

UV4-S



UV8-S



UV4-S & UV8-S

4 or 8 Channel Splitter

PC Video & Power over Twisted-Pair Sender

CUSTOMER SUPPORT INFORMATION

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

UMA1177 Rev. NC

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FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in strict accordance with the manufacturer's instructions, may cause interference to radio communication. This equipment is designed to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are intended to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



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1. Introduction

1.1 General

This User Manual applies to model number UV4-S and UV8-S Mini-Cat® series of high resolution PC or HDTV component video system.

A unique feature of the system is that in most installations only one power supply is enough to power the sender and the receiver(s).

These devices are four (4) or eight (8) Channel Splitters for PC Video & power over Twisted-Pair senders

In a typical application, they are located at the video & power source and connected to one or more compatible receiver units.

Low-skew UTP cable (such as Hall Research's Zero-skew™ CAT5 cable) is recommended with the Model UV1-R particularly if cable lengths are 200 feet or longer.

1.2 Features

- Support for local monitor at transmitter
- Multiple CATx outputs
- Transmits video and phantom power on a single CATx cable
- Compact & rugged metal enclosure
- Eliminates the need for bulky, expensive and hard to build multi-coaxial cables for high-resolution video extension
- Amplifies the signal for clean and crisp transmission
- Differential signaling eliminates ground loops and noise
- Handles resolutions up to 1920x1440 at 60Hz
- Rugged, Reliable, Compact size
- Drive standard Cat5 cables to 500 feet for (VGA and Component Video)

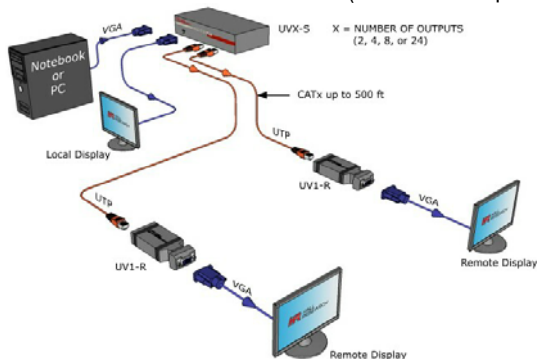


Figure 1 – UV4-S & UV8-S Application Diagram

2. Installation

2.1 Package Contents

Your package should contain the following items:

- (1) UV4-S or UV8-S
- (1) Universal power supply (9 VDC) with IEC320 Power Cord
- (1) 6 ft HD15-M-M VGA cable
- (1) User manual
- (1) Screwdriver



2.2 Connection to Compatible Receivers

The UV4-S and UV8-S units have a single UTP cable connection to Hall Research's UV1-R receiver product line.

- ❑ Connect the UTP cable from the UV1-R receiver to the "UTP OUT" connectors of the UV4-S or UV8-S.
- ❑ Connect the HD15 - "PC/HD IN" connector to the video source. For YPbPr video sources, use a 3-RCA to HD15 cable (Hall Research P/N CHD15-RGB).
- ❑ Connect the HD15-"PC/HD OUT" connector to a compatible video display.
- ❑ Connect the included power supply to the center positive +9 VDC power input connector on the UV4-S or UV8-S.
 - If the UTP cable to the UV1-R receiver is longer than 330 ft (100m) then a power supply may be needed at the receiver (sold separately HR Model # 511-GS569).
- ❑ **Never use any other power supply as this may damage the device.**



2.2 Cable Requirements

All units can use with CAT5/5e/6 or Zero-Skew™ UTP or STP (unshielded or shielded twisted pair) cables. Low-skew UTP cable (such as Hall Research's Zero-skew™ CAT5 cable) is recommended particularly if cable lengths are 200 feet or longer.

IMPORTANT

Do not connect this unit to any LAN device such as network cards or hubs as this may cause damage. Use EIA/TIA 568B standard straight-through patch wiring as shown below. Do not use crossover cables.

EIA/TIA 568B WIRING STANDARD	
PIN	Wire Color
1	White w/ Orange Stripe
2	Orange
3	White w/Green Stripe
4	Blue
5	White w/Blue Stripe
6	Green
7	White w/Brown Stripe
8	Brown

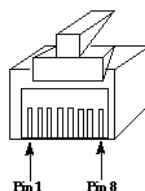


Figure 2

3. Configuration & Operation

The table below lists the recommended maximum distances from sender to the receiver depending on the resolution used.

		Refresh Rate	
		60 Hz	75 Hz
Resolution	800x600	500 ft	500 ft
	1024x768	500 ft	500 ft
	1280x1024	500 ft	500 ft
	1920x1200	500 ft	500 ft

Table 1 -

Recommended maximum CATx cable length from sender to the receiver

There are no user adjustments on the UV4-S or UV8-S.

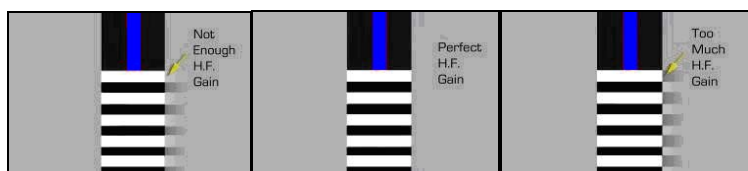
Use the included screwdriver to adjust the compensation pots on the Model UV1-R receiver for the best picture quality.

3.1 Receiver Video Adjustment (High Frequency Compensation)

Apply a video source to the system and check the image at each receiver's display. Set the compensation potentiometer (pot) on the Model UV1-R receiver for best possible image.

Start with the compensation pot fully CCW (least compensation), slowly turn it clockwise and check for bleeding of left to right horizontal lines on the screen. See Figure 3 below.

Figure 3 - Typical test patterns used for adjusting compensation



4. Troubleshooting

There are no field serviceable parts or circuits in the device.

Opening the unit will void the warranty.

If you think the device is malfunctioning (or you have no picture output), please try to use the methods described in Section 4.3 below to obtain a picture first.

4.1 Contacting Hall Research

If you determine that the UV4-S or UV8-S is malfunctioning, do not attempt to repair the unit instead, contact Hall Research Technical Support at 714-641-6607.

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 unit:

- 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.

4.3 Problem Solving FAQ

1. **Fuzzy, blurry, or ghosting image at remote location**

If you have a stable image but it looks somewhat blurry (edges are not sharp), ensure the cable length for the resolution and refresh rate used is within the recommended limits. If you still have a fuzzy image, try reducing the refresh rate and/or resolution of the video source.

2. **Image exhibits steady or rolling horizontal color “hum” bars**

This is usually an indication of improper grounding at the sending end, the receiving end, or both. Verify that the AC line is properly wired and that a protective ground (green) wire is established with NO potential difference between both the sender and receiver locations. The UTP splitter can handle up to 5 volts peak-to-peak of ground noise between the two locations, but ground potential differences more than this can show up on video.

3. **Shaking image or periodically blanking monitor**

Inherently, balanced signal transmission over twisted pair offers good immunity to EMI coupled noise from other external sources. However, a strong electromagnetic noise field can cause instability in the signal. Usual sources are high power AC lines or data and/or control cables that run adjacent to and parallel with a substantial length of the CAT5 cable. To eliminate this, either place a distance between the CAT5 cables from the sender and the interfering source, or use shielded twisted pair (STP) CAT5 cables.

5. Specifications

Video

Gain	Unity
Number/signal type	1 analog signal input. Standard VGA output RGBHV, RGBS, RGsB, RsGsBs, component video (bi-/tri-level sync)
Connectors	4 or 8 female RJ-45 output 1 HD15 video input 1 HD15 local video output
Nominal amplitude	1 V p-p for Y of component video 0.7 V p-p for RGB and for Pr and Pb of component video 4.0 V to 5.0 V p-p, for TTL Sync signals of RGBHV, RGBS
Impedance	75 ohms
Maximum resolution	Up to 1920x1200 and 1080p at 500 ft
Sync Polarity	Positive or negative

General

Recommended cable	Hall Research's Zero-skew™ CAT5
Power Supply	100 VAC to 240 VAC, 50-60 Hz, external; 9 VDC regulated
Temperature/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
Enclosure type	Steel
Dimensions	1.66" H x 8.42" W x 2.60" D - Depth excludes connectors (42.2 mm H x 214 mm W x 66 mm D)
Product weight	1.5 lb (0.68 kg)
Shipping weight	3.0 lbs (1.36 kg) (UV4-S) 4.0 lbs (1.81 kg) (UV8-S)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Safety	CE
EMI/EMC	CE, FCC Class A
MTBF	90,000 hours (Calculated Estimate)
Warranty	2 years parts and labor

Specifications are subject to change without notice



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