



Owner's / Installation Guide

Wireless DVR Monitor / 250-8215HD

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Storage Precautions

1. Do not expose the monitor to excessive temperatures. Storage temperature is $-30\sim+80^{\circ}\text{C}$
2. Operating temperature is $-20\sim+70^{\circ}\text{C}$; Battery operating temperature is $0-70^{\circ}\text{C}$; Humidity is 90%.
3. Never use this device near standing pools of water
4. Never use this device in an environment with excessive moisture, dust or smoke.
5. Avoid dropping or striking.
6. Never puncture, scratch or use abrasive cleaning materials on this device.
7. Do not place cables where they may be pinched or stepped on.
8. Leave at least a 2" space between the monitor and walls, cabinets, or other objects to allow adequate air circulation around the device.
9. The monitor is not designed to be waterproof.

Operating Precautions

1. The device may be powered by a 12 or 24 volt automotive battery or vehicle electrical system.
2. Make sure all cables are connected properly. Observe polarity. Improper cable connections may damage the monitor. Remove the power cable connections when you do not intend to use the device.
3. Do not watch video while driving unless monitoring a video feed for safety purposes.

Features & Specifications

Features

1. LCD monitor with wide angle view and high resolution display.
2. Horizontal and vertical image flipping.
3. Support for multiple image display modes (single, dual, and quad views).
4. (5) Trigger inputs. Trigger priority & trigger delay are selectable.
5. Supports auto scan. Scan channel and scan time are selectable.
6. Supports back light adjustment manually and automatically.
7. Adjustable parking grid. Parking line size and position can be adjusted.
8. Built-in 1.5W speaker.
9. Wireless remote control included.
10. Operating voltage: 10-32V DC.
11. (4) Wireless camera inputs.

Features & Specifications

Technical Specifications

LCD Size	7 inch
Resolution	1024 x 3 (RGB) x 600
Contrast	600:1
Brightness	600 cd/m
View Angle	U: 85 / D: 85, R / L: 85
Aspect Ratio	0.2175(W) x 0.2088(H)
Channel	4 Channels
Operating Frequency	2400 -2483.5MHz
Receiving Sensitivity	-78dBm
Decompression Form	H.264
Modulation	FHSS
Time Delay	200 ms
Transmitting Distance	Max. 300 m
Micro SD Card Max.	128 GB
Power Supply	DC 10-32V
Power Consumption	Max. 10W
Loudspeaker	1.5W / 8
Operating Temperature	-20 ~ +70C, RH90%
Storage Temperature	-30 ~ +80C, RH90%

Storage Capacity

Video Storage		Capacity			
		16GB	32GB	64GB	128GB
Display	Single	15h	30h	60h	120h
	Dual	17h	34h	68h	136h
	Quad	18h	36h	72h	144h

Accessories

Included Accessories



U-Support Bracket



Dash Mount Bracket



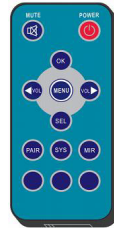
Sun Shield



Power Cable



Angle Adjustment Screws



IR Remote Control

Monitor Layout Front



1. Light Sensor
2. Remote Control Sensor
3. Power Indicator
4. Power Switch (ON/OFF)
5. Volume - or Menu Left
6. Volume + or Menu Right
7. Menu
8. Channel Select
9. Speaker
10. Menu "OK" or Record ON/OFF

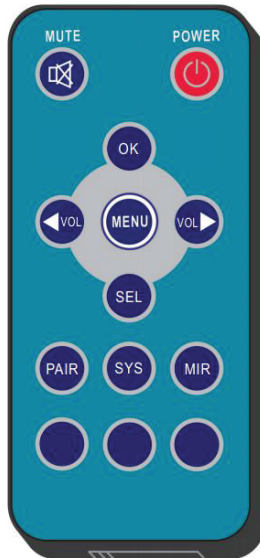
Layout

Monitor Layout Rear



1. SD Card Slot (128GB MAX)
2. Monitor Stand
3. Power Cable

Remote Control Layout



- **MUTE** : Press to select MUTE or enable sound.
- **POWER** : Press to turn on / off the monitor.
- **OK** : Press OK button to enter menu item or save user settings. Press OK button - shortcut for start / stop recording.
- **MENU** : Press to show menu or exit menu.
- **VOL (Volume) -** : Decrease and menu selection left.
- **VOL (Volume) +** : Volume increase and menu selection right.
- **SEL** : Key selector or Switch to next view following CAM1-CAM2-CAM3-CAM4-DUAL-QUAD loop.
- **PAIR** : Fast pairing when camera is activated.
- **MIR** : Mirror Video Display

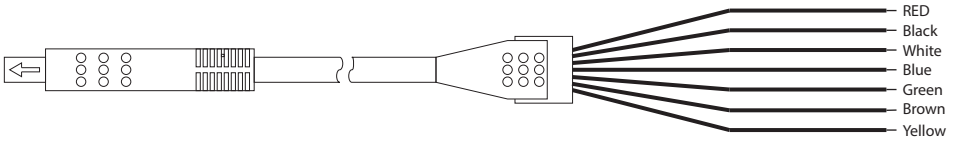
Installation

Mounting Bracket



1. Loosen knob (1) so that the bracket is easily adjusted.
2. Attach bracket to monitor using “Center Support” (2).
3. Attach base plate (3) to the vehicle mounting surface.
4. Adjust monitor to desired position and tighten knob (1).

Wiring



- RED : 12v (+) Accessory
- BLACK : Ground (-)
- White : Camera 1 Trigger (+)
- GREEN : Camera 3 Trigger
- BLUE : Camera 2 Trigger (+)
- BROWN : Camera 4 Trigger (+)
- YELLOW: Split Screen View Trigger (+)

Note: Input triggers have programmable delays. Please see page 25 for more details.

Installation

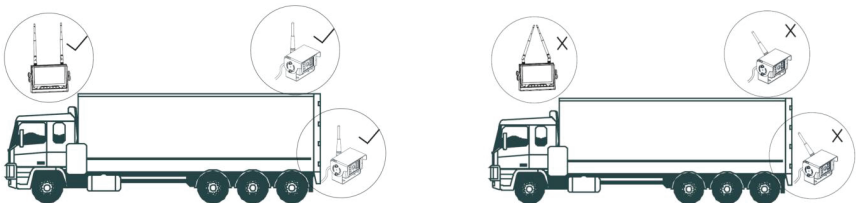
Camera Installation

Pair the monitor with the camera before installing the wireless system on vehicle:

1. Before pairing, power off the unpaired camera and switch the monitor channel to the one to be paired. Enter MENU interface, select PAIRING and then press OK. The monitor enters the PAIRING countdown of 20 seconds, during which the camera to be paired should be connected to the power supply. After 5 seconds, the camera will be paired with the monitor and the images of the paired camera will be displayed on the monitor if the pairing is successful. If image is not displayed. Repeat the process again.
2. After one channel of the monitor is paired successfully, switch to the next channel to be paired. Power off the previous paired camera and repeat steps above.
3. After pairing all channels, connect all paired cameras with power supply. Press SEL button on the monitor to switch channels; check images of each channel and then install the wireless system on vehicle after confirming that there is image on each channel.

Installation Tips

Antennas should be vertically lined to the ground. Make sure there is no obstacle around antennas.



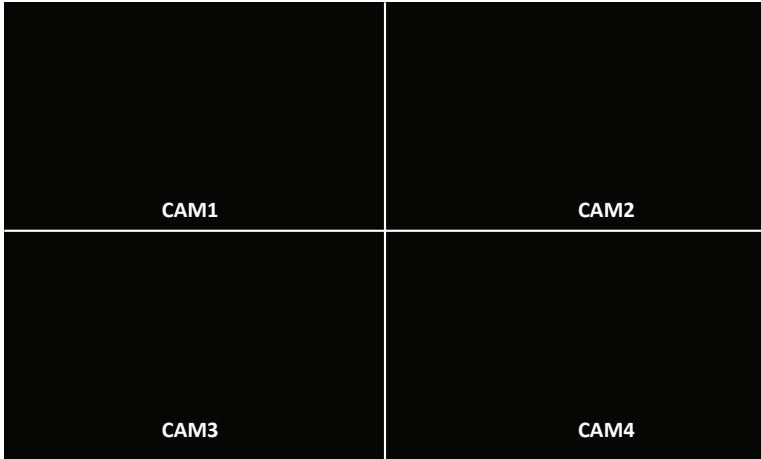
Solutions for Poor Monitor Signal

Please confirm the height of the camera from the ground is more than 1 meter, the antennas of the display and camera are perpendicular to the ground, and the antennas are tightened.

Symptoms	Causes / Solutions
No Picture, No Sound	Improper connection to power supply Power switch is on OFF position.
No Signal	Check the camera power supply. Pair the monitor and the camera again.
No Sound	Check the sound volume. Make sure it is turned ON and Volume is adjusted properly.
Dark Picture	Check brightness and contrast are adjusted correctly.
No Color	Adjust the HUE settings.

Operation

Preview Display

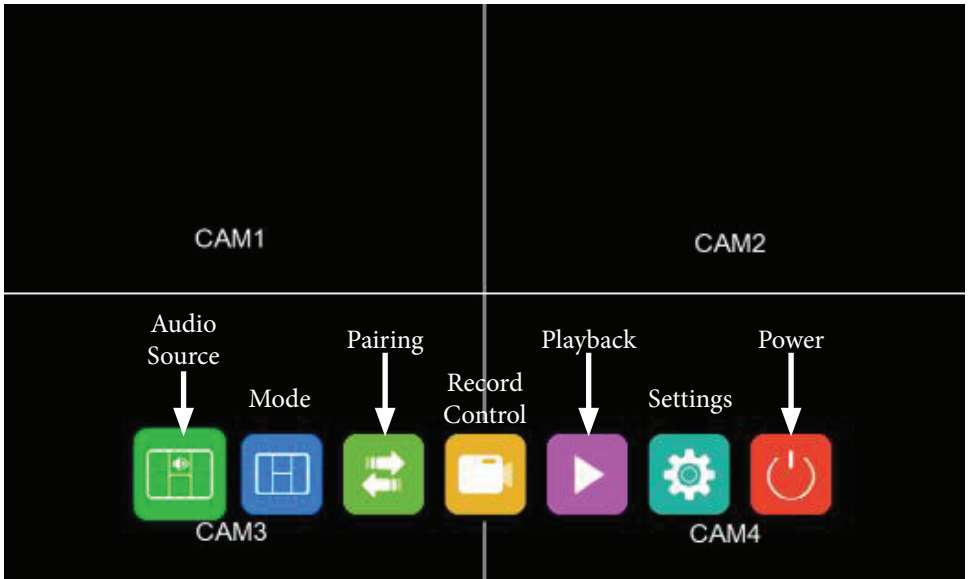


The Preview display is shown on power-up. This preview display can be customized to show one, two, or four camera previews.

Press the "CH" button to change the preview display

Main Menu

Pressing the MENU button on the display or the remote control will activate the Main Menu screen shown below.



Audio Source

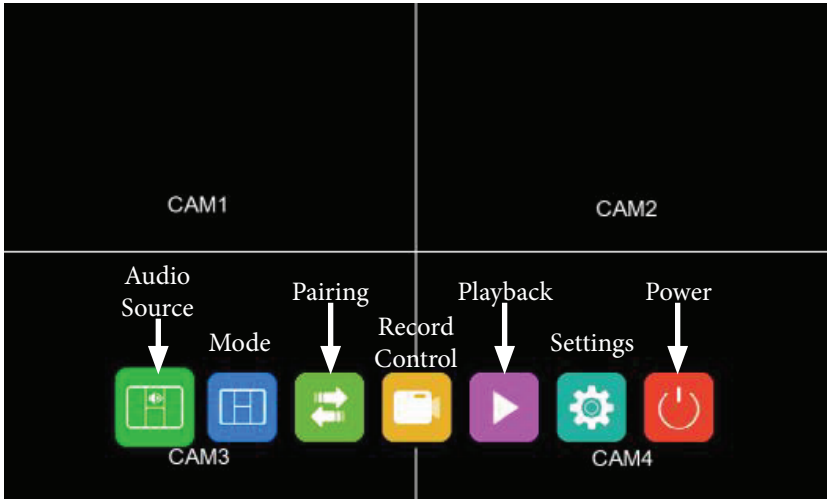
Using the left and right arrows, highlight the Audio Source Menu shown above. Press "OK" to enter the Audio Source Menu.

Selecting the camera number in this menu will play the audio from that channel on the display speaker.



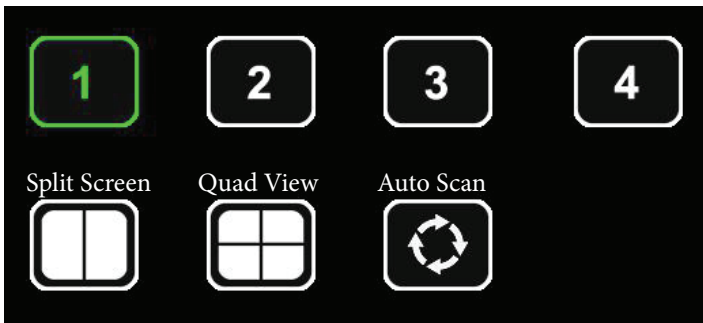
Operation

Main Menu (CONT.)



Mode

Using the left and right arrows, highlight the Mode Menu shown above. Press "OK" to enter the Mode Menu. Highlight the option and confirm the selection by pressing OK. Selecting 1-4 will display the matching camera as a full screen view. Additional options are described below.



Pairing

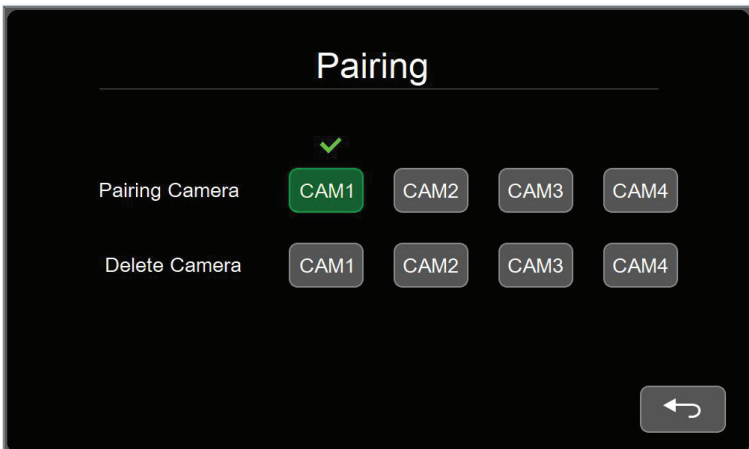
The Pairing menu is used to connect a new or additional camera. A green box indicates that a camera is pair to its corresponding channel.

To Pair a camera:

1. Make sure all cameras are powered OFF.
2. Enter the pairing menu and select the camera channel to be paired.
3. Power the camera ON. The camera will automatically pair to the monitor.
4. Repeat steps 1-3 for all additional cameras.

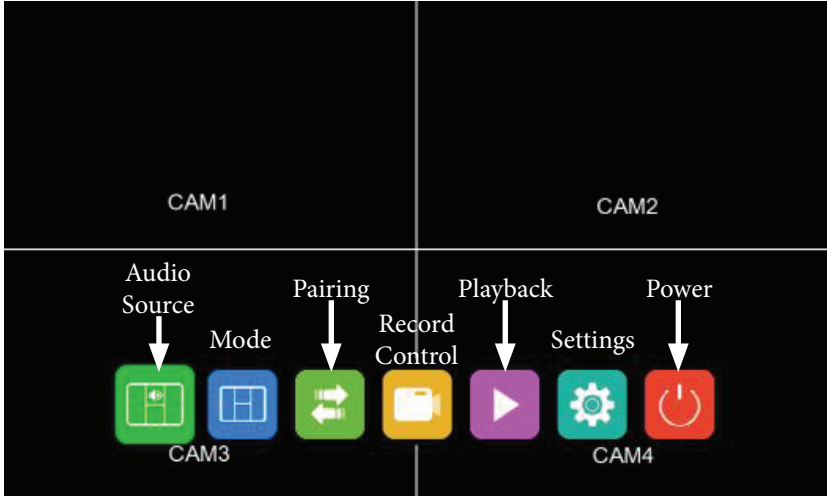
To Delete a camera:

1. Enter the pairing menu and select the camera channel to be paired.
2. Select the camera channel to be deleted. The camera will be automatically deleted from the monitor memory.



Operation

Main Menu (CONT.)

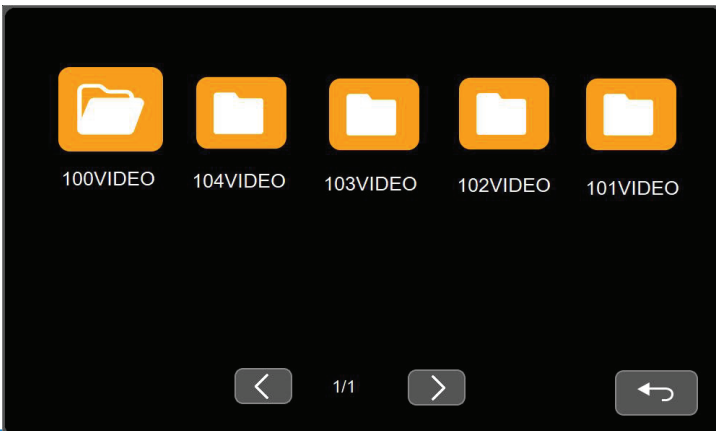


Record Control

Selecting this option will start or Stop AV Recording.

Playback

Selecting this option will allow for video playback. File folders are automatically generated as the system records additional video. A new folder is generated when the previous folder reaches 997 video files. The larger the number in the folder name, the more recent the recording.

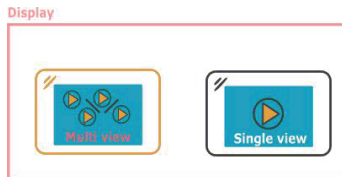


Opening a file folder will display the details for each video file. An example is shown below.

Camera	Name	Created	Group Num
CAM1	REC0002.MP4	2021-05-27 15:16	Grp2
CAM1	REC0001.MP4	2021-05-27 15:12	Grp1

Navigation controls: < 1/1 > ↶

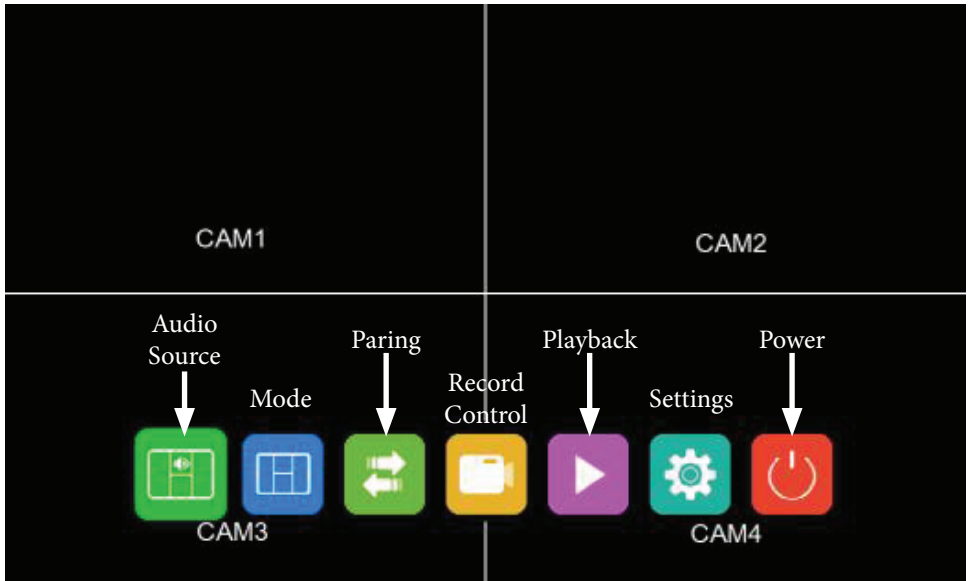
- Camera : Channel Number
- Name : File Name
- Created : Date and time stamp video was created.
- Group Num : The corresponding value will increase with each recording. The Group Num of the video recorded is the same as the Group Num of the video recorded under multi-split mode. For Example: All videos in Group 1 can be viewed individually or together in a split screen view.



The screen above will be displayed to choose between single viewing or split screen viewing.

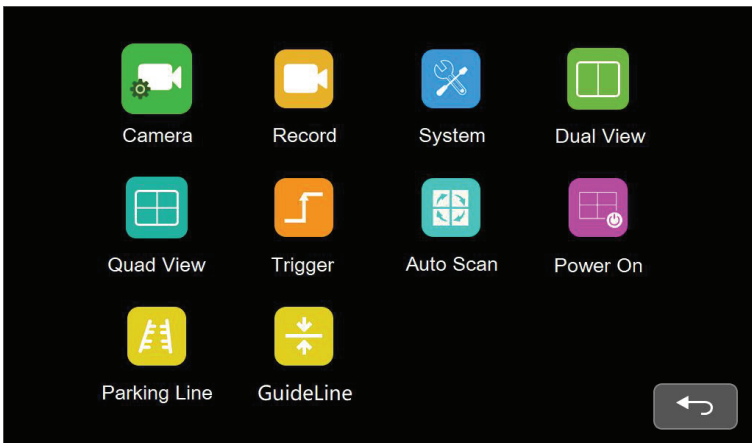
Operation

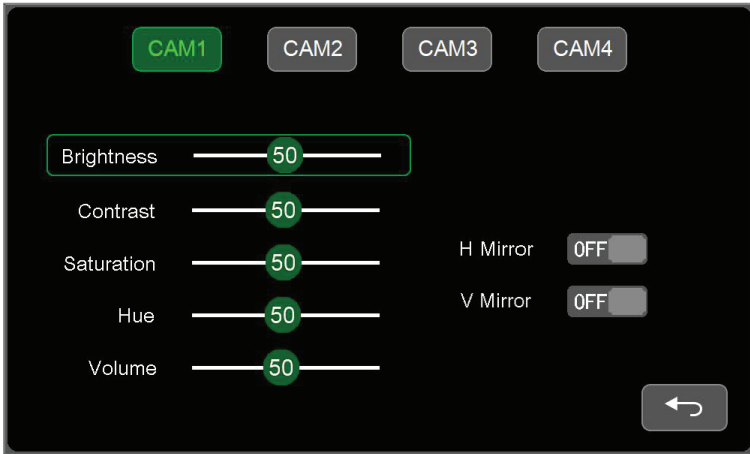
A. Main Menu (CONT.)



Settings

The Settings menu is used to configure all the system settings and user preferences. Note: The system will automatically exit the setting menu after 30 seconds with no activity.



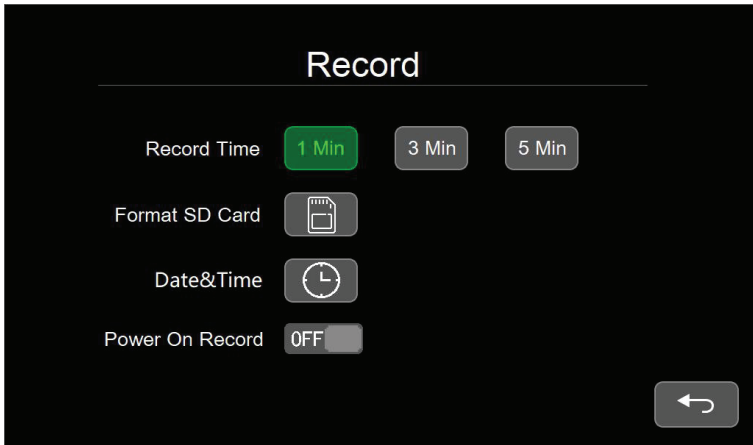


Camera Settings

When the cursor in the slider area is in green, you can select different icons. To adjust the value, press OK to turn the cursor red, then press the left/right button; press OK again and the cursor turns green.

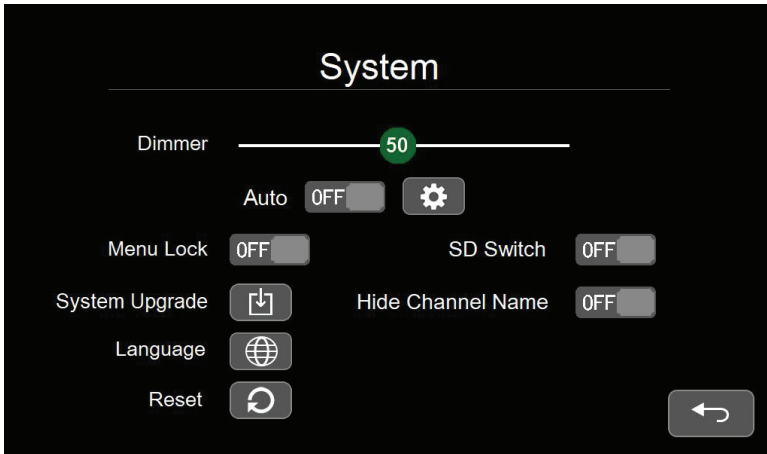
- CAM#: Choose the camera channel to be adjusted.
- Brightness: Adjust the image brightness for each channel.
- Contract: Adjust the image contrast for each channel.
- Saturation: Adjust the image saturation for each channel.
- Hue: Adjust the image Hue for each channel.
- Volume: Adjust the audio volume for each channel.
- H Mirror: If it is set to ON, the corresponding recording channel is flipped horizontally. If OFF, the corresponding channel is displayed normally.
- V Mirror: If it is set to ON, the corresponding recording channel is flipped vertically. If OFF, the corresponding channel is displayed normally.

Operation



Record Settings

- **Record Time:** Choose the duration of the video. Each recorded video file will be 1, 3, or 5 minutes. The longer the recording length the better chance an event will be recorded and stored properly.
- **Format SD Card:** This option will format the SD card. Formatting will erase all video files from the card, including the locked event files. This option is good to use when first inserting a new SD card into the system.
- **Date & Time:** This will set the date and time of the system. It will be used for a time stamp on the video files. Note: Setting the time zone will make sure the time is properly updated during "Day light Savings Time".
- **Power On Record:** This function is set on by default. If it is set to on, the monitor will start recording video upon startup.



System Settings

- **Dimmer:** This setting will adjust the monitor brightness level. Adjust the slide bar left to decrease the brightness or right to increase the brightness.
- **AUTO:** This setting will allow the monitor to automatically adjust the brightness level based on the internal light sensor. When AUTO is set to ON, the Dimmer bar above as no function. The Day and Night dimmers can be set individually by press the “Settings” icon to the right of the Auto Button.
- **Menu Lock:** when it is set to On, setting adjustment is not available. This will prevent accidental adjustment.
- **System upgrade:** If there is an upgrade package in the inserted SD card, press this button to upgrade the firmware with this upgrade package. Upgrades will be posted at Rostra.com.
- **Language:** Select language; English, German, French, or Chinese.
- **Reset:** The Rest function will reset all customized features and settings. Reset operation does not remove any paired camera from the memory.
- **SD Switch:** When it is set to On, The system will recored Standard Definition videos in singe viewing model.

Operation



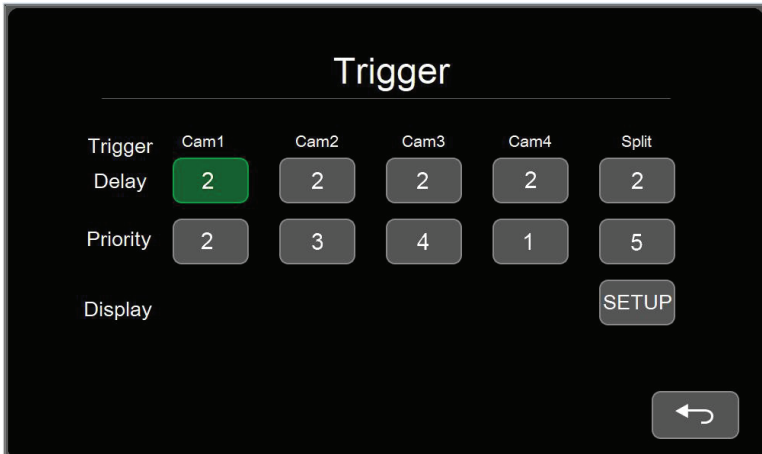
Dual View

Choose the cameras to be displayed when Dual Viewing mode is activated.



Quad View

Choose the display locations for each camera when Quad Viewing mode is activated.

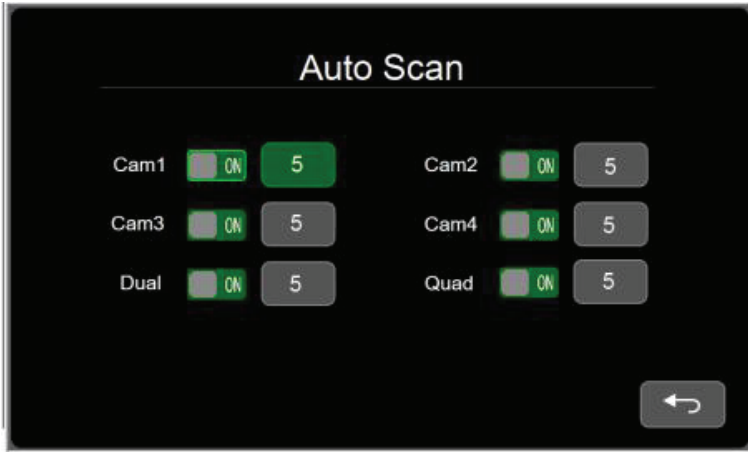


Trigger Settings

There are 4 trigger wires on the main harness. Each trigger wire can be customized to have a turn off delay and priority.

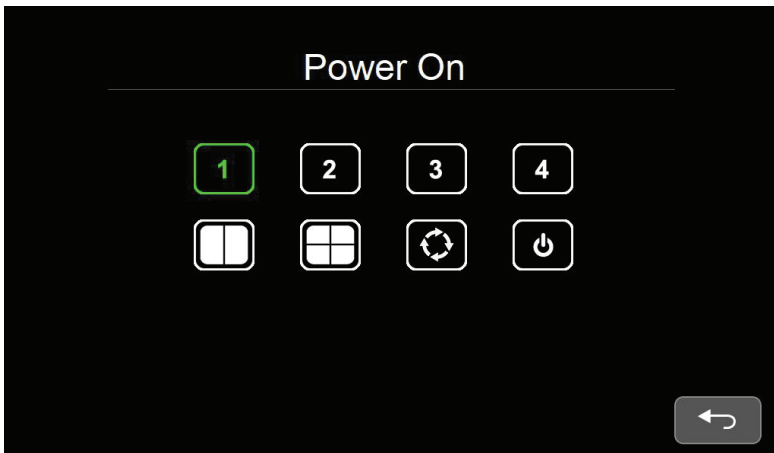
- **Trigger Delay:** When a input trigger is detected the monitor will display that specific camera image, full screen, on the monitor. The trigger day is used to delay the turn off of the camera when the trigger is removed. This is helpful when connecting to a turn signal that flashes while activate. The trigger delay can be set from 1 to 60 seconds.
- **Priority:** Values can be set from 1 to 5. 1 is the highest priority. This will allow the monitor to automatically choose which camera it display when 2 trigger inputs are activated at the same time. It is recommended that the camera used for Reverse (Backup) gear is set to the highest priority.
- **Display:** This setting is used to configure the display mode for the Yellow Trigger input. It can be set to Quad or Dual viewing modes.

Operation



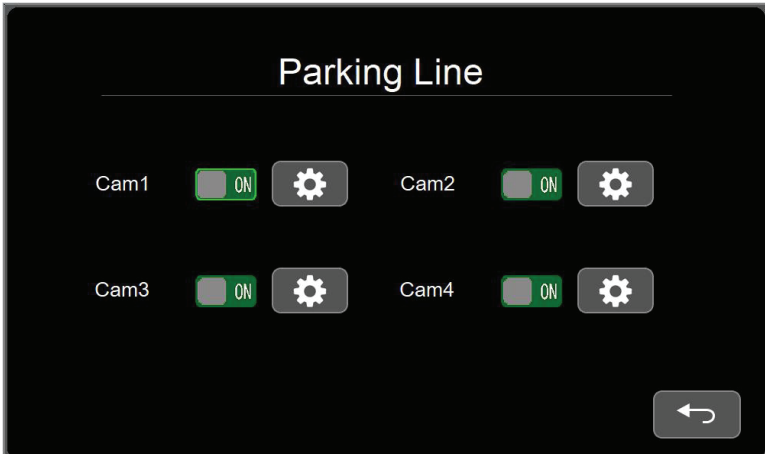
Auto Scan

When Auto Scan viewing is activated, the system will display each camera for a preset time and automatically switch to the next camera. Each camera and viewing option can be customized to the viewer's preference. The number value on the right represent the preset time for each viewing option. The preset time can be set from 5 to 60 seconds. Default time is 10 seconds.



Power On

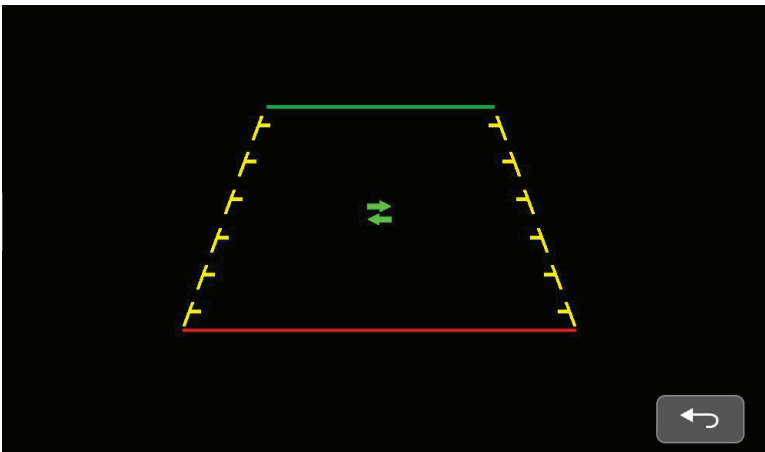
Choose the camera or viewing mode to be displayed when the system is powered ON.



Parking Line

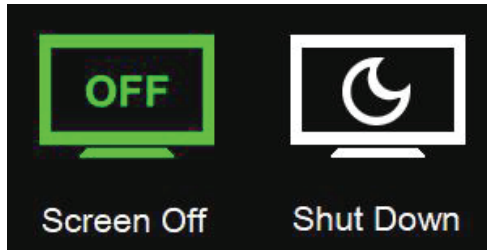
Parking grid lines can be activated and customized for each camera input. Note, parking grid lines will only be shown when the trigger input is detected.

- Set the parking grid lines to ON or OFF for each camera input.
- Adjust the parking grid lines for each camera view.



- Indicates adjustment is LEFT/Right
- Indicates adjustment is UP/DOWN

Operation



Standby Settings

- **Screen Off:** Normal Standby Mode, Display is OFF, All trigger functions will display the corresponding camera or view when activated.
- **Shut Down:** System is powered Down. Input triggers will not activate cameras or viewing mode.

Warranty



36 MONTH LIMITED WARRANTY

VOXX Electronics Corporation (the Company) warrants to the original purchaser of this product that should this product or any part thereof, under normal use and conditions, be proven defective in material or workmanship within 36 months from the date of original purchase, such defect(s) will be repaired or replaced with new or reconditioned product, (at the Company's option) without charge for parts or repair labor. A transmitter for a vehicle security or remote start system is warranted for 12 months from the date of original purchase.

To obtain repair or replacement within the terms of this Warranty, the product is to be delivered with proof of warranty coverage (e.g. dated bill of sale), authorization number, specification of defect(s), transportation prepaid, to an approved warranty station. This warranty is not transferable.

This Warranty does not cover damage to the vehicle's electrical system or costs incurred for the installation, removal or re-installation of the product. This Warranty does not cover batteries, broken LCD transmitter display screens, nor apply to any product or part thereof which, in the opinion of the Company, has suffered or been damaged through alteration, improper installation, mishandling, misuse, abuse, neglect, accident, or by removal or defacement of the factory serial number/bar code label(s).

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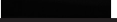
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 Manufactured in an ISO 9001 certified facility, ROSTRA sells its products worldwide from its headquarters in Orlando, Florida. For more information or to contact our international sales management, click here.

New Product: Cruise control and vehicle speed limiter for 2012-2013 Chevrolet Silverado and GMC Sierra with push-button start option now available.
New Product: Commercial Grade Blind Spot Detection and RCTA Now Available.
New Product: New auto dimming (EC) Cores™™ mirror/monitor now available.
New Product: HWOS 113 complete mirror/monitor with integrated 3.5" rear camera display.
New Product: 4 input 7" LCD monitor with quad split-view capability.
New Product: HWOS 113 complete 200-degree fish mount camera. 250-8180 now available.
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