Introduction:

The Gemineye™ wireless camera system features 2.4GHZ digital signal transmission and offers quality and functionality equal to wired systems. Featuring a 5.6" LCD color monitor with touchscreen menu control and a CMOS infrared camera this system provides exceptional and consistently stable picture quality. The system is expandable to operate up to four separate cameras, each with independent trigger wires and all using a wireless signal to transmit image data to the monitor. This system dramatically reduces installation complexity and expense while eliminating the potential for wires being damaged during operation of the vehicle.

**WARNING!**
Failure to install or use this product according to manufacturers recommendations may result in property damage, serious bodily/personal injury, and/or death to you and those you are seeking to protect!

**Do not install and/or operate this safety product unless you have read and understand the safety information contained in this manual.**

1. Proper installation combined with operator training in the use, care, and maintenance of vehicle camera systems are essential to ensure the safety of you and those you are trying to protect.
2. Exercise caution when working with live electrical connections.
3. This product must be properly grounded. Inadequate grounding and/or shorting of electrical connections can cause high current arcing, which can cause personal injury and/or severe vehicle damage, including fire.
4. Proper placement and installation are vital to the performance of this device. Install this product so that output performance of the system is maximized and the controls are placed within convenient reach of the operator so that s/he can operate the system without losing eye contact with the roadway.
5. It is the responsibility of the vehicle operator to ensure during use that all features of this product work correctly. In use, the vehicle operator should ensure the projection of the signal is not blocked by vehicle components (i.e., open trunks or compartment doors), people, vehicles, or other obstructions.

**WARNING!**

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

**IMPORTANT!** Occasionally, a few highlights or dark spots may occur on the LCD screen. This is a very common phenomenon in active matrix display technology, and doesn’t necessarily indicate any defects or faults. Never try to repair this device by yourself. In case of any problems, please turn off the display at once and notify our company or authorized dealer. The monitor is a complex device. Any disassembly or modification may lead to damage and void the warranty.
**Specifications:**

<table>
<thead>
<tr>
<th><strong>CAMERA SPECIFICATIONS / FEATURES</strong></th>
<th><strong>SYSTEM SPECIFICATIONS / FEATURES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Image Device</td>
<td>Product</td>
</tr>
<tr>
<td>1/3” CMOS</td>
<td>5.6” Digital TFT - LCE Color, 2.4 GHz Wireless</td>
</tr>
<tr>
<td>Ingress Protection</td>
<td>Resolution</td>
</tr>
<tr>
<td>IP69K</td>
<td>800 x 3 (RGB) x480</td>
</tr>
<tr>
<td>Night Vision</td>
<td>Contrast</td>
</tr>
<tr>
<td>11 IR LEDS = MAX. 10M Distance</td>
<td>500:1</td>
</tr>
<tr>
<td>TV System</td>
<td>Brightness</td>
</tr>
<tr>
<td>NTSC / PAL</td>
<td>400cd/m²</td>
</tr>
<tr>
<td>Effective Pixels</td>
<td>Vewing Angle</td>
</tr>
<tr>
<td>728 x 488</td>
<td>U: 50 / D: 60 / R-L: 70</td>
</tr>
<tr>
<td>Sensing Area</td>
<td>Operation Freq.</td>
</tr>
<tr>
<td>4.6228mm x 3.6112mm</td>
<td>2400-2483.5MHz</td>
</tr>
<tr>
<td>Sync. System</td>
<td>Range</td>
</tr>
<tr>
<td>Internal</td>
<td>100ft</td>
</tr>
<tr>
<td>Horizontal Resolution</td>
<td>Receiving Sensitivity</td>
</tr>
<tr>
<td>500TV Lines</td>
<td>-78dBm</td>
</tr>
<tr>
<td>Mini. Illumination</td>
<td>RF Band Width</td>
</tr>
<tr>
<td>0LUX / F2.0</td>
<td>5MHz</td>
</tr>
<tr>
<td>Video Output</td>
<td>Frame Rate</td>
</tr>
<tr>
<td>1.0VP-P, 750OHM</td>
<td>NTSC: 30f/s</td>
</tr>
<tr>
<td>S/N Ratio</td>
<td>PAL: 25f/s</td>
</tr>
<tr>
<td>Better Than 48dB</td>
<td></td>
</tr>
<tr>
<td>White Balance</td>
<td>Output Power</td>
</tr>
<tr>
<td>Auto</td>
<td>18dBm</td>
</tr>
<tr>
<td>Electronic Shutter</td>
<td>Audio Output</td>
</tr>
<tr>
<td>NTSC: 1/60 ~ 1/100K Seconds</td>
<td>1.5W</td>
</tr>
<tr>
<td>PAL: 1/50 ~ 1/100K Seconds</td>
<td>Speaker</td>
</tr>
<tr>
<td>Current Consumption</td>
<td>Yes</td>
</tr>
<tr>
<td>Max. 250mA</td>
<td>Voltage Range</td>
</tr>
<tr>
<td></td>
<td>12-24VDC</td>
</tr>
<tr>
<td>Lens</td>
<td>Power Consumption</td>
</tr>
<tr>
<td>f-2.8mm / F=2.0</td>
<td>8W</td>
</tr>
<tr>
<td>Lens</td>
<td>Monitor Dimension</td>
</tr>
<tr>
<td>120”</td>
<td>6.32”(W)x4.51”(H)x1.06”(D)</td>
</tr>
<tr>
<td>Voltage</td>
<td>Operating Temp</td>
</tr>
<tr>
<td>12-24V</td>
<td>-20° C to 70°C/-4°F to 158°F</td>
</tr>
<tr>
<td></td>
<td>Storage Temp</td>
</tr>
<tr>
<td></td>
<td>-30°C to 80°C/-22°F to 186°F</td>
</tr>
</tbody>
</table>

**Precautions:**

**Storage and Keeping**

1. Do not expose the monitor to excessive heat or cold. The storage temperature of this device is -30~+80°, and the operating temperature is -20~+70°. The humidity is RH90%.
2. Never use this device in environments with excessive moisture, dust or smoke.
3. Avoid dropping or striking this device.
4. Never puncture, scratch or use abrasive cleaning materials on this device.
5. Do not place cables where they may be pinched or stepped on.
6. Leave at least a 2” space between the monitor and walls or other objects to allow adequate air circulation around the device.
7. 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.
Maintenance:
1. Remove all the cable connections from the monitor before cleaning the device.
2. Use a mild household detergent and clean the unit with a slightly damp, soft cloth. Never use strong solvents such as thinner or benzine, as they might damage the finish of the device.

⚠️ WARNING!
To prevent accidental shock, DO NOT OPEN THE MONITOR CASE. Opening the monitor case will expose the inside of the monitor to conditions that could adversely affect performance. Any evidence of tampering with sealed components will void the warranty.

Features:
1. TFT LCD monitor with wide angle view and high resolution display.
2. Picture image may be adjusted for Horizontal, Vertical, Mirror and Normal viewing.
3. Select from 8 languages for user operation.
5. Full-function remote control.
6. Multiple video formats: PAL/AUTO/NTSC.
7. Up to 4 wireless camera input, 1 video output and 1 audio output.
8. Supports 12V or 24V vehicle systems.
9. On-board speaker.
10. Automatic scanning function.
11. The scale can be adjusted for left, right, up and down.
12. Automatically switches to back-up, left, right or front camera views.

Parts Identification:
Camera Installation:

**Important!** Mount the camera at a location that provides the best view of the area immediately behind the vehicle. Generally, mounting locations toward the top of the vehicle provide the best field of view. Lower mounting locations reduce the field of view and increase the likelihood of damage from road spray.

1. Find an appropriate location for installation.
2. Drill holes according to the size of U-bracket and fix the U-bracket.
3. Drill a 3/4” (19mm) hole next to U-bracket.
4. Install the camera on U-bracket.
5. Supply camera with 12-24V of constant power, ground camera.
6. Loosen the hex head screws and adjust the camera's position to get the best view angle in the monitor.

![Figure 1](image1.png)

Wiring:

**Important!** Waterproof all connections whether inside or outside the vehicle by using sealant and wrapping with insulation tape. Wrap tape tightly, overlapping by one-half widths so there are no gaps.

![Figure 2](image2.png)
Single red wire to positive power supply of DC/12-24V using a 3A fuse.
Single black wire to GND.
Single brown wire to positive power wire of back-up light.
Single white wire to positive power wire of left light.
Single blue wire to positive power wire of right light.
Single green wire to any other trigger control.
Yellow RCA female for video output.
White RCA female for audio output.
**Bracket Installation:**

Installation instruction of using U-support bracket
1. Select suitable position on vehicle and fix the U-support bracket with screws (Figure 4)
2. Fix the monitor to the U-support bracket with angle adjustment screws and adjust the view angle of the monitor (Figure 5)
3. Connect the monitor with the AV and power supply conversion cable (Figure 6)

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**Reversing Display:**

1. When the white wire is connected to positive, the monitor automatically switches to CAM1. When the white wire is activated, the monitor automatically switches to CAM1.
2. When the blue wire is connected to positive, the monitor automatically switches to CAM2. When blue wire is activated, the monitor automatically switches to CAM2.
3. When the brown wire is connected to positive, the monitor automatically switches to CAM3 (back-up camera). The distancing grid will also be displayed.
4. When the green wire is connected to positive, the monitor automatically switches to CAM4. When the green wire is activated, the monitor automatically switches to CAM4.
Installation instruction of using base support
1. Select suitable position on vehicle and fix the base support. (Figure 7)
2. Fix the monitor to the base support and adjust the view angle. (Figure 8)
3. Connect the monitor with the AV and power supply conversion cable (Figure 9)
Remote Control Operation:

**Important!**
1. Align the remote control with the infrared-receiving window on the monitor to operate.
2. Never disassemble the remote control or allow it to drop, or become wet.
3. Press the control button firmly. Allow 2 seconds for the picture to change.

**MUTE (Mute):** Press to select ENABLE/MUTE sound

**POWER (Power switch):** Press to turn on/off the monitor.

**[Horizontal Turning of Picture]:** Press to turn the picture horizontally.

**[Vertical Turning of Picture]:** Press to turn the picture vertically.

**CH+ (Channel Selection +):** Press to select the upper setting.

**CH- (Channel Selection -):** Press to select the lower setting or display the scale.

**[>: Press to decrease brightness.**

**[>: Press to increase brightness.**

**MENU:** Press to show menu.

**Mode (Picture Mode):** Press to select different picture modes (PERSONAL/STANDARD/SOFT/VIVID/LIGHT).

**CALL:** Press to display video channel source.

**TIMER:** Press to set the time to shut down monitor (10, 20, 30, 40, 50, 60, 70, 80 and max 90 minutes).

**LANG (Languages Selection):** Press to select language display of English, Deutsch, Français, Español, Português, Italiano, Nederlands or Русский options.

**SYS:** Press to select PAL/AUTO/NTSC.

**SEL:** Press to select CAM channels.
Menu:
Press the MENU button either on the remote control or monitor screen to display the following options and settings: Picture, Option, System, Auto Scan and Set up. To navigate MENU, press CH- on the remote control or the arrow down on the monitor screen. To select a highlighted menu, press the right brightness button on the remote or the + button on the monitor screen. Press the less brightness button on the remote control or the - button on the monitor screen to go back to the previous menu.

1. Picture: BRIGHT, CONTRAST, COLOR, VOLUME, AUTO DIM and SCALE ADJUST options will display on the screen as illustrated below:
   - Press CH- to select BRIGHT

   ![Picture settings]

   Press < or > to adjust the brightness level.

   - When auto dim is turned on in dark environment, OSD turns into dim mode for dim setting. When auto dim is turned on / off in bright environment, OSD displays normal mode.

   ![Dim Mode and Normal Mode]

   - Press CH- to select SCALE ADJUST
   - Exit menu and press CH- to display the grid line

![Selecting Scale Adjust]

   Press < or > to select or < or > for scale adjustment.

   If < or > is selected, press < or > to adjust the scale up/down; If < or > is selected press < or > to adjust the scale left/right.

2. Option: LANG, SCALE, CAM1, CAM2, CAM3, CAM4, PAIRING options will display on the screen as illustrated below.
   - Press CH- to select LANG
   - Press CH- to select SCALE

![Option settings]

Press < or > to select English, Deutsch, Français, Español, Português, Italiano, Nederlands or Русский.

Press < or > to select ON / OFF. Scale refers to the reversing distance indicator displayed on the monitor.
3. System: COLOR-SYS, HORIZONTAL, VERTICAL, ZOOM functions will display on the screen as illustrated below:

- Press CH- to select COLOR-SYS

4. Auto Scan: AUTO SCAN, SCAN TIME, CAM1, CAM2, CAM3 and CAM4 options will display on the screen as illustrated below:

- Press CH- to select SCAN TIME

5. Auto Scan: AUTO SCAN, SCAN TIME, CAM1, CAM2, CAM3 and CAM4 options will display on the screen as illustrated below:

- Press CH- to select ZOOM

- Turn on the PAIRING function, the screen will display “PAIRING START”. It counts down 50 seconds.

- The screen shows “SAVE DATA” and picture, then code matching succeeds.

If code matching doesn’t complete in 50 seconds, the screen will show “PAIRING FAIL” to tell you that code matching fails and you need to try again. Other channels can be paired in the same way above.

Firstly press SEL to choose the channel to be paired, secondly press CH- to select PAIRING.

Long press the "PAIR" on the camera for 5 seconds.

Long press the "PAIR" on the camera for 5 seconds.

Press \[ \text{\textlangle} \circ \text{\textrangle} \text{\textlangle} \circ \text{\textrangle} \] to select OFF/ON.

Press \[ \text{\textlangle} \circ \text{\textrangle} \text{\textlangle} \circ \text{\textrangle} \] to select OFF/ON.

Press \[ \text{\textlangle} \circ \text{\textrangle} \text{\textlangle} \circ \text{\textrangle} \] to select 6S~90S
5. Set Up: SOURCE-CAM1, SOURCE-CAM2, SOURCE-CAM3, SOURCE-CAM4 options will display on the screen as illustrated below:

- Press \( \downarrow \bigcirc \) to select SOURCE-CAM1 to SOURCE-CAM4

<table>
<thead>
<tr>
<th>SET UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOURCE-CAM1</td>
</tr>
<tr>
<td>SOURCE-CAM2</td>
</tr>
<tr>
<td>SOURCE-CAM3</td>
</tr>
<tr>
<td>SOURCE-CAM4</td>
</tr>
</tbody>
</table>

- Press \(-/+\) to select ON / OFF

E.g. Press \( \downarrow \bigcirc \) to select SOURCE-CAM4 and press \(-/+\) to select OFF. CAM4 will be shut off. Press “S” to switch channels, CAM4 will not be displayed on the screen.

Troubleshooting:
The symptoms described below do not necessarily mean a failure within the display. Please check the following items before you initiate request for repair.

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Possible Causes/Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>No picture, no sound</td>
<td>Improper connection of automobile adapter. Use of un-authorized power supply. Power switch is on OFF position.</td>
</tr>
<tr>
<td>No picture</td>
<td>Check whether AV cable is properly connected</td>
</tr>
<tr>
<td>No sound</td>
<td>Check whether audio wire is properly connected or the sound volume is turned off or set too low.</td>
</tr>
<tr>
<td>Dark picture</td>
<td>Check whether brightness and contrast are adjusted correctly; Check whether the environments temperature is too low.</td>
</tr>
<tr>
<td>No color</td>
<td>Adjust the color settings.</td>
</tr>
<tr>
<td>Upside down or lateral inverted picture</td>
<td>Use the remote control horizontal/vertical selection switch to set proper orientation</td>
</tr>
<tr>
<td>No reversing function (i.e. Picture)</td>
<td>The black wire of the monitor AV cable to the reversing light may be loose. The red wire from the monitor may be loose.</td>
</tr>
</tbody>
</table>

Declaration of conformity:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.
Manufacturer Limited Warranty and Limitation of Liability:

Manufacturer warrants that on the date of purchase, this product will conform to Manufacturer’s specifications for this product (which are available from the Manufacturer upon request). This Limited Warranty extends for Twelve (12) months from the date of purchase.

DAMAGE TO PARTS OR PRODUCTS RESULTING FROM TAMPERING, ACCIDENT, ABUSE, MISUSE, NEGLIGENCE, UNAPPROVED MODIFICATIONS, FIRE OR OTHER HAZARD; IMPROPER INSTALLATION OR OPERATION; OR NOT BEING MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE PROCEDURES SET FORTH IN MANUFACTURER’S INSTALLATION AND OPERATING INSTRUCTIONS VOIDS THIS LIMITED WARRANTY.

Exclusion of Other Warranties:

MANUFACTURER MAKES NO OTHER WARRANTIES, EXPRESSED OR IMPLIED. THE IMPLIED WARRANTIES FOR MERCHANTABILITY, QUALITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING, USAGE OR TRADE PRACTICE ARE HEREBY EXCLUDED AND SHALL NOT APPLY TO THE PRODUCT AND ARE HEREBY DISCLAIMED, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW. ORAL STATEMENTS OR REPRESENTATIONS ABOUT THE PRODUCT DO NOT CONSTITUTE WARRANTIES.

Remedies and Limitation of Liability:

MANUFACTURER’S SOLE LIABILITY AND BUYER’S EXCLUSIVE REMEDY IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR UNDER ANY OTHER THEORY AGAINST MANUFACTURER REGARDING THE PRODUCT AND ITS USE SHALL BE, AT MANUFACTURER’S DISCRETION, THE REPLACEMENT OR REPAIR OF THE PRODUCT, OR THE REFUND OF THE PURCHASE PRICE PAID BY BUYER FOR NON-CONFORMING PRODUCT. IN NO EVENT SHALL MANUFACTURER’S LIABILITY ARISING OUT OF THIS LIMITED WARRANTY OR ANY OTHER CLAIM RELATED TO THE MANUFACTURER’S PRODUCTS EXCEED THE AMOUNT PAID FOR THE PRODUCT BY BUYER AT THE TIME OF THE ORIGINAL PURCHASE. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR LOST PROFITS, THE COST OF SUBSTITUTE EQUIPMENT OR LABOR, PROPERTY DAMAGE, OR OTHER SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES BASED UPON ANY CLAIM FOR BREACH OF CONTRACT, IMPROPER INSTALLATION, NEGLIGENCE, OR OTHER CLAIM, EVEN IF MANUFACTURER OR A MANUFACTURER’S REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. MANUFACTURER SHALL HAVE NO FURTHER OBLIGATION OR LIABILITY WITH RESPECT TO THE PRODUCT OR ITS SALE, OPERATION AND USE, AND MANUFACTURER NEITHER ASSUMES NOR AUTHORIZES THE ASSUMPTION OF ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH PRODUCT.

This Limited Warranty defines specific legal rights. You may have other legal rights which vary from jurisdiction to jurisdiction. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages.