

Monoprice 139670

Monoprice 8x8 4K HDMI Matrix Extender (Model 139670) User Manual

Blackbird Series HDBaseT, HDR, 18G, 4K@60Hz, YCbCr 4:4:4, HDCP 2.2, EDID, IR, SPDIF, RCA, TCP/IP, RS-232, with 7 Receivers 70 Meters

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your Monoprice 8x8 4K HDMI Matrix Extender. This device allows you to route any of 8 HDMI input sources to any of 8 display outputs, with 7 of these outputs extending signals over HDBaseT to distances up to 70 meters. It supports advanced video and audio features, making it suitable for various professional AV installations.

2. SAFETY INFORMATION

- Read all instructions before operating this equipment.
- Do not expose this unit to water, moisture, or excessive humidity.
- Place the unit in a well-ventilated area to prevent overheating.
- Use only the provided power adapter. Using unauthorized adapters may damage the device and void the warranty.
- Do not attempt to open or service the unit. Refer all servicing to qualified personnel.
- Ensure all cables are securely connected before powering on the device.

3. PACKAGE CONTENTS

Please verify that your package contains the following items:

- 1x Monoprice 8x8 4K HDMI Matrix Extender
- 7x HDBaseT Receivers
- 1x IR Remote Control
- 1x Power Adapter
- 1x RS-232 Cable
- Mounting Ears and Screws
- User Manual (this document)

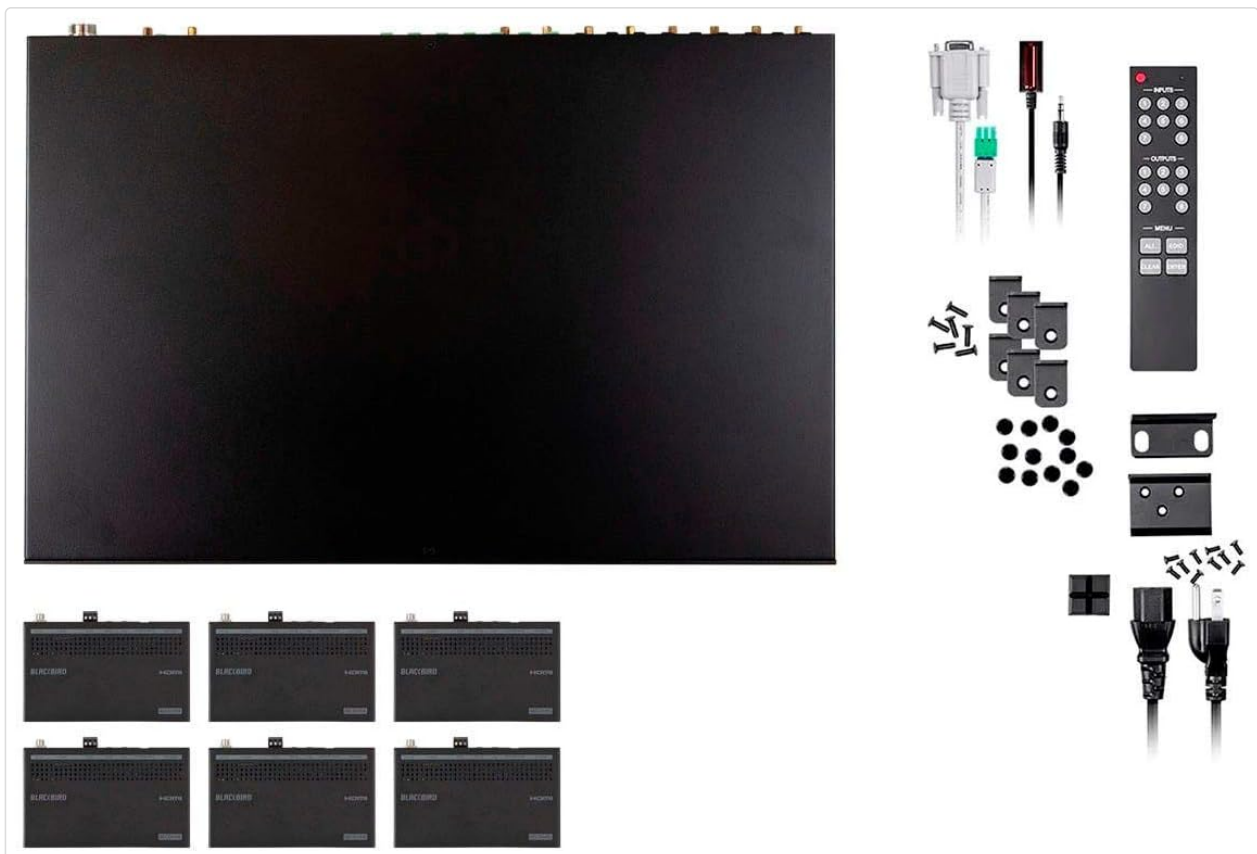


Figure 1: Package Contents. This image displays the main matrix unit, seven compact HDBaseT receivers, the infrared remote control, power cables, and various mounting hardware and accessories included with the product.

4. PRODUCT FEATURES

- Supports HDMI resolutions up to 4K@60Hz with YCbCr 4:4:4, including 1080p 3D video.
- Fully compliant with HDMI 2.0 and HDCP 2.2 specifications.
- Transmits 4K signals up to 131 feet (40 meters) and 1080p signals up to 229 feet (70 meters) over a single Cat5e/6 Ethernet cable.
- Features 7 HDBaseT outputs and includes 7 receivers.
- Supports 24V Power over Cable (PoC), allowing receivers to draw power from the matrix via the Ethernet cable.
- Includes a local HDMI output with audio extracted to digital optical S/PDIF and balanced stereo analog audio outputs.
- Smart EDID control using a 4-pin DIP switch on the rear panel.
- Control options include front panel buttons, IR remote control, RS-232, and Ethernet (Web GUI).

5. PRODUCT OVERVIEW

5.1 Matrix Unit (Rear Panel)

The rear panel of the matrix unit provides all primary input, output, and control connections.



Figure 2: Matrix Unit Rear Panel. This image shows the comprehensive rear panel of the matrix, featuring eight HDMI input ports, seven HDBaseT output ports, one local HDMI output, various audio breakout ports (SPDIF, RCA), an Ethernet port for control, an RS-232 port, and the DC power input.

- **HDMI Inputs (1-8):** Connect your HDMI source devices.
- **HDBaseT Outputs (1-7):** Connect to the included HDBaseT receivers using Cat5e/6 cable.
- **HDMI Output (8):** Local HDMI output for direct display connection.
- **Audio Outputs:** Digital optical S/PDIF and balanced stereo analog (RCA) audio breakouts.
- **Ethernet (LAN):** For TCP/IP control and Web GUI access.
- **RS-232:** For serial control.
- **IR In/Out:** For bidirectional IR extension.
- **DC 12V:** Power input.
- **EDID DIP Switch:** For EDID management settings.

5.2 HDBaseT Receiver

Each HDBaseT receiver connects to a display and receives power and AV signals from the matrix unit via a single Ethernet cable.



Figure 3: HDBaseT Receiver Ports. This image highlights the connectivity options on one side of an HDBaseT receiver, including an HDMI output for display connection, an optical audio output, IR input/output ports, and an Ethernet port for HDBaseT signal reception and PoC.

- **HDMI Output:** Connect to your display.
- **HDBaseT Input:** Connect to the matrix unit via Cat5e/6 cable.
- **IR In/Out:** For IR signal extension.

- **Optical Audio Output:** For audio breakout at the display end.

6. SETUP

6.1 Connection Overview

The Monoprice 8x8 4K HDMI Matrix Extender allows you to connect up to eight HDMI source devices and distribute their signals to up to eight displays. Seven of these displays will connect via HDBaseT receivers, while one can connect directly to the local HDMI output.

6.2 Connecting Devices

1. Ensure all devices (sources, displays, matrix, receivers) are powered off before making connections.
2. Connect your HDMI source devices (e.g., Blu-ray player, gaming console, PC) to the HDMI Input ports (1-8) on the matrix unit using high-quality HDMI cables.
3. For HDBaseT outputs (1-7): Connect a Cat5e/6 Ethernet cable from each HDBaseT Output port on the matrix to the HDBaseT Input port on its corresponding receiver.
4. Connect an HDMI cable from the HDMI Output port on each HDBaseT receiver to your respective display.
5. For the local HDMI output (8): Connect an HDMI cable from the HDMI Output (8) port on the matrix directly to your display.
6. If using audio breakouts, connect your audio system to the S/PDIF or RCA audio outputs on the matrix unit.
7. If using IR extension, connect IR emitters and receivers as needed.
8. For network control, connect an Ethernet cable from the LAN port on the matrix to your network router or switch.
9. For RS-232 control, connect the RS-232 cable from the matrix to your control system or PC.

6.3 Powering On

1. Connect the provided power adapter to the DC 12V input on the matrix unit, then plug it into a power outlet.
2. Power on the matrix unit. The HDBaseT receivers will power on automatically via PoC.
3. Power on all connected displays and source devices.
4. Select the appropriate input on your displays.

7. OPERATING

7.1 Front Panel Controls

The front panel features buttons for direct control of input and output routing, as well as EDID settings.

- **Input Selection:** Buttons to select which HDMI input is active.
- **Output Selection:** Buttons to select which output port to configure.
- **EDID:** Button to cycle through EDID modes or enter EDID configuration.
- **Menu/Enter:** For navigating and confirming settings.

7.2 IR Remote Control

The included IR remote control provides convenient wireless operation for input/output switching and EDID

management.



Figure 4: IR Remote Control. This image displays the infrared remote control unit, featuring distinct sections for input selection (numbered 1-8), output selection (numbered 1-8), and menu/control buttons such as ALL, EDID, CLEAR, and ENTER.

- **INPUTS (1-8):** Selects the desired HDMI input source.
- **OUTPUTS (1-8):** Selects the output port to which the chosen input will be routed.
- **ALL:** Routes the currently selected input to all outputs.
- **EDID:** Accesses EDID settings.
- **CLEAR:** Clears current selection or setting.
- **ENTER:** Confirms selection or setting.

7.3 RS-232 Control

The matrix can be controlled via RS-232 commands from a PC or control system. Refer to the detailed command set in the advanced user guide (if available) for specific protocols and commands.

7.4 Web GUI Control

For network-based control, access the matrix's Web Graphical User Interface (GUI) by entering its IP address into a web browser. The Web GUI provides a visual interface for managing inputs, outputs, EDID, and other settings. Consult the advanced user guide for default IP address and login credentials.

7.5 EDID Management

The 4-pin DIP switch on the rear panel allows for smart EDID control. EDID (Extended Display Identification

Data) ensures compatibility between source and display. Adjust the DIP switch settings according to your system's requirements to optimize video and audio performance. Refer to the product's technical documentation for specific DIP switch configurations and their corresponding EDID modes.

8. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the unit. Do not use liquid or aerosol cleaners.
- **Ventilation:** Ensure the unit's ventilation openings are clear and not obstructed to prevent overheating.
- **Firmware Updates:** Periodically check the Monoprice website for any available firmware updates to ensure optimal performance and compatibility. Follow the provided instructions carefully for any update procedures.

9. TROUBLESHOOTING

- **No Video/Audio:**
 - Verify all HDMI and Ethernet cables are securely connected.
 - Ensure source devices and displays are powered on and set to the correct input.
 - Check the EDID settings on the matrix unit. Try different EDID modes.
 - Test with a different HDMI cable or source device.
- **Intermittent Signal:**
 - Ensure Cat5e/6 cables are of good quality and within the specified length limits (40m for 4K, 70m for 1080p).
 - Check for strong electromagnetic interference near cables.
 - Power cycle all devices.
- **IR Control Not Working:**
 - Ensure IR emitters are correctly placed over the source device's IR receiver window.
 - Ensure IR receivers are positioned to receive signals from your remote control.
 - Check IR cable connections.
- **Cannot Access Web GUI:**
 - Verify the Ethernet cable is connected to the LAN port and your network.
 - Ensure your computer is on the same network subnet as the matrix.
 - Check the matrix's IP address and ensure it's not conflicting with another device.

10. SPECIFICATIONS

Feature	Specification
Product Dimensions	21.6 x 15.5 x 5.8 inches
Item Weight	16.86 pounds
Model Number	139670
HDMI Compliance	HDMI 2.0
HDCP Compliance	HDCP 2.2

Video Resolution Support	Up to 4K@60Hz (YCbCr 4:4:4)
HDBaseT Transmission Distance (4K)	Up to 131 feet (40 meters)
HDBaseT Transmission Distance (1080p)	Up to 229 feet (70 meters)
Audio Outputs	Digital Optical S/PDIF, Balanced Stereo Analog (RCA)
Control Methods	Front Panel, IR Remote, RS-232, TCP/IP (Web GUI)
Power over Cable (PoC)	24V (for receivers)
EDID Control	4-pin DIP switch
Compatible Devices	Blu-Ray Player, Gaming Console, Personal Computer, Projector, Television

11. WARRANTY AND SUPPORT

Monoprice provides a limited warranty for this product. For detailed warranty information, technical support, or to register your product, please visit the official Monoprice website or contact their customer service. Keep your purchase receipt for warranty claims.