

# Rear View Camera System

KT-770M137D and KT-770M137W



KT-770M137D



KT-770M137W



Instruction Manual



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## INTRODUCTION

Congratulations on purchasing a Rear View Backup Camera System! With this manual you will be able to properly install and operate the unit. The Backup Camera System is intended to be installed as a supplement aid to your standard rear view mirror that already exists in your vehicle. The Backup Camera System should not be used as a substitute for the standard rear view mirror or for any other mirror that exists in your vehicle. In some jurisdictions, it is unlawful for a person to drive a motor vehicle equipped with a TV viewer or screen located forward of the back of the driver's seat or in any location that is visible, directly or indirectly, to the driver while operating the vehicle.

Please read all of the installation instructions carefully before installing the product. Improper installation will void manufacturer's warranty.

# SAFETY INFORMATION

**PLEASE READ THE ENTIRE MANUAL AND FOLLOW THE INSTRUCTIONS AND WARNINGS CAREFULLY. FAILURE TO DO SO CAN CAUSE SERIOUS DAMAGE AND/OR INJURY, INCLUDING LOSS OF LIFE. BE SURE TO OBEY ALL APPLICABLE LOCAL TRAFFIC AND MOTOR VEHICLE REGULATIONS AS IT PERTAINS TO THIS PRODUCT. IMPROPER INSTALLATION WILL VOID MANUFACTURER'S WARRANTY.**

## USAGE

This system is designed to help the driver safely detect people and/or objects helping to avoid damage or injury. However, you the driver, must use it properly. Use of this system is not a substitute for safe, proper or legal driving.

- Never back up while only looking at the monitor. You should always check mirrors before changing lanes, in the same manner you would without a Blind Spot Detection system. Always back up slowly.
- The Rear View Camera System is not intended for use during extensive back-up maneuvers or backing into cross traffic or pedestrian walkways.

# SAFETY INFORMATION

## INSTALLATION

Electric shock or product malfunction may occur if this product is installed incorrectly.

- Use this product within the voltage range specified; failure to do so can cause electronic shock or product malfunction.
- Make sure to firmly affix the product before use.
- If smoke or a burning smell is detected, disconnect the system immediately.
- Where the power cable may touch a metal case, cover the cable with friction tape; a short circuit or disconnected wire may cause a fire.
- While installing the RVS System, be careful with the wire positioning in order to avoid wire damage.
- Do not install the monitor where it may obstruct the driver's view or obstruct an airbag device.
- Dropping the unit may cause possible mechanical failure.

## 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 and camera locations.

**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 troubleshooting

## 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 correctly connected. Observe polarity. Improper cable connections may damage the monitor. Remove the power cable connections when you do not intend to use the device.





1. High voltage is present within the monitor. Opening monitor case should only be performed by professionals.
2. Do not watch any video while driving unless you are monitoring rear view camera display.



Never try to repair this device by yourself. In case of any problems, please turn off this device at once and notify our company or the authorized dealer. This device is a complex device, and any disassembly or modification may lead to damage and void the warranty.

# 1. MAINTENANCE

1. Remove all the cable connections before cleaning the device.
2. Use a mild household detergent and clean the unit with a slightly damp cloth.
3. Never use strong solvents such as thinner or benzine, as they might damage the finish of the device.

	Caution	
	Risk of electric shock Do not open	
Caution: to reduce the risk of electric shock, Do not remove cover (or back). No user-serviceable parts inside. Refer servicing to qualified service personnel.		



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



This symbol is intended to alert the user not to dispose of electrical and electronic equipment.

## CAUTION

Any changes or modifications not expressly approved in this manual could void your warranty and may necessitate expensive repairs.

## 2. INSTALLATION GUIDE

1. Be sure to position the cable properly. The camera cable uses aircraft grade connectors which means the camera cable can be exposed to all weather elements. Do not run the cable over sharp edges, do not kink the cable and keep away from HOT and rotating parts.
2. Fasten all cables and secure all excess cable.

### 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.

### The Power Harness

1. To power the system, connect the (RED) power 12V+ wire to ignition power and the (BLACK) ground wire to the chassis ground.
2. 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.
3. The three positive trigger wires (YELLOW-CH1, BROWN-CH2, BLUE-CH3) each represent one channel and will turn on their channel when the trigger wire is energized with 12V.
4. "Camera 3" is the designated backup channel. To have 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).
5. The other channels can similarly be triggered (i.e. side cameras can be triggered by the turn signals etc.)
6. 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: Menu access is disabled on Channel 3 for safety. To use the menu, switch to Channel 1 or 2.

Note: When the blue wire is active, it overrides other settings—audio and grid lines will always be on.

### 3. WIRING CAMERA & MONITOR

1. 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.
2. 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.
3. There is a built-in voltage regulator allowing the monitor and camera system to accept 9-32VDC.

Note: If connecting power directly to the vehicle battery, the camera and monitor will always be ON and may drain the battery. Therefore it is recommended to connect the red power wire to accessory or switched power.

## 4. MOUNTING DIAGRAM - KT-770M137D

Figure 1.1

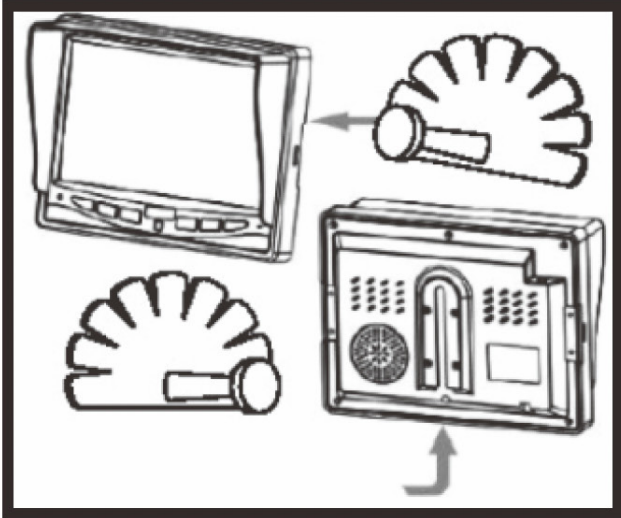


Figure 1.2

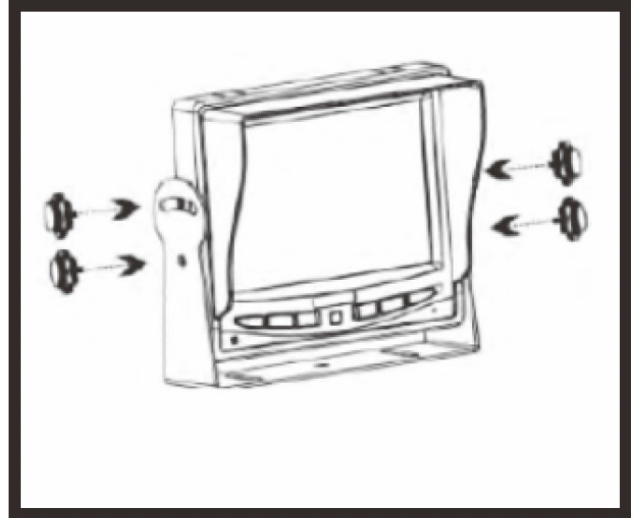
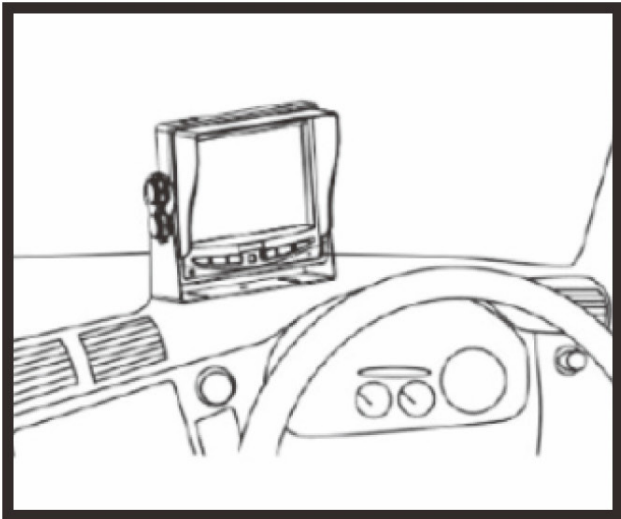
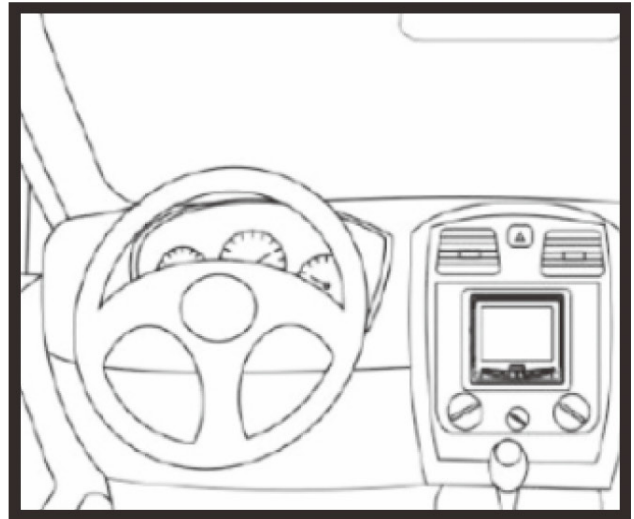


Figure 1.3



**Connection of U  
Bracket**

Figure 1.4



**Connection of  
Flushmount Bracket**

# 5. MOUNTING DIAGRAM - KT-770M137W

Figure 1.1

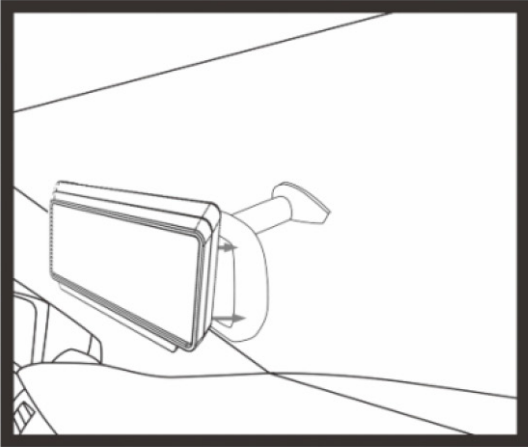


Figure 1.2

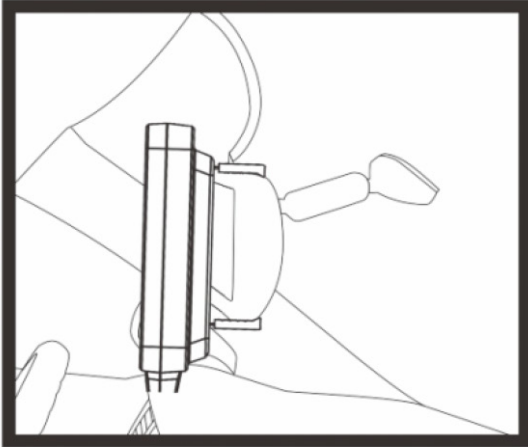
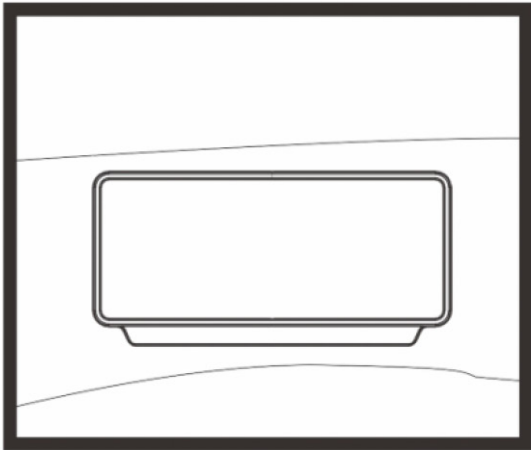
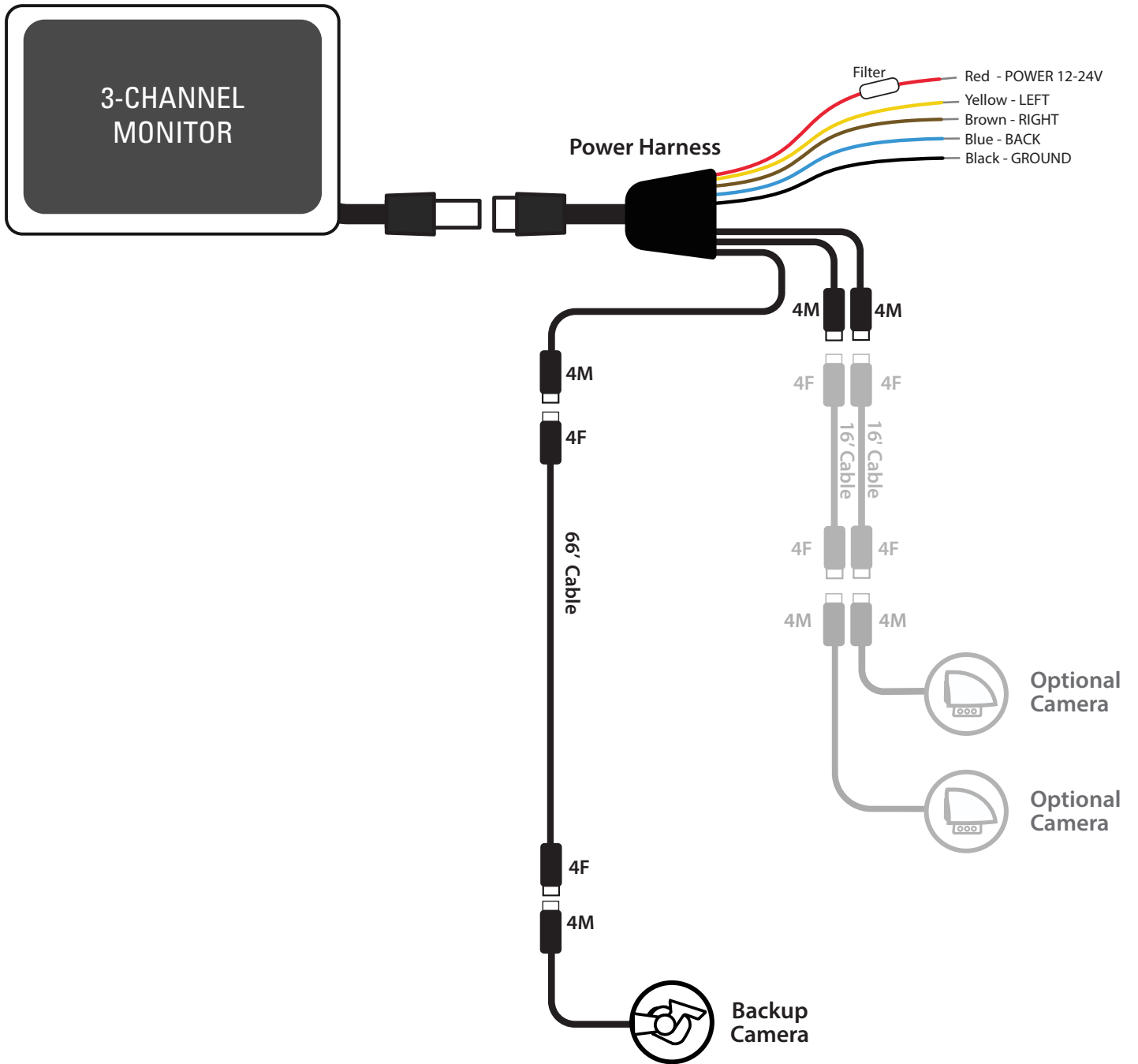


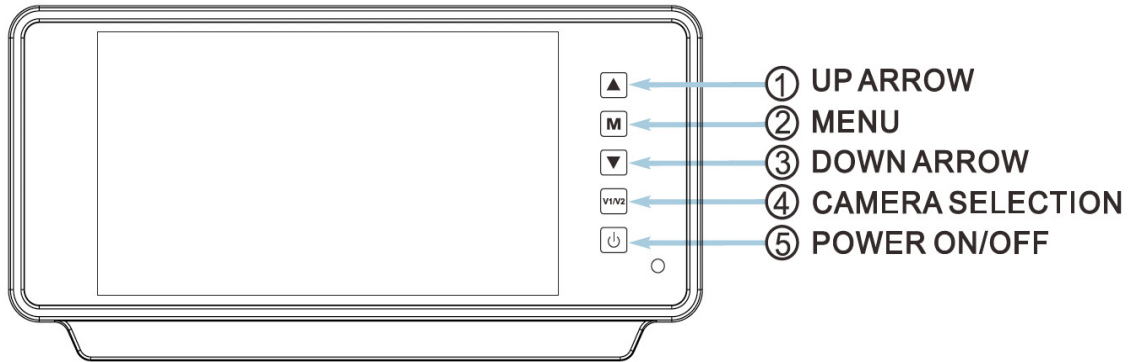
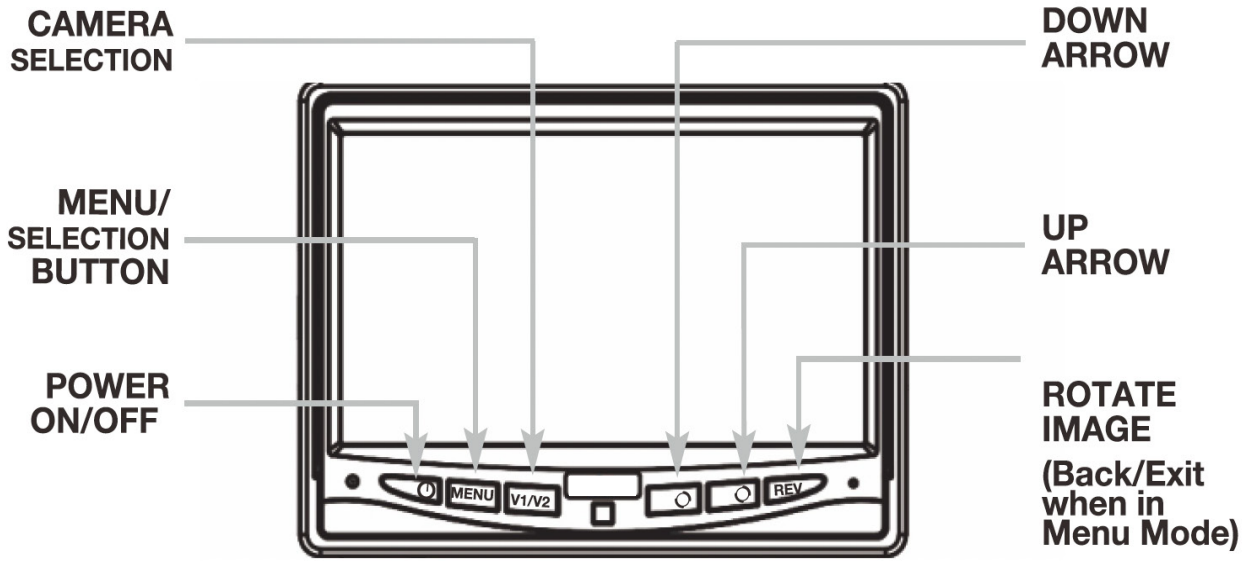
Figure 1.3



# 6. CONNECTION SCHEMATICS KT-770M137D AND KT-770M137W



# 7. MONITOR OPERATION



Volume	.....	50
Brightness	.....	50
Contrast	.....	50
Saturation	.....	62
Language	English	
Turn	LD	

Mirror AV1	YES/NO
Mirror AV2	YES/NO
Mirror AV3	YES/NO
AV1 Video	ON/OFF
AV2 Video	ON/OFF
AV3 Video	ON/OFF
Distance Grid	ON/OFF
Reset	YES/NO

## 8. MONITOR SPECIFICATION - KT-770M137D

Monitors Specs	
Monitor Type	7" TFT LCD Digital Display
Dot Resolution	1280 x 720
Screen Aspect Ratio	16 x 9
Contrast Ratio	500:01
Display Brightness	400cd/2
Field Of View	U:50° D:60° L/R:70°
Camera Input	3 Channel - CVBS / AHD720P / AHD1080P
Video Source	1Vp-p, 75Ω
Power Supply	DC 9V-32V
Power Consumption	5W
Operating Temperature	-20°C ~ +70° C
Storage Temperature	-30°C ~ +85° C
Video System	Auto NTSC/PAL
Overall Dimensions	7" (L) x 5" (H) x 1" (D)
Weight	400G
Impact Rating	5G
Dot Pitch	0.1926 (H) X 0.1710 (V)
Sync System	Internal

## 9. MONITOR SPECIFICATION - KT-770M137W

Monitors Specs	
Monitor Type	7" TFT LCD Digital Display
Dot Resolution	1024 X 3 (RGB) X 600
Screen Aspect Ratio	16 x 9
Contrast Ratio	500:01
Display Brightness	400cd/2
Field Of View	90° Min
Camera Input	3 Channel - CVBS / AHD720P / AHD1080P
Video Source	1Vp-p, 75Ω
Power Supply	DC 12V-24V (+/- 10%)
Power Consumption	5W
Operating Temperature	-10°C ~ +65° C
Storage Temperature	-30°C ~ +85° C
Video System	Auto NTSC/PAL
Overall Dimensions	9" (L) x 4.5" (H) x 1" (D)
Weight	400G
Impact Rating	5G
Dot Pitch	0.192 (H) X 0.1805 (V)
Sync System	Internal

## 10. CAMERA SPECIFICATION

Camera Specs	
Wide Dynamic Range	Yes
Resolution	1920(H) x 1080(V)
Viewing Angle	150°
Infra-Red Distance	50 Feet (18 Infrared IR)
Built-in Microphone	Yes
Frame Rate	1080P@30fps
Video Signal System	AHD
Minimum illumination	0 Lux (With IR LED)
S/N Ratio	≥50db (AGC OFF)
Lens	F2.5
Power Input Range	DC12V+/20%
Power Consumption	IR On Max(180MA), IR Off Max (90MA)
Waterproof	IP69K
Operating Temperature	-40°C ~ +70°C
Storage Temperature	-40°C ~ +85°C (humidity: RH 85% Max)
Net Weight	22oz
Dimensions	3.25" (H) x 3" (L) x 1.5" (D) (with bracket) 1.875" (H) x 2.625" (L) (no bracket)

## 11. TROUBLESHOOTING

### 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.

## ONE YEAR WARRANTY

REAR VIEW SAFETY, INC. WARRANTS THIS PRODUCT AGAINST MATERIAL DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF PURCHASE. WE RESERVE THE RIGHT TO REPAIR OR REPLACE ANY SUCH DEFECTIVE UNIT AT OUR SOLE DISCRETION. REAR VIEW SAFETY, INC. IS NOT RESPONSIBLE FOR A DEFECT IN THE SYSTEM AS A RESULT OF MISUSE, IMPROPER INSTALLATION, DAMAGE OR MISHANDLING OF THE ELECTRONIC COMPONENTS. REAR VIEW SAFETY, INC. IS NOT RESPONSIBLE FOR CONSEQUENTIAL DAMAGES OF ANY KIND.

THIS WARRANTY IS VOID IF: DEFECTS IN MATERIALS OR WORKMANSHIP OR DAMAGES RESULT FROM REPAIRS OR ALTERATIONS WHICH HAVE BEEN MADE OR ATTEMPTED BY OTHERS OR THE UNAUTHORIZED USE OF NONCONFORMING PARTS; THE DAMAGE IS DUE TO NORMAL WEAR AND TEAR, THIS DAMAGE IS DUE TO ABUSE, IMPROPER MAINTENANCE, NEGLIGENCE OR ACCIDENT; OR THE DAMAGE IS DUE TO USE OF THE REAR VIEW SAFETY, INC. SYSTEM AFTER PARTIAL FAILURE OR USE WITH IMPROPER ACCESSORIES.

## WARRANTY PERFORMANCE

DURING THE ABOVE WARRANTY PERIOD, SHOULD YOUR REAR VIEW SAFETY PRODUCT EXHIBIT A DEFECT IN MATERIAL OR WORKMANSHIP, SUCH DEFECT WILL BE REPAIRED WHEN THE COMPLETE REAR VIEW SAFETY, INC. PRODUCT IS RETURNED, POSTAGE PREPAID AND INSURED, TO REAR VIEW SAFETY, INC. OTHER THAN THE POSTAGE AND INSURANCE REQUIREMENT, NO CHARGE WILL BE MADE FOR REPAIRS COVERED BY THIS WARRANTY.

## WARRANTY DISCLAIMERS

NO WARRANTY, ORAL OR WRITTEN, EXPRESSED OR IMPLIED, OTHER THE ABOVE WARRANTY IS MADE WITH REGARD TO THIS REAR VIEW SAFETY, INC. REAR VIEW SAFETY, INC. DISCLAIMS ANY IMPLIED WARRANTY OR MERCHANT-ABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE AND ALL OTHER WARRANTIES IN NO EVENT SHALL REAR VIEW SAFETY, INC. LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES OR FOR ANY COSTS, ATTORNEY FEES, EXPENSES, LOSSES OR DELAYS ALLEGED TO BE AS A CONSEQUENCE OF ANY DAMAGE TO, FAILURE OF, OR DEFECT IN ANY PRODUCT INCLUDING, BUT NOT LIMITED TO, ANY CLAIMS FOR LOSS OF PROFITS.

# DISCLAIMER

REAR VIEW SAFETY AND/OR ITS AFFILIATES DOES NOT GUARANTEE OR PROMISE THAT THE USER OF OUR SYSTEMS WILL NOT BE IN/PART OF AN ACCIDENT OR OTHERWISE NOT COLLIDE WITH AN OBJECT AND/OR PERSON. OUR SYSTEMS ARE NOT A SUBSTITUTE FOR CAREFUL AND CAUTIOUS DRIVING OR FOR THE CONSISTENT ADHERENCE TO ALL APPLICABLE TRAFFIC LAWS AND MOTOR VEHICLE SAFETY REGULATIONS. THE REAR VIEW SAFETY PRODUCTS ARE NOT A SUBSTITUTE FOR REAR VIEW MIRRORS OR FOR ANY OTHER MOTOR VEHICLE EQUIPMENT MANDATED BY LAW. OUR CAMERA SYSTEMS HAVE A LIMITED FIELD OF VISION AND DO NOT PROVIDE A COMPREHENSIVE VIEW OF THE REAR OR SIDE AREA OF THE VEHICLE. ALWAYS MAKE SURE TO LOOK AROUND YOUR VEHICLE AND USE YOUR MIRRORS TO CONFIRM REARWARD CLEARANCE AND THAT YOUR VEHICLE CAN MANEUVER SAFELY. REAR VIEW SAFETY AND/OR ITS AFFILIATES SHALL HAVE NO RESPONSIBILITY OR LIABILITY FOR DAMAGE AND/OR INJURY RESULTING FROM ACCIDENTS OCCURRING WITH VEHICLES HAVING SOME OF REAR VIEW SAFETY PRODUCTS INSTALLED AND REAR VIEW SAFETY AND/OR ITS AFFILIATES, THE MANUFACTURER, DISTRIBUTOR AND SELLER SHALL NOT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, INCIDENTAL OR CONSEQUENTIAL, ARISING OUT OF THE USE OR INTENDED USE OF THE PRODUCT. IN NO EVENT SHALL REAR VIEW SAFETY AND/OR ITS AFFILIATES HAVE ANY LIABILITY FOR ANY LOSSES (WHETHER DIRECT OR INDIRECT, IN CONTRACT, TORT OR OTHERWISE) INCURRED IN CONNECTION WITH THE SYSTEMS, INCLUDING BUT NOT LIMITED TO DAMAGED PROPERTY, PERSONAL INJURY AND/OR LOSS OF LIFE. NEITHER SHALL REAR VIEW SAFETY AND/OR ITS AFFILIATES HAVE ANY RESPONSIBILITY FOR ANY DECISION, ACTION OR INACTION TAKEN BY ANY PERSON IN RELIANCE ON REAR VIEW SAFETY SYSTEMS, OR FOR ANY DELAYS, INACCURACIES AND/OR ERRORS IN CONNECTION WITH OUR SYSTEMS FUNCTIONS.



**Engineered For Vehicle Safety™**

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