

HR HALL RESEARCH

Model SKU-RGB

RGB Skew Corrector

Adjusts the RGB Color Timing of VGA/YPbPr Over Cat5/5e/6



UMA1093, Rev A

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

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This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been designed and found 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 will be required to take whatever measures may be necessary to correct the interference at his/her own expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications.

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1. Introduction

1.1 General

Thank you for purchasing Model SKU-RGB, a member of the **Mini-CAT®** video extension and distribution product line. The SKU-RGB is an interface that enables the user to correct the skew of individual RGB colors of a VGA or component video (YPbPr) signal that has been transmitted over a Cat5/5e/6 cable. The SKU-RGB is designed to correct images with colors that have become skewed or shifted due to lengthy Cat5/5e/6 cable runs. This problem occurs in Cat5/5e/6 cable because the pairs of wires are twisted at different rates.

The longer the cable runs, the greater the difference in time there will be between the arrival of colors at the display device. The SKU-RGB is able to compensate for this delay by delaying reception of one or more of the color signals.

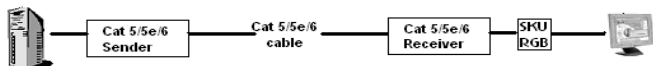
The SKU-RGB is designed for VGA and component video (YPbPr). This means that it is compatible with all types of video transmission systems, regardless of proprietary differences in design, so long as the video originates as or is converted to VGA or component video.

The unit can be hooked up at either the source or the display side of the video run. Color selection and adjustments are made with push button switches and reflected by colored LEDs located on the front of the unit.

1.2 Features

- Compact Size
- Rugged, Reliable, Economical
- Adjusts each color individually
- Compensation made in both the negative and positive directions
- Remembers settings and last state
- Includes power adapter
- Terminates input signals and buffers the output for best integrity
- Made in the USA

2. Installation



1. Connect the signal source to the VGA input connector labeled **PC/HDTV IN**
2. Connect the display device (monitor) to the VGA output connector labeled **PC/HDTV OUT**
3. Connect power to the SKU-RGB via the included power supply labeled **POWER**



Front Panel



Rear Panel

3. Operation

3.1 Modes of Operation

Normal Mode:

Pressing the SELECT button will select the color you wish to adjust and turn on the adjustment LED corresponding to the selected color.

The + and – adjustment buttons will only function when an adjustment LED is turned on.

Pressing the + adjustment button will move the color, specified by the adjustment LED, to the right-hand side of the monitor. Pressing and holding down the + adjustment button will typematically move the selected color to the right.

Pressing the - adjustment button will move the color specified by the adjustment LED to the left-hand side of the monitor. Pressing and holding down the - adjustment button will typematically move the selected color to the left.

The SELECT button will cycle between the colors in the following order: red → green → blue → Power-Down Mode → red ...

Power-Down Mode:

In this mode, the SKU-RGB will continue to delay the colors with the values the user specified during Normal Mode but the power consumption and radiated emissions will be greatly reduced.

In this mode, the red, green, and blue adjustment LEDs will be turned off and the + adjustment and – adjustment buttons will be disabled.

Power-Down Mode is entered in one of two ways. The first is by pressing the select button when the blue color is selected. The second way to enter Power-Down Mode is by not pressing any buttons for 1 minute. After 1 minute, the SKU-RGB will automatically enter Power-Down Mode. When this mode is entered the 3 color LEDs will flash quickly and then turn off

To exit the Power-Down Mode and return to Normal Mode, press the SELECT button and you will see the red adjustment LED turn on. At this point the + adjustment and – adjustment buttons will be enabled.

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Test Mode:

Test mode can only be started from Normal Mode. Test mode is entered by pressing the - adjustment button and holding it down while pressing and releasing the + adjustment button 3 times.

In Test Mode, the selected color LED will blink once per second and the other 2 LED's will blink rapidly. Test mode will start by selecting the red color and blinking the red LED once per second while the green and blue LEDs are blinking rapidly.

Test mode will set the adjustment of all 3 colors to no adjustment.

Starting with the red color, Test Mode will adjust the red color all the way to the right then all the way to the left. Test Mode will then do the same for the blue color while blinking the blue LED once per second, followed by the green color. After cycling through all the colors, Test Mode will begin again with the red color and continue until disabled.

Test Mode is canceled and Normal Mode is restored when any button is pressed.

Reset Mode:

Reset Mode will reset all the colors adjustment to no adjustment.

Reset Mode is entered by pressing and holding down both the - adjustment button and the + adjustment button simultaneously for 2 seconds.

After Reset Mode is complete, the SKU-RGB will return to Normal Mode.

The SKU-RGB can only be in one of these modes at a time.

3.2 How to Adjust Your Image

To adjust your image Hall Research provides a test pattern, which can be viewed at <http://hallresearch.com/skew.htm>

The objective is to move the colors right or left as necessary to make the red, green, and blue lines all line up with each other.

Another method is to look at the horizontal white bar and if you see a color bleeding out of the right edge of the white bar, move that color to the left. If you see a color bleeding out of the left edge of the white bar, move that color to the right. You should be able to get the edges of the white bar very sharp and crisp.

Use the select button to select the color you want to adjust and then use the + and - adjustment buttons to move the color to the right and left to create a clear sharp picture.

4. Troubleshooting

4.1 Contacting Hall Research

If you determine that your unit 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 unit, pack it carefully (original container recommended) and contact Hall Research for a Return Authorization (RMA) number.

5. Specifications

Video Specs:

- Connectors: Input and Outputs: HD15 female
- Coupling: DC
- Signal Level: Video: 0.7 v p-p
- Bandwidth: 150 MHz
- Resolution: Up to 1600 x 1200
- Input Impedance: 75 ohms on RGB
- Supported Signals: VGA, RGBHV, and YPbPr via HD-15

Dimensions: 2.75 W x 1.1 H x 3.1 D inch

Weight: 0.5 Pounds

Power (included): UL approved 120 V ac adapter
6 vDC @ 300 mADC output, 2.5mm center positive

Operating Temperature: 32 to 122 degF (0 to 50 degC) – 10%-90% Non-Condensing

Storage Temperature: 14 to 176 degF (-10 to 80 degC) – 10%-90% Non-Condensing



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