

proxicam™

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## Technical Setup Guide

Proxicam Enhancement Box

SKU: PXE



May 2025



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# 1. About This Guide

## 1.1. Intended Audience

This guide is intended for use by technicians when installing the Proxicam Enhancement Box (PXE) as part of the Proxicam Pedestrian Detection System.

## 1.2. Document Scope

The main objectives of this document are to assist technicians in installing, configuring the Proxicam Enhancement Box (PXE) and the Proxicam LCD monitor.

## 1.3. Related Documentation

The following documents should be used in conjunction with this manual:

- Proxicam Product Manual
- Proxicam Wiring Diagrams
  - PXCAM-EVO-LCD

## 1.4. Document Version History

Revision	Author	Date	Notes
	Francisco Buitrago	May 2025	First Release

## 2. Product Features

The Proxicam Enhancement Box adds the following functionality to the Proxicam Pedestrian System:

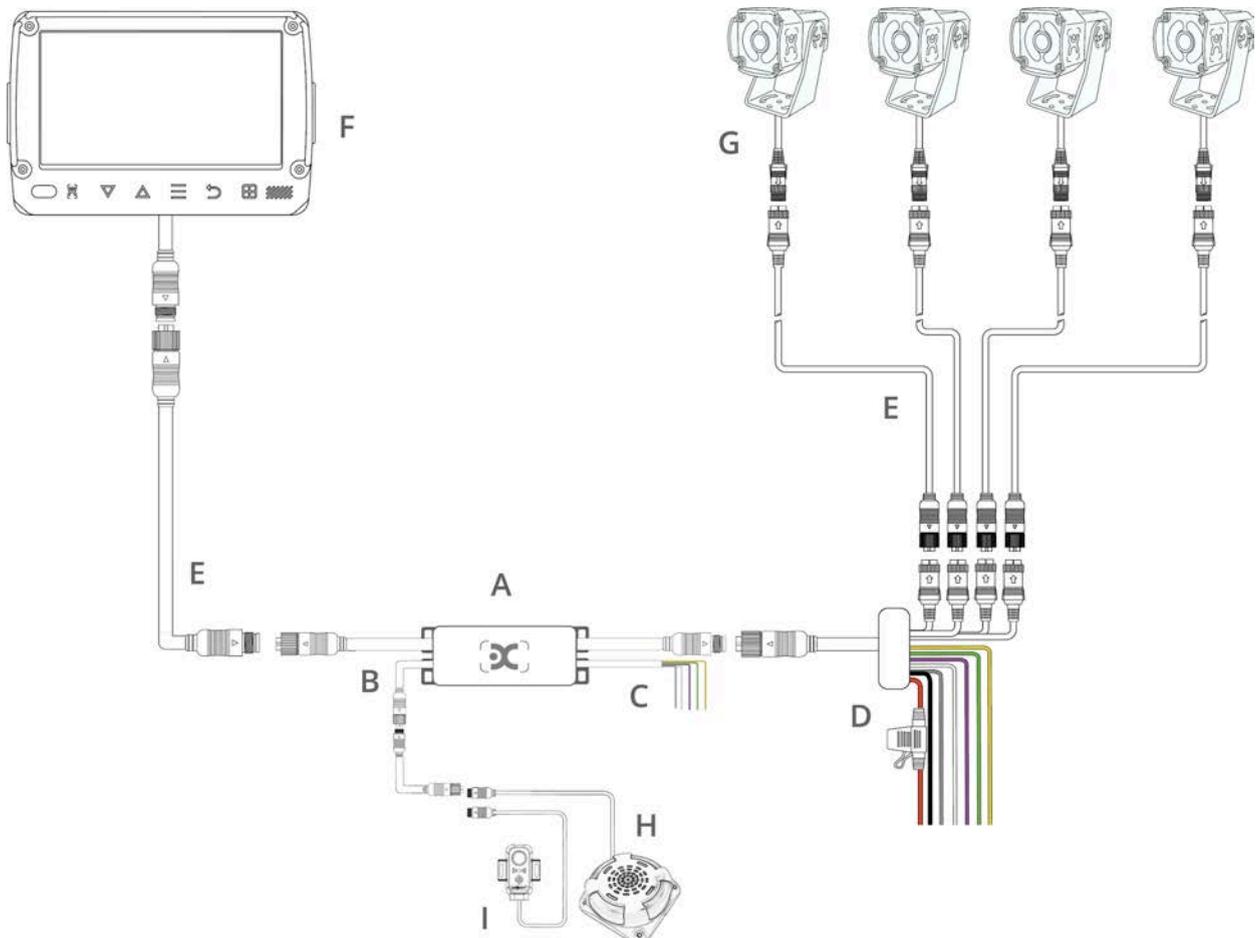
- **FWD | REV Dynamic Detection**  
Allows the Proxicam system to operate relative to the direction of travel.
  - When the machine is traveling **forwards**, alerts and triggers from the **rear camera are muted**.
  - When the machine is traveling **in reverse**, alerts and triggers from the **front camera are muted**.
  - When the machine is in **neutral** gear, alerts and triggers from **all cameras are muted**.
  - If side cameras are connected, they will **not** be muted when traveling forward or reverse.
  - Can be deployed with a single camera (front or rear) or with dual cameras (front and rear)
  - Can be configured to operate on machines that have reverse and forward signals (**MODE 3**), or just a reverse signal (**MODE 4**)
- **Safe-To-Approach**  
Temporarily mutes **all** Proxicam detection alerts & output triggers to allow people to breach exclusion zones safely and controlled. (**MODE 2**)
  - Activated by the machine's park brake, lock-out or other electronic control.

### **IMPORTANT**

Must not be connected to a switch or other mechanism that could allow the machine operator to mute the system at-will and leave it in the mute state.

- **Output triggers**  
4 x individual high-level triggers corresponding to each connected Proxicam camera.
- **Accessory connection**  
4 Pin plug for Proxicam detection indicator (PXLED) or external voice flasher (PXALERT-ENG / PXALERT-ESP)
- **High-voltage Compatibility**  
Step-down voltage converter to power the Proxicam camera(s) and LCD monitor on high voltage machines. **Max input voltage = 85VDC**
- **Easy Installation**  
Plugs in-line with the 27-pin Proxicam LCD Monitor and the supplied Power & Camera Input Harness.

### 3. Components & Wiring Schematic



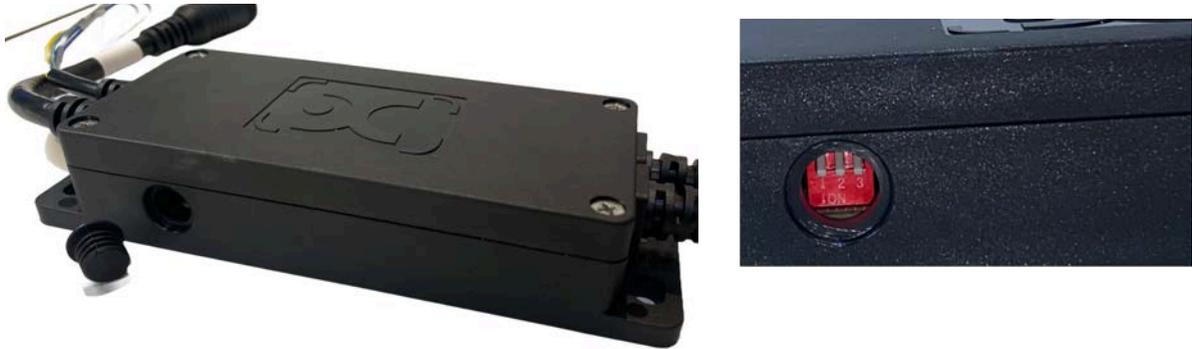
- A Proxicam Enhancement Box
- B 4PIN Alert Output
- C I/O harness  
(see inset for wiring information)
- D LCD Monitor Power & Camera Input harness  
(supplied with LCD Monitor PXLCD) (see inset for wiring information)
- E LCD Monitor extension harness 1Metre  
(supplied with LCD Monitor PXLCD)
- F Proxicam LCD Monitor (PXLCD)
- G Proxicam Camera(s) (PXCAM-EVO)
- H Proxicam external voice flasher  
(PXALERT-ENG / PXALERT-ESP) (option)
- I Proxicam detection indicator (PXLED)  
(option)

C	Label	Description
	LEFT OUT	Trigger output - left camera
	RIGHT OUT	Trigger output - right camera
	FRONT OUT	Trigger output - front camera
	REAR OUT	Trigger output - rear camera
	FWD / MUTE-IN	Input from FWD gear / other control
	AUX-OUT	Output on reverse gear +12V DC

D	Label	Description
	LEFT (8PIN)	Left camera video input
	RIGHT (8PIN)	Right camera video input
	FRONT (8PIN)	Front camera video input
	REAR (8PIN)	Rear camera video input
	LEFT	Not Used
	RIGHT	Not Used
	FRONT	Not Used
	REAR	Not Used
	VCC	+ 12V - 85V DC (with PXE only)
	GND	- Ground
	AUX	Reverse Input + 12V - 85V DC (with PXE only)

## 4. Mode Selection

Locate the mode selector switches by removing the watertight rubber boot from the side opening.

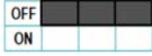


### IMPORTANT

The rubber boot must be properly re-inserted after setup to ensure the water & ingress rating of the product.

Configure the Proxicam Enhancement Box using the mode selector. Set the switches according to the combination options below.

MODE	SWITCH COMBINATION	MACHINE STATE	SYSTEM FUNCTION	
<b>1</b>  Default / Pass-through		<b>NEUTRAL OPERATION</b>	<b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b>	Default / custom-defined view <b>Active</b> - All connected cameras <b>Active</b> - All connected cameras <b>Active</b> - - All connected cameras <b>Not Active</b>
		<b>FORWARD</b> (option if connected)	<b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b>	Full-screen front camera <b>Active</b> - Front camera <b>Active</b> - All connected cameras <b>Active</b> - All connected cameras <b>Not Active</b>
		<b>REVERSE</b> (option if connected)	<b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b>	Full-screen rear camera. <b>Active</b> - Rear camera <b>Active</b> - All connected cameras <b>Active</b> - All connected cameras <b>Active</b>

<p style="text-align: center; font-size: 2em; font-weight: bold;">2</p> <p style="text-align: center;">Safe-to-Approach</p>		<p style="text-align: center;"><b>NORMAL OPERATION</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Default / custom-defined view <b>Active</b> - All connected cameras <b>Active</b> - All connected cameras <b>Active</b> - All connected cameras <b>Not Active</b></p>
		<p style="text-align: center;"><b>PARK LOCK</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Stand-by <b>Not Active</b> <b>Not Active</b> <b>Not Active</b> <b>Not Active</b></p>
		<p style="text-align: center;"><b>REVERSE</b> (option if connected)</p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Full-screen rear camera <b>Active</b> - All connected cameras <b>Active</b> - All connected cameras <b>Active</b> - All connected cameras <b>Active</b></p>

<p style="text-align: center; font-size: 2em; font-weight: bold;">3</p> <p style="text-align: center;">Fwd / Rev Dynamic Detection</p> <p style="text-align: center;">(machine <i>with</i> Forward signal)</p>		<p style="text-align: center;"><b>NEUTRAL</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Stand-by <b>Not Active</b> <b>Not Active</b> <b>Not Active</b> <b>Not Active</b></p>
		<p style="text-align: center;"><b>FORWARD</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Full-screen front camera <b>Active</b> - Front camera <b>Active</b> - Front / Left / Right cameras <b>Active</b> - Front / Left / Right cameras <b>Not Active</b></p>
		<p style="text-align: center;"><b>REVERSE</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Full-screen rear camera <b>Active</b> - Rear camera <b>Active</b> - Rear / Left / Right cameras <b>Active</b> - Rear / Left / Right cameras <b>Active</b></p>

<p style="text-align: center; font-size: 2em; font-weight: bold;">4</p> <p style="text-align: center;">Fwd / Rev Dynamic Detection</p> <p style="text-align: center;">(machine <i>without</i> Forward signal)</p>		<p style="text-align: center;"><b>NEUTRAL</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Stand-by <b>Not Active</b> <b>Not Active</b> <b>Not Active</b> <b>Not Active</b></p>
		<p style="text-align: center;"><b>FORWARD</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Full-screen front camera <b>Active</b> - Front camera <b>Active</b> - Front / Left / Right cameras <b>Active</b> - Front / Left / Right cameras <b>Not Active</b></p>
		<p style="text-align: center;"><b>REVERSE</b></p>	<p style="text-align: center;"><b>MONITOR VIEW</b> <b>MONITOR ALERTS</b> <b>OUTPUT TRIGGERS</b> <b>ACCESSORY</b> <b>REVERSE OUTPUT</b></p>	<p>Full-screen rear camera <b>Active</b> - Rear camera <b>Active</b> - Rear / Left / Right cameras <b>Active</b> - Rear / Left / Right cameras <b>Active</b></p>

## 5. Mode Wiring

Connect the machine's signals to the following inputs on the LCD Monitor Harness (D) and PXE I/O Harness (C) according to the desired Mode.

MODE	MACHINE	MONITOR Harness (D)	PXE I/O Harness (C)
1	Forward Signal (option)	-----	FWD/MUTE-IN
	Reverse Signal (option)	-----	AUX
2	Park Brake / Lock-out	-----	FWD/MUTE-IN
	Reverse (option)	-----	AUX
3	Forward Signal	-----	FWD/MUTE-IN
	Reverse Signal	-----	AUX
4	Park Brake	-----	FWD/MUTE-IN
	Reverse Signal	-----	AUX

## 6. Configure the Proxicam LCD Monitor

To enable the features of the Proxicam Enhancement Box (PXE), the Proxicam LCD monitor must be configured according to each desired mode. .

- **Unlock the Monitor**

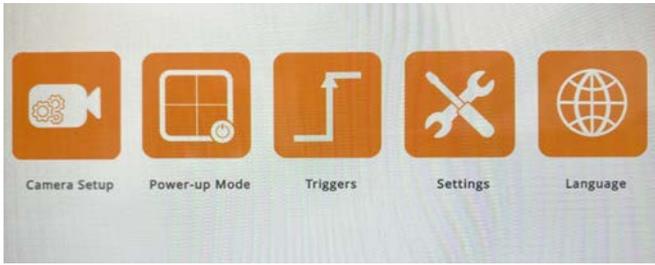
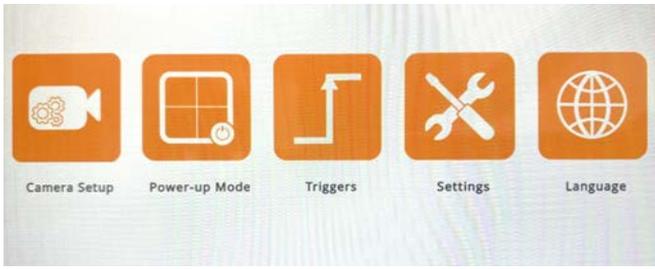
Press and hold the  button on the front bezel of the LCD monitor for **5 seconds** to enable the on-screen keyboard.

Enter the password to unlock the display. The password is printed on the flap on the inside of the LCD monitor box.

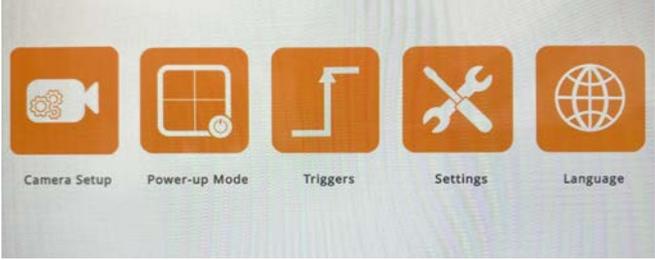
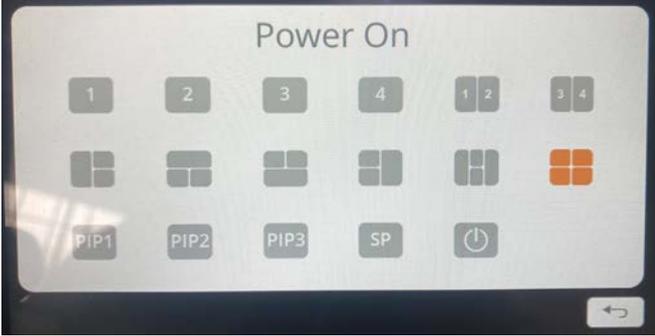
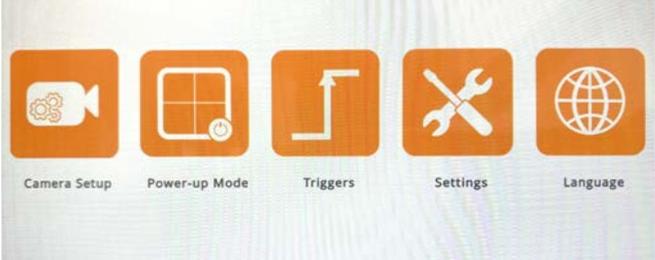
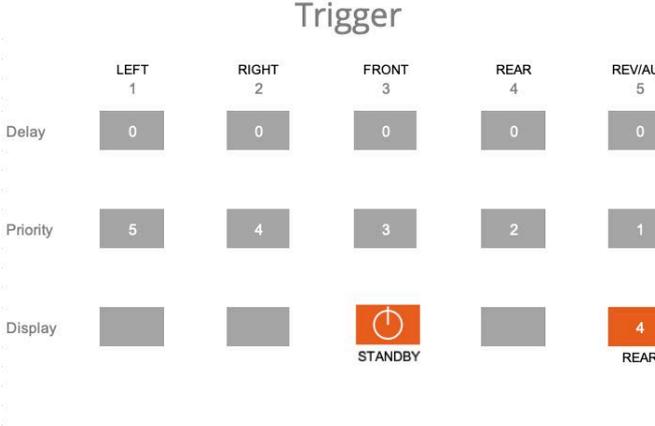
**Do not share the password or leave it on the machine.**

- Press the  button to launch the menu.

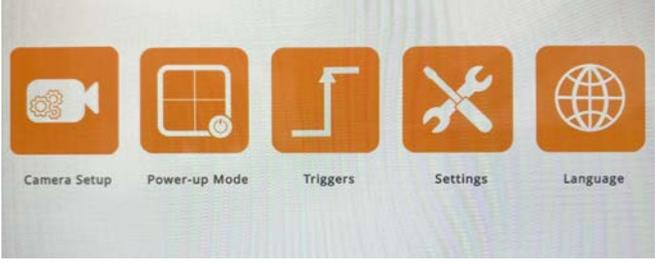
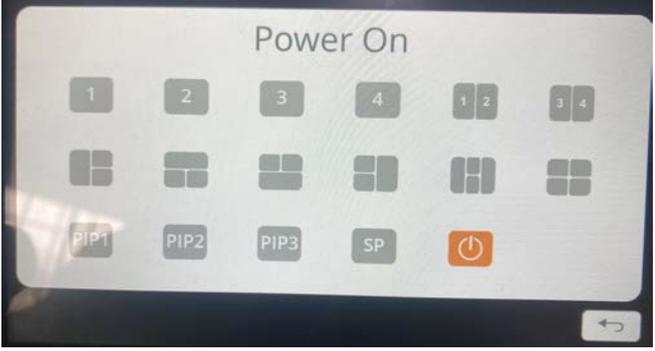
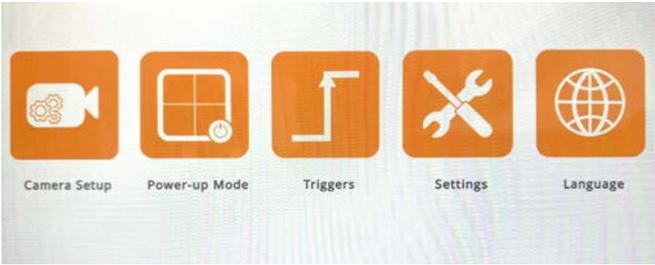
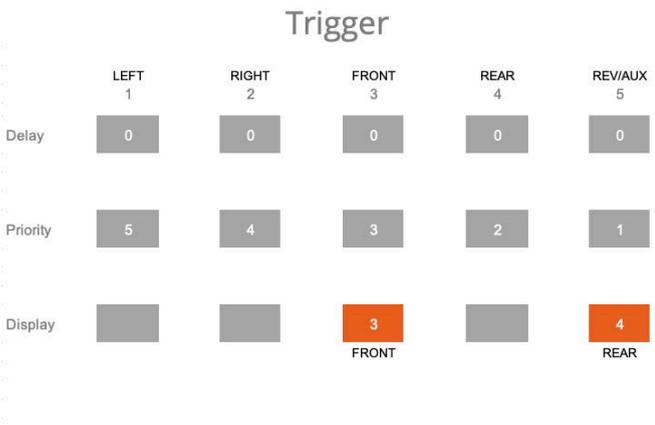
## 6.1 MODE 1

<p>Select "Power-Up Mode"</p> 																									
<p>This sets how the LCD monitor displays the view from the camera(s) when powering on.</p> <p>Choose from single, split, triple or quad views.</p> <p>Hit "Return" to go back to the main menu</p> 																									
<p><b>(OPTION)</b> Select "Triggers"</p> 																									
<p><b>(OPTION)</b></p> <p>Set the Trigger Priority &amp; Display as shown to enable full screen for front / rear cameras if desired.</p> <p>(If a forward / reverse signal is connected)</p>	<p style="text-align: center;"><b>Trigger</b></p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>LEFT 1</th> <th>RIGHT 2</th> <th>FRONT 3</th> <th>REAR 4</th> <th>REV/AUX 5</th> </tr> </thead> <tbody> <tr> <td>Delay</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Priority</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>Display</td> <td></td> <td></td> <td style="background-color: orange;">FRONT</td> <td></td> <td style="background-color: orange;">4 REAR</td> </tr> </tbody> </table>		LEFT 1	RIGHT 2	FRONT 3	REAR 4	REV/AUX 5	Delay	0	0	0	0	0	Priority	5	4	3	2	1	Display			FRONT		4 REAR
	LEFT 1	RIGHT 2	FRONT 3	REAR 4	REV/AUX 5																				
Delay	0	0	0	0	0																				
Priority	5	4	3	2	1																				
Display			FRONT		4 REAR																				

## 6.2 MODE 2

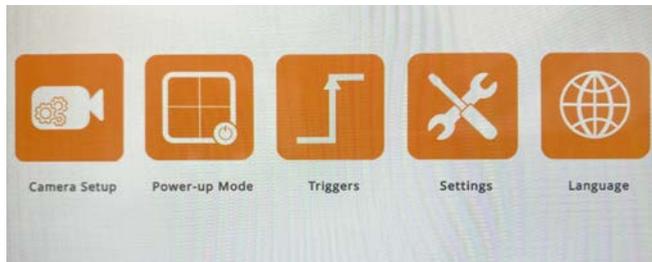
<p>Select "Power-Up Mode"</p> 																									
<p>This sets how the LCD monitor displays the view from the camera(s) when powering on.</p> <p>Choose from single, split, triple or quad views.</p> <p>Hit "Return" to go back to the main menu</p> 																									
<p>Select "Triggers"</p> 																									
<p>Set the Trigger Priority &amp; Display as shown.</p> <p>Set the Rear trigger only if a reverse signal is connected.</p>	 <table border="1"> <thead> <tr> <th></th> <th>LEFT 1</th> <th>RIGHT 2</th> <th>FRONT 3</th> <th>REAR 4</th> <th>REV/AUX 5</th> </tr> </thead> <tbody> <tr> <td>Delay</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Priority</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>Display</td> <td></td> <td></td> <td>STANDBY</td> <td></td> <td>REAR</td> </tr> </tbody> </table>		LEFT 1	RIGHT 2	FRONT 3	REAR 4	REV/AUX 5	Delay	0	0	0	0	0	Priority	5	4	3	2	1	Display			STANDBY		REAR
	LEFT 1	RIGHT 2	FRONT 3	REAR 4	REV/AUX 5																				
Delay	0	0	0	0	0																				
Priority	5	4	3	2	1																				
Display			STANDBY		REAR																				

## 6.3 MODE 3

<p>Select "Power-Up Mode"</p> 																									
<p>This sets how the LCD monitor displays the view from the camera(s) when powering on.</p> <p>Choose Stand-By</p> <p>Hit "Return" to go back to the main menu</p> 																									
<p>Select "Triggers"</p> 																									
<p>Set the Trigger Priority &amp; Display as shown.</p>	 <table border="1" data-bbox="647 1447 1302 1872"> <thead> <tr> <th></th> <th>LEFT 1</th> <th>RIGHT 2</th> <th>FRONT 3</th> <th>REAR 4</th> <th>REV/AUX 5</th> </tr> </thead> <tbody> <tr> <td>Delay</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Priority</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>1</td> </tr> <tr> <td>Display</td> <td></td> <td></td> <td>3 FRONT</td> <td></td> <td>4 REAR</td> </tr> </tbody> </table>		LEFT 1	RIGHT 2	FRONT 3	REAR 4	REV/AUX 5	Delay	0	0	0	0	0	Priority	5	4	3	2	1	Display			3 FRONT		4 REAR
	LEFT 1	RIGHT 2	FRONT 3	REAR 4	REV/AUX 5																				
Delay	0	0	0	0	0																				
Priority	5	4	3	2	1																				
Display			3 FRONT		4 REAR																				

## 6.4 MODE 4

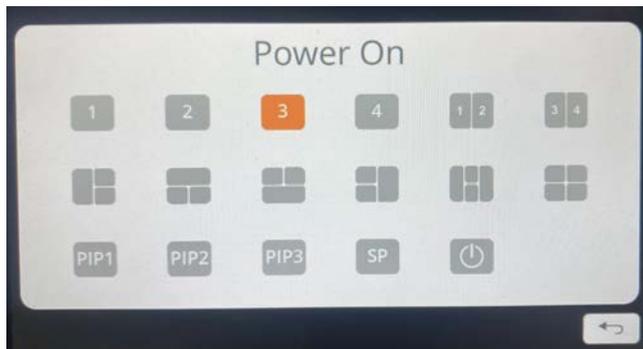
Select "Power-Up Mode"



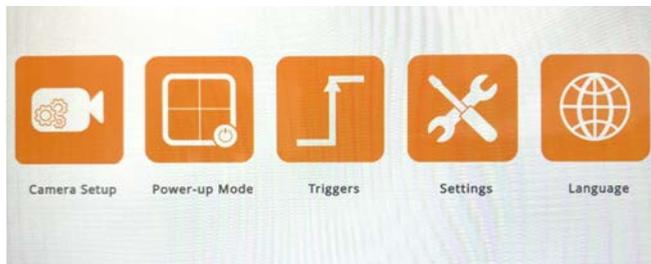
This sets how the LCD monitor displays the view from the camera(s) when powering on.

Choose FRONT CH3

Hit "Return" to go back to the main menu



Select "Triggers"



Set the Trigger Priority & Display as shown.

	LEFT 1	RIGHT 2	FRONT 3	REAR 4	REV/AUX 5
Delay	0	0	0	0	0
Priority	5	4	3	2	1
Display	3 FRONT	3 FRONT	⏻ STANDBY	3 FRONT	4 REAR

## 7. Technical Specifications

Supply Voltage	12V - 85V DC
Current Draw	5.A MAX
Power	63W MAX
AUX, FWD/Mute Input Voltage	9-85V DC
Triggers & Reverse Output Voltage	10V~12.6V (input 12~15V), 12.6V (input 15~85V)
Triggers & Reverse Output Current	500mA (each)
LED Supply Output Voltage	10V~12.6V (input 12~15V), 12.6V (input 15~85V)
LED Supply Output Current	1A
LED Trigger Output Voltage	10V~12.6V (input 12~15V), 12.6V (input 15~85V)
LED Trigger Output Current	1A
Operating Temperature	-40°~+85°
Storage Temperature	-45°~+90°
Ingress Rating	IP66