



# ULTRA-V Series

## 4K UHD HDMI Splitter/Extender over 1 CAT6 to 100m/328ft

Part Number	Function
ULTRA-V-1S	Single-port Sender with Local HDMI Output
ULTRA-V-4S	Four-port Sender with Local HDMI Output
ULTRA-V-8S	Eight-port Sender with Local HDMI Output
ULTRA-V-R	Single-port Receiver

UMA1276 Rev C

CUSTOMER  
SUPPORT  
INFORMATION

Order toll-free in the U.S. 800-959-6439  
FREE technical support: 714-641-6607 or [support@hallresearch.com](mailto:support@hallresearch.com)  
**Hall Research**, 1163 Warner Ave. Tustin, CA 92780  
[www.hallresearch.com](http://www.hallresearch.com)

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## FCC Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference even if it causes undesired operation.

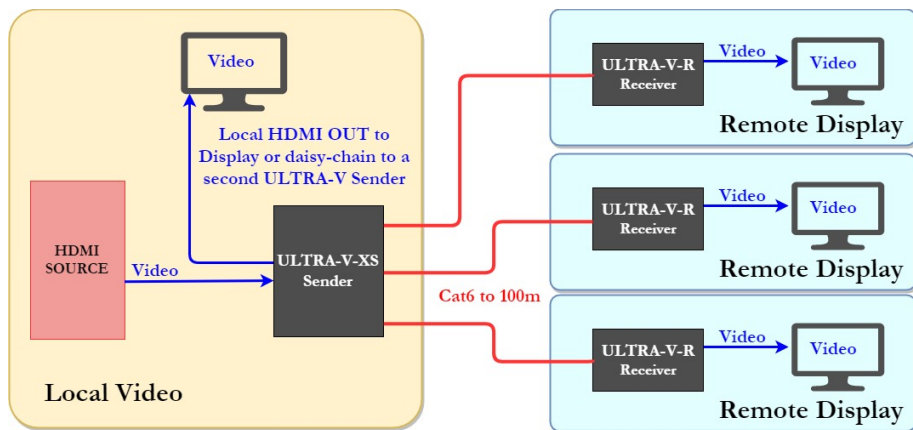
This equipment has been designed to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if it is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

## 1.0 Introduction

The ULTRA-V series are a family of extenders used to extend HDMI video to one or more remote locations up to 100m (328ft) over a single CAT6 cable. The extenders support various resolutions including 1080p @ 60Hz and 4K UHD @ 30Hz.

The Senders are available in three versions. ULTRA-V-1S has a single remote output, ULTRA-V-4S has four, and ULTRA-V-8S has eight. All Senders feature an HDMI input and a local HDMI “loop” output. This allows for connection of a local display, or daisy chaining the HDMI to another Sender to increase the number of remote displays.

The Receivers have a single remote input, and one HDMI output for connection to a remote display.



Typical Connection Diagram

## Features

- Supports high resolution HDMI video including FHD (1920x1080), WQHD (2560x1440), and 4K UHD (3840x2160)
- Local HDMI outputs at all Senders to connect to a local display, or to daisy-chain a second ULTRA-V Sender
- 1,4, or 8 outputs to distribute video to multiple locations
- No video calibration required; no video quality reduction due to cable length or type
- ULTRA-V Receivers are compatible with ULTRA-4K Sender

## **2.0 Package Contents**

### **ULTRA-V-1S / -4S / -8S**

- (x 1) ULTRA-V-1S / -4S / -8S
- (x 1) POWER SUPPLY (Hall P/N 511-IEC5V4AP5L, Mfg P/N 3A-186DB05)
- (x 1) USER'S MANUAL CARD

### **ULTRA-V-R**

- (x 1) ULTRA-V-R
- (x 1) POWER SUPPLY (Hall P/N 511-IEC5V4AP5L, Mfg P/N 3A-186DB05))
- (x 1) USER'S MANUAL CARD

## **3.0 Setup**

### **Installation**

- Connect the HDMI Source to the ULTRA-V Sender port marked “HDMI IN” using a quality HDMI cable
- Optionally, connect HDMI Display to the ULTRA-V Sender port marked “HDMI OUT” or daisy-chain to a second ULTRA-V “HDMI IN” port
- Using CAT5e or CAT6 cable(s), connect the ULTRA-4K-S “OUTPUT” port(s) to the ULTRA-V-R “INPUT” port
- Connect ULTRA-V-R “HDMI OUTPUT” to a Display using a quality HDMI cable
- Once all connections have been made, apply power to the ULTRA-V Sender(s) and ULTRA-V-R Receiver(s)

**NOTE** The ULTRA-V-R Receiver's RJ45 input may also be connected to ULTRA-4K-S sender (or the RJ45 loop output on the ULTRA-4K-R Receiver). When plugged to ULTRA-4K, the Receiver will show the Video A by default. The ULTRA-V-R Receiver can be set to display Video B by the user (please contact Hall Research technical support for details).

## DisplayPort Adapters

While HDMI is the most widely adopted video standard, there are a number of computer and display manufacturers that rely on DisplayPort for higher resolutions such as 2560 or 4K. Hall Research offers 4K compatible adapters to convert between these two video standards.

**NOTE** These adapters are unidirectional. For example the DisplayPort to HDMI adapter cannot convert an HDMI signal to DisplayPort.

To connect to a source (PC) with Displayport output, use GC-DP-HD.



**Model GC-DP-HD:** DisplayPort source to HDMI output

Virtually all monitors and TVs have HDMI (or DVI) inputs, but if your display only has Display port input, the following adapter converts HDMI to DP.



**Model GC-HD-DP:** HDMI source to DisplayPort output

## 4.0 Connector and Indicator Functions

### ULTRA-V-1S FRONT



- 1) 5V DC: Power input. Connect supplied 5V power supply to power Sender.
- 2) SERVICE: USB-Mini connection, used to restore factory defaults via PC GUI.
- 3) PWR/VID/ACT: Status indicators
  - a. PWR: This LED indicates power is applied to the unit.
  - b. VID: This LED is lit when HDMI video input is present.
  - c. ACT: This LED blinks when HDMI processor is active (normal).
- 4) HDMI OUT: HDMI local Output.
- 5) HDMI IN: HDMI Input port.

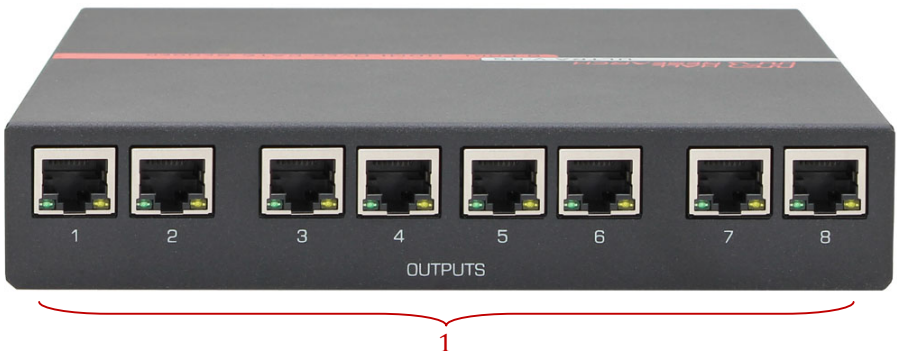
### ULTRA-V-1S REAR



- 1) OUTPUT: CAT6 Output port to ULTRA-V-R Receiver.

**ULTRA-V-4S / -8S FRONT**

- 1) 5V DC: Power input. Connect supplied 5V power supply to power Sender.
- 2) SERVICE: USB-Mini connection, used to restore factory defaults via PC GUI.
- 3) PWR/VID/ACT: Status indicators
  - a. PWR: This LED indicates power is applied to the unit.
  - b. VID: This LED is lit when HDMI video input is present.
  - c. ACT: This LED blinks when HDMI processor is active (normal).
- 4) HDMI OUT: HDMI local Output.
- 5) HDMI IN: HDMI Input port.

**ULTRA-V-4S / -8S REAR**

- 1) OUTPUTS: CAT6 Output ports to ULTRA-V-R Receivers. (Note: ULTRA-V-4S has output ports 1 through 4)

### ULTRA-V-R FRONT



- 1) 5V DC: Power input. Connect supplied 5V power supply to power Sender.
- 2) SERVICE: USB-Mini connection, used to restore factory defaults via PC GUI.
- 3) PWR/VID/ACT: Status indicators
  - a. PWR: This LED indicates power is applied to the unit.
  - b. VID: This LED is lit when HDMI video is being output.
  - c. ACT: This LED blinks when HDMI processor is active (normal).
- 4) HDMI OUT: HDMI local Output.

### ULTRA-V-R REAR



- 1) INPUT: CAT6 Input port from ULTRA-V-S Sender.



## 5.0 Troubleshooting

If you are experiencing problems getting the ULTRA-V extender to work properly, please use the following troubleshooting suggestions.

- Ensure that all connections are secure. Check all status LEDs to ensure proper operation.
- Try resetting the system by unplugging the power supply, waiting 5 seconds and plugging it back.
- Try restoring factory defaults using the PC GUI.

**NOTE** There are no user-serviceable parts inside. Do not attempt to try to repair the unit yourself, as this will void your warranty.

## Contacting Hall Research

If you determine that your ULTRA-V extender is malfunctioning, do not attempt to repair the unit.

Instead, contact Hall Research Technical Support at 714-641-6607. To return the unit to Hall Research you must first get a Return Authorization (RMA) number.

Package the unit carefully, if returning. We recommend that you use the original container.

## 6.0 Specifications

### Video

**Standards** DVI (single link)  
HDMI 1.4 video specifications including 12 bit color depth, 3D video  
HDCP 1.4

<b>Connectors</b>	<b>ULTRA-V-1S</b> (1) HDMI Input (1) HDMI Output (1) RJ45 Output (1) Mini-USB Service Port (1) 2.0MM Locking DC Power Input	<b>ULTRA-V-8S</b> (1) HDMI Input (1) HDMI Output (8) RJ45 Outputs (1) Mini-USB Service Port (1) 2.0MM Locking DC Power Input
	<b>ULTRA-V-4S</b> (1) HDMI Input (1) HDMI Output (4) RJ45 Outputs (1) Mini-USB Service Port (1) 2.0MM Locking DC Power Input	<b>ULTRA-V-R</b> (1) HDMI Output (1) RJ45 Input (1) Mini-USB Service Port (1) 2.0MM Locking DC Power Input

**Refresh Rates** 60 Hz for resolutions upto and including HD (1920x1080) and WUXGA (1920x1200)  
30 Hz for resolutions above and including QHD (2560x1440)

**Resolutions** DVI signal VGA (640x480) thru WUXGA (1920x1200)  
HDTV signal 480p through 4K60 4:2:0 (Interlaced resolutions are not supported)

### General

**Power Supply** 100 VAC to 240 VAC, 47-63 Hz, External; 5 VDC

**Temp/humidity** Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, non-condensing  
Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, non-condensing

**Power** 5 VDC, 4.0 A Power Supply

**Cooling** Convection

**Enclosure type** Metal (Steel)

<b>Dimensions</b>	Model	Device	Shipping
	ULTRA-V-1S	5.50" L x 4.40" W x 1.27" H	5.30" L x 8.70" W x 3.10" H
	ULTRA-V-R	5.50" L x 4.40" W x 1.27" H	5.30" L x 8.70" W x 3.10" H
	ULTRA-V-4S	6.90" L x 7.12" W x 1.45" H	7.55" L x 10.15" W x 2.65" H
	ULTRA-V-8S	6.90" L x 7.12" W x 1.45" H	7.55" L x 10.15" W x 2.65" H

<b>Product weight</b>	Model	Device	Shipping
	ULTRA-V-1S	1.01 lbs ( 0.46 kg)	2.8 lbs (1.3 kg)
	ULTRA-V-R	1 lbs ( 0.45 kg)	2.5 lbs (1.1 kg)
	ULTRA-V-4S	1.83 lbs ( 0.83 kg)	3.5 lbs (1.6 kg)
	ULTRA-V-8S	1.92 lbs ( 0.87 kg)	4.0 lbs (1.8 kg)

**Safety** CE

**EMI/EMC** CE, FCC Class A

**MTBF** 90,000 hours (estimate)

**Warranty** 3 years parts and labor

*Specifications are subject to change without notice*





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