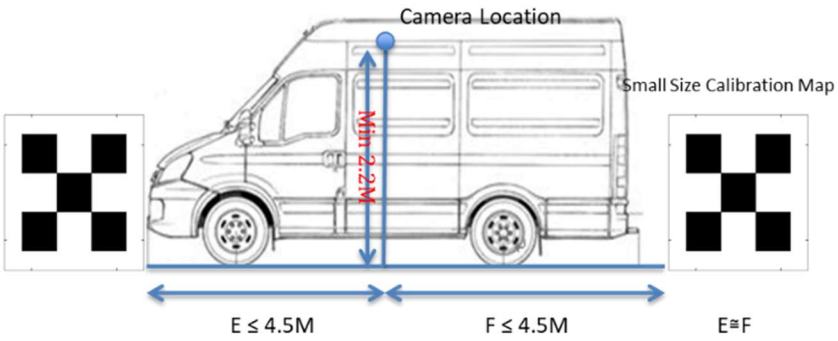
3.2 Camera Installation Front and Rear View

The camera is recommended to be mounted at the center (A≅B, C≅D), and the tolerance between C and D could be as much as +/- 30 cm, if the Camera is mounted on the Roof.

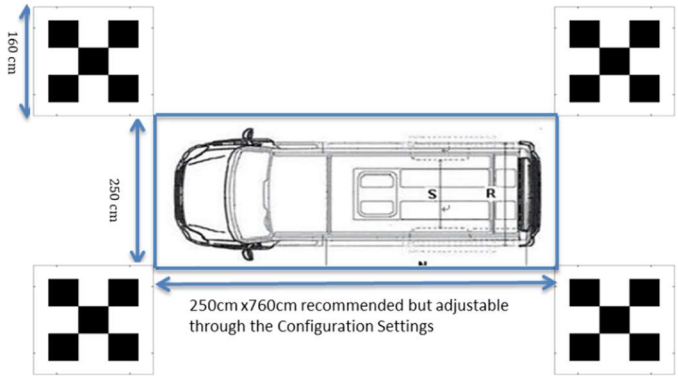


3.3 Camera Installation Side View

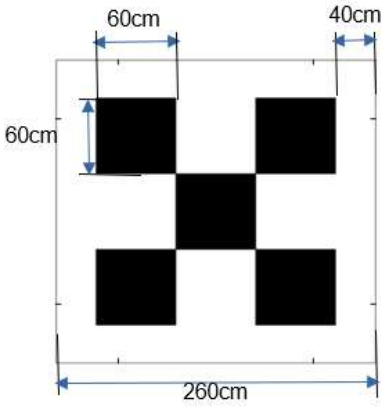
The camera is recommended to be mounted at the center (E≅F), and the tolerance could be as much as +/- 30 cm.



3.4 Calibration Layout Top View



4. Camera Installation and Calibration Layout with Large Map



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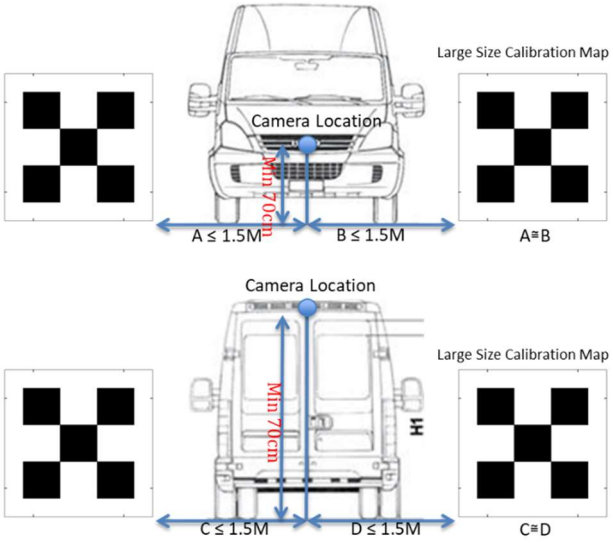

4.3 Camera installation Side View

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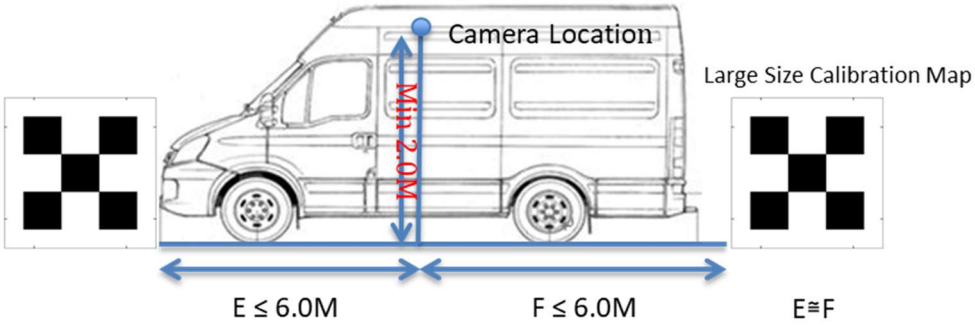
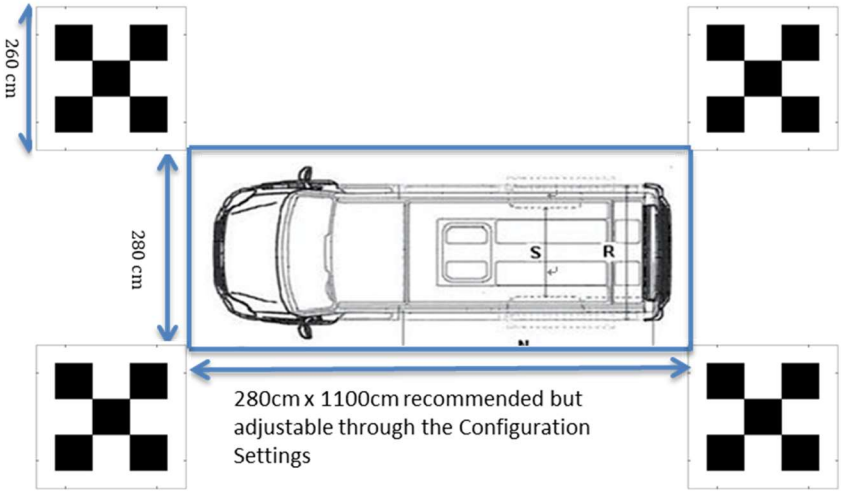


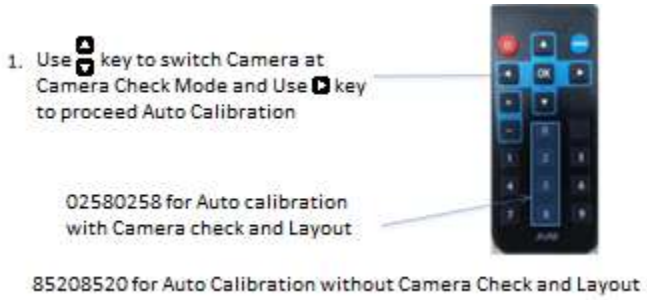
4.4 Calibration Layout Top View



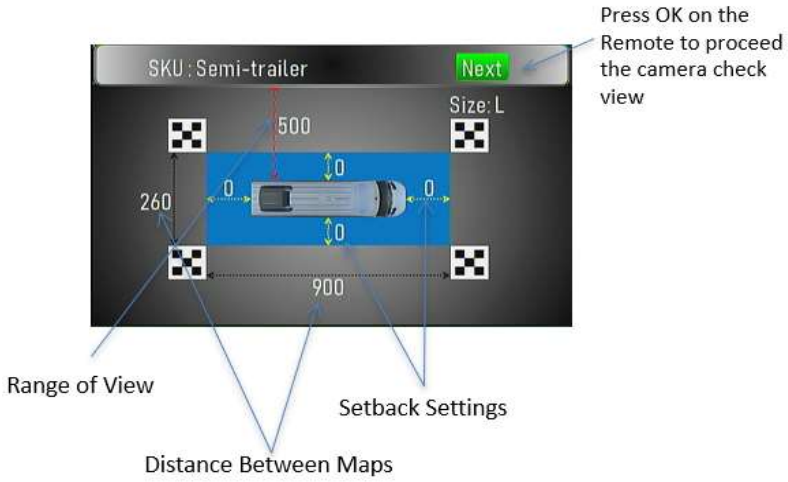
5. Auto Calibration

1. Plug the IR receiver to the connecter labeled IR of ECU
2. If a new calibration layout, new SKU, or new Vehicle Image deployment is needed, plug the USB Disk to 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.

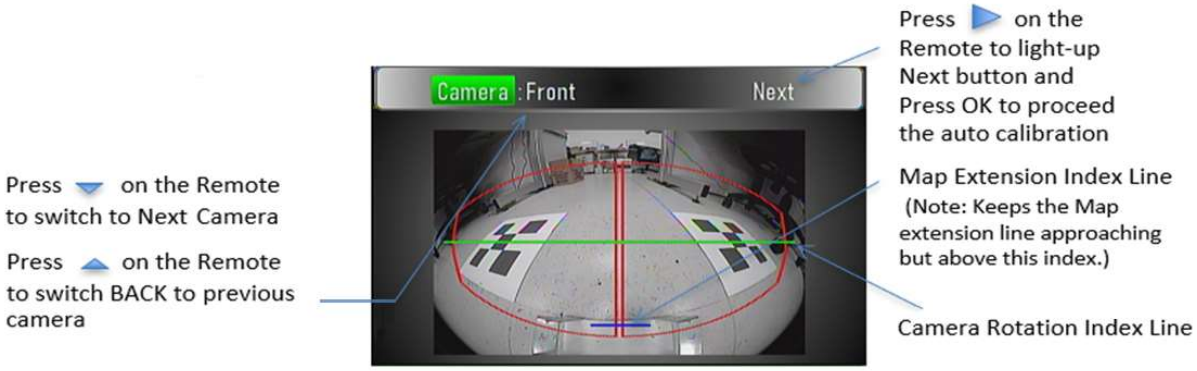
   NOTE: As each button is pressed, you should see a red asterisk (*) appear on the screen indicating the button press was received by the ECU module. Once eight asterisks (********) are shown on the screen, the unit will enter the calibration process.



5. Calibration Layout Information Check View

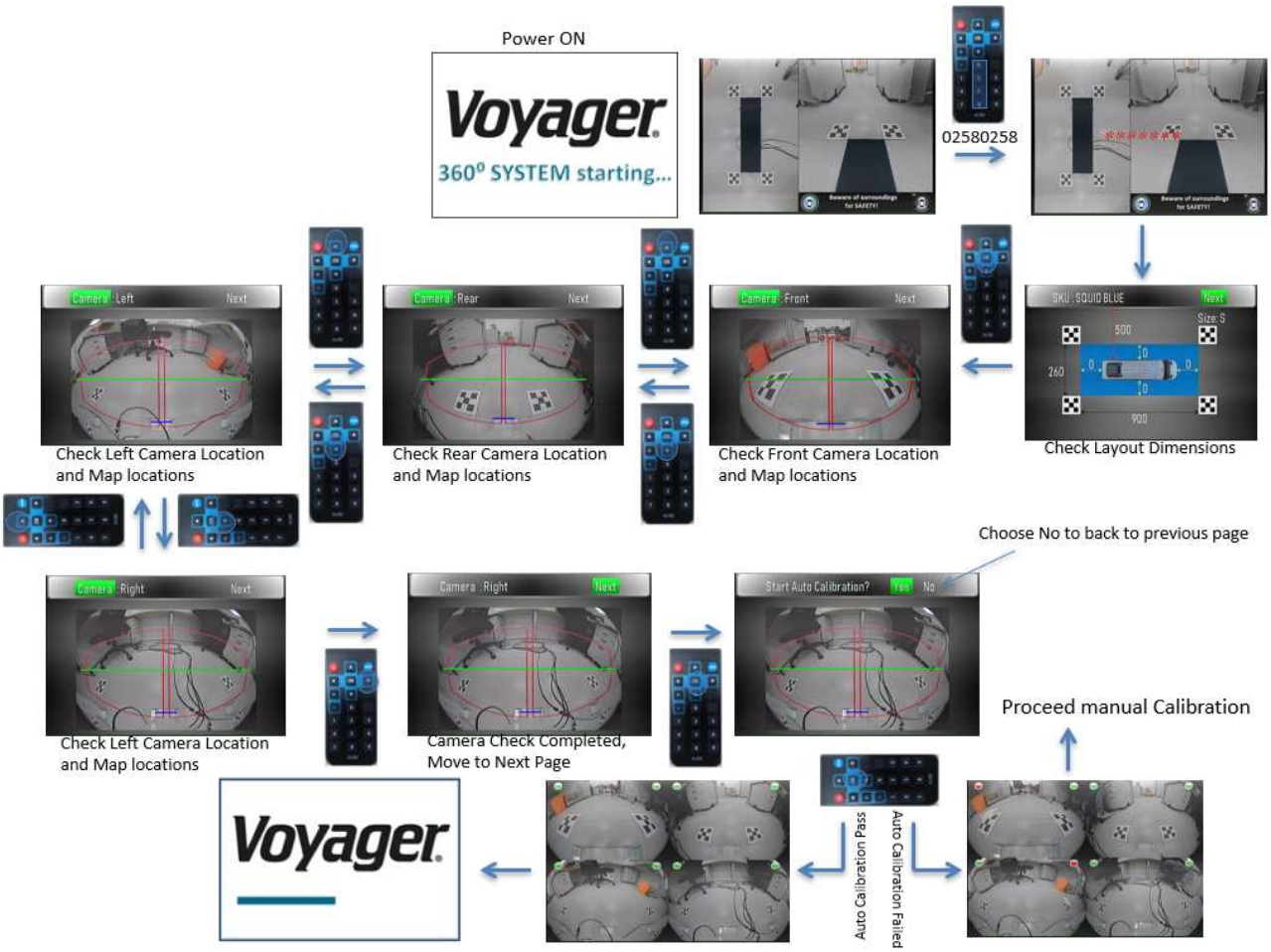


6. Camera Check View

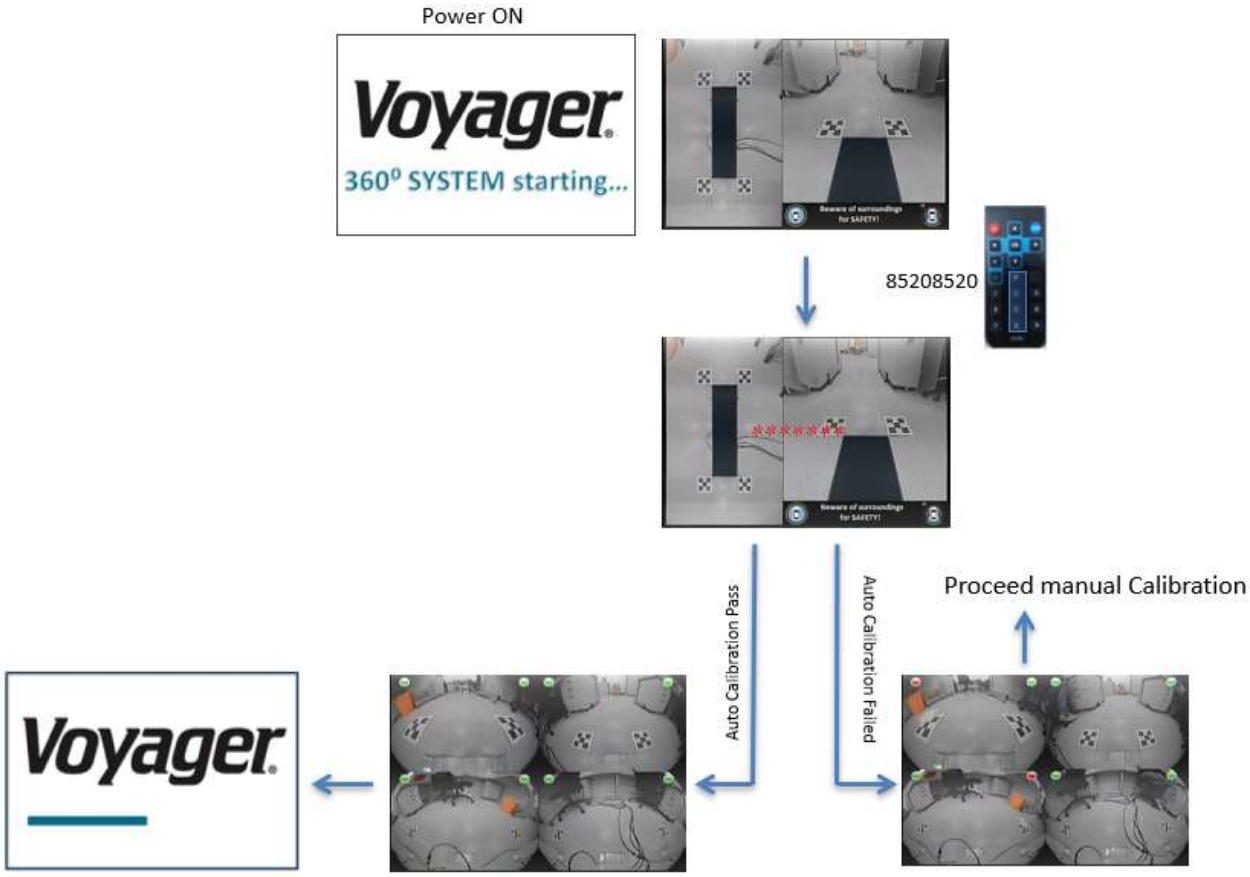


5.1 Auto Calibration Flow

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



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

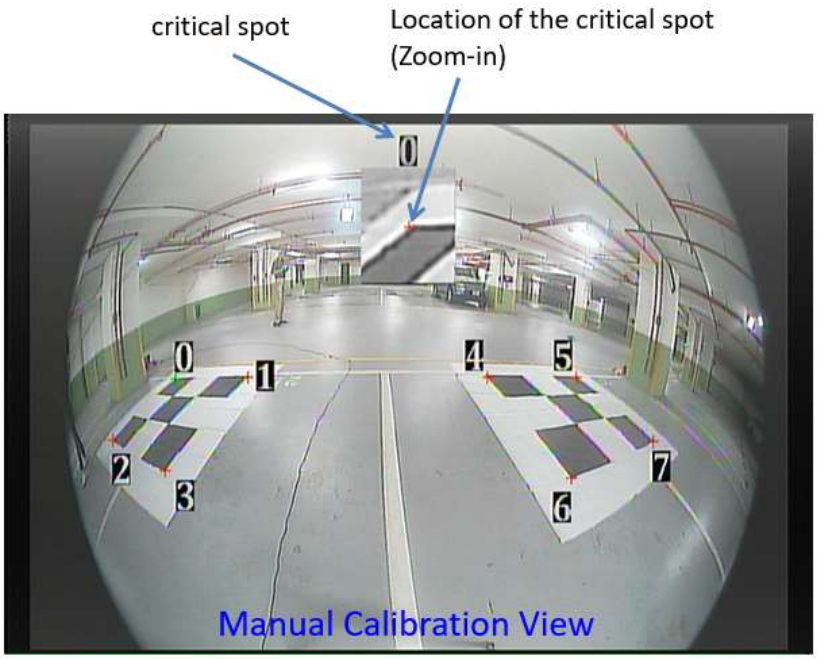


6. Manual Calibration

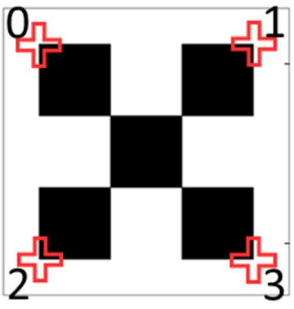
When the system failed to complete the auto calibration, it will lead to the manual calibration. (However, it is recommended to find the obstruction which caused the failure and remove it from the layout area. Then reattempt the auto calibration process.)

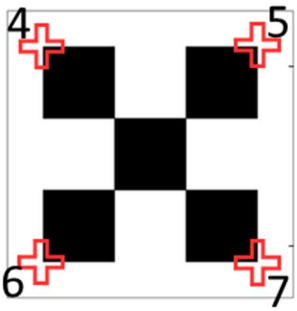
Manual Calibration Process:

1. Use the numerical keys (0-7) on the remote to choose the critical spot which is NOT on 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

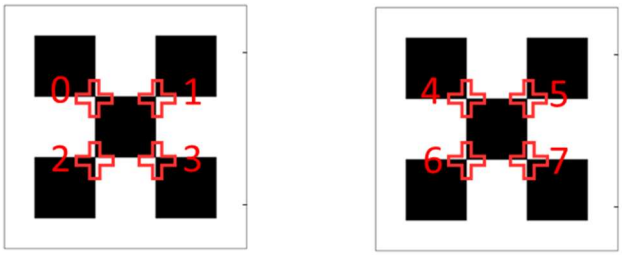


The Correct Locations of each outer critical spot



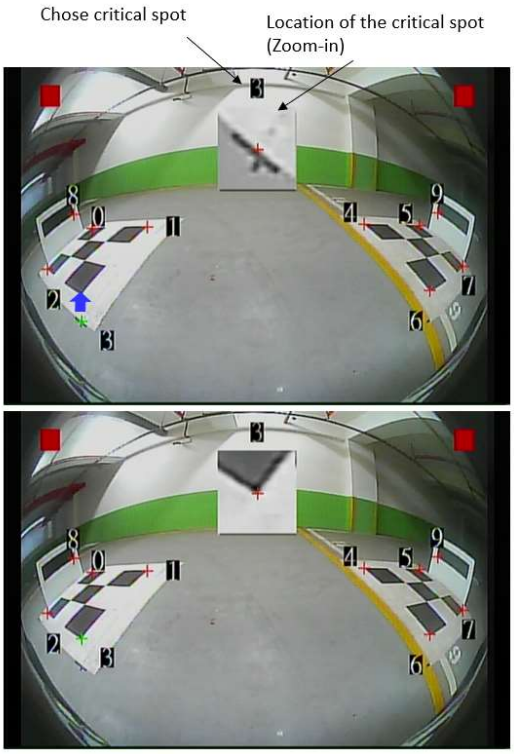


The Correct Locations of each inner critical spot



6.1 Manual Calibration Flow

1. Use the numerical keys on the remote to choose the critical spot which is NOT on the correct location. (in this case #3)
2. Use 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 inner 8 critical spots of same camera and repeat the adjustment, if needed.
4. When step 3 finished, Remote “MENU” key to switch to next camera and repeat step 1, 2, and 3.
5. When all four cameras are checked (Front -> Rear-> Left-> Right -> Front), Press “OK” to complete manual calibration setup. The system will reset and process the calibration.



7. Trigger Views

If the vehicle is driving forward without turn signals triggered, the VAVS360A1 will give the driver a top view and Rear view

If the Left Turn Signal is triggered, the VAVS360A1 will give the driver a top view and left-side view

If the Right Turn Signal is triggered, the VAVS360A1 will give the driver a top view and Right-side view

If the vehicle gear is set to Reverse, the VAVS360A1 will give the driver a top view and Rear view

Note: Reverse trigger has the top priority. Whenever the turn light and backward are both triggered, the ASA360A1 shows the backward view.

8. Specification

ECU	
Power Supply	DC 12V
Power Consumption	700 mA (Max)
Working Temp	-40 ℃ ~ +85 ℃
Storage Temp	-40 ℃ ~ +95 ℃
Input Signal	AHD 720P
Video Input	Camera * 4
Video Output	CVBS/NTSC(640 * 480 Pixel)
IR port	1
USB port	1
CAMERA	
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

9. 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 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
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
Dark image on screen	Camera video cable of camera is not connected to VAVS360A1 ECU module	Please check if camera video cable is connected or if any pins inside the connector are bent
	Camera is damaged	Please replace camera (may require re-calibration)
No function of left/right/reverse trigger	Trigger signal is not properly connected	Please check if the trigger signal is connected
System will not auto-calibrate	Calibration map is obstructed	Check for objects obstructing the camera view of the maps. Fold in side mirrors if they are obstructing.
	Calibration maps are not within Red box	Preform calibration camera check (press 02580258 on the remote). Check that the maps are within the red box AND above the blue Map Extension Index Line.
	Poor lighting or Shadows on the calibration maps	Check for poor lighting conditions or shadows that are being cast onto the calibration maps. Correct the poor light condition.