



Multimedia Accessories  
www.inday.com

# RGB4X-R

HDTV  
4X1 Wideband  
Component Video  
Switcher  
With IR Remote Control  
& RS-232 Serial Option



## Overview And Uses

The **RGB4X-R** is a 4-Input to 1-Output wide-band, three channel component video switcher. Designed to enable switching of HDTV or DVD progressive scan component video to ONE destination. All Scan formats are supported, including 480i, 480P, 720P, 1080i and 1080P.

With the large amount of money invested in your Home Theater system these days, you want to be sure that anything you install will not degrade the final picture. This device will not compromise your system. The RGB4X is designed with only the best Switching IC's and High Current Video drivers available. We don't use mechanical relays or switches which can eventually wear out. The RGB4X-R output is capable of driving very long cable lengths ( up to 100 meters) without degradation.

There are 3 ways to control the RGB4X-R.

- 1- Front Panel Switch for cycling through the inputs. Each press advances the input.
- 2- IR Remote Control for direct selection of desired input. Visit [www.inday.com](http://www.inday.com) to download "Universal" remote configuration files, such as the Philips Pronto™.
- 3- RS-232 Serial Port (optional) for direct computer control and status. Useful for integrating into advanced automated systems. See "RS-232 Control" section for further information.

Although primarily used for expanding the input selection of HDTV Monitors, this switcher can also be used to switch any type of Analog video including.

- HDTV Analog RGB/YPbPr signals.
- Standard Def. Analog RGB/YPbPr/Betacam
- Component DVD, Progressive or Interlaced.
- Composite Video (NTSC)
- SPDIF Digital Audio (PCM/AC3/DTS)

## Setup

Connect your sources, such as HDTV Receivers and DVD Players to the Inputs of the RGB4X. Connect the Output of the RGB4X to the input of the Display or other destination.

Note :

Most newer HDTV monitors are capable of sensing what scan rate is being sent to it and will switch correctly. In most cases it's either 480-progressive scan (480P) or 1080-Interlaced (1080I). If your mixing scan rates, you should verify that the monitor will synchronize correctly to these inputs without having to reconfigure the Monitor setup. Please do this before you connect the RGB4X

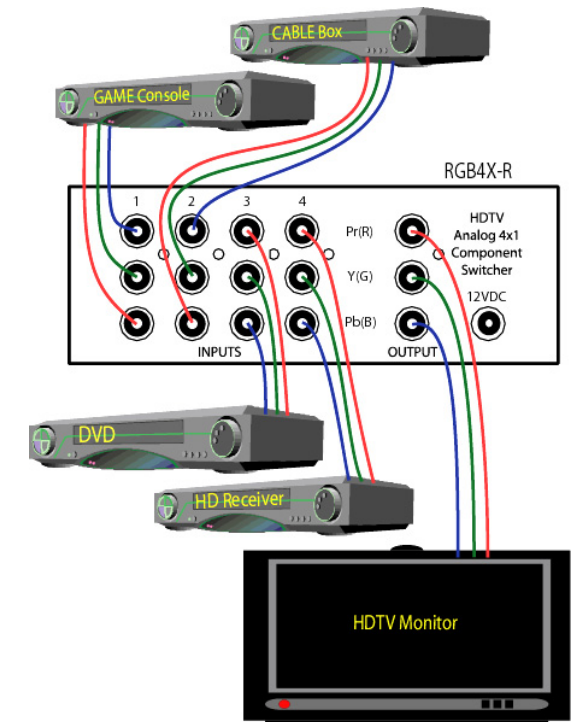


Figure 2 - Component Video Switching

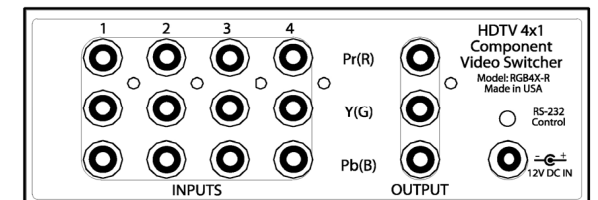


Figure 1 -Connectors

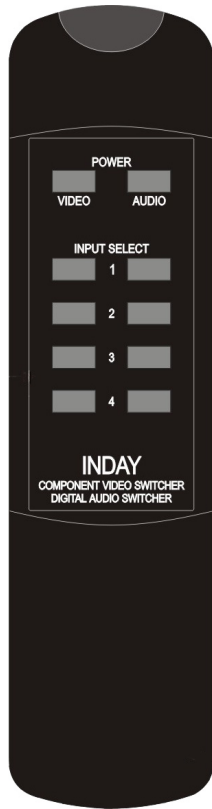
## Remote Programming

The Remote Control has 10 buttons. Only 5 of which are active at one time. The unit comes programmed to respond to the left side column of buttons. You can program the unit to switch using the right side buttons, if desired. This facilitates using two RGB4X-R's in a system and having independent control over both.

Perform the following to reprogram the RGB4X-R:

- 1-Remove power from the unit by unplugging the 12VDC Connector
- 2-Press and hold the front panel button
- 3-Apply power to the unit.
- 4-Release the front panel button after the display stops blinking.

Each time you perform this operation you are alternating the button group used on the IR remote.



## Questions

**Q:** Why No Looping Inputs.

**A:** Looping inputs are ones that bridge off an unterminated input and send it to another input. This lets you daisy chain the inputs and terminate only at the last input. This works fine for Low Frequency video like NTSC (composite) at 5MHz, but not for High Frequency HDTV where frequencies can reach over 100 MHz. The input must be terminated to prevent reflections on the cable and maintain bandwidth.

**Q:** Can I switch Digital Audio (SPDIF).

**A:** Yes. SPDIF is just AES/EBU digital audio that is designed to run over Coax cable just like video and therefore can be switched the same way

## RS-232 Control Option

RS-232 serial control is provided through a 3.5mm stereo jack on the rear panel. A 3.5mm to DB9 crossover cable is provided. Any Terminal communications program such as Windows "HyperTerminal" will work for control.

Communications parameters are: 9600,N,8,1. See specifications for wiring information.

Once connected, pressing the Enter key will cause the RGB4X-R to respond with its help message:  
"RGB4X-R Online! Type "S" for Status, Numbers 1-4 for control."

For current status, type the character "S" followed by the "Enter" key. The current input is returned.

To switch inputs, type numbers 1, 2, 3 or 4 then "Enter". The unit will switch inputs and return a status message.

All other characters will return the help message.

If the RGB4X-R is in a powered-off mode via the IR remote control, any Serial port activity will restore power.

## Troubleshooting

**Problem:** I now have noise or interference in the picture that was not there before.

**Fix#1:** The problem may be "cheap" cables. The RGB4X is extremely wideband. The switching IC's are rated at 700MHz. That's 166 times the normal bandwidth of composite video (NTSC). If you use marginal cables with poor shielding, external RF interference will penetrate the cables and may cause this interference. Consider your cables to be like your water plumbing. If they leak, you have a problem! You can fix this problem by using a quality coax cable, such as type RG59.

**Fix#2:** Ground Loops can also cause noise and hum bars. Try lifting the ground leads of your equipment by using a "cheater plug". This is a 2 prong AC adapter without the ground prong, available at most hardware stores.

## Specifications

All INPUTS:

Gold Plated RCA  
Each 75 Ohm Terminated  
Color Coded: Red, Green, Blue  
Nominal Signal should be 1 Vp-p.  
Maximum of 4 Vp-p.

OUTPUT:

3 Gold Plated RCA  
Color Coded: Red, Green, Blue  
Impedance 75 ohms  
Noise > 60dB below 1Vp-p  
Frequency Response DC-230 Mhz +/-3dB

RS-232 SERIAL INTERFACE:

3.5mm Stereo Jack  
Tip: Tx, Ring: Rx, Sleeve: Gnd

POWER:

12VDC-Unregulated(18VDCMax)  
@ 150ma Max.  
Wall Transformer supplied

DIMENSION:

4"W x 6"L x 2"H

TEMPERATURE

0 TO 50 DEGREES C

HUMIDITY

0 TO 90% (non-condensing)

## Disclaimer

This manual has been checked for accuracy. Inday assumes no liability for damages incurred directly or indirectly from errors or omissions or from the use and suitability of this product for a particular application.

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