Solar Powered
Wireless Backup Camera Kit

Multilingual User Manual

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Content

Introduction

Thank you for purchasing this digital wireless backup camera kit.
Please read all of the installation instructions carefully before installing the product. Improper installation will void manufacturer's warranty. The installation instructions do not apply to all types of vehicles, and are written as guidelines to assist in installing the backup camera kit. If you have any questions, you can contact us through the customer support section on **www.auto-vox.com**, or you can email our customer service team at **service@auto-vox.com**.
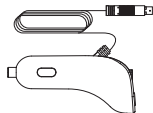
Components

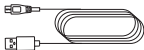Backup Camera (With Built-in Battery)

5-inch Monitor

Mount holder

Car Charger with
Camera Activation Button
(3.5 meters cable)

Battery Charging Cable
(1.5 meters cable)

Double Sided Tape

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User Manual

Getting Started

Charging the Camera

Before installing your backup camera, fully charge the camera battery using a plug and the provided battery charging cable.

Let the battery charge for 6 hours.

portable battery

OUTPUT: 5V/≥1.5A

Battery Charging Cable

● Charging
○ Full charged
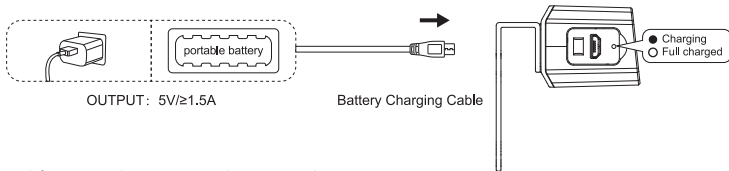
Attention:

1. If you leave your vehicle unused for more than two weeks, press the power button on the right side to turn off the camera. This prevents the battery from discharging.
2. The backup camera can operate continuously for 12 hours with a 100% charge. When the low battery icon flashes on the display, please charge the camera. (The working hours are for your reference only, it also depends on usage.)
3. If you use a power bank or portable battery to charge the device, make sure that its battery capacity is at least 7000mAh to ensure a full charge.
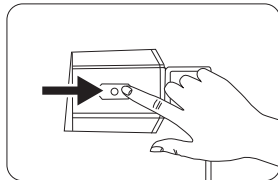
4. If the product has been installed, you can charge the camera by battery charging cable using a mobile power supply or portable battery. You could also remove the camera in the direction specified below and then charge it.
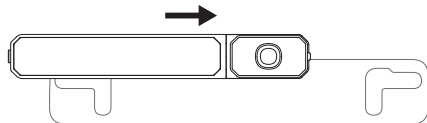
Testing the System

Prior to installing your backup camera, test all components in the system to ensure proper functionality. (Camera and monitor come pre-paired)

1. Supply power to the monitor. If the indicator light is lit, the monitor is on and functioning.
2. Press the power button to turn on the rear camera. The indicator light will flash. This indicates that the backup camera is on.

Note: By default, the monitor will stop displaying images and enter standby mode after 90 seconds.
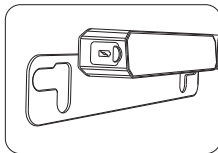
Installation

Installing the Rear Camera

1. Remove the license plate from your vehicle.
2. Tear off the sticker on the double sided tape and stick it on the front of the camera bracket.
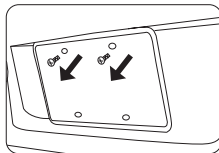
①   ②

3. Tear off the sticker on the other side and stick it on the license plate.
4. Then fix the license plate back to the car.

You can also install the camera on the bottom of the license plate (as picture shown right). The installation steps are the same as above. If you install the camera on the bottom of the license plate, please go to the setting menu and adjust the image's up and down correctly to avoid image inversion.

Note: The installation pics above are for reference only.

③

④

Adjusting the Camera Angle
The camera can be rotated up and down by 70°.

Mounting the Monitor
Find a mounting surface inside your vehicle where the monitor can be easily seen from the driver's seat and does not obstruct your vision when driving.
You can mount the monitor on your dashboard or on your windshield.
Note: Before permanently mounting the monitor, test the reception of the camera signal in several locations to ensure proper image.
1. Clean and dry the area you will be mounting your monitor to before affixing the suction cup.
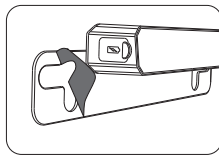
2. Press the suction cup against the mounting surface and push the suction cup lock lever down to lock the suction cup in place.
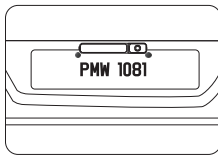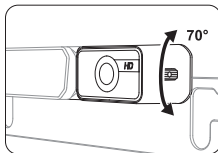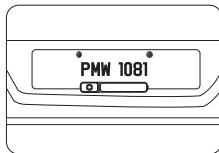3. Slide the monitor onto the bracket. The angle of the monitor can be adjusted by loosening the rotary knob. Once in desired position, tighten the rotary knob to secure.
4. Insert the monitor car charger into a 12V DC power supply.

Note:
1. You can hide the charging cable into the decorative seam around the edge of the dashboard, and if necessary, bundle the excess wire with a cable tie.
2. If the 12V DC power port on your vehicle remains on after the engine is off, be sure to unplug the car charger before leaving the vehicle to prevent the car battery from draining out.
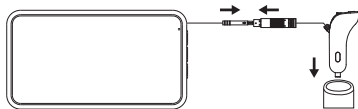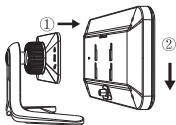
Operation

Displaying Rear View
1. Turn on the camera (Please make sure the camera is fully charged, see "Charge the Camera")
2. Start your vehicle, if the monitor is getting power then the monitor will display the rear image. (If it doesn't display rear image, press the button on the car charger or any buttons on the monitor to activate the camera)

Camera Status Light Quick Reference

Status	Description
●●●●●●	Red light is off when camera is off or in standby mode.
○●●●●●	Red light is on for 10 seconds and then turns off. Camera enters standby mode.
○●●○●○●	Red light flashes until pairing success is complete.
○○○○○○	While the monitor is showing the camera image, the red light will remain solid.
○●○●●●	Red light flashes 2 times when the camera is powered off.

Operating the Monitor

The monitor indicator glows when the monitor is getting power, indicating that the monitor is in standby mode. Pressing any side button on the monitor will display rear view image.

M: Menu/Return/Confirm.

▲: Forward/Increase.

▼: Back/Decrease.

- Press M to access the menu. The display will show the menu for 3-5 seconds.
- Press ▲ or ▼ to increase/decrease, or switch between the following menu items:

UP
MENU
DOWN
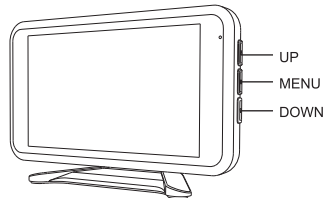
Pair: to pair the monitor with the backup camera
B/C Control: adjust brightness and contrast
M/U Control: switch to Mirror/Normal/Upside/Down Image
Reversing time: set the duration of reversing display time
Guide line: activate or deactivate guide line
Reset: restore to factory settings

Choosing the Size of Guidelines
1. Make sure the guideline is set to ON;
2. Press and hold M for about 4 seconds until the guideline flashes on and off;
3. Press ▲ or ▼ to choose from 6 different sizes of guidelines;
4. Press M to confirm.
Note: If there is no operation or no confirmation after setting, the setting will exit after 5s and the parameters will be saved automatically.

Pairing the Cam 2
1. Press M to enter the main setting menu;
2. Press ▲ or ▼ switch to Setting>Pair, press M to enter the pairing interface;
3. Press ▲ or ▼ switch to CAM 2, press M to enter pairing mode. Indicators on the monitor will flash while pairing;
4. Press the power button to turn on the camera, press and hold the power button for 10s to start pairing. The indicator on the camera will flash while pairing;
5. The monitor will display the image of CAM 2 when pairing is successful.
Note:

1. The pairing timeout is default 30s. If the pairing does not finish in 30s, the pairing screen will close automatically, and the monitor will enter standby mode. If the pairing is failed, try again.
2. The Cam 1 is pre-paired with the monitor, and it is set as rear camera as default.

Switching Cam 1/Cam 2 Channel or Split Screen
If the monitor has been paired with Cam1&Cam2, and the monitor is not on any setting interface, press ▼ to switch between the Cam1 display, Cam2 display, and the split screen.
Switching will be invalid in the following situations:
● When the monitor is only paired with one camera.
● When the monitor is paired with 2 cameras, but only one camera remains on.
Note: The settings include guideline, contrast and M / U control can be changed separately by camera channels. This indicates that when the guidelines for Cam1 is changed, it will only be saved in this camera, not in both cameras.

Confirming Version Number
When the monitor displays the rearview without signal indication, press and hold ▲ for 3 seconds in a non-menu state, the firmware version will be displayed in the upper and middle of the screen.
The information will be automatically hidden after 3 seconds. The screen version number starts with RX and the cameras' with TX, for example, Cam 1 is TX1: xxx, Cam 2 is TX2: xxx.

Battery Indicator

The battery icon is located in the upper right corner of the display, showing the battery level of the backup camera.

Battery power status	Relative power	Estimated duration	Note
█ █ █	≈ 100%	≈ 110 days	—
█ █	≈ 70%	≈ 65 days	-–
█	≈ 40%	≈ 40 days	-–
▯	≤ 20%	≈ 10 days	Need to charge

Note: The parameters are tested under 25℃, low temperatures may decrease the performance of the built-in battery. For reference, the chart below depicts battery life at different temperatures at 100% charge (being used 3 times a day). However, specific battery performance will vary according to local temperature and actual usage.

Temperature(℉/℃)	Battery Working Days	Battery Performance(%)
140℉/60℃	≈ 110 days	100%
113℉/45℃	≈ 105 days	99%
77℉/25℃	≈ 100 days	98%
0℉/0℃	≈ 70 days	86%
14℉/-10℃	≈ 50 days	77%
-4℉/-20℃	≈ 25 days	44%
-22℉/-30℃	≈ 0 days	0%

Troubleshooting

1. The red light of the indicator keeps flashing when charging.
   Possible cause: The power adapter can't supply enough current.
   Solution: Use another power adapter that provides at least 1.5A at 5V.
2. The monitor doesn't work even though camera battery is fully charged(green light stays on).
   Possible cause: The camera isn't turning on or become unpaired.
   Solution: ① Press the On/Off switch to turn on camera again.
   ② If it doesn't work, try re-pairing and follow the steps below:
   - Power the monitor and press M button to enter the menu.
   - Choose Setting>Pair and press M button to enter pairing mode, then the monitor indicator light will flicker.
   - Press and hold the camera battery switch for 10 seconds, or until the monitor shows rear view image.
   - If the pairing is successful, the display will show rear image.
   - If no camera is found, the monitor will not display anything. In this case, try again. If you keep receiving no images after several attempts, please email our customer support.

Specifications

Device Designation	Backup Camera Kit	Image Delay	150 ms
Storage Temperature		-4°F to 149°F / -20°C to 65°C	

Operating Temperature		-4°F to 149°F / -20°C to 65°C	
RF Transmission Distance		230 ft. (70 m)	
Transmission Frame Rate		25 FPS	
Camera			
Operational Current	Max 420mA	Working Voltage	DC 3.25-4.2V
Image Sensor	GC2053	Minimal Illumination	0.1Lux
USB Charging Current	1000mA	Battery Capacity	5000mAh
Monitor			
Operating Voltage	DC 12V	Operational Current	Max 300mA (@12V)
Screen Size	5-inch		

Warranty

You (as the end-user) receive a 12 months guarantee from the date of purchase. In addition, you can contact our service representative to obtain an extra 6 months warranty for free. If we repair or replace a product, the repaired or replaced product shall be warranted for the remaining time of the original warranty period. If for any quality problem not satisfied with

your purchase, you shall return the item in its original condition within 30 days of receipt and we will gladly provide a refund, replacement, or an exchange. Any items received more than 30 days will not be accepted for refund, but we will provide repair services during the warranty period.

Our warranty does NOT cover the following situations:
1. Warranty expired
2. Damage caused by human factors, accident, misuse of the product
3. Products purchased from unauthorized channels
4. Unauthorized alternation to or change of parts or components of the product
5. Failure to provide a receipt or proof of purchase
6. Malfunctions caused by phenomena such as fire, or natural disasters

For speedy processing of your warranty claim you will need:
● Copy of the receipt showing the purchase date.
● Reason for the claim (description of defect).
For more information or support, see **www.auto-vox.com**.
Alternatively, send an e-mail to a service representative at **service@auto-vox.com**.

FCC Warning

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure Statement
To maintain compliance with FCC'S RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm between the radiator and your body. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter.