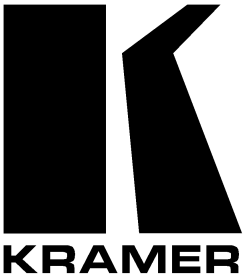
Kramer Electronics, Ltd.



USER MANUAL

Model:

FC-14

RGBHV to Component Transcoder

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1 Introduction

Dedication by Kramer Electronics since 1981, to the development and manufacture of high quality video/audio equipment, makes the Kramer line an integral part of the finest production and presentation facilities in the world. In recent years, Kramer has redesigned and upgraded most of the line, making the best even better! The Kramer line of professional video/audio electronics is one of the most versatile and complete available, and is a true leader in terms of quality, workmanship, price/performance ratio and innovation. In addition to our high quality transcoders, we also offer excellent switchers and matrices, distribution amplifiers, remote controllers, processors, interfaces and computer-related products.

Congratulations on purchasing your Kramer **FC-14** *RGBHV to Component Transcoder*.

This product is ideal for displaying RGB video on:

- Plasma monitors
- Other display devices equipped with component video inputs

The package includes the following items:

- **FC-14** *RGBHV to Component Transcoder*
- Power supply
- This user manual and the Kramer concise product catalog/CD

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual

3 Overview

The high quality Kramer **FC-14** *RGBHV to Component Transcoder* is an adjustment-free, multi-standard converter that converts RGB video to component video (Y, B-Y, R-Y, sometimes called YUV or Y, P_b, P_r).

The **FC-14** supports different sync variants on the RGB inputs:

- Separate H & V (RGBHV)
- Separate composite sync (RGBS)
- Sync-on-green (RGsB)
- Sync-on-all (RsGsBs)

In addition, the **FC-14**:

- Recognizes any sync polarity and is compatible with both video level (0.3V) and TTL level syncs
- Transcodes any RGB video (progressive scan or interlaced) to component format, making it ideal for standard definition video as well as for high-definition video (VGA, SVGA and XGA)
- Uses high quality analog circuitry – eliminating the artifacts associated with digitizing and allowing the unit to operate with any video resolution!

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality and position your Kramer **FC-14** in a location free from moisture and away from excessive sunlight and dust

4 Your RGBHV to Component Transcoder

Figure 1 illustrates the front and rear panels of the **FC-14**. Tables 1 and 2 define the front and rear panels of the **FC-14**, respectively.

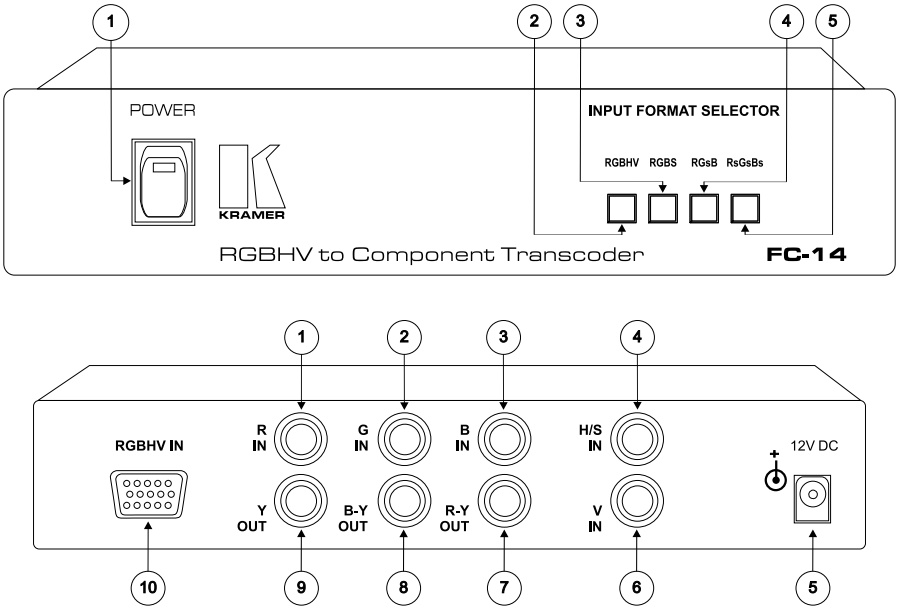

Figure 1: FC-14 RGBHV to Component Transcoder

Table 1: Front Panel FC-14 RGBHV to Component Transcoder

#	Feature	Function
1	*POWER* Switch	Illuminated switch supplying power to the unit
2	*RGBHV* Button	Selects *RGBHV* as the input format
3	*RGBS* Button	Selects *RGBS* as the input format
4	*RGsB* Button	Selects *RGsB* as the input format
5	*RsGsBs* Button	Selects *RsGsBs* as the input format

Table 2: Rear Panel FC-14 RGBHV to Component Transcoder

#	Feature	Function
1	*R IN* BNC Connector	Connects to the component video source when selecting RGB/S or YUV as the input. Automatically detects whether RGBS or RGsB is input when in the RGB mode
2	*G IN* BNC Connector	
3	*B IN* BNC Connector	
4	*H/S IN* BNC Connector	Connects to the horizontal sync input
5	*12V DC*	Power Connector 12 VDC, 80mA
6	*V IN* BNC Connector	Connects to the vertical sync input
7	*R-Y OUT* BNC Connector	Connects to the component video acceptor
8	*B-Y OUT* BNC Connector	
9	*Y OUT* BNC Connector	
10	*RGBHV IN* DB15F Connector	Connects to the component video source

5 Using Your RGBHV to Component Transcoder

You can use your **FC-14** *RGBHV to Component Transcoder* to convert the following source signals to component video signals:

- An RGB source (see section 5.1)
- An RGBS source (see section 5.2)
- An RGBHV source (see section 5.3)
- A VGA source (see section 5.4)

5.1 Converting an RGB Source

You can convert an RGB signal to Y, B-Y, R-Y, via a **FC-14** *RGBHV to Component Transcoder*, as the example in Figure 2 illustrates, as follows:

1. Connect the RGB video camera to the R, G and B BNC inputs.
2. Connect the Y, B-Y, and R-Y outputs to the BETACAM VCR.
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
4. Press the RGsB input format selector.
   The camera's RGB signal converts and outputs to the BETACAM VCR.
5. Switch on the power.
   The Power switch illuminates.

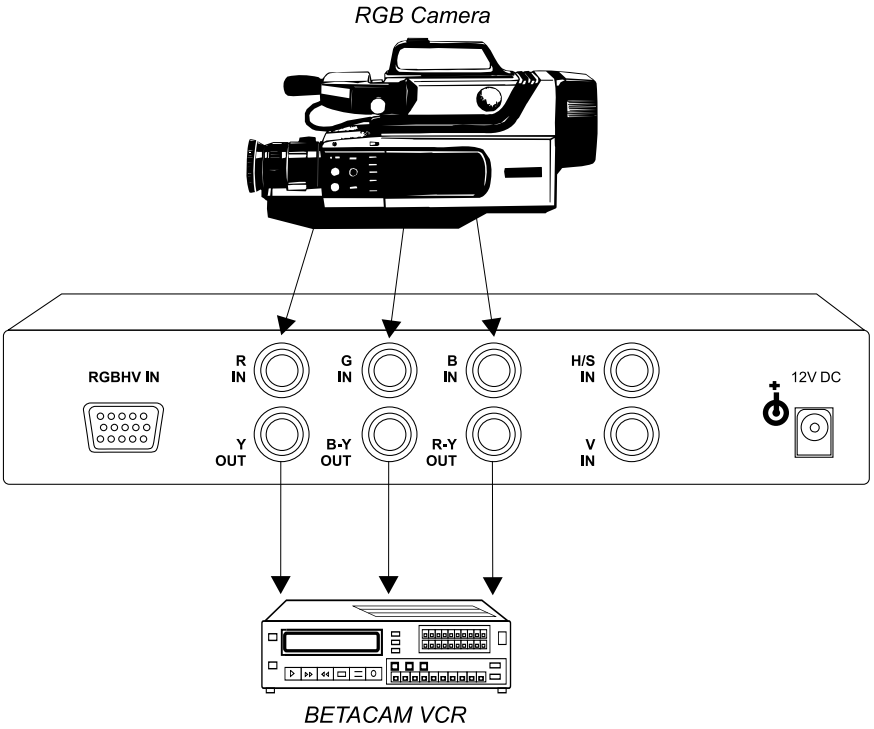

Figure 2: Converting from an RGB Camera to a BETACAM VCR

5.2 Converting an RGBS Source

You can convert an RGBS signal to Y, B-Y, R-Y, via a **FC-14** *RGBHV to Component Transcoder*, as the example in Figure 3 illustrates, as follows:

1. Connect the RGBS workstation to the R, G, B and H/S BNC inputs.
2. Connect the Y, B-Y, and R-Y outputs to the plasma monitor.
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
4. Press the RGBS input format selector.
   The RGBS workstation's signal converts and outputs to the plasma monitor.
5. Switch on the power.
   The Power switch illuminates.

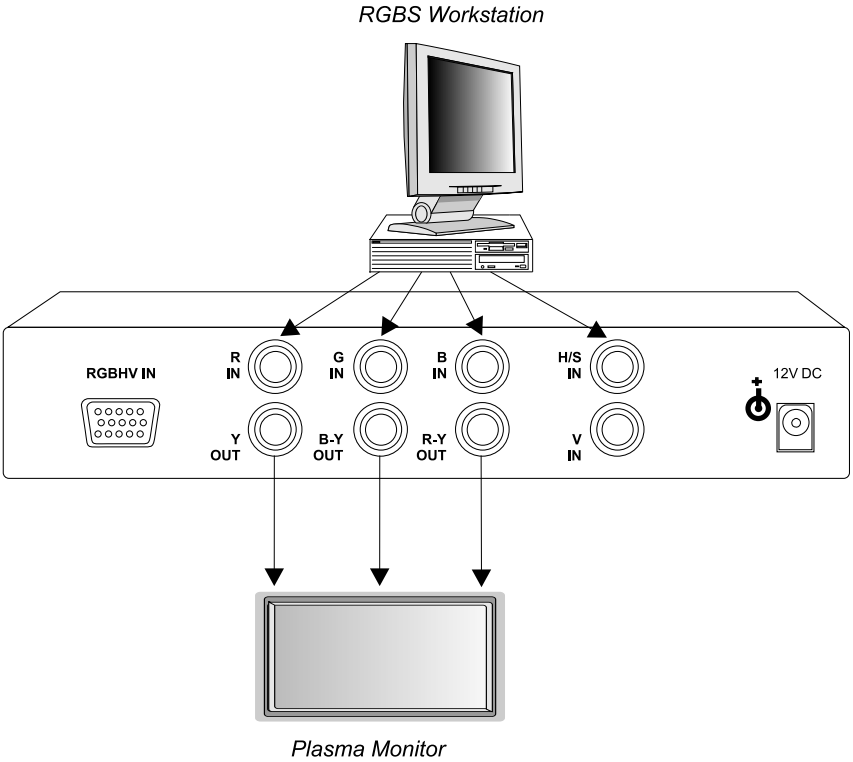

Figure 3: Converting from an RGBS Workstation to a Plasma Monitor

5.3 Converting an RGBHV Source

You can convert an RGBHV signal to Y, B-Y, R-Y, via a **FC-14** *RGBHV to Component Transcoder*, as the example in Figure 4 illustrates, as follows:

1. Connect the high resolution graphics source to the R, G, B, H/S and V BNC inputs.
2. Connect the Y, B-Y, and R-Y outputs to the plasma monitor.
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
4. Press the RGBHV input format selector.
   The signal from the RGBHV high resolution graphics source converts and outputs to the plasma monitor.
5. Switch on the power.
   The Power switch illuminates.

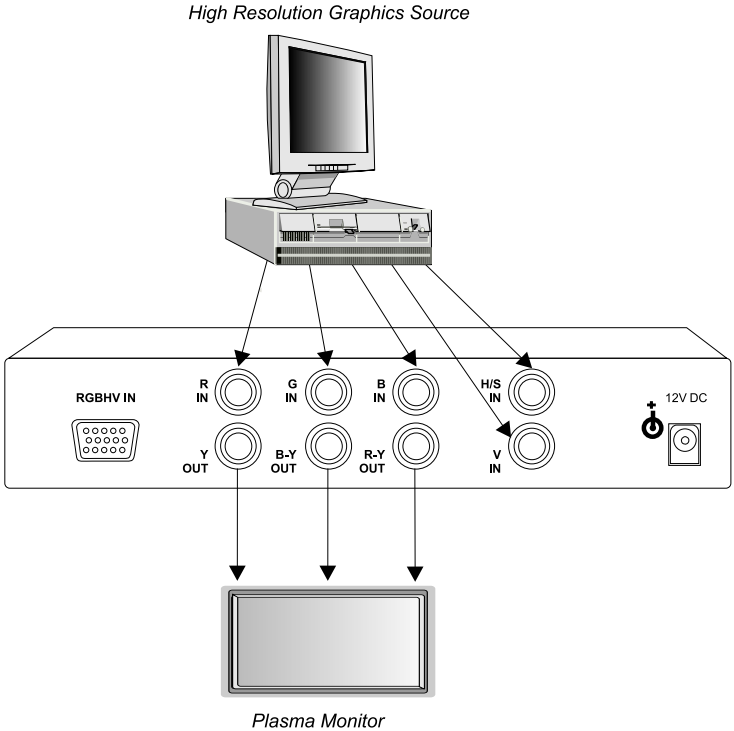

Figure 4: Converting from a High Resolution Graphics Source to a Plasma Monitor

5.4 Converting a VGA Source

You can convert and output a VGA signal (or SVGA, XGA, UXGA) to Y, B-Y, R-Y, via a **FC-14** *RGBHV to Component Transcoder*, as the example in Figure 5 illustrates, as follows:

1. Connect the VGA graphics source to the RGBHV DB15F input connector.
2. Connect the Y, B-Y, and R-Y outputs to the plasma monitor.
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
4. Press the RGsB input format selector.
   The signal from the RGsB VGA graphics source converts and outputs to the plasma monitor.
5. Switch on the power.
   The Power switch illuminates.

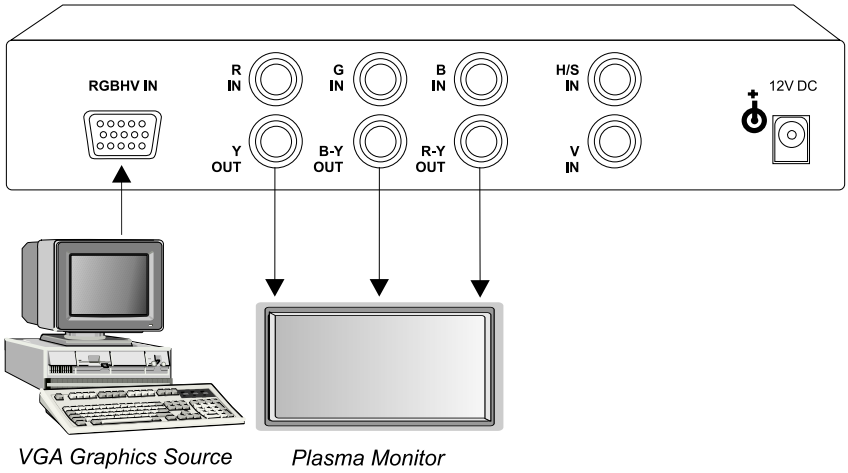

Figure 5: Converting from a VGA Graphics Source to a Plasma Monitor

6 Technical Specifications

Table 3 includes the technical specifications:

Table 3: Technical Specifications of the FC-14 RGBHV to Component Transcoder

Inputs:	R, G, B, H/S and V on BNC connectors; RGBHV IN on a DB15F connector
Outputs:	1 component video - (Y, B-Y, and R-Y) on BNC connectors
Video Bandwidth:	120 MHz -3dB
Max. Video Level:	1.5 Vpp @ green input
Non Linearity:	0.3%
Video S/N:	60 dB
Differential Gain:	0.1%
Differential Phase:	0.4 Deg
K-Factor:	<0.05%
Control:	4 selector buttons
Dimensions:	22cm x 18cm x 4.5cm (8.6" x 7" x 1.8") W, D, H.
Power Source:	12 VDC, 80mA
Weight:	1.2 kg. (2.65 lbs.) approx.
Accessories:	Power supply

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for three years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   - ii) Product modification, or failure to follow instructions supplied with the product
   - iii) Repair or attempted repair by anyone not authorized by Kramer
   - iv) Any shipment of the product (claims must be presented to the carrier)
   - v) Removal or installation of the product
   - vi) Any other cause, which does not relate to a product defect
   - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.
NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.
This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B – Unintentional radiators"

CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com.
Updates to this user manual may be found at http://www.kramerelectronics.com/manuals.html.
We welcome your questions, comments and feedback.

Kramer Electronics, Ltd.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com
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