# Kramer Electronics, Ltd.



# USER MANUAL

## Model:

**VP-417**

*Video to PC/HD/DVI Scaler*

# Contents

## Figures

## Tables

# 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[1] that are clearly defined by function.

Thank you for purchasing your Kramer **VP-417** *Video to PC/HD/DVI Scaler* which is ideal for:

- Projection systems in conference rooms, boardrooms, hotels and houses of worship
- Home theater up-scaling

The package includes the following items:

- **VP-417** *Video to PC/HD/DVI Scaler*
- Power adapter (5V DC output)
- This user manual[2]

# 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[3]

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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 Download up-to-date Kramer user manuals from http://www.kramerelectronics.com

3 The complete list of Kramer cables is on http://www.kramerelectronics.com

## 2.1 Quick Start

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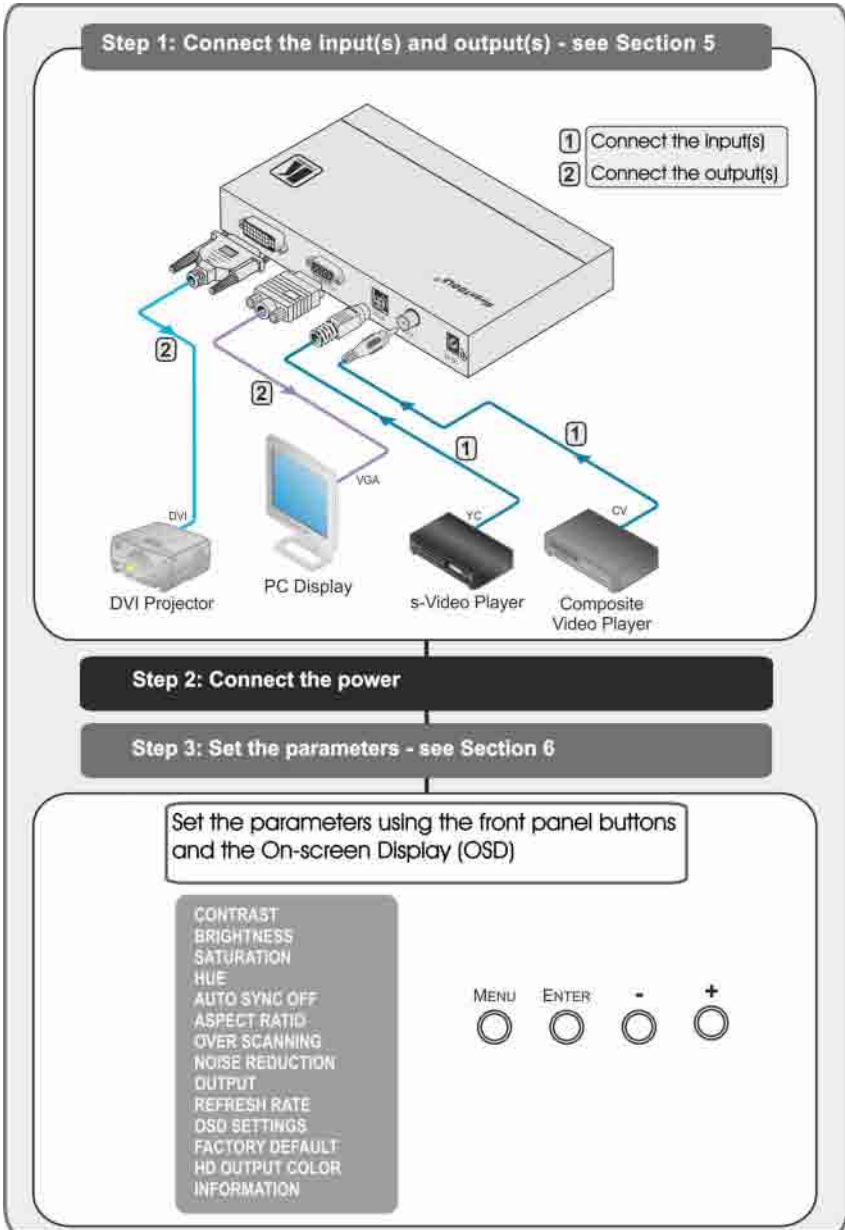
# 3 Overview

The Kramer **VP-417** *Video to PC/HD/DVI Scaler* is a high-performance digital scaler for computer graphics and HDTV signals. It up-scales composite and Y/C (s-Video) signals to resolutions up to WUXGA (HD). The following output resolutions are supported:

- **PC**: XGA (1024x768), WXGA (1280x800), SXGA (1280x1024), UXGA (1600x1200), WUXGA (1920x1200)
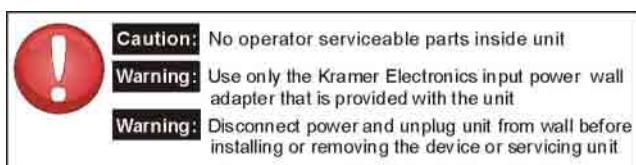- **HDTV**: 480p, 576p, 720p @50/60Hz, 1080i @50/60Hz, 1080p @50/60Hz

The **VP-417** *Video to PC/HD/DVI Scaler* also features:

- An On-Screen Display (OSD) for easy setup and adjustment, accessible via the front-panel buttons
- A built-in ProcAmp for convenient signal adjustment
- A non-volatile memory that retains the last settings used
- RGBHV (PC) and DVI video outputs
- An external +5V DC power source, making it suitable for field operation

You can operate your **VP-417** directly via the front panel push buttons and the OSD.

To achieve the best performance:

- Use only good quality connection cables[1] to avoid 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 **VP-417** away from moisture, 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 the unit

**Warning:** Disconnect power and unplug unit from wall before installing or removing the device or servicing unit

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1 Available from Kramer Electronics on our Web site at http://www.kramerelectronics.com

# 4 Defining the VP-417 Video to PC/HD/DVI Scaler

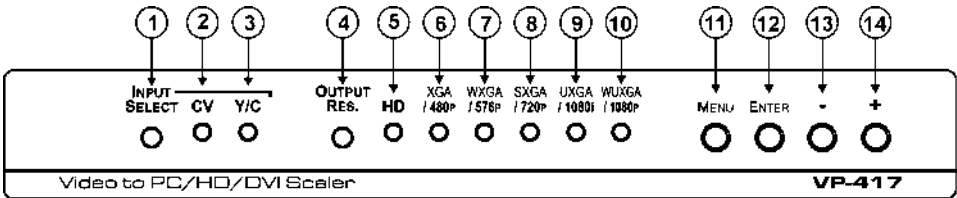Figure 1 and Table 1 define the **VP-417** *Video to PC/HD/DVI Scaler* front panel features.



*Figure 1: VP-417 Video to PC/HD/DVI Scaler Front Panel*

*Table 1: VP-417 Video to PC/HD/DVI Scaler Front Panel Features*

| # | Feature | | Function |
|---|---------|---|----------|
| 1 | *INPUT SELECT* | Input selector button | Press to toggle between the CV or the Y/C (s-Video) input |
| 2 | *CV* Input LED | Input source selection LEDs | Lights green when the CV input is selected |
| 3 | *Y/C* Input LED | | Lights green when the Y/C input is selected |
| 4 | *OUTPUT RES.* | Output resolution selector button | Press to display (OSD) the current output resolution. Press again to cycle through the output resolutions (see Section 6.1). Individual LEDs indicate the current resolution |
| 5 | *HD* LED | Output resolution LEDs | Lights blue to indicate that the (HD) 480p to 1080p range[1] is selected.  LED is off when the (PC) XGA to WUXGA range[2] is selected |
| 6 | *XGA/480p* LED | | Lights red when XGA or 480p is selected |
| 7 | *WXGA/576p* LED | | Lights red when WXGA or 576p is selected |
| 8 | *SXGA/720p* LED | | Lights red when SXGA or 720p is selected |
| 9 | *UXGA/1080i* LED | | Lights red when UXGA or 1080i is selected |
| 10 | *WUXGA/1080p* LED | | Lights red when WUXGA or 1080p is selected |
| 11 | *MENU* button | OSD (On-screen Display) buttons | Press to enter/exit the menu |
| 12 | *ENTER* button | | Press to select the highlighted menu item |
| 13 | *–* Button | | Press to step down through the menu options or to decrement a parameter value |
| 14 | *+* Button | | Press to step up through the menu options or to increment a parameter value |

Figure 2 and Table 2 define the **VP-417** *Video to PC/HD/DVI Scaler* rear panel features.

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1 The resolution printed on the bottom row of text above the resolution LEDs

2 The resolution printed on the upper row of text above the resolution LEDs
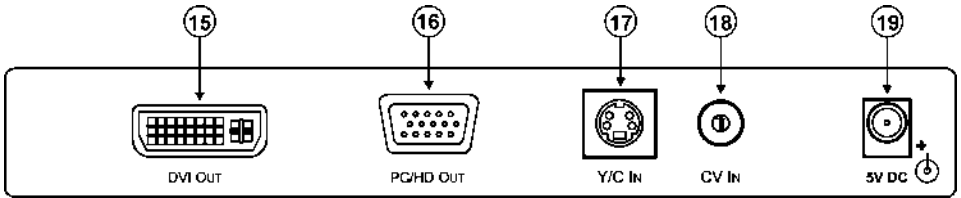
*Figure 2: VP-417 Video to PC/HD/DVI Scaler Rear Panel*

*Table 2: VP-417 Video to PC/HD/DVI Scaler Rear Panel Features*

| # | Feature | | Function |
|---|---------|---|----------|
| 15 | *DVI OUT* Connector | Outputs | Connect to the DVI acceptor |
| 16 | *PC/HD OUT* 15-pin HD Connector | | Connect to the PC, RGBHV or HD acceptor |
| 17 | *Y/C IN* 4-pin s-Video Connector | Inputs | Connect to the s-Video source |
| 18 | *CV IN* RCA Connector | | Connect to the composite video source |
| 19 | *5V DC* | | Connect to the +5V DC power adapter, center pin positive |

## 5    Connecting the VP-417 Video to PC/HD/DVI Scaler

**To connect the VP-417, as illustrated in the example in** <u>Figure 3</u>**:**
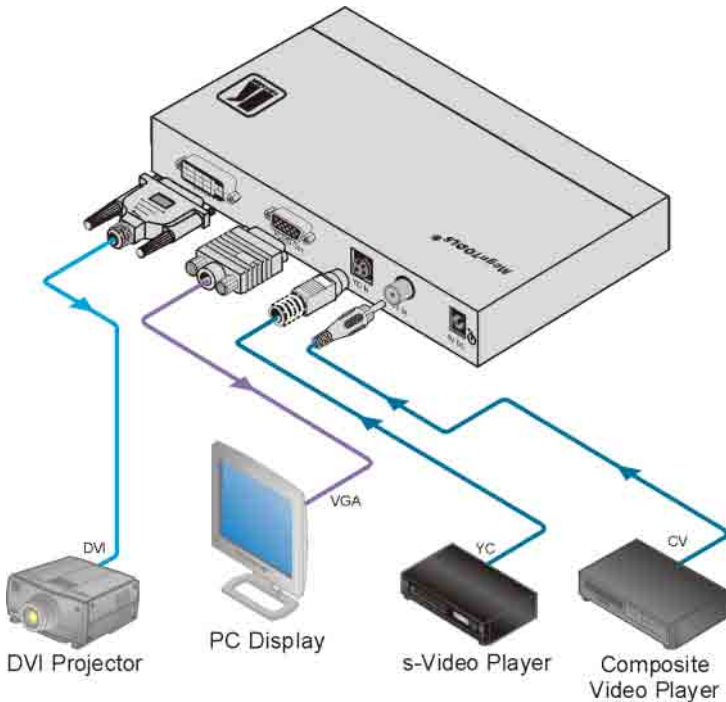


*Figure 3: Connecting the VP-417 Video to PC/HD/DVI Scaler*

1. Connect a CV source (for example, a composite video player) to the CV IN connector.
2. Connect a Y/C source (for example, an s-Video player) to the Y/C IN connector.
3. Connect the PC/HD OUT 15-pin HD connector to a PC/HD acceptor (for example, a PC display or HDTV acceptor) as follows:
   - When connecting to a VGA acceptor (RGBHV), connect to the acceptor's VGA connector
   - When connecting to a component acceptor (YPbPr), connect as shown in Table 3

*Table 3: 15-pin HD Pinout for HD*

| PIN # | Signal |
|-------|--------|
| 1 | Pr |
| 2 | Y |
| 3 | Pb |
| 6, 7, 8 | Ground |

4. Connect the DVI OUT connector to a DVI[1] acceptor (for example, a DVI projector).
5. Connect the 5V DC power adapter to the power socket and to the mains electricity (not shown in Figure 3).

# 6 Operating the VP-417 Video to PC/HD/DVI Scaler

The **VP-417** is operated directly via the front panel buttons and via the OSD (On-screen Display) menu (see Section 6.2).

## 6.1 Using the Front Panel Buttons

During normal operation (without the OSD), the front panel buttons operate in the following manner:

- **INPUT SELECT**: Toggles between the CV and Y/C inputs
- **OUTPUT RESOLUTION** : Cycles through the following output resolutions after displaying the current output resolution;
  - HD LED off: XGA, WXGA, SXGA, UXGA and WUXGA
  - HD LED on: 480p, 576p, 720p, 1080i and 1080p
- **MENU**: Opens the OSD main menu (see Section 6.2). Press a second time to close the OSD
- **ENTER**: Selects the highlighted menu item or parameter

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1 Or HDMI

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## 6.2 Using the OSD

You can use the OSD to set a wide variety of parameters.

When using the OSD, the front panel buttons operate in the following manner:

- **MENU**: Opens the OSD main menu (see Table 4). Press a second time to close the OSD
- **ENTER**: Selects the highlighted menu option or parameter
- **–** : Steps up through the menu options or decrements a parameter value
- **+** : Steps down through the menu options or increments a parameter value

### Example of Setting a Parameter

The following steps are an example of setting parameters to increase the saturation on the display:

1. From normal operation[1], press MENU.
   The OSD Main Menu appears on the screen.
2. Press the + or – button to highlight SATURATION.
   SATURATION changes to green when highlighted.
3. Press ENTER.
   The saturation parameter changes to red.
4. Press the + button to increase the value or the – button to decrease the value.
5. Press ENTER to set the value.
   The saturation parameter changes to white.
6. To return to normal operation, either:
   - Press MENU
   - Wait until the menu times out automatically

### 6.2.1 The Main Menu

Table 4 defines the Main Menu parameters and functions.

*Table 4: The Main Menu Parameters and Functions*

| Parameter | Function | Value Range | Factory Default |
|-----------|----------|-------------|-----------------|
| CONTRAST | Adjusts the contrast | 0 to 255 | 128 |
| BRIGHTNESS | Adjusts the brightness | 0 to 255 | 128 |
| SATURATION | Adjusts the saturation | 0 to 255 | 128 |
| HUE | Adjusts the hue | -128 to 128 (Not available in PAL) | 000 |
| AUTO SYNC OFF | Turns auto sync on/off[2] | ON/OFF | OFF |
| ASPECT RATIO | Adjusts the aspect ratio of the output | FULL/4:3/16:9 | FULL |
| OVER SCANNING | Adjusts the over scanning value | OFF/5%/10%/15%/20% | 5% |
| NOISE REDUCTION | Adjusts the noise reduction filter | Off/Typ/Min/Max | Typ |

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1 That is, the user is not within the OSD menu

2 When on, the VP-417 disables its output syncs after a few minutes when no input source is detected. This feature is useful for applications where the projector should automatically shut down when no source is present

| Parameter | Function | Value Range | Factory Default |
|-----------|----------|-------------|-----------------|
| OUTPUT | Adjusts the output resolution | 480p, 576p, 720p, 1080i, 1080p, VGA, SVGA, XGA, 1280x800, WXGA, WSXGA, SXGA, 1400x1050, 1680x1050, UXGA, WUXGA, 1920x1080, Native (see Section 6.3) | XGA |
| REFRESH RATE | Sets the output refresh rate | FOLLOW/50Hz/60Hz (50Hz/60Hz not available with 480p and 576p resolutions) | FOLLOW |
| OSD SETTINGS | Submenu— Adjusts On-screen Display parameters (see Section 6.2.2) | | |
| FACTORY DEFAULT | Reverts all parameters to factory defaults | | |
| HD OUTPUT COLOR | Sets the color format of the output resolution (see note below) | YPbPr, RGBHV | RGBHV |
| INFORMATION | Displays input source, output resolution and firmware version | | |

**Note**: If HD OUPUT COLOR is set to YPbPr, when an HD resolution is selected (for example, 480P/576p), the color space will be YPbPr. For RGBHV resolutions (for example, 1280x1024), the output is always in the RGBHV color space.

### 6.2.2  The OSD Settings Submenu

The OSD Settings Submenu allows you to adjust the location, timeout and transparency of the OSD (see Table 5).

*Table 5: The OSD Submenu Parameters and Functions*

| Parameter | Function | Value Range | Factory Default |
|-----------|----------|-------------|-----------------|
| DISPLAY | Displays the input and output information | Info—Displays for a few seconds On—Always on Off—Always OFF | |
| H POSITION | Adjusts the OSD horizontal position | 0 to 42 | 007 |
| V POSITION | Adjusts the OSD vertical position | 0 to 24 | 005 |
| TIMEOUT | Adjusts the OSD menu timeout (in seconds) | Off, 3 to 30 | 005 |
| TRANSPARENCY | Adjusts the OSD transparency | 0 to 15 | 010 |
| EXIT | Exits the OSD Settings submenu to the Main Menu (see Table 4) | | |

## 6.3  Native Output Resolution

When the output resolution is set to Native, the **VP-417** reads the EDID of the display and sets the output resolution accordingly.

# 7 Technical Specifications

Table 6 lists the technical specifications[1] of the **VP-417**.

*Table 6: Technical Specifications of the VP-417 Video to PC/HD/DVI Scaler*

| | |
|---|---|
| INPUTS: | 1 Y/C (s-Video) 1Vpp (Y); 0.3Vpp (C)/75Ω on a 4-pin connector |
| | 1 CV 1Vpp/75Ω on an RCA connector |
| OUTPUTS: | 1 Digital Video on a DVI-I connector |
| | 1 VGA on a 15-pin HD (F) connector |
| OUTPUT RESOLUTIONS[2]: | PC: VGA, SVGA, XGA, 1280x800, WXGA, WSXGA, SXGA, 1400x1050, 1680x1050, UXGA, WUXGA, 1920x1080, Native |
| | HDTV: 480p, 576p, 720p @50/60Hz, 1080i @50/60Hz, 1080p @50/60Hz |
| OUTPUT REFRESH RATE: | 60Hz for computer graphics resolutions, 50/60Hz for HDTV resolutions |
| CONTROLS: | Input selection, Output resolution selection, Menu, Enter, – and + buttons |
| POWER SOURCE: | 5V DC, 560mA |
| DIMENSIONS: | 18.8cm x 11.4cm x 2.4cm (7.4" x 4.5" x 1.0")  W, D, H |
| WEIGHT: | 0.66kg (1.45lbs) approx. |
| ACCESSORIES: | Power supply |
| OPTIONS | RK-T2B 19" rack adapter |

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1 Specifications are subject to change without notice

2 All resolutions are outputted @ 60Hz, except where noted

## 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, 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 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.

   * 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** www.kramerelectronics.com **where updates to this user manual may be found. We welcome your questions, comments and feedback.**

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