



MRC-WSLP5

WIRELESS SOLAR POWERED BACKUP CAMERA KIT
USER MANUAL





Thank you for purchasing the EchoMaster WIRELESS SOLAR POWERED BACKUP CAMERA KIT



EchoMaster products are designed to improve safety by providing high quality images of surrounding areas and obstacles in the vicinity of the vehicle. This may help improve vehicle maneuvering capabilities by displaying blind spots or areas not normally visible to the driver.

Please ensure you read and understand all aspects of this manual before installing or using your EchoMaster products.





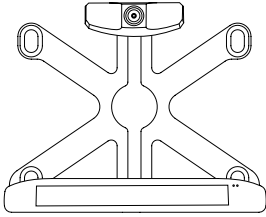
WHAT'S INCLUDED:

Solar license plate mounted camera
5" Monitor and mount
12V charger for monitor power with camera activation button
USB charging cable

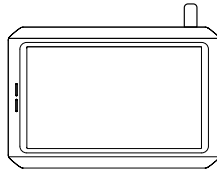
FEATURES:

2.4G Digital, Built-In Transmitter and Receiver
Transmit up to 30-50'
Low Battery Indicator
1/3" Camera Sensor
100° Horizontal Viewing Angle
140° Diagonal Viewing Angle
Operates at 0.1 LUX
Full Charge Lasts 3-4 Months Without Solar Charging
Button Activated Backup Camera

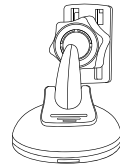
COMPONENTS:



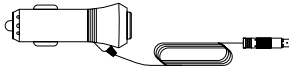
Backup Camera
(bracket, solar battery
unit, backup camera)



5" Monitor



Monitor Suction Mount



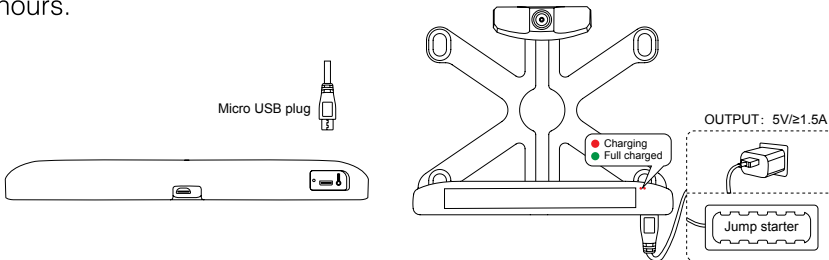
12V Monitor charger
with camera activation
button (11.5' cable)



Backup Camera
Charging Cable
(5' cable)

CHARGE BEFORE INSTALLING

Before installing your backup camera, fully charge the camera's battery using a USB charging port and the Micro USB cable. Let the battery charge for 3-4 hours.



NOTE: If using a power bank or a jump starter to charge the device, ensure that its battery capacity is no less than 4000mA.

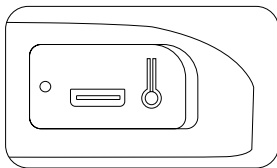
TEST THE SYSTEM

Prior to installing your backup camera, test all components in the system to ensure proper functionality.

1. **Test the Monitor** - Supply power to the monitor. If the indicator light is lit, the monitor is on and functioning.
2. **Test the Backup Camera** - Turn on the solar battery unit switch on the backup camera. The working indicator light will flash once and then light up for five seconds, and then turn off. This indicates that the backup camera is on and functioning.
3. **Test the System** - To view the backup camera image on the monitor, press the camera activation control button once. The indicator light of the monitor will flash twice, then the monitor will display the image of the camera. If not, refer to the troubleshooting section of this manual.

By default, the monitor will stop displaying the image and enter into standby mode after 60 seconds.

If all components are functioning properly, you are ready to install your new system on your vehicle!



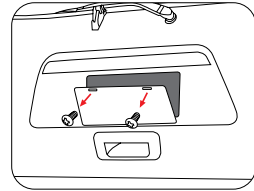
Solar Camera Switch



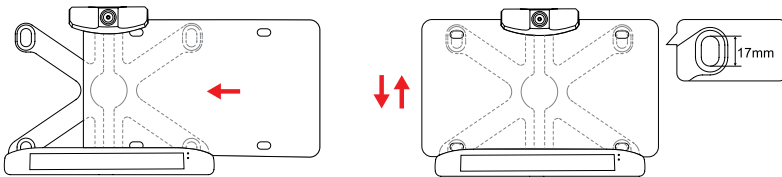
STEP 1:

INSTALL THE REAR CAMERA

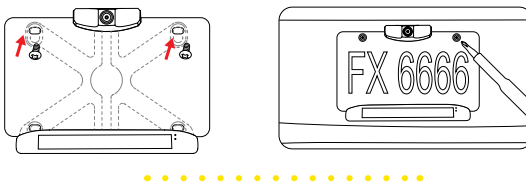
1. Remove the license plate from the vehicle. **Do not throw away the original screws**, as they are required to mount the bracket for your new wireless backup camera.



2. Slide the license plate into the camera bracket and align the mounting holes of the camera bracket and license plate



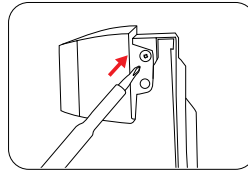
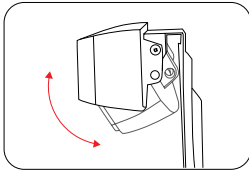
3. Insert the original license plate screws into the mounting holes.
4. Re-attach the license plate to the vehicle together with the camera and tighten the screws.



STEP 2:

ADJUST THE CAMERA ANGLE

The angle of the camera can be adjusted up or down to provide the optimal viewing angle for your vehicle. Once you have determined the best angle, tighten the two screws to prevent the camera from deviating from that position.



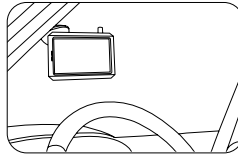
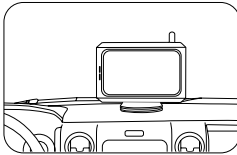
INFORMATION ON YOUR BACKUP CAMERA'S BATTERY & CHARGING

If your vehicle is parked for more than two months without being turned on, turn off the solar battery switch on the backup camera bracket to prevent the battery from discharging.

STEP 3:

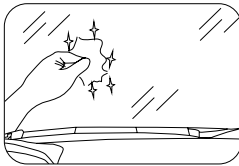
MOUNT THE MONITOR

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.

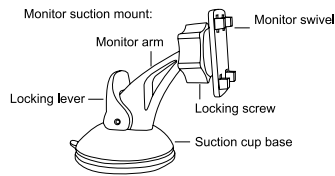


NOTE: Before permanently mounting the monitor, test the reception of the camera signal in several locations. One location may have better reception than the other.

1. Clean and dry the area you will be mounting your monitor to before fixing 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.

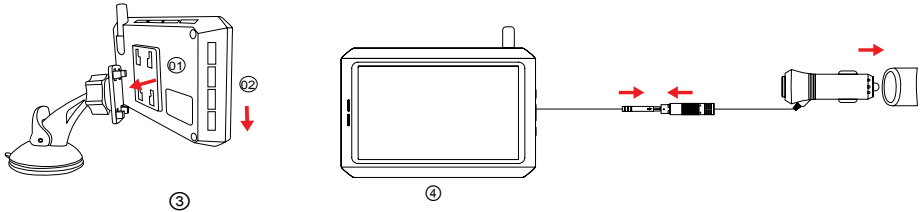


(1)



(2)

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 the car's 12V DC power supply



For a clean installation, you can hide the charging cable into the dashboard's seam, and if necessary bundle the additional wire with a cable tie.

IMPORTANT: If the 12V DC power port on your vehicle is always powered on, be sure to unplug the car charger before leaving the vehicle to prevent your car's battery from draining. Every time the car charger is plugged back in, the monitor will power up and stay on for the selected time duration.

STEP 4:

YOUR NEW SYSTEM

Activate the Camera

If your car's 12V DC power supply is ignition controlled, the monitor will power up every time the vehicle is turned on and will stay on for a selected time duration.

Prior to putting your vehicle in reverse, push the camera activation button. This will turn your camera on and allow the image to be viewed on the monitor.

NOTE: Pressing any button on the side of the monitor also activates the camera

The indicator light on the monitor will be red when it is on and in standby. Pressing any button on the side of the monitor will show the rear view image.



M: Menu/Return/Confirm

▲: Forward/Increase

▼: Back/Decrease

Press the **M** button to access Menu mode.

The display will show the menu settings for 3-5 seconds

Use the **▲** & **▼** buttons to increase, decrease, or advance the following menu items:

Pair: Pair the monitor with the backup camera

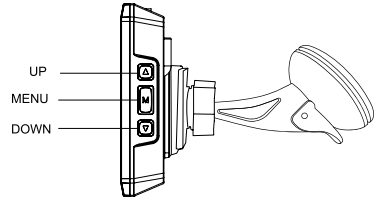
B/C Control: Adjust the monitor brightness and contrast

Mirror/Normal: Switch between mirror image or normal image

Reversing Time: Set the duration of time the image is displayed

Guide Line: Activate or deactivate the guide lines

Reset: Return to factory settings







Your camera and monitor should come paired.

Choose the size of your parking assistance guide lines:

1. Press the **M** button
2. Press **▲** or **▼** to chose from 6 different sizes
3. The setting will be saved in 3 seconds when the guidelines stop flickering

Battery Indicator

The battery icon is located in the upper right corner of the monitor.

Battery power status	Relative power	Estimated duration	Note
	≈ 100%	≈ 60days	--
	≈ 70%	≈ 45days	--
	≈ 40%	≈ 24days	--
	≤ 20%	≈ 12days	Need to charge

This system can work in temperatures as low as -4° F, however 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 3x a day). However, specific battery performance will vary according to local temperature and actual use.

Temperature(°F/°C)	Battery Working Days	Battery Performance(%)
140°F/60°C	≈ 60 days	100%
113°F/45°C	≈ 59 days	99%
77°F/25°C	≈ 58 days	98%
0°F/0°C	≈ 40 days	86%
14°F/-10°C	≈ 35 days	77%
-4°F/-20°C	≈ 20 days	44%
-22°F/-30°C	≈ 0 days	0%



Troubleshooting

The red light of the solar panel keeps flashing when charging

Possible Cause: The power adapter can't supply enough current

Solution: Use another power adapter that has 5V/1.5A

The monitor doesn't work, even though the solar panel is fully charged

Possible Cause: The solar panel isn't turning on or came unpaired

Solution:

1. Press the On/Off switch on the camera to reset the camera
2. Try re-pairing using the monitor's menu



Specifications

Camera			
Operational Current (when transmitting)		<420mA	
Pixels	480 x 272	View Angle	100°
Image Sensor	1/3" CMOS VGA	Minimal Illumination	0.1Lux
Image Quality	Max 25 fps		
RF Transmission Distance		30-50' (real world application)	
Operation Temperature		-4°to 149°F(-20°to 65°C)	
Storage Temperature		-4°to 149°F(-20°to 65°C)	
Monitor			
LCD Display Screen Size		5-inch	
Operational Current	<250mA	Operating Voltage	DC12V
Standby Current	90mA	Effective Pixels	480 x 272
Operation Temperature		-4°to 149°F(-20°to 65°C)	
Storage Temperature		-4°to 149°F(-20°to 65°C)	



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