



# Instruction Manual

WATERPROOF BACKUP CAMERA SYSTEM

RVS-7709910



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# Before Beginning Installation

Before drilling please check that no cable or wiring is on the other side of the wall. Please clamp all wires securely to reduce the possibility of them being damaged while vehicle is in use. Keep all cables away from hot or moving parts and electrical noisy components.

**We recommend doing a benchmark test before installation to insure that all components are working properly.**

Step 1: Choose the monitor location.

Step 2: Install all cables in vehicle, when necessary a 0.8" (20mm) hole should be drilled for passing camera cable through vehicles walls. Install split grommets where applicable.

Step 3: Once all cables and wiring have been properly routed, perform a system function test by temporarily connecting the system. If the system seems to not be operating properly see trouble shooting (page 16).



# Installation Guide

## Monitor

1. To attach the pedestal mount to the dashboard or to the headliner use self-tapping screws and/or the adhesive pad.
2. Attach monitor to mount, and adjust mounting angle to allow optimum driver viewing comfort . (see figure 1.1 on page 8)

# Installation Guide



## The Power Harness.

- To power the system connect the power (RED) 12V+ wire to ignition power and the ground (BLACK) wire to chassis ground.
  - These are the only wires needed to power the entire system and all the cameras. Each camera can be seen at any time by simply pressing the power button and using the V1/2 button to toggle.
  - The three positive trigger wires (WHITE-CH1, BROWNCH2, BLUE-CH3) each represent one channel and will turn on their channel when the trigger wire is energized with 12V.
  - "Camera 3" is the designated backup channel. To have the the backup camera come on when you go into reverse, connect the BLUE wire to reverse power (or any power source that comes on only in reverse).
  - The other channels can simi-
- larly be triggered (i.e. side cameras can be triggered by the turn signals etc.)
- To automatically have camera and monitor turn ON when vehicle activates, simply twist BLUE positive trigger 12V+ to Red Power line 12V+ and wire to ignition power.

Note: This setup will disable the menu in channel 3. To access the menu simply move to channel 1 or 2 and all the changes will apply to channel 3.

Note: When the blue wire is active it will have precedence over the other triggers. Therefore, if you wish to use multiple triggers, do not attach the blue trigger.



# Wiring Camera & Monitor

- **Audio:** There is audio on channels 2 and 3. On channel 3 the blue trigger wire must be energized (12V) to activate the audio. On channel 2 the audio is always on.
- **Grid-lines:** The grid-lines are also carried through the blue wire. To use the grid-lines for reversing, connect the blue wire to a reverse power.
- There is a built-in voltage regulator for our systems which can handle 12-24 volts. Real consumption is 10 to 30 Volts.

Note: The camera and monitor can always be activated by manually pushing the power button on monitor. This is in addition to utilizing the positive triggers.

Note: If connecting power directly to battery, the camera is always ON and therefore can drain battery. Therefore it is recommended to connect power to an ignition switched accessory power source.

# Installation Diagram



Figure 1.1

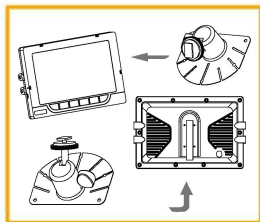


Figure 1.2

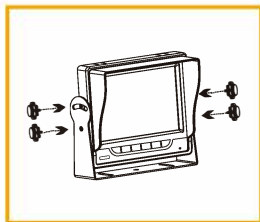
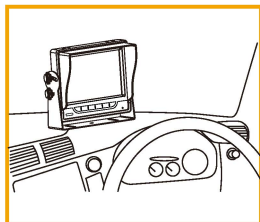


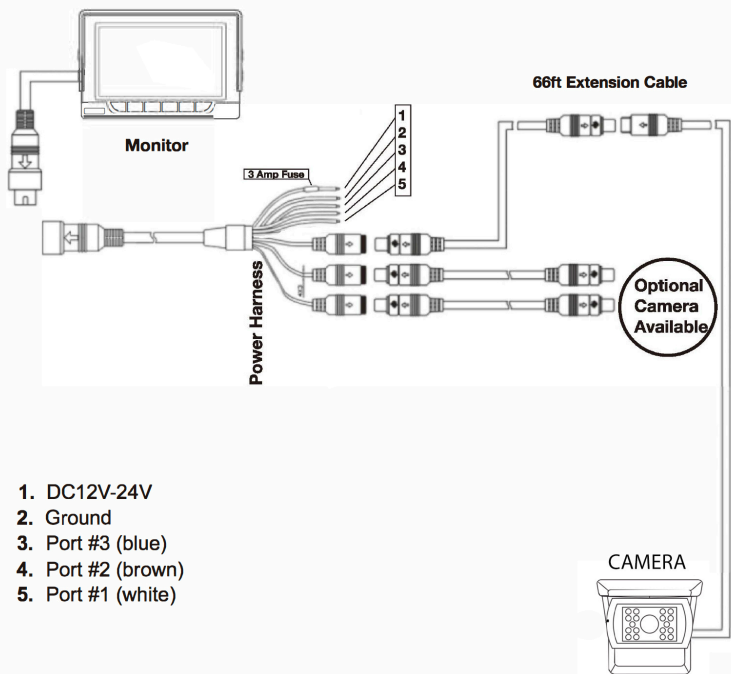
Figure 1.3



Connection of U  
Bracket

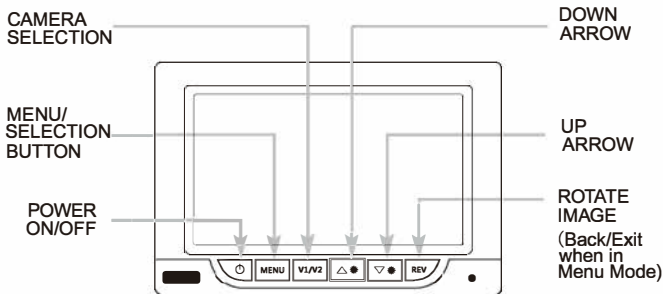


# Installing the Monitor





# Monitor Operation



MENU	
Brightness	▶
Contrast	▶
Saturation	▶
Sharpness	▶
Name	▶
Trigger Source	▶
NEXT ▼	

- Use "BRIGHTNESS" "CONTRAST" "SATURATION" "SHARPNESS" to adjust the image properties.
- Name: Change the name of each individual channel.
- Trigger source: Change the channel destination for each trigger.

MENU	
Trigger Delay	▶
Distance Grid	▶
Grid Position	▶
Auto Power	▶
Reset	▶

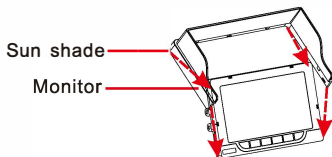
- Trigger delay: Adjust the delay time on each trigger.
- Distance Grid: Choose what channel the distance grid will display on.
- Grid Position: Move the grid-lines.
- Reset: Reset all settings to factory default.



# Sun Shade

## INSTALLING

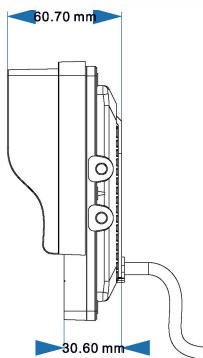
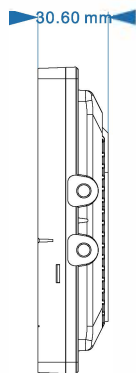
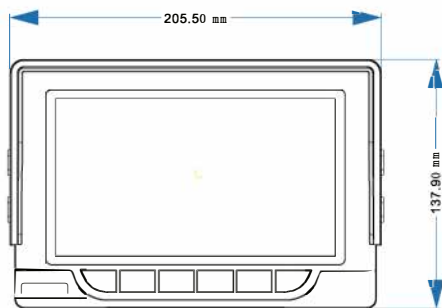
- Installing sun shade: Put shade cover on the display, make four corners tight
- Installing back cover: Put the monitor with shade cover in the back cover (only for embedded monitor)



- Splitting sun shade: Take the monitor on the left hand detach by right hand as indicated by the white arrow (see below)



# Monitor Dimensions



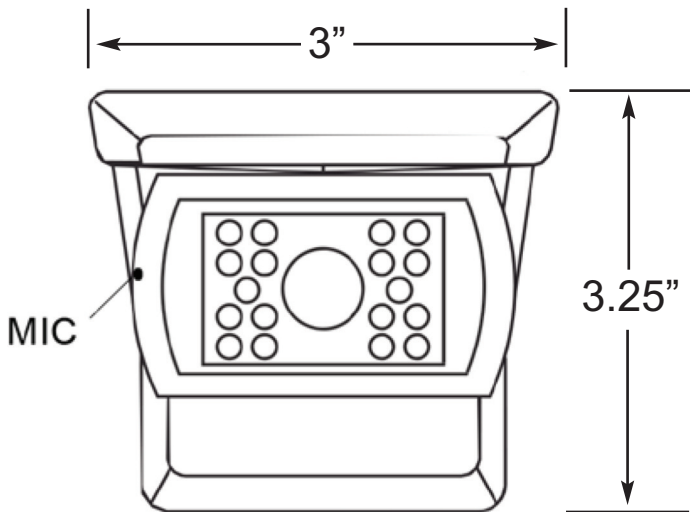


# Monitor Specifications

## 7" Waterproof LCD Monitor

Video input	2CH/3CH
Screen size	7"
Picture display format	16:9
Resolution	800X 3(RGB)X 480
Contrast	500 : 1
Waterproof rating	IP69
Brightness	300cd/ m2
Power	≤2W
Current	700mA
Operation temperature	-20~+70°C
Storage temperature	-30~+85°C
Operating Power	12V~ 24V
System	Auto matic PAL/NTSC
	8 Languages OSD menu: Chinese, English,
Language display	German, Spanish, French, Russian,
	Japanese and Portuguese
Size	8"X5.3"X2.3" (Including sun shield)

# Camera Dimensions





# Camera Specifications

Camera	1/4" Sharp® Color CCD
Picture Elements	250,000 pixels
Gamma Correction	$\gamma=0.45$ to 1.0
Image Sensor	540TVL NTSC 769H x 494 V, PAL 752H x 582V
Lens	2.1mm
View Angle	130°
Sync System	Internal Synchronization
Infrared distance	50 Feet (18 Infrared IR)
Usable Illumination	0 Lux (IR On)
Power Source	DC 12V-24V (+/- 10%)
S/N Ratio	More than 48dB
Electronic Iris	1/50, 1/60-1/100,000sec
Video Output	1Vp.p 75ohm
IR Switch Control	ACDS Automatic Control
Impact Rating	20G Vibration/100G Shock
Operating Temperature	-30°C~70°C
Storage Temperature	-35°C~80°C



## Monitor Displays Blue Screen & Displays No Signal

- Do a hard reset, unplug all cables and power cables leave out for 1 minute and then re-connect them.
  - Check to ensure that the connection to the camera is tight.
  - Verify camera cable is plugged into port labeled Backup Camera
  - Verify that the blue positive trigger on power harness is put to power 12v+.
- If the problem still persists, verify that alternate ports work. If alternate ports do not work, remove Blue Trigger wire from 12V+ and select alternate channels.

## Monitor Will Not Power-Up (no backlight on power button)

- Check fuse
- Check 12v+ to monitor
- Check ground connection

## No Image On Screen

- Verify camera is on correct camera input
- Verify cable is connected to monitor
- Verify camera is connected to cable
- Connect known working camera and cable to monitor.
- Verify Blue trigger is receiving power

## Audio On Camera

- Verify chosen camera has audio
- Verify volume setting
- Confirm that the Blue audio Trigger is connected to 12v+



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If you have any questions  
about this product, contact:

Rear View Safety, Inc.  
1797 Atlantic Avenue  
Brooklyn, NY 11233  
800.764.1028

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