# Keene Electronics

**STERLING** CABLES *Gold*

**SYNCBLASTER COMPONENT TO RGB TRANSCODER**

## Overview

The unit contains two separate conversion systems. One converts from an input RGB signal to an output Y Cb Cr signal. The other converts from an input Y Cb Cr signal to an output RGB signal. A push switch is provided on the unit to enable the selection of the appropriate converter. Indication of the selection made is shown by the colour of an LED indicator. There are also 4 DIP switches provided on the unit to cater for various synchronising pulse modes on the input and output signals. The unit has been designed to be installed 'in line' with the signal path and has SCART input and output connectors, thus making connection simple. Depending upon the application, a specially wired SCART cable may be required.

## LED Indicators:

There are two indicators on the unit. One indicates presence of power on the unit.

The colour of the second LED indicates which of the converters is selected:
GREEN - Indicates selection of conversion from RGB to Y Cb Cr
RED - Indicates selection of conversion from Y Cb Cr to RGB

## Additional Information:

No processing takes place on the following signals: Left Audio, Right Audio, SCART pin 8 Switch signal, SCART pin 16 Switch signal. All of these signals pass through the unit unaffected. broadcast-specified components have been used in the design of this unit to give high quality performance.

## Connection

The SyncBlaster C2RGB uses SCART connections for input and output. For most instances, a fully wired SCART to SCART will suffice for the input, and the supplied scart output adaptor will cater for the component signal. For other applications a specially configured cable may be required. The SCART pin outs are listed below for your reference and depending upon the application and desired result it may be necessary to use a specially configured cable. Keene Electronics can provide a range of cables pre-configured for use with SyncBlaster products if required.

**Switch Functions**

| Switch no | Function | Up (off) | Down (on) |
|---|---|---|---|
| 1 | Disables synchronising pulses from the Green output signal | Sync pulses enabled on the Green output | Sync pulses disabled from the Green output |
| 2 | selects the input synchronising pulses. (These are used to derive the output sync pulses.) | Selects sync pulses from the input Composite video signal (Input SCART pin 20) | Selects sync pulses from the input Green signal |
| Note: Switch 2 is only operative when converting from RGB to Y Cb Cr. | | | |
| 3 | Selects video-level sync pulses to SCART output pin 19. | Sync selection OFF | Sync selection ON |
| 4 | Selects input SCART pin 20 (normally Composite video) to SCART output pin 19. | Composite video selection OFF | Composite video selection ON |
| Note: It is recommended that switches 3 and 4 are not switched down simultaneously. | | | |

## Troubleshooting

*No display*
Verify that the C2RGB Box is receiving a signal. If the playback device should be giving RGB double check that the playback device is definitely configured for RGB output at the TV scart. Most digi-boxes default to a composite output and usually require the RGB option to be selected from the set-up menu. (For example on widescreen display with a UK digi-satellite box it would be SERVICES - SYSTEM SETUP - PICTURE SETTINGS - PICTURE FORMAT = 16:9 - SCART CONTROL = ON - VIDEO OUTPUT = RGB). If you're using BNC connections double-check that the plugs are into the correct sockets.

If using a PC style monitor check that it is not designed solely for computer use i.e. the monitor must support a horizontal scan rate of 15.625KHz. Most projectors, plasma and LCD panels will do this whereas most standard CRT type monitors will not. Also, some screens may support this frequency only via the BNC/Phono connections whilst supporting only higher frequencies through the 15 pin HD plug.

*Distorted picture*
Check that the you are not providing RGB to a device expecting to see component video and vice-versa. Remove all other AV connectors from the playback device. If this corrects the problem replace them one at a time until you identify the culprit.

*For further assistance please Email support@keene.co.uk*

## SCART connections

| Pin | Used for | Specification and notes |
|---|---|---|
| 1 | Audio out right | Line level audio |
| 2 | Audio in right | Line level audio |
| 3 | Audio out left | Line level audio |
| 4 | Ground | |
| 5 | Blue Ground | |
| 6 | Audio in left | Line level audio |
| 7 | Blue / Cb | 75R video 0.7v peak / Cb in component video (usually!) |
| 8 | Auto switching control | 12 volts AV mode / 8 volts AV mode widescreen ( if supported) 0 volts RF |
| 9 | Green Ground | |
| 10 | Comms data 2 / V sync | SyncBlaster Vertical TTL sync / Data comms 2 on some VCRs and STBs |
| 11 | Green / Y | |
| 12 | Comms data 1 / H sync | SyncBlaster Horizontal TTL sync /Data comms 1 on some VCRs and STBs |
| 13 | Red Ground | |
| 14 | Comms ground | |
| 15 | Red / Cr / Chrominance | Red in RGB mode / Cr in component and Chroma in S video mode |
| 16 | RGB control / blanking | If greater than 2v it switches TV to RGB mode. 0v normal. Can be a blanking (sync) signal on older equipment |
| 17 | Ground Video | Ground |
| 18 | Ground for RGB switching | Ground |
| 19 | Composite out / luminance out | 1 volt peak (inc sync) video out / Luminance in S video mode |
| 20 | Composite in Luminance in | 1 volt peak (inc sync) video in / Luminance in S video mode |
| 21 | Ground screen (outer shell) | Outer shell of scart and outer screen of cable |

## Specifications

| | |
|---|---|
| Power requirements: | 12V DC centre positive (2.1mm) at 200mA or higher, UK mains adaptor supplied. |
| Dimensions: | 90mm (w) x 76mm (d) x 44mm (h) |
| Weight: | 170g (exc. cables & supply) |

## RGB & COMPONENT CABLES

| Type | Use | Length (m) | Code | price |
|------|-----|------------|------|-------|
| SCART TO 3 PHONO | RGsB or Component | 2.0 | SBB72 | £29.99 |
| | | 5.0 | SBB74 | £34.99 |
| SCART TO 3 PHONO (Vivanco) | RGsB or Component | 2.0 | KLD160 | £14.99 |
| | | 5.0 | KLD161 | £19.99 |
| | | 10.0 | KLD162 | £29.99 |
| SCART TO 3 BNC | RGsB or Component | 2.0 | SBB32 | £29.99 |
| | | 5.0 | SBB34 | £34.99 |
| | | 10.0 | SBB35 | £49.99 |
| SCART TO 4 BNC | RGBs composite sync | 2.0 | SBB22 | £29.99 |
| | | 5.0 | SBB24 | £39.99 |
| SCART TO 4 PHONO | RGBs composite sync | 2.0 | SBB62 | £29.99 |
| | | 5.0 | SBB64 | £39.99 |
| SCART TO 4 BNC | RGBS TTL sync *(SB-BOX or C2RGB output)* | 2.0 | SBB12 | £29.99 |
| | | 5.0 | SBB14 | £39.99 |
| SCART TO 4 PHONO | RGBS TTL sync output) *(SB-BOX or C2RGB output)* | 2.0 | SBB52 | £29.99 |
| | | 5.0 | SBB54 | £39.99 |
| SCART TO 5 BNC | RGB & Hsync & Vsync | 2.0 | SBB42 | £34.99 |
| | | 5.0 | SBB44 | £39.99 |
| SCART TO 5 PHONO | RGB & Hsync & Vsync | 2.0 | SBB82 | £29.99 |
| | | 5.0 | SBB84 | £39.99 |
| SCART TO 15PIN HD MALE | RGB & Hsync & Vsync (or RGsB) | 2.0 | SBB92 | £24.99 |
| | | 5.0 | SBB94 | £34.99 |
| 3 PHONO TO 3 PHONO | RGsB or Component | 2.0 | SBB102 | £34.99 |
| | | 5.0 | SBB104 | £39.99 |
| 3 PHONO TO 3 PHONO (Vivanco) | RGsB or Component | 2.0 | KLD150 | £14.99 |
| | | 5.0 | KLD151 | £19.99 |
| | | 10.0 | KLD152 | £29.99 |
| | | 15.0 | KLD153 | £34.99 |
| 3 PHONO TO 3 BNC | RGsB or Component | 2.0 | SBB202 | £34.99 |
| | | 5.0 | SBB204 | £39.99 |
| 3 BNC TO 3 BNC | RGsB or Component | 2.0 | SBB302 | £29.99 |
| | | 5.0 | SBB304 | £39.99 |
| 15 PIN HD MALE (SVGA) TO 3 PHONO | RGsB or Component | 2.0 | SBB402 | £24.99 |
| | | 5.0 | SBB404 | £34.99 |
| 15 PIN HD MALE (SVGA) TO 3 BNC | RGsB or Component | 2.0 | SBB502 | £24.99 |
| | | 5.0 | SBB504 | £34.99 |
| 15PIN HD MALE TO 5 x BNC | 15 PIN HD RGB & Hsync & Vsync | 2.0 | 15HDPBNC02 | £24.99 |
| | | 5.0 | 15HDPBNC05 | £34.99 |
| | | 10.0 | 15HDPBNC10 | £59.99 |
| | | 20.0 | 15HDPBNC20 | £99.99 |
| 15PIN HD MALE TO 15 PIN HD MALE | 15 PIN HD CONNECTION CABLE | 1.8 | 15HDPP02 | £19.99 |
| | | 5.0 | 15HDPP05 | £29.99 |
| | | 10.0 | 15HDPP10 | £39.99 |
| | | 20.0 | 15HDPP20 | £59.99 |
| 15PIN HD MALE TO 15 PIN HD FEMALE | 15 PIN HD EXTENSION CABLE | 1.8 | 15HDPS02 | £19.99 |
| | | 5.0 | 15HDPS05 | £29.99 |
| | | 10.0 | 15HDPS10 | £39.99 |
| | | 20.0 | 15HDPS20 | £59.99 |

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*Trade enquiries and OEM welcome*

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# Quick Setup Guide
## For common applications

**DVD Player / Set top box with scart RGBs output to Plasma TV/Projector with component Y,Pr,Pb input**

Use a fully wired scart to scart for the input and ensure the player is set to provide RGB output. Set the SyncBlaster RGB2C switches as follows;
1=up
2=up
3=up
4=up
Mode switch = out (green)
Connect the RGB2C output to the Plasma/Projector using a scart to 3 x BNC (SBB32 or SBB34) or 3 x RCA phono (SBB82 or SBB84) cable.

**DVD Player with scart (or RCA phono) component Y,Pr,Pb outputs to TV with RGBs scart**

For the input use either a fully wired scart to scart or 3 phono to scart (SBB72 or SBB74) and ensure the player is set to provide component output. Set the SyncBlaster RGB2C switches as follows;
1=down
2=up
3=down
4=up
Mode switch = in (red)
For the output use a fully wired scart to scart.

**DVD Player / Set top box with scart RGBs output to Optoma Projector**

Use a fully wired scart to scart for the input and ensure the player is set to provide RGB output. Set the SyncBlaster RGB2C switches as follows;
1=up
2=up
3=up
4=up
Mode switch = out (green)
Connect the RGB2C output to the Plasma/Projector using the supplied 15pin HD cable.

*RGB terminology and general help can be found at http://www.syncblaster.com*