

EchoMaster PHD5N1

EchoMaster Universal Backup Camera

MODEL: PHD5N1

User Instruction Manual

1. Product Overview

The EchoMaster PHD5N1 is a versatile, multi-configurable HD camera designed to enhance visibility around your vehicle. It can be used as a front, rear, or side view camera, offering crystal clear images and robust performance. With multiple mounting options and selectable image modes, it provides flexibility for various automotive applications.



Image 1.1: The EchoMaster PHD5N1 camera shown with its five different mounting options, including standard, blind-spot, lip, flush, and tag mount brackets, demonstrating its versatility for installation.

2. What's in the Box

Please verify that all components are present before beginning installation.

- AHD/CVBS Camera
- Standard Mount Housing with Hardware
- Blind-Spot Housing with Double-Sided Tape
- Lip Mount Housing with Hardware
- Flush Mount Housing with Hardware
- Tag Mount Bracket
- Camera Extension Cable (20 ft)
- Camera Power/Video Adapter
- U-Shaped Camera Angle Adjustment Tool
- Warranty Card

3. Key Features

- **Universal HD Camera:** Compatible with various vehicle types and display units.
- **Selectable Resolution:** Choose between Analog High Definition (AHD) 720P output for crisper details or Standard (CVBS) 480P output for broader compatibility.
- **Advanced Sensor:** Equipped with a 1/4" CMOS sensor for clear imaging.
- **Low Light Performance:** Operates effectively at 0.1 LUX, providing visibility in dim conditions.
- **Wide Viewing Angle:** Features a 170° viewing angle to minimize blind spots.
- **Durable Design:** IP67 water/debris-proof rating ensures ruggedness for both on-road and off-road use.
- **Selectable Parking Lines:** Display parking guide lines on the camera image for easier maneuvering, or disable them as preferred.
- **Selectable Mirror Mode:** Adjust the image to be mirrored or non-mirrored, allowing for front or rear mounting flexibility.
- **Multiple Mounting Options:** Includes five distinct mounting solutions for versatile installation.
- **Standard Connectivity:** Utilizes a standard 5-pin EchoMaster connector and a universal RCA video connector for broad compatibility with monitors and head units.

4. Setup and Installation

Proper installation is crucial for optimal performance. It is recommended to have this product installed by a professional.

4.1. Choosing a Mounting Location

Determine the best location for your camera (rear, front, or side) based on your vehicle and desired view. Consider factors such as visibility, protection from damage, and ease of wiring.

4.2. Selecting a Mounting Option

The PHD5N1 comes with five different mounting options to suit various installation needs:



Image 4.1: The EchoMaster PHD5N1 camera attached to its standard mount housing, designed for surface mounting with included hardware.

Standard Mount Housing: Ideal for general surface mounting. Secure with provided hardware.



Image 4.2: The EchoMaster PHD5N1 camera integrated into its blind-spot housing, which uses double-sided tape for discreet

placement.

Blind-Spot Housing: Designed for discreet placement, often using double-sided tape for attachment.



Image 4.3: The EchoMaster PHD5N1 camera mounted within its lip mount housing, suitable for mounting under a lip or edge.

Lip Mount Housing: Suitable for mounting under a lip or edge, such as above a license plate or under a bumper.



Image 4.4: The EchoMaster PHD5N1 camera secured in its flush mount housing, designed for a clean, integrated look.

Flush Mount Housing: For a clean, integrated look, requiring a drilled hole for the camera body.



Image 4.5: The EchoMaster PHD5N1 camera attached to its tag mount bracket, designed for easy installation behind a license plate.

Tag Mount Bracket: Mounts behind a license plate for a common rear camera setup.

4.3. Wiring Connections

Connect the camera to your vehicle's power source and display unit:

1. **Power Connection:** Connect the red wire from the camera's power/video adapter to a switched 12V power source (e.g., reverse light power for a backup camera, or accessory power for a front/side camera). Connect the black wire to a reliable vehicle ground point.
2. **Video Connection:** Connect the yellow RCA video output from the camera's power/video adapter to the video input of your monitor or head unit. Use the provided 20 ft extension cable if needed.
3. **Camera Angle Adjustment:** Use the U-shaped tool to adjust the camera's viewing angle after mounting for optimal visibility.

5. Operating Instructions

The PHD5N1 camera offers selectable features via small wire loops on the camera cable. These loops must be cut to activate or deactivate the respective features. Ensure the camera is disconnected from power before cutting any loops.

5.1. Selectable Resolution (AHD/CVBS)

The camera defaults to AHD (720P) output. If your monitor or head unit does not support AHD, you can switch to CVBS (480P) output.

- **To switch to CVBS:** Locate the white wire loop on the camera cable. Cut this loop. The camera will now output in CVBS format.
- **To revert to AHD:** This is not possible once the white loop is cut. Choose your desired resolution carefully before cutting.

5.2. Selectable Parking Lines

The camera can display parking guide lines on the image to assist with parking maneuvers. By default, parking lines are enabled.

- **To disable parking lines:** Locate the green wire loop on the camera cable. Cut this loop. The parking lines will no longer appear on the image.
- **To enable parking lines:** This is not possible once the green loop is cut.

5.3. Selectable Mirror Mode

The camera image can be mirrored (default for rear view) or non-mirrored (for front view). By default, the image is mirrored.

- **To switch to non-mirrored image (front view):** Locate the blue wire loop on the camera cable. Cut this loop. The image will now be non-mirrored.
- **To revert to mirrored image (rear view):** This is not possible once the blue loop is cut.

5.4. General Operation

Once installed and configured, the camera will activate and display its image on your connected monitor or head unit when power is supplied to its 12V input. For backup cameras, this typically occurs when the vehicle is shifted into reverse gear.

6. Maintenance

To ensure the longevity and optimal performance of your EchoMaster PHD5N1 camera, follow these simple maintenance guidelines:

- **Lens Cleaning:** Periodically clean the camera lens with a soft, damp cloth to remove dirt, dust, or water spots that may obstruct the view. Avoid abrasive cleaners or materials that could scratch the lens.
- **Connection Check:** Annually inspect all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to intermittent signal loss or image distortion.
- **Mounting Security:** Verify that the camera remains securely mounted in its chosen location. Tighten any loose screws or re-apply adhesive if necessary.

- **Environmental Exposure:** While the camera is IP67 rated, prolonged exposure to extreme conditions (e.g., high-pressure car washes directly on the lens) should be avoided.

7. Troubleshooting

If you encounter issues with your EchoMaster PHD5N1 camera, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
No image on monitor	No power to camera; Loose video connection; Incorrect video input selected on monitor; Incorrect resolution setting.	Check power and ground connections. Ensure RCA cable is securely connected. Select correct video input on monitor. Verify camera resolution (AHD/CVBS) matches monitor compatibility.
Image is distorted or flickering	Poor power connection; Ground loop interference; Damaged video cable; Incorrect resolution.	Ensure stable 12V power and good ground. Check for kinks or damage in video cable. Confirm resolution setting. Consider installing a ground loop isolator if interference persists.
Image is reversed (left is right)	Mirror mode incorrectly set for application.	If using as a front camera, ensure the blue wire loop has been cut to disable mirror mode. If using as a rear camera, ensure it is not cut.
Parking lines are missing or present when not desired	Parking line setting incorrectly set.	If parking lines are not desired, ensure the green wire loop has been cut. If they are desired and missing, the loop may have been cut.
Poor image quality (blurry, low resolution)	Dirty lens; Incorrect resolution; Monitor limitations.	Clean the camera lens. Ensure camera is set to AHD (720P) if your monitor supports it. Verify monitor's display resolution.

8. Specifications

Feature	Specification
Model	PHD5N1
Video Output Resolution	AHD (720P) / CVBS (480P) - Selectable
Image Sensor	1/4" CMOS
Minimum Illumination	0.1 LUX

Feature	Specification
Viewing Angle	170°
Water/Debris-Proof Rating	IP67
Parking Lines	Selectable (On/Off)
Mirror Mode	Selectable (Mirrored/Non-Mirrored)
Connector Type	RCA (Video), 5-pin EchoMaster (Camera)
Operating Voltage	12 Volts
Product Dimensions	10 x 5 x 5 inches (Packaging/Overall)
Item Weight	9.1 ounces

9. Warranty Information

The EchoMaster PHD5N1 Universal Backup Camera comes with a **FULL 3-YEAR WARRANTY**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims. For detailed terms and conditions, refer to the warranty card included in the product packaging.

10. Support

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact EchoMaster customer support. Refer to the contact information provided on the warranty card or visit the official EchoMaster website for the most up-to-date support resources.

Online Resources: www.echomaster.com



[pdf] Guide Warranty

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