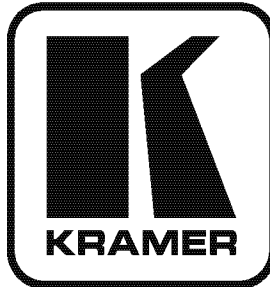


**Kramer Electronics, Ltd.**



# **USER MANUAL**

**Model:**

**FC-10Dxl**

*Composite-YC-Component Transcoder*

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## 1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 1,000-plus different models now appear in 11 groups<sup>1</sup> that are clearly defined by function.

Congratulations on purchasing your Kramer **FC-10Dxl** *Composite-YC-Component Transcoder*, which is ideal for the following typical applications:

- Video production, editing and duplication studios
- Interfacing between machines with differing formats

The package includes the following items:

- **FC-10Dxl** *Composite-YC-Component Transcoder*
- Power adapter (12V DC Input)

## 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
- Use Kramer high performance high resolution cables<sup>2</sup>

### 2.1 Quick Start

This quick start chart summarizes the basic setup and operation steps.

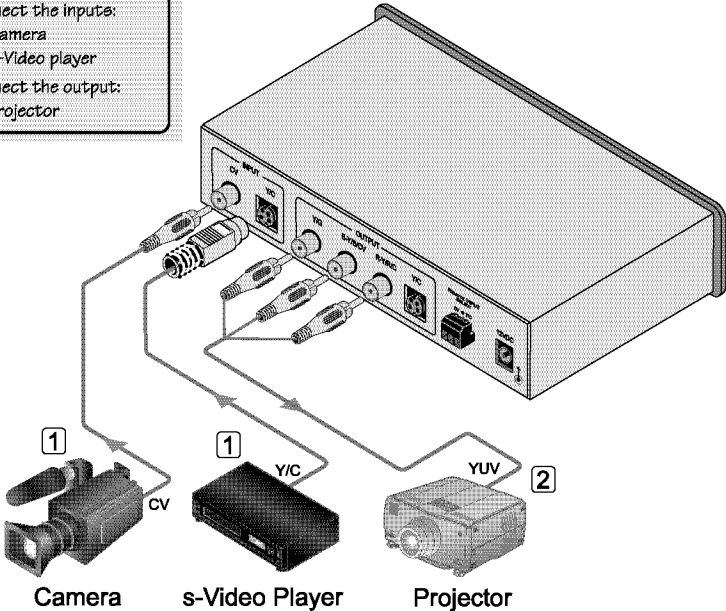
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1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

2 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com>

**Step 1: Connect the Machine**

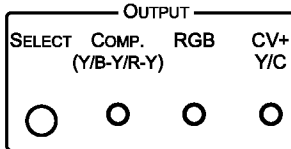
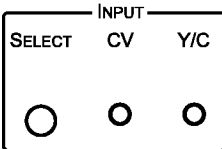
- 1 Connect the inputs:
  - Camera
  - s-Video player
- 2 Connect the output:
  - Projector



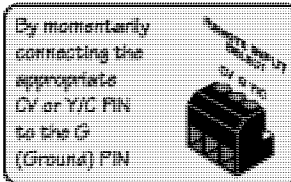
**Step 2: Connect the power**

**Step 3: Select the input and the output**

VIA THE FRONT PANEL BUTTONS:



SELECT THE INPUT VIA THE REMOTE PINS:



### 3 Overview

The **FC-10Dx1** is a high-performance video format converter for composite and s-Video (Y/C) signals. The unit converts a composite video or s-Video input through a digital comb filter to a composite and s-Video (Y/C) or component (YUV/RGB<sup>1</sup>) video output.

The **FC-10Dx1** features:

- Selectable inputs - one composite (RCA connector) and one s-Video (4-pin connector)
- Format conversion - Transcodes composite video and s-Video to component video, RGB<sup>1</sup>, or composite video and s-Video
- One component video output and one composite video output on RCA connectors, as well as one s-Video output (on RCA connectors/4-pin connector)
- A front panel input select button and an output format select button
- A contact closure remote input select terminal block connector
- 3D comb filtering for best quality color separation
- PAL/NTSC compatibility
- Compact size. Two units can be rack mounted side-by-side in a 1U rack space with the optional **RK-1** rack kit

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
- Position your Kramer **FC-10Dx1** in a location free from moisture and away from excessive sunlight and dust



**Caution** – No operator-serviceable parts inside unit.

**Warning** – Use only the Kramer Electronics input power wall adapter that is provided with this unit<sup>2</sup>.

**Warning** – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

<sup>1</sup> Defined as RsGsBs (that is, there is sync on all three components of the RGB outputs)

<sup>2</sup> For example: model number AD2512C, part number 2535-000251

## 4 Your FC-10Dxl Composite-YC-Component Transcoder

Figure 1 and Table 1 define the **FC-10Dxl**.

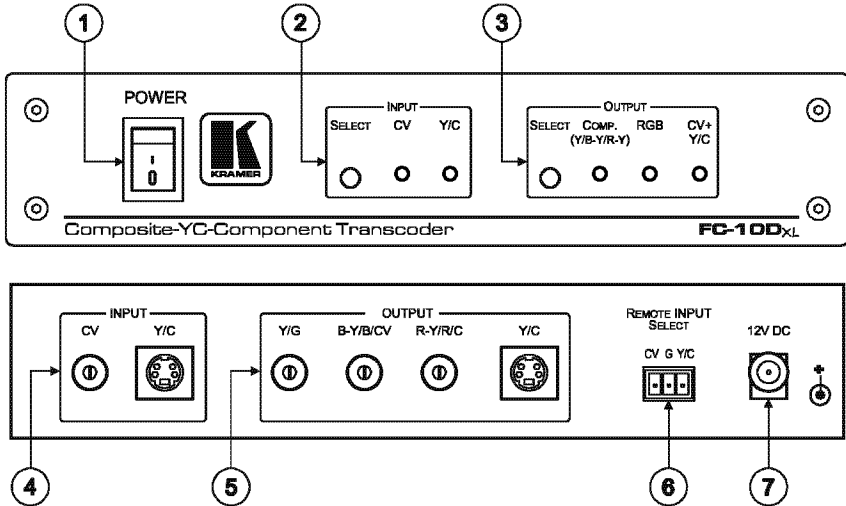


Figure 1: FC-10Dxl Composite-YC-Component Transcoder

Table 1: FC-10Dxl Composite-YC-Component Transcoder Features

#	Feature	Function	
1	POWER Switch	Illuminated switch for turning the unit ON or OFF	
2	INPUT Area	SELECT Button	Press to select the input format (CV or Y/C)
		CV LED	Lights when the CV input is selected
		Y/C LED	Lights when the Y/C input is selected
3	OUTPUT Area	SELECT Button	Press to select the desired output format
		COMP. (Y/B-Y/R-Y) LED	Lights when the component video output format is selected
		RGB LED	Lights when the RsGsBs output format is selected
		CV+Y/C LED	Lights when the CV as well as the Y/C output format is selected
4	INPUT	CV RCA Connector	Connect to the CV source
		Y/C 4-pin Connector	Connect to the s-Video source
	OUTPUT	Y/G RCA Connector	Connect to the CV (via B-Y/B/CV) and/or to the s-Video <sup>1</sup> (Y/G and R-Y/R/C) acceptor, or to the component acceptor
		B-Y/B/CV RCA Connector	
R-Y/R/C RCA Connector			
	Y/C 4-pin Connector	Connect to the s-Video <sup>1</sup> acceptor	
6	REMOTE INPUT SELECT Terminal Block Connector	Connect to contact closure switches (see section 5.1)	
7	12V DC	+12V DC connector for powering the unit	

<sup>1</sup> If the s-Video acceptor is connected to the Y/C 4-pin connector, you cannot connect to the Y/G and R-Y/R/C RCA connectors and vice versa

## 5 Connecting the FC-10Dxl Composite-YC-Component Transcoder

To connect the **FC-10Dxl**, as the example in Figure 2 illustrates, do the following<sup>1</sup>:

1. Connect one or both of the following sources:
  - A composite video source (for example, a camera) to the CV INPUT RCA connector
  - A Y/C source (for example, an s-Video player) to the 4-pin INPUT connector
2. Connect the Y/G, B-Y/B/CV, and R-Y/R/C RCA connectors to the component video acceptor (for example, a projector)<sup>2</sup>.
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity<sup>3</sup>.

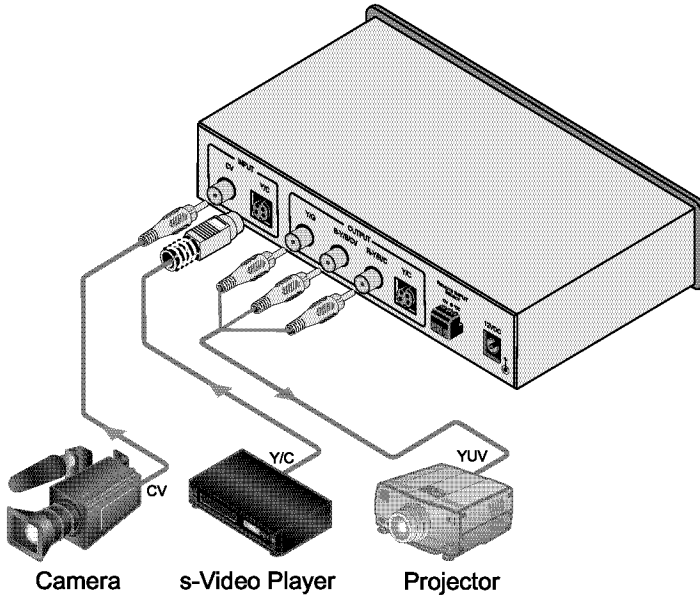


Figure 2: Connecting the FC-10Dxl Composite-YC-Component Transcoder

1 Switch OFF the power on each device before connecting it to your FC-10Dxl. After connecting your FC-10Dxl, switch on its power and then switch on the power on each device

2 Alternatively, you can connect a CV, Y/C or RGB acceptor to the RCA connectors, or an s-Video acceptor to the Y/C 4-pin connector

3 Not illustrated in Figure 2

## 5.1 Controlling via the REMOTE INPUT SELECT Connector

The contact closure remote control pins operate in a similar way to the input selector buttons. Using the contact closure remote control lets you select an input by remote control. To do so, temporarily connect the required input (CV or Y/C) pin on the REMOTE INPUT SELECT terminal block connector to the G (ground) pin, as illustrated in the examples in Figure 3.

**DO NOT connect more than one PIN to the G PIN at the same time**

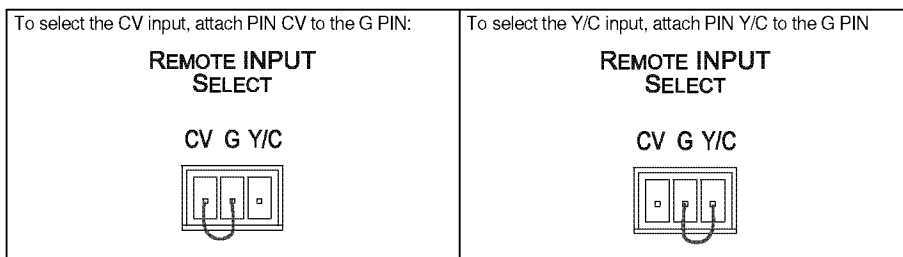


Figure 3: Connecting the REMOTE INPUT SELECT Connector

## 6 Technical Specifications

Table 2 includes the technical specifications:

Table 2: Technical Specifications<sup>1,2</sup> of the FC-10Dxl

INPUTS:	1 CV on an RCA connector, 1 YC on a 4-pin connector
OUTPUTS:	3 RCA connectors: Y/G, B-Y/B/CV and R-Y/R/C, for use as CV, Y/C, RGB <sup>3</sup> , or Component (Y/B-Y/R-Y); 1 Y/C on a 4-pin connector
BANDWIDTH (-3dB):	5MHz
DIFF. GAIN:	0.35%
DIFF. PHASE:	0.25 Deg.
K-FACTOR:	0.4%
S/N RATIO:	66.3dB
CROSSTALK (all hostile):	<-66dB
CONTROLS:	Input selector and output format selector pushbuttons
POWER SOURCE:	12V DC, 210mA
DIMENSIONS:	21.5cm x 16.2cm x 4.4cm (8.46" x 6.38" x 1.73"), W, D, H
WEIGHT:	0.3kg (0.67lbs) approx.
ACCESSORIES:	Power supply (2V)
OPTIONS:	RK-1 rack kit

<sup>1</sup> Specifications are subject to change without notice

<sup>2</sup> Specifications are shown for PAL CV input and YC output, unless otherwise stated

<sup>3</sup> Defined as RsGsBs (that is, there is sync on all three components of the RGB outputs)



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## 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 seven 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](http://www.kramerelectronics.com).
2. Any product, on which the serial number has been defaced, modified or removed, or on which the WARRANTY VOID IF TAMPERED sticker has been torn, reattached, removed or otherwise interfered with.
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 installation 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 your 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.


\* FCC and CE approved using STP cable (for twisted pair products)





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**For the latest information on our products and a list of Kramer distributors, visit our Web site: [www.kramerelectronics.com](http://www.kramerelectronics.com), where updates to this user manual may be found. We welcome your questions, comments and feedback.**

 <p><b>Caution</b></p>	<p><b>Safety Warning:</b> Disconnect the unit from the power supply before opening/servicing.</p>
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**Kramer Electronics, Ltd.**  
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