2x8 4K UHD HDCP 2.2 HDBaseT Splitter with PoH & CEC (4K 35m/115ft | 1080p 70m/230ft)

SP-0208-HDBT-H2

WyreStorm

Quickstart Guide

WyreStorm recommends reading through this document in its entirety to become familiar with the product's features prior to starting the installation process.

4K HDR **HDBT** **HDMI** **HDCP 2.2**

⚠ IMPORTANT! Installation Requirements
- Visit the product page to download the latest firmware, document version, additional documentation, and configuration tools.
- Install the latest firmware to ensure that all features described in this document are available during and after installation.
- Read through the Wiring and Connections section for important wiring guidelines before creating or choosing premade cables.
- An HDBaseT receiver is required to use this product.
- See Recommended Products for guidelines on choosing a receiver.
- While this product supports CEC, WyreStorm cannot guarantee compatibility with all forms of CEC communication.

Recommended Products
To take full advantage of the features of this splitter, WyreStorm recommends the following products be used to complete the installation.

RX-70-4K HDBaseT Receiver – This class A receiver can be used on HDBT Outs 1~2 to achieve the maximum resolution and distance of 70m/230ft from these ports.

RX-70-POH HDBaseT Receiver – This class B receiver can be used on HDBT Outs 3~6 achieve the maximum resolution and distance of 35m/115ft from these ports.

HDBaseT Receiver Guidelines
- The HDBaseT outputs on this product support different levels of HDBaseT. See HDBaseT Out Resolution Distances for more information.
- If CEC control of displays is required, the RX-70-4K-ARC cannot be used as it does not support this feature.
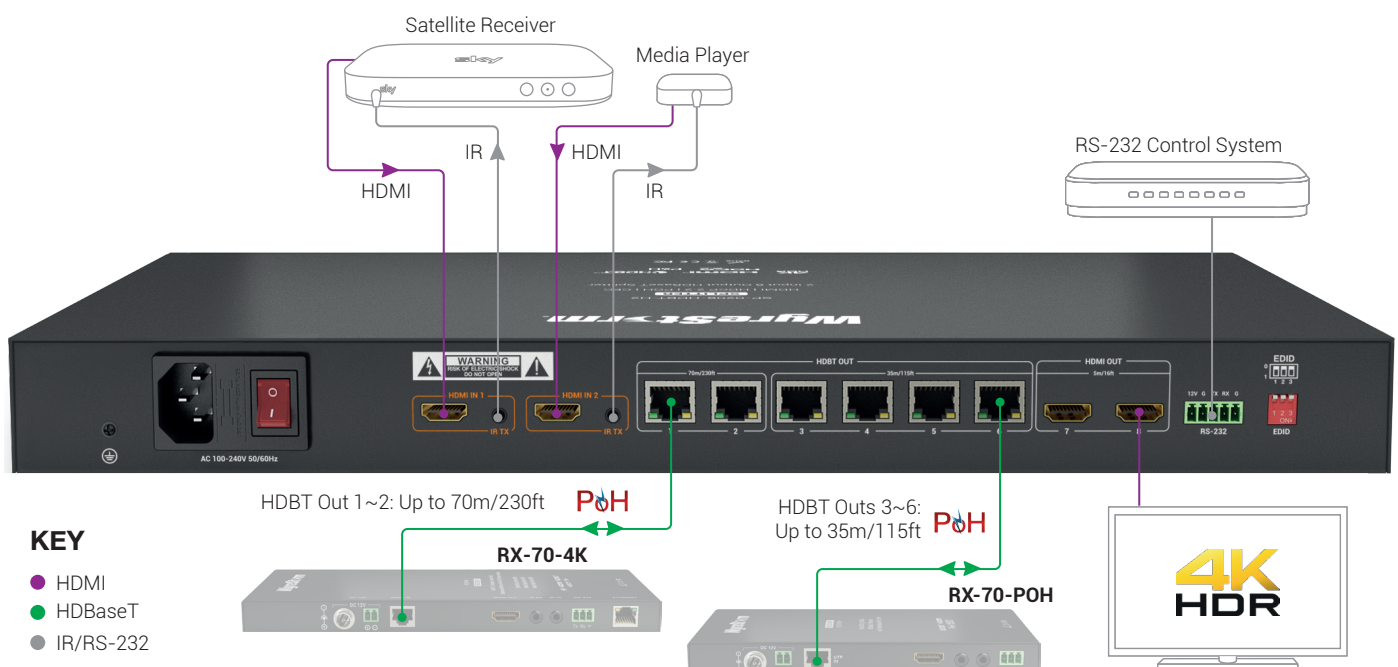
In the Box
1x SP-0208-HDBT-H2 Splitter
1 x US AC Power Cord (AC 100 - 240V 50/60Hz)
1 x Euro AC Power Cord (AC 100 - 240V 50/60Hz)
1 x UK AC Power Cord (AC 100 - 240V 50/60Hz)
2 x IR Emitter
1x 5-pin Phoenix Connector
2x Mounting Brackets (Rack Ears)
1x Quickstart Guide (This Document)

Additional Information
Visit the product page on wyrestorm.com for additional content regarding this product.
- Product API for configuring control via a 3rd party control system.
- Firmware updates – We consistently improve our products and may supply firmware updates to improve the operation.

Basic Wiring Diagram

Satellite Receiver

Media Player

IR   HDMI

HDMI   IR

RS-232 Control System

WARNING

HDBT Out 1~2: Up to 70m/230ft   **PoH**

RX-70-4K

HDBT Outs 3~6: Up to 35m/115ft   **PoH**

RX-70-POH

4K HDR

KEY
- ● HDMI
- ● HDBaseT
- ● IR/RS-232

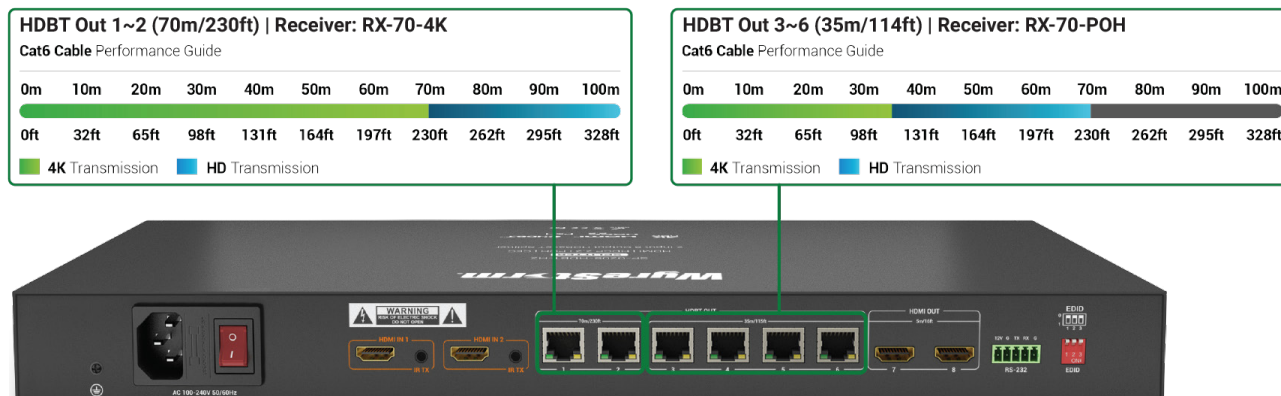## HDBaseT Out Resolution Distances

There are 2 different types of HDBaseT ports on the SP-0208-HDBT-H2 which will transmit at different distances as some are Class A while the others are Class B. The diagram below shows the distances when a Class A receiver is used on either output.

Note that while ports 1~2 are class A and will transmit up to 70m/230ft, this is only when a class A receiver is used. Connecting a class B receiver to these ports will limit the distance to 35m/115ft. This same rule applies to connecting a class A receiver to ports 3~6, output will be limited to 35m/115ft.

HDBT Out 1~2 (70m/230ft) | Receiver: RX-70-4K
Cat6 Cable Performance Guide

0m	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
0ft	32ft	65ft	98ft	131ft	164ft	197ft	230ft	262ft	295ft	328ft

■ 4K Transmission   ■ HD Transmission

HDBT Out 3~6 (35m/114ft) | Receiver: RX-70-POH
Cat6 Cable Performance Guide

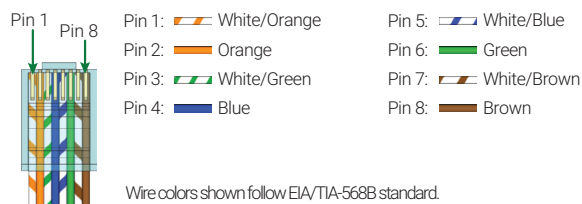| 0m	10m	20m	30m	40m	50m	60m	70m	80m	90m	100m
0ft	32ft	65ft	98ft	131ft	164ft	197ft	230ft	262ft	295ft	328ft

■ 4K Transmission   ■ HD Transmission

Wiring and Connections

WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in this entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment.
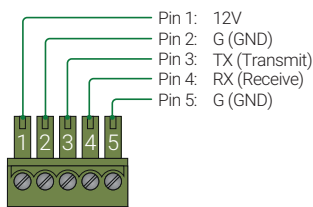
HDMI/HDBaseT Wiring

⚠ **IMPORTANT! HDMI/HDBaseT Wiring Guidelines**

- The use of patch panels, wall plates, cable extenders, kinks in cables, and electrical or environmental interference will have an adverse effect on HDMI and Ethernet transmission limiting performance. Steps should be taken to minimize or remove these factors completely during installation for best results.
- WyreStorm recommends using high quality HDMI cables such as WyreStorm Express to ensure the highest content performance available.
- The type of category cable and length used can restrict the available video resolution. While Cat5e can be used, WyreStorm recommends using Cat6 or higher to ensure the highest content performance available. See **Video Resolutions** in the Specifications table before determining cable type and length.

Pin 1   Pin 8

Pin 1:	White/Orange	Pin 5:	White/Blue
Pin 2:	Orange	Pin 6:	Green
Pin 3:	White/Green	Pin 7:	White/Brown
Pin 4:	Blue	Pin 8:	Brown

Wire colors shown follow EIA/TIA-568B standard.

RS-232 Wiring

Most control systems and computers are DTE where pin 2 is RX, this can vary from device to device. Refer to the documentation for the connected device for pin functionally to ensure that the correct connections can be made.

Pin 1:   12V
Pin 2:   G (GND)
Pin 3:   TX (Transmit)
Pin 4:   RX (Receive)
Pin 5:   G (GND)

IR TX Wiring

⚠ **IMPORTANT! IR TX/RX Guidelines**

- WyreStorm IR ports function differently than standard IR ports. For this reason only WyreStorm IR emitters and receivers can be used.
- WyreStorm IR emitter cables cannot be spliced as cutting into the cables will short the shield. While an extension cable may be used, WyreStorm assumes no responsibility for operation using an extension cable.
- When connecting the IR TX to an IR connecting blocks or control system with different plugs, a cable must be made following the IR TX Port Pinout diagram.
- When connecting to an IR control system use the WyreStorm CAB-IR-LINK cable. This cable compensates for differences between the WyreStorm RX and the control systems TX connection. Visit the CAB-IR-LINK product page for details.

IR TX Port Pinout

Tip: Anode/5V
Sleeve: Cathode/IR Signal

EDID Settings

- EDIDs can be configured to resolve issues with video output on displays that may not accept the maximum resolution available from the source.
- Ensure that a display is connected and powered On to the selected output before copying EDIDs or the copy will fail. When this occurs, EDID will be set to 1080p @60Hz 2ch.
- Power to the splitter must be cycled (Off/On) after changing dip switches in order for the setting to take effect.

EDID Switch Location ─────

Copying EDIDs

1. Connect a source and an HDBaseT receiver to output 1.
2. Connect the highest resolution display to the HDBaseT receiver.
3. Power on the source, display, and splitter.
4. After a few moments the EDID from the display will be configured.

Note: If the EDID copy fails, the EDID will be set to 1080p @60Hz 2ch.

EDID Copy from HDBT Out 1		4K UHD		1080p	
Copy from HDBT Out1 (default)		4K @30Hz 8bit 2ch		1080p @60Hz 2ch	
		4K @30Hz 2ch		1080p @60Hz 5.1ch	
		4K @30Hz 5.1ch		1080p @60Hz 7.1ch	
		4K @30Hz 7.1ch			

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that power is being supplied to all devices in the system and that they are powered on.
- Verify that all source and HDBaseT connections are not loose and are functioning properly.
- Verify that the HDBaseT cable is properly terminated per the HDMI/HDBaseT Wiring section.
- Verify that the splitter, receiving device, and display support the output resolution of the source.
- Refer to Video Resolutions in the Specifications table before determining cable type and length.
- Verify that the cable length matches the HDBT Out port distances. See HDBaseT Out Resolution Distances.
- If transmitting 3D or 4K, verify that the HDMI cables used are 3D or 4K rated.

No or Intermittent 3rd party Device Control

- Verify that the IR cable(s) is properly terminated.
- See IR TX Wiring.
- Verify that the IR emitter is located near the IR receiver on the device.

💡 Troubleshooting Tips:

- WyreStorm recommends using a cable tester or connecting the cable to other devices to verify functionality.
- Use a flashlight to locate the IR receiver behind any tinted panels on the device being control

Specifications

Audio and Video	
Inputs	2x HDMI In: 19-pin type A
Outputs	2x HDMI Out: 19-pin type A 2x HDBT Out (Class A 70m/230ft): 8-pin RJ-45 Female 4x HDBT Out (Class B 35m/115ft): 8-pin RJ-45 Female
Output Video Encoding	HDBaseT Class A/B (Output Dependent)
Encoding Data Rate	10.2Gbps
End to End Latency	<1 frame 10µs (micro seconds)
Audio Formats	2ch PCM	Multichannel: LPCM and Up to DTS-X and Dolby Atmos
Video Resolutions (Max)	HDMI In/Outputs 7~8	1920x1080p @60Hz 12bit (15m/50ft)	@60Hz 16bit (7m/23ft) 3840x2160p @30Hz 4:4:4 8bit (7m/23ft)	@24Hz 4:2:0 HDR 10bit per channel (3m/9.8ft) 4096x2160p @60Hz 8bit 4:2:0 (7m/23ft)	@60Hz 8bit 4:4:4 (7m/23ft)
	HDBT Outputs 1~2	**Using Cat6** 1920x1080p @60Hz 12bit (100m/328ft)	16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (70m/230ft)	@24Hz 4:2:0 HDR 10bit (70m/230ft) 4096x2160p @60Hz 4:2:0 8bit (70m/230ft) **Using Cat6a/7** 1920x1080p @60Hz 12bit (100m/328ft)	16bit (100m/328ft) 3840x2160p @30Hz 4:4:4 8bit (100m/328ft)	@24Hz 4:2:0 HDR 10bit (100m/328ft) 4096x2160p @60Hz 4:2:0 8bit (100m/328ft)
	HDBT Outputs 3~6	**Using Cat6** 1920x1080p @60Hz 12bit (70m/230ft)	16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (35m/115ft)	@24Hz 4:2:0 HDR 10bit (35m/115ft) 4096x2160p @60Hz 4:2:0 8bit (35m/115ft) **Using Cat6a/7** 1920x1080p @60Hz 12bit (70m/230ft)	@60Hz 16bit (70m/230ft) 3840x2160p @30Hz 4:4:4 8bit (40m/131ft)	@24Hz 4:2:0 HDR 10bit (40m/131ft) 4096x2160p @60Hz 4:2:0 8bit (40m/131ft)
Color Depth	1080p: 16bit	4K UHD: 8bit	HDR @24p: 10bit BT.2020
Maximum Pixel Clock	HDMI: 340MHz	HDBaseT: 297MHz

Communication and Control	
HDMI	HDMI	HDCP 2.2	EDID	CEC	DVI-D with adapter (not included)
HDBaseT	HDMI	HDCP 2.2	EDID	CEC	1-way PoH to receiver	IR (RX to Splitter)
IR	2x IR TX 3.5mm (1/8in) TS Mono	Transmits via HDBaseT from Remote Zone
RS-232	1x RS-232: 5-pin Phoenix	Switcher Control Only

Power	
Power Supply	100~240V AC 50/60Hz
PoH	48V 15.4W (each HDBT output)
Max Power Consumption	75.21W

Environmental	
Operating Temperature	0 to + 45°C (32 to + 113 °F), 10% to 90%, non-condensing
Storage Temperature	-20 to +70°C (-4 to + 158 °F), 10% to 90%, non-condensing
Maximum BTU	256.6 BTU/hr

Dimensions and Weight	
Rack Units/Wall Box	1U
**Height With	Without Feet**	51.3mm/2.02in	43.5mm/1.72in
**Width With	Without Brackets**	482.6mm/19in	440mm/17.33in
**Depth With	Without Handles**	220mm/8.67in	220mm/8.67in
Weight	0.7kg/1.54lbs

Regulatory	
Safety and Emission	CE	FCC	RoHS

Warranty Information

This product is covered by a 3 year limited parts and labor warranty. During this period there will be no charge for unit repair, component replacement or complete product replacement in the event of malfunction. The decision to repair or replace will be made by the manufacturer. This limited warranty only covers defects in materials or workmanship and excludes normal wear and tear or cosmetic damage. Visit the product page located at wyrestorm.com for additional information on this product including important technical information not provided in this document and warranty terms & conditions.