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› Portkeys LH5C 5.4-inch Camera Monitor Instruction Manual

## Portkeys LH5C

# Portkeys LH5C 5.4-inch Camera Monitor Instruction Manual

Model: LH5C

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## 1. INTRODUCTION

This manual provides detailed instructions for the safe and effective use of your Portkeys LH5C 5.4-inch Camera Monitor. Please read this manual thoroughly before operating the device and retain it for future reference. The Portkeys LH5C is a professional field monitor designed to enhance your filmmaking workflow with advanced monitoring tools and wired camera control capabilities.

## 2. WHAT'S IN THE BOX

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact Portkeys customer support.

- Portkeys LH5C Camera Monitor
- Protective Rubber Covers (2)
- Sunshade
- MH-2 Mount

- Mini Flash Drive
- A to D (Micro) HDMI Cable
- A to A HDMI Cable
- USB-C Control Cable
- LANC Control Cable

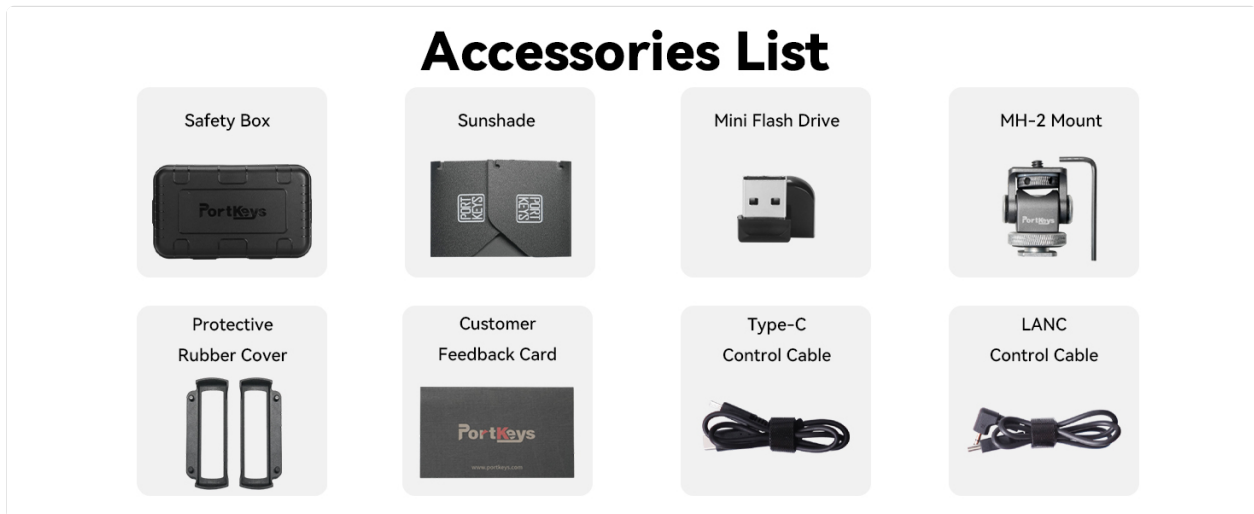


Figure 2.1: Included Accessories for the LH5C Monitor.

### 3. PRODUCT OVERVIEW

The Portkeys LH5C is a compact and powerful 5.4-inch field monitor designed for professional videographers and filmmakers. It features a high-brightness IPS touchscreen and extensive camera control capabilities.

#### 3.1 Key Features

- **5.4-inch HD IPS Touchscreen:** Offers a 1920x1152 resolution, 800 nits brightness, 1000:1 contrast ratio, and 10-bit color depth for accurate and clear monitoring.
- **Wired Camera Control:** Direct control over various camera settings (aperture, shutter, ISO, white balance) for compatible Sony, Canon, Panasonic, Blackmagic, and Z Cam cameras.
- **Professional Monitoring Tools:** Includes waveform, histogram, audio meters, customizable focus peaking, zebra patterns, ARRI False Color, 3D LUT support, anamorphic de-squeeze, rectangle cropping, crosshair, and framing grids.
- **Freeze Frame with Overlay:** Capture and overlay reference frames for precise shot matching and continuity.
- **Flexible Power Options:** Supports Sony NP-F batteries (7-24V) and USB-C 5V power input.
- **4K30p Input & 1080p60 Output:** Supports lossless 4K30p input with 1080p60 output, including 3D LUT pass-through.



Figure 3.1: Front view of the Portkeys LH5C Camera Monitor.

Accurate Colors

**85% P3 color gamut fully covers the Rec.709 color space.**

 This section features a color gamut chart on the left, showing the relationship between NTSC, DCI-P3, and Rec.709 color spaces. The chart includes a D65 white point and a grid of color coordinates. To the right, a monitor displays a vibrant, colorful abstract image with shades of blue, purple, and orange, demonstrating the monitor's color accuracy and high-brightness capabilities.

Figure 3.2: High-brightness display of the LH5C monitor.

### 3.2 Product Overview Video

Video 3.1: A brief product overview of the Portkeys LH5C Camera Monitor, highlighting its main features and design.

## 4. SETUP

### 4.1 Powering the Monitor

The LH5C monitor can be powered using either a Sony NP-F series battery or via a USB-C 5V power input.

- **NP-F Battery:** Align the NP-F battery with the battery plate on the back of the monitor and slide it into place until it clicks. Ensure the battery is securely locked.
- **USB-C Power:** Connect a USB-C cable from a 5V power source (e.g., power bank, wall adapter) to the USB-C port on the side of the monitor.



Figure 4.1: USB-C power input and HDMI output ports.

### 4.2 Connecting to a Camera (HDMI)

To view your camera's feed on the LH5C monitor:

1. Connect one end of the provided HDMI cable (A to D Micro or A to A) to your camera's HDMI output port.
2. Connect the other end of the HDMI cable to the HDMI IN port on the left side of the LH5C monitor.
3. Power on both your camera and the monitor. The camera's video feed should appear on the monitor screen.

**Note:** If the monitor display does not fill the entire screen or the camera screen appears black, you may need to disable the camera's HDMI display settings (e.g., HDMI Info. Display) to restore normal display. Refer to your camera's manual for specific settings.

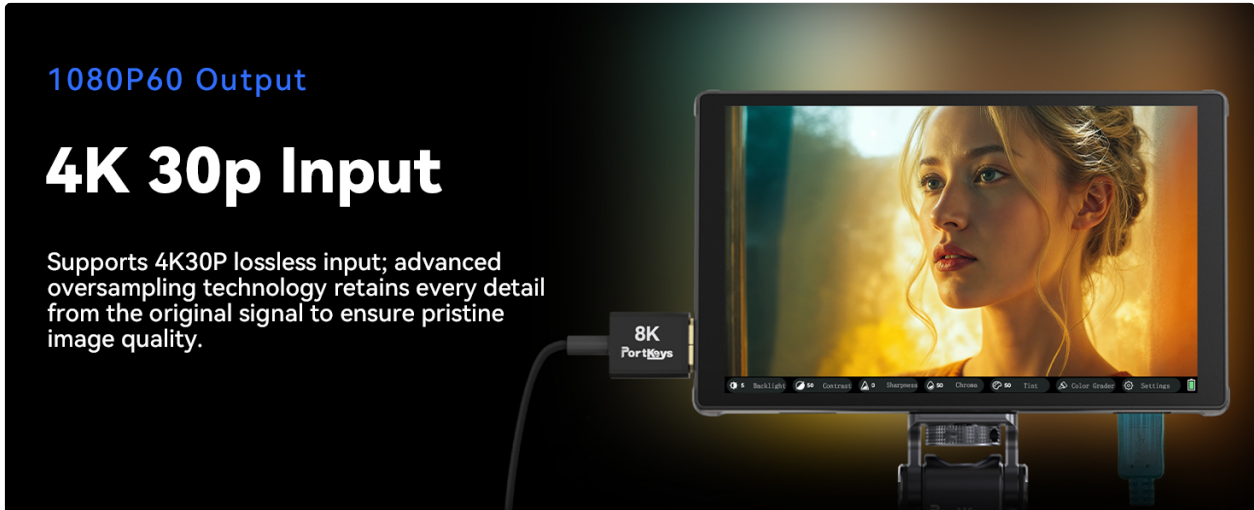


Figure 4.2: HDMI connection for 4K 30P input.

### 4.3 Connecting for Wired Camera Control

The LH5C supports wired camera control for various camera models. Ensure your camera's USB mode is set to 'Remote Shooting' or equivalent before connecting.

1. Connect the appropriate control cable (USB-C or LANC) to your camera's USB port.
2. Connect the other end of the control cable to the 'CAMERA REMOTE' port on the LH5C monitor.
3. On the monitor, tap the screen to bring up the menu, select 'Camera', and then choose 'USB' or the relevant camera type (e.g., 'Sony Multi'). A control panel will appear, indicating a successful connection.



## 5. OPERATING INSTRUCTIONS

### 5.1 Touchscreen Interface & Menu Navigation

The LH5C features an intuitive touchscreen interface. Tap the screen to bring up the main menu bar at the bottom. Swipe gestures allow for quick access to various settings and functions.

- **Function Buttons (F1-F4):** Customize these buttons for quick access to frequently used tools.
- **Settings:** Access general monitor settings such as backlight, contrast, sharpness, saturation, and tint.

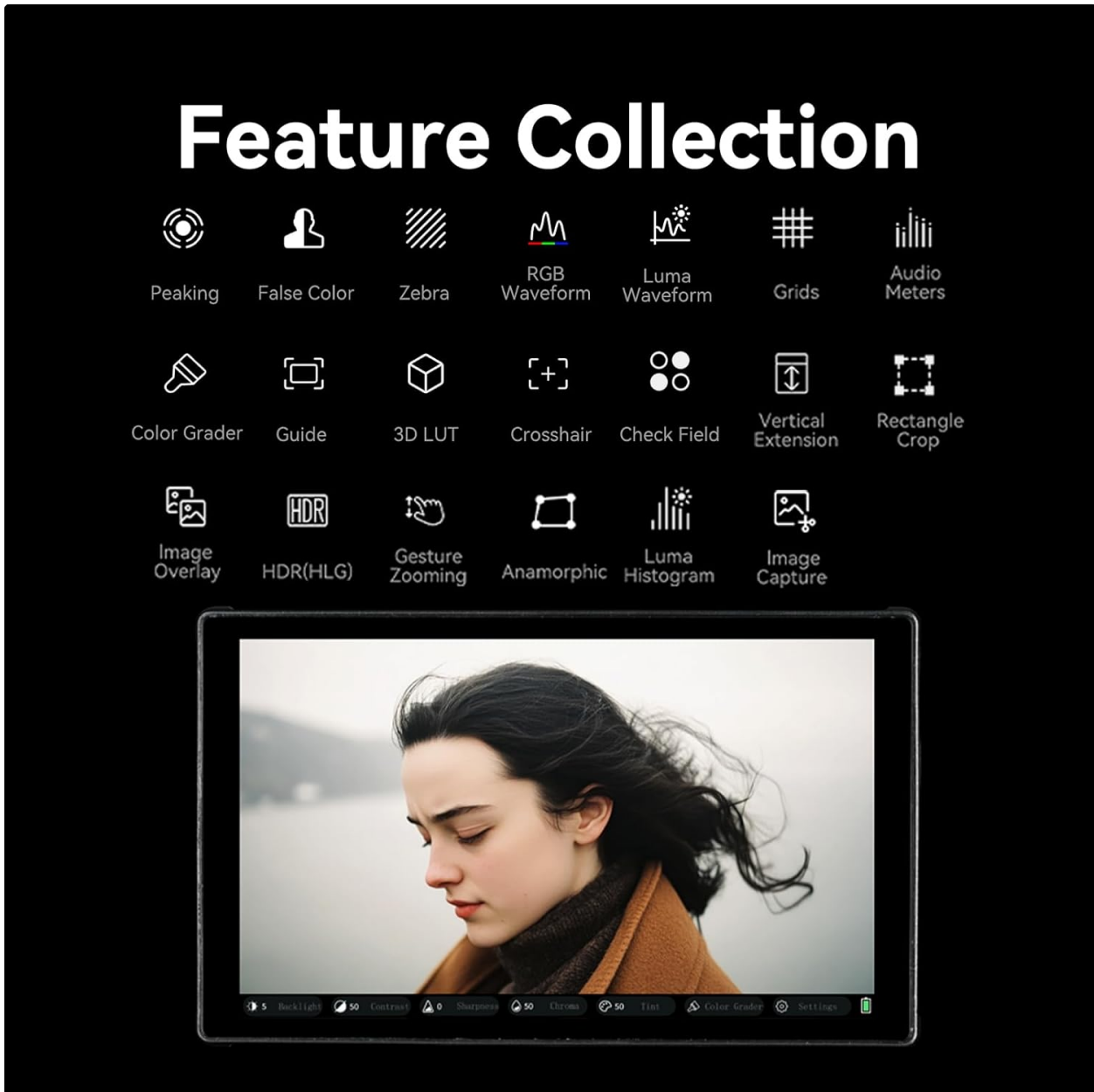


Figure 5.1: Main menu and feature collection on the LH5C monitor.

### 5.2 Monitoring Tools

The LH5C offers a comprehensive suite of professional monitoring tools:

- **Focus Assist (Peaking):** Highlights in-focus areas with a selectable color.
- **Zebra Pattern:** Indicates overexposed areas.
- **False Color:** Displays exposure levels using a color-coded map, including ARRI False Color.
- **Waveform & Histogram:** Visualizes luminance and color distribution for precise exposure control.
- **Audio Meters:** Monitors audio input levels.

- **3D LUT:** Import up to 20 custom 3D LUTs via the included USB flash drive for real-time color grading preview and HDMI output.
- **Anamorphic De-Squeeze:** Supports 10 presets (1.00X to 2.00X) and custom ratios (0.25X-4.00X) for viewing anamorphic footage correctly.
- **Freeze Frame with Overlay:** Capture a frame and overlay it semi-transparently with live video for shot matching.
- **360° Color Grader:** Allows manual selection and adjustment of hue, saturation, and brightness for specific colors on the screen.



Figure 5.2: Color accuracy and gamut representation on the LH5C.

## 3D LUT Real-time Output

3D LUT follows video output, allowing color calibration data to be transmitted simultaneously during signal output — ensuring accurate and consistent color throughout the workflow.



Figure 5.3: Real-time 3D LUT preview.

## Integrated Monitoring and Color Grading

### 360° Color Grader

Manually pick colors and adjust value, hue, and saturation. Fine details, clearly displaying every detail.



Figure 5.4: 360° Color Grader interface.

## 5.3 Camera Control

Once connected via the appropriate control cable, the LH5C allows you to control key camera parameters directly from the monitor's touchscreen:

- **Record Start/Stop:** Initiate and stop recording.
- **Exposure Settings:** Adjust aperture (IRIS), shutter speed, and ISO.
- **White Balance:** Change white balance settings.
- **Focus Control:** Utilize touch-to-focus and intelligent focus tracking frame (currently for Sony cameras, other brands via firmware updates).
- **Zoom:** Control camera zoom function (requires power zoom lens or digital zoom enabled on camera).

Intuitive operation, precise positioning

# Touch Focus Frame



Figure 5.5: Touch Focus Frame in action.

Camera Control List			
Sony			
LANC Control Cable	FS5 FS7 FX6 FX9 PXW-Z200	REC IRIS ZOOM FOCUS MAG DISPLAY FUNCTION JOYSTICK WHEEL PLAYBACK MENU RECORDING PREVIEW	Display Status: Remaining Photo Capacity (Card 1 / Card 2) Remaining Recording Time (Card 1 / Card 2) Battery Level (%) Recording Time SD Card Status CAMERA SHOOTING MODE
TYPE-C(USB-C) Control Cable	A1 ZV-1 ZV-E1 A9II A7SIII FX3 FX30 A9M3 A6700 A7CII A7MIV A7M5	REC IRIS ISO SHUTTER SINGLE FOCUS TAKE PHOTOS TOUCH FOCUS FOCUS MODE FOCUS AREA FOCUS+/- EV TRACKING FOCUS FOCUS FRAME DISPLAY SHUTTER ANGLE SHUTTER SPEED SHUTTER MODE	
Z CAM			
LANC Control Cable	E2	REC IRIS ISO ZOOM TOUCH FOCUS CT SHUTTER FRAME RATE AF/MF PLAYBACK RESOLUTION MANUAL FRAME RATE FN F1/F2/F3 MENU OK BUTTON UP/DOWN BUTTON FOCUS	

Figure 5.6: Sony and Z Cam Camera Control List.

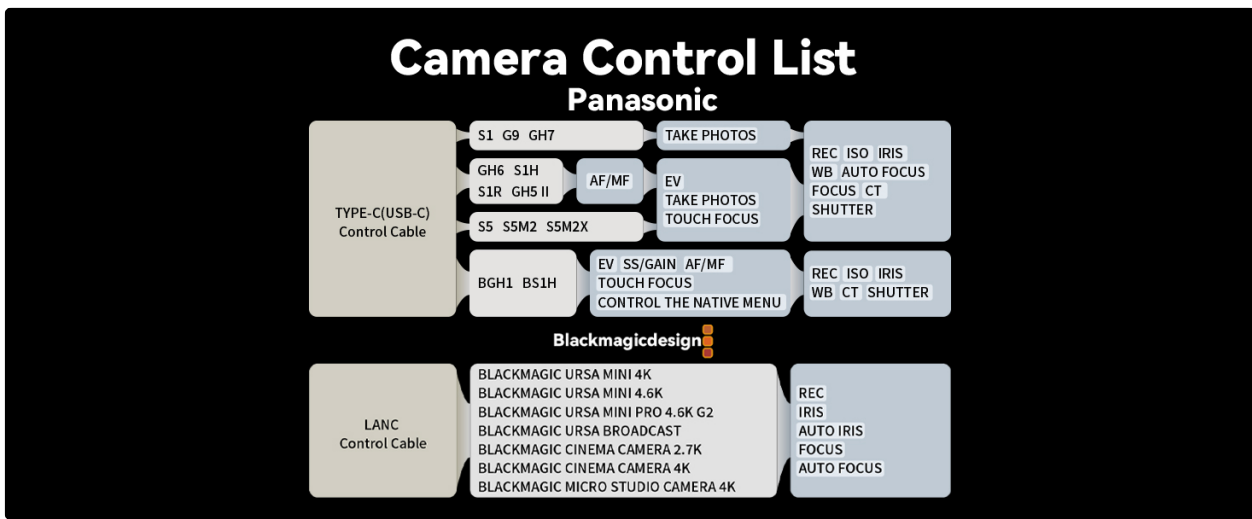


Figure 5.7: Canon Camera Control List.

## Ultimate Experience

# HD IPS Screen

The 5.4-inch HD IPS touchscreen brings every detail to life with pinpoint accuracy. No ghosting, even during fast-paced dynamic shooting. Wide-angle viewing ensures color consistency from every perspective.

**1000: 1**  
Contrast Ratio

**1920x1152**  
Resolution

**10bit(8+2 FRC)**  
Color Depth

Figure 5.8: Panasonic and Blackmagic Design Camera Control List.

## 6. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the monitor's exterior. For the screen, use a microfiber cloth specifically designed for electronics and a gentle screen cleaning solution. Avoid harsh chemicals or abrasive materials.
- **Storage:** When not in use, store the monitor in its protective safety box or a padded case to prevent damage. Avoid extreme temperatures and high humidity.
- **Battery Care:** If using NP-F batteries, ensure they are charged and stored properly. Remove batteries if the monitor will not be used for an extended period.

## 7. TROUBLESHOOTING

If you encounter issues with your Portkeys LH5C monitor, refer to the following common problems and solutions:

- **No Signal/Black Screen:**
  - Ensure HDMI cables are securely connected to both the camera and the monitor.
  - Check your camera's HDMI output settings. Disable any 'HDMI Info. Display' or similar overlays

that might prevent a clean signal.

- Verify the monitor is powered on and has sufficient battery charge or external power.
- Test with a different HDMI cable if possible.

- **Camera Control Not Working:**

- Confirm that the correct control cable (USB-C or LANC) is used and securely connected to both the camera and the monitor.
- Check your camera's USB connection mode and ensure it is set to 'Remote Shooting' or a compatible mode.
- On the monitor, select the correct camera type in the 'Camera' menu.
- Ensure your camera model is listed as compatible for wired control. Refer to the compatibility charts in Section 5.3.
- Check for available firmware updates for both your camera and the monitor, as compatibility may improve with newer versions.

- **Display Not Filling Entire Screen:**

- Adjust the aspect ratio settings on both your camera and the monitor to match.
- Check your camera's HDMI output resolution settings.

- **Touchscreen Unresponsive:**

- Restart the monitor.
- Ensure the screen is clean and free of debris or moisture.

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## 8. SPECIFICATIONS

Feature	Detail
Product Dimensions	5.31 x 0.87 x 3.27 inches
Item Weight	12.3 ounces
Model Number	LH5C
Standing Screen Display Size	5.4 Inches
Aspect Ratio	16:9
Resolution	1920 x 1152 Pixels (FHD 1080p)
Image Brightness	800 Candela per Square Meter (nits)
Contrast Ratio	1000:1
Color Depth	10-bit (8+2 FRC)
Color Gamut	85% DCI-P3, Full Rec.709
Viewing Angle	178° Ultra-wide
Input	4K30p Lossless HDMI
Output	1080p60 HDMI (with 3D LUT pass-through)
Power Options	USB-C 5V, Sony NP-F Battery (7-24V)
Manufacturer	Portkeys

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## 9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Portkeys website or contact their customer service directly. Keep your purchase receipt as proof of purchase for warranty claims.

**Manufacturer:** Portkeys

**Official Website:** [www.portkeys.com](http://www.portkeys.com)

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