![HR HALL RESEARCH logo]

Model UH-2C-3S

3-port HDMI™ UTP Extender

Split and Extend HDMI™ **Audio Video to 3 remote receiver on 2 Cat6 Cables – includes one local** HDMI™ loop output

UMA1191 Rev. NC

SUPPORT & ORDERING INFORMATION

For technical support, Call **714-641-6607** or fax **714-641-6698**
Order by phone: **toll-free** in the U.S. **800-959-6439**
Web site: **www.hallresearch.com**
Hall Research, 1163 Warner Ave. Tustin, CA 92780

Table of Contents

1. Introduction

1.1 General

Hall Research's Model UH-2C-3S is a member of the **Mini-CAT®** video extension and distribution product line. The UH-2C-3S is used to extend HDMI™ audio/video signal up to 150ft @ 1080p or 200 ft @ 1080i/720p on 2 Cat6 cables to 3 remote receivers (Model UH-2C-R). The unit provides one local HDMI output and 3 sets of RJ45 pairs for connection to the remote receivers. Cables that are of lower quality and construction will reduce the maximum distance.

The UH-2C-3S is compatible with HDMI™ versions 1.2a and 1.3 and also supports 3D video. The remote receiver (UH-2C-R) re-aligns the pixel clock and generates a clean pixel clock for the display, thereby taking out any skew that may have been induced in the cable. This allows daisy-chaining (to achieve further extension), and produces a crisp image as clear as the original.

The unit is housed in a compact sturdy metal enclosure that is 1RU high so that several can fit on a Rack Shelf (Model RMS-1U-1A).
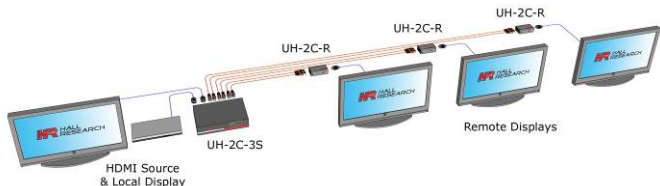
Figure 1 – Block Diagram

† HDMI™ compliance dictates that if the source video has HDCP content protection, the display must also be HDCP compliant otherwise no image will be shown.

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1.2 Features

- ❏ Compact unit sends uncompressed HDMI video to 3 remote displays on 2 Cat6 cables
- ❏ Can drive cables to 200 ft @ 1080i/720P or 150ft @ 1080p on 2 Cat6 cables
- ❏ Local HDMI output for direct connection to a local display
- ❏ Built-in power supply with standard IEC320 AC power jack
- ❏ Status indication of 3 remotes (power and display connection) on front panel
- ❏ Supports DVI-D single link extension with optional adapter cables
- ❏ HDCP compliant
- ❏ Compact metal enclosure

Figure 2 – Front and Rear Panels

2. Installation

Refer to the block diagram (figure 1) and the rear panel connections (figure 2) above. Place the sender by the video source. Use a quality HDMI™ cable to connect the source to the sender (the cable is not included and must be purchased separately). Use (2) Cat6 cables to connect the sender to the receiver. Do not cross the connections as this may cause damage to the unit or the power supply. The RJ45 outputs are labeled as 1 and 2, so please label the ends of your UTP cable so that it is easy to plug the ends correctly.

Turn on the display and the video source and plug in the power supply (included) into the receiver.

3. Front Panel Indicators

In addition to the power indicator LED, this unit is equipped with (6) LED's that show the status of the remote receivers on UTP ports. These indicators are a great tool for helping ascertain possible reasons if a remote display is not working.

Figure 3 – Front Panel Indicators

Each port (1, 2 and 3) features two vertically-arranged status indicators. If the top LED (REMOTE PWR) is lit, then the corresponding remote receiver (UH-2C-R) is successfully powered up and connected to the sender. If the bottom LED (LCD DETECT) is lit, then the connection of the receiver to the LCD is verified (via Hot Plug Detect of the HDMI cable to the LCD). Therefore if both LEDs are lit, you should have an image on the remote LCD - of course the LCD should be powered up and the length and quality of UTP cables must be within the specified limits.

Note about Twisted-Pair Cables

For best results we recommend using Shielded 23 Gage Solid Cat6 cables Unshielded (UTP) 23 AWG Cat 6 Cable also provides great results and can be used if noise free environments.

Use TIA/EIA 568B straight through wiring termination. Avoid using Zero-skew or low skew cables. The low skew cables work well for analog video extension over twisted pair, but since the UH-2C is a pure digital system, the cross-talk of the low skew cables will actually shorten the maximum achievable cable length.

4. Troubleshooting

There are no field serviceable parts or circuits in the device. If you think that the device is malfunctioning, please first try the following steps:

- ❑ Check to make sure the 2 Cat6 cables are not crossed.
- ❑ Check the video connections.
- ❑ Unplug the power supply and re-attach it.
- ❑ Check the indicator lights on the unit. If the top LED (REMOTE PWR) for the desired port is unlit, please verify that the 5v power supply is connected to the receiver (UH-2C-R) and that the 2 Cat6 cables are connected between the sender and receiver. If the bottom LED (LCD DETECT) for the desired port is unlit, please verify that the remote LCD is on and connected to the receiver (UH-2C-R).
- ❑ Connect the display directly to the source and make sure that an image is present without the extender. If so, then use the menus of the video source to lower the output resolution (such as 480p). Insert the extender and verify that you get an image. If so, then set the resolution to the next higher value (such as 720p). Continue this process until you get the highest possible resolution without loss of image or audio.
- ❑ **The quality of the cable and the connections** will determine the maximum length and resolution achievable.

4.1 Contacting Hall Research

If you determine that your extender is malfunctioning, do not attempt to repair the unit. The unit contains no user serviceable equipment. Opening the unit will void the warranty. Contact the Hall Research Technical Support department at 714-641-6607 to obtain a RMA (Return Authorization) number.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description.

4.2 Shipping and Packaging

If you need to transport or ship your extender:

- Package it carefully. We recommend that you use the original container.
- Before you ship the units back to Hall Research for repair or return, contact us to get a Return Authorization (RMA) number.

5. Specifications

Supported video formats: Supports a wide range of PC and HDTV resolutions from VGA to WUXGA and 480i to 1080p

Dimensions: 8.42 W x 1.66 H x 6.04 D inch

Weight: 3 Pounds (1.36 Kg)

Input Power: 90 ~ 240 VAC

Operating Temperature: 0 to 50 degrees C

Storage Temperature: -10 degree C to 80 degrees C

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