# Blackbird™ Pro WiHD™ 60GHz Uncompressed Wireless Professional HDMI® Extender

P/N 39625

## User's Manual

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# SAFETY WARNINGS AND GUIDELINES

Please read this entire manual before using this device, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- This device is intended for indoor use only.
- Do not expose this device to water or moisture of any kind. Do not place drinks or other containers with moisture on or near the device. If moisture does get in or on the device, immediately unplug it from the power outlet and allow it to fully dry before reapplying power.
- Do not touch the device, the power cord, or any other connected cables with wet hands.
- Do not subject the product to extreme force, shock, or fluctuations in temperature or humidity.
- Do not expose this device to excessively high temperatures. Do not place it in, on, or near a heat source, such as a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.
- Prior to operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.
- Unplug this device from the power source when not in use.
- Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.
- Never unplug the unit by pulling on the power cord. Always grasp the connector head or adapter body.
- Ensure that power is turned off and disconnected before making any electrical connections.
- Clean using a soft, dry cloth only. Do not use chemical cleaners, solvents, or detergents. For stubborn deposits, moisten the cloth with warm water.

- This device has no user serviceable parts. Do not attempt to open, service, or modify this device.

# INTRODUCTION

This Blackbird™ WiHD™ Wireless HDMI® Extender uses a 60GHz carrier frequency and can transmit uncompressed HDMI signals to distances up to 98 feet (30 meters) with near zero latency. It supports HDMI resolutions up to 4K@30Hz (YCbCr 4:2:2), including 1080p@60Hz (YCbCr 4:4:4) and 3D video. It supports 7.1-channel High Bit Rate lossless digital audio formats, including Dolby TrueHD™ and DTS-HD Master Audio™. It is fully compliant with the HDMI 1.4b, HDCP™ 2.2, and WiHD™ 1.1 standards and supports the Consumer Electronic Control (CEC) feature.

# FEATURES

- Transmits uncompressed signals to distances up to 98 feet (30 meters) with near zero latency
- Uses a 60GHz carrier frequency
- Supports resolutions up to 4K@30Hz (YCbCr 4:2:2), including 1080p@60Hz (YCbCr 4:4:4) and 3D video
- Supports 7.1-channel High Bit Rate lossless digital audio formats, including Dolby TrueHD™ and DTS-HD Master Audio™
- Compliant with the HDMI® 1.4b specification
- Supports the HDCP™ 2.2 and WiHD™ 1.1 standards

# CUSTOMER SERVICE

The Monoprice Customer Service department is dedicated to ensuring that your ordering, purchasing, and delivery experience is second to none. If you have any problem with your order, please give us an opportunity to make it right. You can contact a Monoprice Customer Service representative through the Live Chat link on our website **www.monoprice.com** or via email at **support@monoprice.com**. Check the website for support times and links.

# PACKAGE CONTENTS

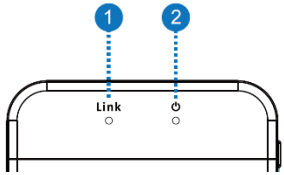
Please take an inventory of the package contents to ensure you have all the items listed below. If anything is missing or damaged, please contact Monoprice Customer Service for a replacement.

- 1x WiHD™ 60GHz transmitter
- 1x WiHD 60GHz receiver
- 2x USB power adapters (5 VDC, 1A)
- 2x USB to Micro USB cables
- 1x User's manual

# PRODUCT OVERVIEW

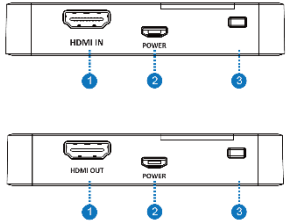
## Front View

1. **LINK LED:** Multifunctional LED indicator. See the *LINK LED* section for details.
2. **POWER LED:** Illuminates when power is applied.



## Side View

1. **HDMI IN/OUT:** HDMI® connector for connecting an HDMI video source device to the transmitter and an HDMI display to the receiver.
2. **POWER:** Micro USB connector for attaching the included USB power adapters using the included USB to Micro USB cables.
3. **MULTIFUNCTION BUTTON:** See the *MULTIFUNCTION BUTTON* section for details.




# LINK LED

The Link LEDs on the transmitter and receiver units have the following states:

- **Off:** When the **Link LED** is off, the device is either powered off or is in Sleep mode.
- **Slow Blink:** When the **Link LED** on the transmitter blinks slowly, the transmitter is in Scan mode, searching for a matching receiver. When the **Link LED** on the receiver blinks slowly, the receiver is in Beacon mode, searching for a matching transmitter.
- **Fast Blink:** When the **Link LED** blinks rapidly, the transmitter and receiver have accepted each other and established a network.
- **On:** When the **Link LED** is on steadily, the transmitter and receiver have established a valid audio/video connection and video should be visible on the connected display.

# MULTIFUNCTION BUTTON

The **Multifunction Buttons** on the Transmitter and Receiver perform the following functions, depending on the adapter's status and the way that the button is pressed.

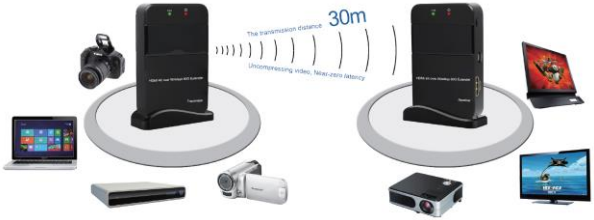
- **Wakeup Function:** If the adapter is in Sleep mode, a momentary press of the **Multifunction Button** will wake the adapter and start normal operation.
- **Factory Default Function:** Press and hold the **Multifunction Button** for ten seconds to reset the adapter to the factory default settings.
- **Next Network Function:** If the Transmitter is awake and the **Multifunction Button** is pressed momentarily, the Transmitter will release its currently associated network and will join the next available network. If there is only one Receiver in the room, the Transmitter will eventually reestablish the original connection. A maximum of 10 Receivers can be supported in the same room.
- **Next Source Function:** If the Receiver is awake and the **Multifunction Button** is pressed momentarily, the Receiver will release its current video connection and will connect with the next available source. If there are no other Transmitters available, the connection will not be interrupted. A maximum of 16 Transmitters can be supported in the network.

# INSTALLATION

Perform the following steps to install and operate the Blackbird™ Wireless HDMI® Extender.

1. Ensure that all devices that will be connected are powered off and unplugged from their power sources.
2. Place or mount the Transmitter and Receiver in their intended locations.
3. Using a High Speed HDMI Cable (not included), plug one end into one of the HDMI inputs on your television or display, then plug the other end into the **HDMI OUT** port on the Receiver.
4. Using a High Speed HDMI® Cable (not included), plug one end into the **HDMI IN** port on the Transmitter, then plug the other end into the HDMI output of your HDMI source device (DVD player, etc.).

5. Using one of the included USB to Micro USB cables, plug one end into the **POWER** port on the Receiver, then plug the other end into the USB power adapter. Plug the USB power adapter into a nearby AC power outlet. The **Power LED** on the Receiver should illuminate and the **Link LED** should start blinking slowly.
6. Using one of the included USB to Micro USB cables, plug one end into the **POWER** port on the Transmitter, then plug the other end into the USB power adapter. Plug the USB power adapter into a nearby AC power outlet. The **Power LED** on the Transmitter should illuminate and the **Link LED** should start blinking slowly.
7. After a few moments, the **Link LEDs** on the two units should start blinking rapidly, indicating that the two adapters have established a valid network connection.
8. Plug in and power on all connected equipment. Start video playback on your HDMI® source device. The **Link LEDs** on the transmitter and receiver should cease blinking and illuminate steadily. Your HDMI source material should be visible on the display.



# SUPPORTED FORMATS

## 2D Video

| Resolution | Refresh Rate (Hz) | Color Depth |
|---|---|---|
| 640 x 480p (VGA) | 60 | RGB 4:4:4 (8-bit) |
| 848 x 480 (WVGA) | 60 | RGB 4:4:4 (8-bit) |
| 800 x 600 (SVGA) | 60 | RGB 4:4:4 (8-bit) |
| 1024 x 768 (XGA) | 60 | RGB 4:4:4 (8-bit) |
| 1280 x 1024 (SXGA) | 60 | RGB 4:4:4 (8-bit) |
| 1680 x 1050 (WSXGA+) | 60 | RGB 4:4:4 (8-bit) |
| 1920 x 1200 (WUXGA) | 60 | RGB 4:4:4 (8-bit) |
| 480i | 60 | RGB 4:4:4 (8/10/12-bit)<br>YCbCr 4:4:4 (8/10/12-bit)<br>YCbCr 4:2:2 (8-bit) |
| 480p | 60 | RGB 4:4:4 (8/10/12-bit)<br>YCbCr 4:4:4 (8/10/12-bit)<br>YCbCr 4:2:2 (8-bit) |
| 576i | 50 | RGB 4:4:4 (8/10/12-bit)<br>YCbCr 4:4:4 (8/10/12-bit)<br>YCbCr 4:2:2 (8-bit) |
| 576p | 50 | RGB 4:4:4 (8/10/12-bit)<br>YCbCr 4:4:4 (8/10/12-bit)<br>YCbCr 4:2:2 (8-bit) |
| 720p | 50/60 | RGB 4:4:4 (8/10/12-bit)<br>YCbCr 4:4:4 (8/10/12-bit)<br>YCbCr 4:2:2 (8-bit) |
| 1080i | 50/60 | RGB 4:4:4 (8/10/12-bit)<br>YCbCr 4:4:4 (8/10/12-bit)<br>YCbCr 4:2:2 (8-bit) |

| Resolution | Refresh Rate (Hz) | Color Depth |
|---|---|---|
| 1080p | 24/50/60 | RGB 4:4:4 (8/10/12-bit)<br>YCbCr 4:4:4 (8/10/12-bit)<br>YCbCr 4:2:2 (8-bit) |
| 4K | 24/30 | YCbCr 4:2:2 (8-bit) |

## 3D Video

| Type | Resolution | Refresh Rate (Hz) |
|---|---|---|
| Frame Packing | 1080p | 24 |
| | 720p | 50/60 |
| Top-Bottom | 1080p | 24 |
| | 720p | 50/60 |
| Side-by-Side | 1080i | 50/60 |

## Audio

| Format | # of Channels | Sampling Rates (kHz) |
|---|---|---|
| LPCM | 2 | 32/44.1/48/88.2/96/176.1/192 |
| LPCM | 6/8 | 32/44.1/48/88.2/96 |
| Dolby Digital™ | 2/5.1 | 48 |
| Dolby Digital Plus™ | 2/5.1/6.1/7.1 | 48 |
| Dolby TrueHD™ | 5.1/6.1/7.1 | 48/96 |
| DTS-HD Master Audio™ | 5.1/6.1/7.1 | 48/96 |
| DTS-HD Master Audio | 2/5.1 | 192 |

# SPECIFICATIONS

| | |
|---|---|
| Model | 39625 |
| Inputs | 1x HDMI® |
| Outputs | 1x HDMI |
| Maximum Input Resolution | 4K@30Hz |
| Maximum Output Resolution | 4K@30Hz |
| Maximum Number of Audio Channels | 7.1 |
| Maximum Audio Sampling Rate | 192kHz |
| HDMI Version | 1.4b |
| HDCP™ Version | 2.2 |
| WiHD™ Version | 1.1 |
| Maximum Transmission Distance | 98 feet (30 meters) |
| Input Power | USB (5 VDC, 1A) |
| USB Power Adapter Input Power | 100 ~ 240 VAC, 50/60 Hz |
| Maximum Power Consumption (each) | 3 watts |
| Operating Temperature | +32 ~ +104°F (0 ~ +40°C) |
| Storage Temperature | -4 ~ +140°F (-20 ~ +60°C) |
| Operating Humidity | 20 ~ 90% RH, noncondensing |
| Dimensions (each) | 3.5" x 2.2" x 0.7" (90 x 56 x 17 mm) |
| Transmitter Weight | 5.4 oz. (154g) |
| Receiver Weight | 5.5 oz. (155g) |

# TECHNICAL SUPPORT

Monoprice is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website **www.monoprice.com** or through email by sending a message to **tech@monoprice.com**. Check the website for support times and links.

# REGULATORY COMPLIANCE

## Notice for FCC

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.

Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

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.

## Radio Notice for FCC



Caution

This FCC Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by Monoprice, including the use of non-approved antennas, could void the user's authority to operate this device.

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.

## Notice for Industry Canada

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## Radio Notice for Industry Canada



**Caution**

This IC RSS-210 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly

approved by Monoprice, including the use of non-approved antennas, could void the user's authority to operate this device.

This device complies with IC RSS-210. 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.

## EU Conformity with Applicable Directives

CE

This equipment complies with the essential requirements listed below:

- Low Voltage Directive 2006/95/EC
- R&TTE Directive 1999/5/EC
- Ecodesign/ErP/Energy Efficiency Directive 2009/125/EC
- RoHS2 Directive 2011/65/EU
- WEEE Directive 2012/19/EC
- Packaging & Packaging Waste Directive 94/62/EC
- REACH Directive 1907/2006/EC

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