

# keene electronics RGB2C

## 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 RGB2C 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 RGB2C 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 fully 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](mailto: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	RGsB composite sync	2.0	SBB22	£29.99
		5.0	SBB24	£39.99
SCART TO 4 PHONO	RGsB composite sync	2.0	SBB62	£29.99
		5.0	SBB64	£39.99
SCART TO 4 BNC	RGsB TTL sync (SB-BOX or C2RGB output)	2.0	SBB12	£29.99
		5.0	SBB14	£39.99
SCART TO 4 PHONO	RGsB 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

# 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>*