ULTRA-V Series

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

Instructions for Use

Rev. 1.0 — October 16, 2026



IMPORTANT SAFETY INSTRUCTIONS

1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.
3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.
4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
5. Do not place sources of naked flames, such as lighted candles, on the unit.
6. Clean this apparatus only with dry cloth.
7. Unplug this apparatus during lightning storms or when unused for long periods of time.
8. Protect the power cord from being walked on or pinched particularly at plugs.
9. Only use attachments / accessories specified by the manufacturer.
10. Refer all servicing to qualified service personnel.

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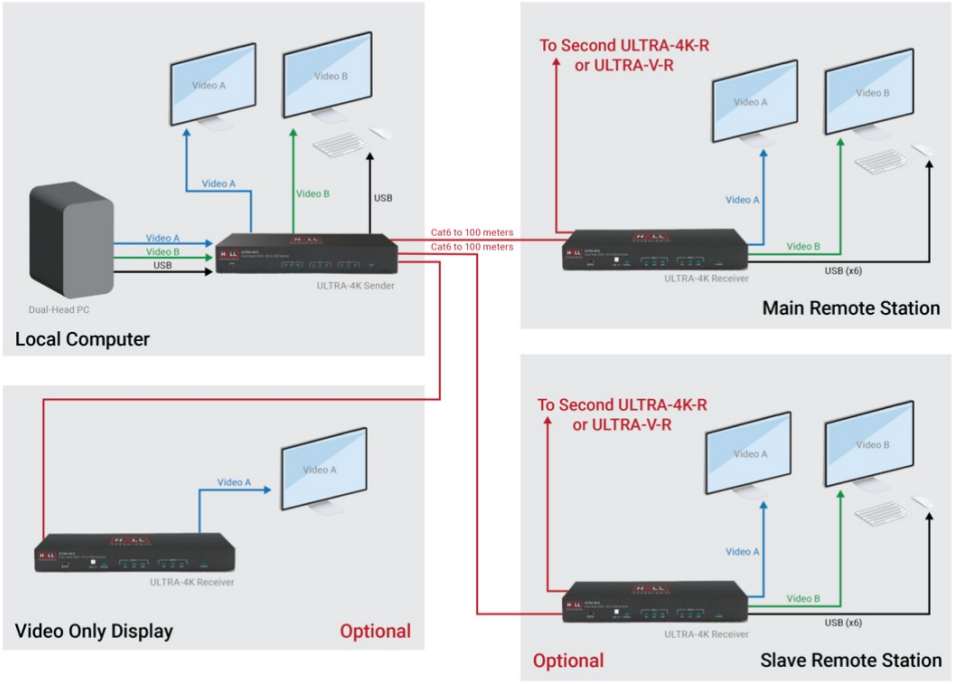
INTRODUCTION

Overview

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.
- ULTRA-V Receivers are compatible with ULTRA-4K Sender.

PACKAGE CONTENTS

ULTRA-4K-S

- 1x ULTRA-4K-S
- 1x power supply (Hall P/N 511-IEC5V4AP5L, MFG P/N 3A-186DB05)

ULTRA-4K-R

- 1x ULTRA-4K-R
- 1x power supply (Hall P/N 511-IEC5V4AP5L, MFG P/N 3A-186DB05)

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 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)

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.



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

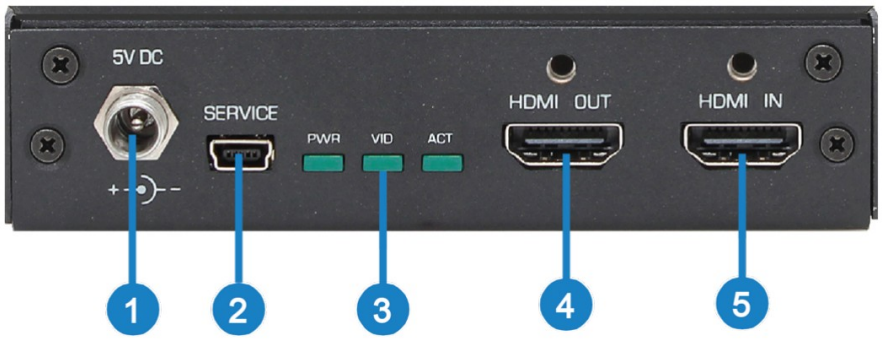
Virtually all monitor and TV’s have HDMI (or DVI) inputs. But if your display only has a display port input, the following adapter converts HDMI to DP.



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

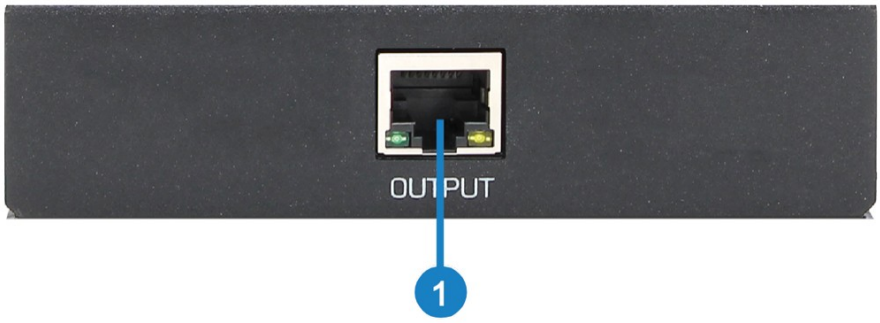
CONNECTORS & INDICATORS

ULTRA-V-1S (front)



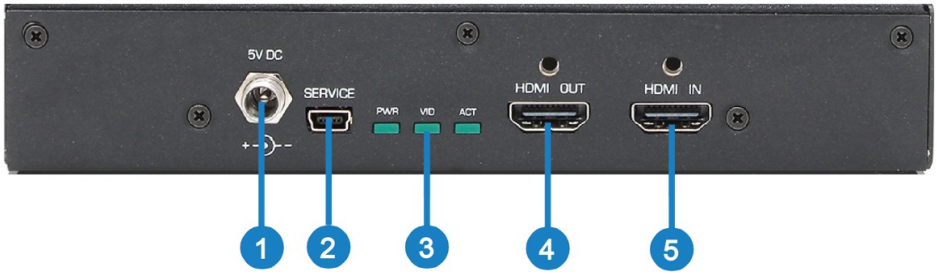
1. 5V DC: Power input. Connect supplied 5V power supply to power Sender.
2. SERVICE: USB-Mini connection, used to restore factory defaults via PC GUI.
3. PWR/VID/ACT: Status indicators
   a. PWR: This LED indicates power is applied to the unit.
   b. VID: This LED is lit when HDMI video input is present.
   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 (back)



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

ULTRA-V-4S/8S (front)



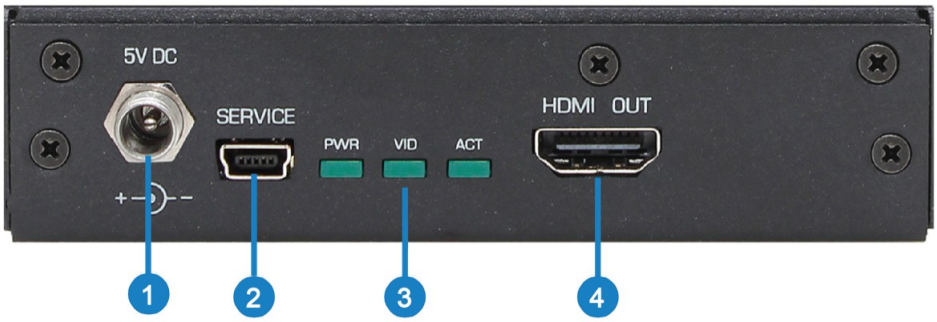
1. 5V DC: Power input. Connect supplied 5V power supply to power Sender.
2. SERVICE: USB-Mini connection, used to restore factory defaults via PC GUI.
3. PWR/VID/ACT: Status indicators
   a. PWR: This LED indicates power is applied to the unit.
   b. VID: This LED is lit when HDMI video input is present.
   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 (back)



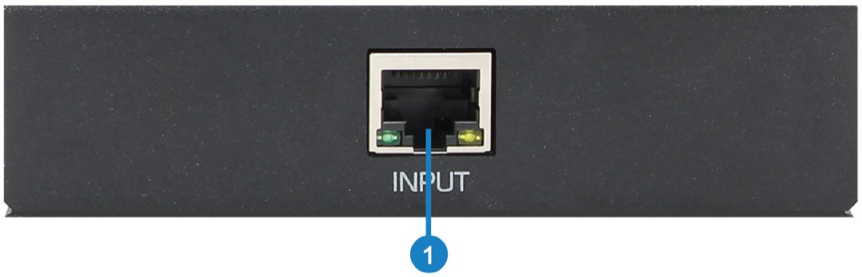
1. OUTPUTS: CAT6 Output ports to ULTRA-V-R Receivers. (Note: ULTRA-V-4S has output ports 1 through 4)

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 (back)



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

TROUBLESHOOTING

If you are experiencing problems getting the ULTRA-V-XX 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.

SPECIFICATIONS

Specification	ULTRA-V Series
Video	
Standards	DVI (single link) HDMI 1.4 video specs including 12 bit color depth, 3D video HDCP 1.4
Connectors	**ULTRA-V-1S** 1x HDMI input 1x HDMI output 1x RJ45 output 1x mini-USB Service Port 1x 2.0 mm locking DC power input **ULTRA-V-4S** 1x HDMI input 1x HDMI output 4x RJ45 output 1x mini-USB Service Port 1x 2.0 mm locking DC power input **ULTRA-V-8S** 1x HDMI input 1x HDMI output 8x RJ45 output 1x mini-USB Service Port 1x 2.0 mm locking DC power input **ULTRA-V-R** 1x HDMI input 1x HDMI output 8x RJ45 output 1x mini-USB Service Port 1x 2.0 mm locking DC power input
Resolutions	DVI signal VGA (640x480) thru WUXGA (1920x1200) HDTV signal 480p through 4K60 4:2:0 (Interlaced resolutions are not supported)
Refresh Rates	60 Hz for resolutions up to and including HD (1920x1080) and WUXGA (1920x1200) 30 Hz for resolutions above and including QHD (2560x1440)
General	
Power Supply	100 VAC to 240 VAC, 47-63 Hz, External; 5 VDC
Temp/humidity	Storage: -40 to +158 degrees F (-40 to +70 degrees C)/ 10% to 90%, non-condensing Operating: +32 to +122 degrees F (0 to +50 degrees C) / 10% to 90%, non-condensing

Specification	ULTRA-V Series
Power	5 VDC, 4.0 A power supply
Cooling	Convection
Enclosure Type	Metal (Steel)

Dimensions

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

Product Weight

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)

Specification	ULTRA-V Series
MTBF	90,000 hours (estimate)
Warranty	3 years parts and labor
Certifications	
Safety	CE
EMI/EMC	CE, FCC, Class A
Certifications	CE, FCC, RoHS

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