# Kramer Electronics, Ltd.



# USER MANUAL

## Model:

**VP-32K**

*3x1 PC / Audio Switcher*

# Contents

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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[1] that are clearly defined by function.

Congratulations on purchasing your Kramer **VP-32K** *3x1 PC / Audio Switcher*.

The **VP-32K** is ideal for:

- Display and presentation systems that require three way switching to two displays
- Multimedia applications
- Computer graphics and balanced stereo audio distribution

The package includes the following items:

- **VP-32K** *3x1 PC / Audio Switcher*
- Power adapter (5V DC Input)
- 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]

## 2.1 Quick Start

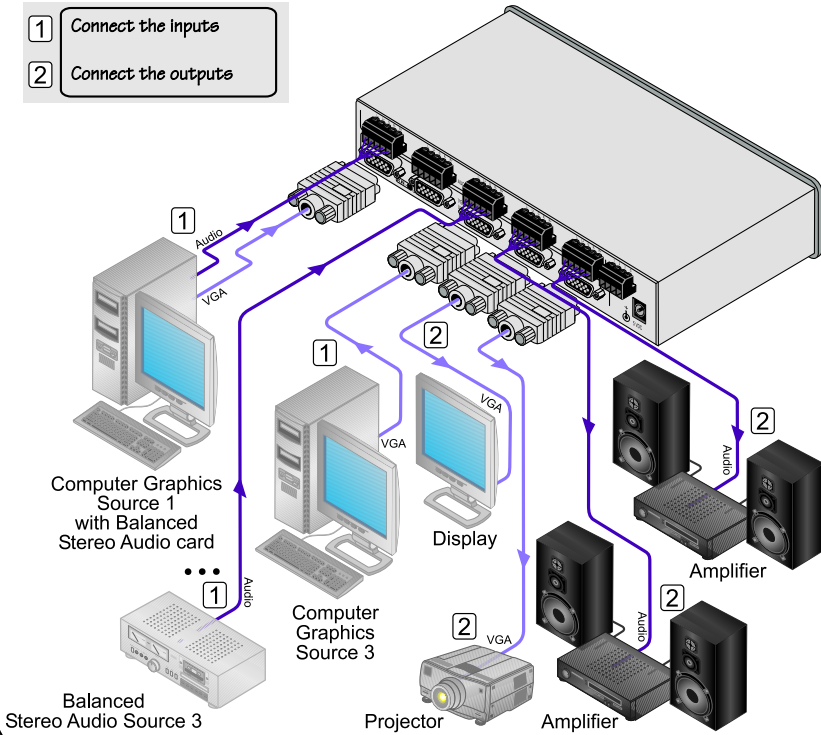This quick start chart summarizes the basic setup and operation steps.

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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 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

3 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

2 Connect the outputs

1 Audio

VGA

Computer Graphics
Source 1
with Balanced
Stereo Audio card

1 Audio

Balanced
Stereo Audio Source 3

1 VGA

Computer
Graphics
Source 3

VGA

Display

2 VGA

Projector

2 VGA

Amplifier

2 Audio

Amplifier

2 Audio
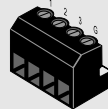
## Step 2: Connect the power

## Step 3: Control the machine

VIA THE FRONT PANEL BUTTONS

INPUT SELECTOR

1    2    3

VIA THE REMOTE PINS

By momentarily connecting the
appropriate input number PIN (1,
2 or 3) to the G
(Ground) PIN

# 3   Overview

The **VP-32K** routes any input to both outputs, using 15-pin HD female connectors for the computer graphics video signals and detachable terminal block connectors for the balanced stereo audio signals.

In particular, the **VP-32K**:

- With its video bandwidth of 420MHz, ensures transparent operation at the highest resolutions
- Features audio-follow-video (AFV) in which all operations relate to both the video and the audio channels
- Includes the Kramer innovative integrated sync processing; KR – ISP™ technology, which lets you achieve a sharp, stable image when the sync level is too low, by restoring the sync signal waveform

Control the **VP-32K** using the front panel buttons, or the remote contact closure for forced operation.

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 **VP-32K** 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 this unit[1].
>
> **Warning** – Disconnect power and unplug unit from wall before installing or removing device or servicing unit.

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1 For example, part number 2535-052002

# 4 Your VP-32K 3x1 PC / Audio Switcher

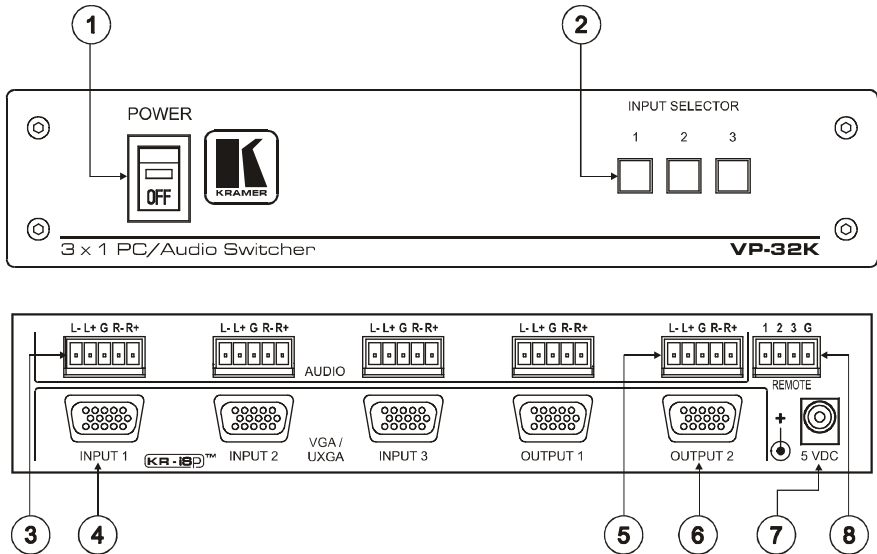Figure 1 and Table 1 define the **VP-32K** *3x1 PC / Audio Switcher*:



*Figure 1: VP-32K 3x1 PC / Audio Switcher*

*Table 1: Front Panel VP-32K 3x1 PC / Audio Switcher Features*

| # | Feature | Function |
|---|---------|----------|
| 1 | *POWER* Switch | Illuminated switch supplying power to the unit |
| 2 | *INPUT SELECTOR* Buttons | Select the input (from 1 to 3) to switch to the outputs. The selected button illuminates |
| 3 | *INPUT* Terminal Block Connector | Connect to the balanced stereo audio sources (from 1 to 3) |
| 4 | *INPUT* 15-pin HD Connectors | Connect to the VGA/UXGA sources (from 1 to 3) |
| 5 | *OUTPUT* Terminal Block Connector | Connect to the balanced stereo audio acceptors (from 1 to 2) |
| 6 | *OUTPUT* 15-pin HD Connectors | Connect to the VGA/UXGA acceptors (from 1 to 2) |
| 7 | *5V DC* | +5V DC connector for powering the unit |
| 8 | *REMOTE* Terminal Block Connector | Connect to contact closure switches (see section 5.2) |

## 5  Connecting theVP-32K 3x1 PC / Audio Switcher

To connect your **VP-32K** *3x1 PC / Audio Switcher*, as the example in Figure 2 illustrates, do the following[1]:

1. Connect up to three[2] VGA/UXGA sources to the three 15-pin HD input connectors, and connect up to three balanced[3] stereo audio sources to the three AUDIO input terminal block connectors, as follows:
   - Connect the source 1 (for example, a PC with a balanced stereo audio card) to the INPUT 1 15-pin HD connector, and to the INPUT 1 terminal block connector
   - Connect the source 3 (for example, a PC) to the INPUT 3 15-pin HD connector and connect a balanced stereo audio source to the INPUT 3 terminal block connector

2. Connect the two 15-pin HD output connectors to up to[4] two VGA/UXGA acceptors and connect the corresponding AUDIO output terminal block connectors to the balanced[3] stereo audio acceptors, as follows:
   - Connect the OUTPUT 1 15-pin HD connector to the VGA/UXGA acceptor 1 (for example, a display), and connect the OUTPUT 1 terminal block connector to the balanced stereo audio acceptor 1 (for example, a power amplifier with speakers)
   - Connect the OUTPUT 2 15-pin HD connector to the VGA/UXGA acceptor 2 (for example, a projector), and connect the OUTPUT 2 terminal block connector to the balanced stereo audio acceptor 2 (for example, a power amplifier with speakers)

3. If required, connect[5] the REMOTE Connector, see section 5.2.

4. Connect the 5V DC power adapter to the power socket and connect the adapter to the mains electricity[5].

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1 Switch OFF the power on each device before connecting it to your VP-32K. After powering up your VP-32K, switch on the power on each device

2 When less than 3 inputs are required, connect only those inputs to the VP-32K and leave the other inputs unconnected

3 See section 5.1 for details of how to wire a balanced/unbalanced stereo audio input/output

4 When only one output is required, connect only that output of the VP-32K and leave the other output unconnected
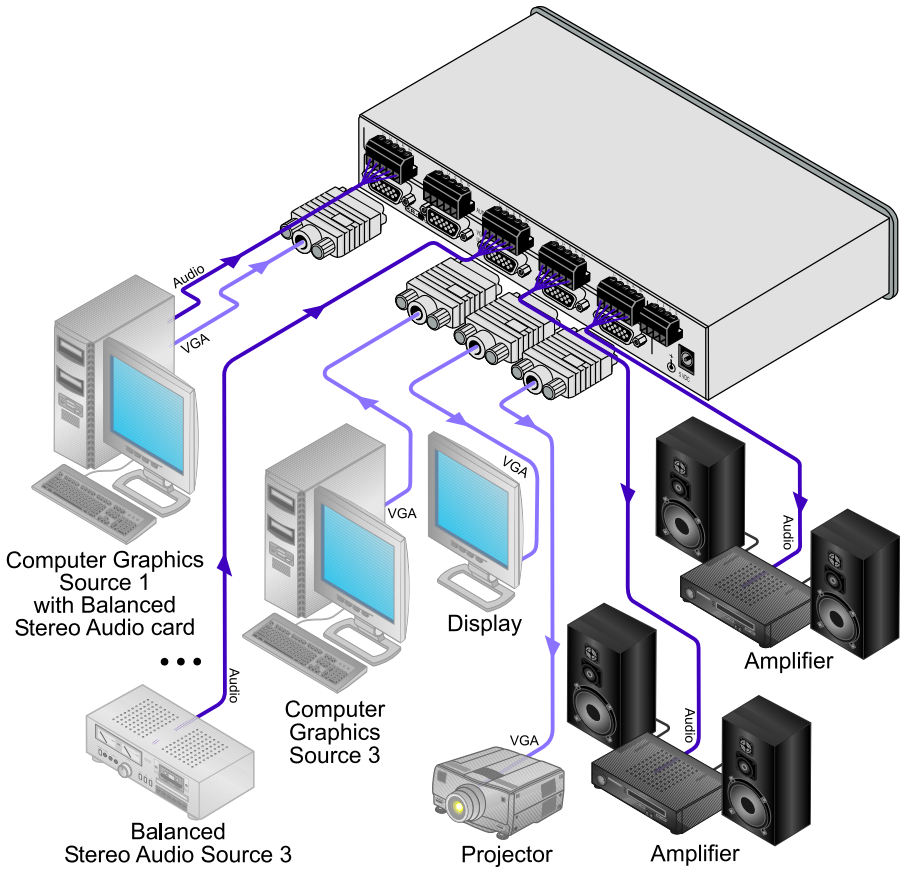
5 Not illustrated in Figure 2

*Figure 2: Connecting the VP-32K 3x1 PC / Audio Switcher*

## 5.1 Connecting the Balanced/Unbalanced Stereo Audio Input/Output

Figure 3, Figure 4, and Figure 5 illustrate how to wire a balanced/unbalanced input and/or output connection:
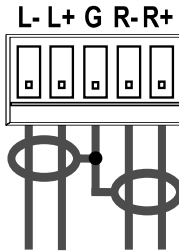


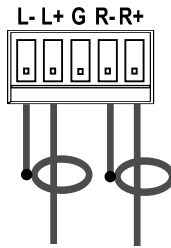*Figure 3: Connecting the Balanced Stereo Audio Input/Output*



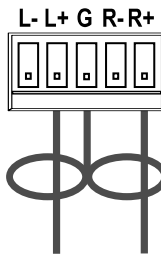*Figure 4: Connecting the Unbalanced Stereo Audio Input*



*Figure 5: Connecting the Unbalanced Stereo Audio Output*

## 5.2 Controlling via the REMOTE 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 route an input to the outputs by remote control. To do so, temporarily connect the required input (from 1 to 3) pin on the REMOTE terminal block connector to the G (ground) pin, as illustrated in the examples in Figure 6. The appropriate front panel push button illuminates as the selected input routes to both outputs.

**DO NOT** connect more than one PIN to the G PIN at the same time and **DO NOT** interconnect PIN 1, PIN 2 or PIN 3
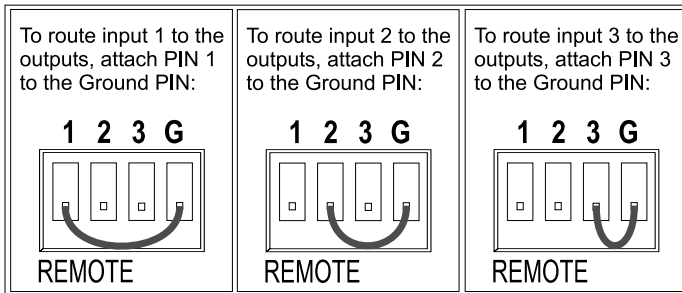


*Figure 6: Connecting the REMOTE Connector*

# 6 Technical Specifications

Table 2 includes the technical specifications:

*Table 2: Technical Specifications[1] of the VP-32K 3x1 PC / Audio Switcher*

| | | |
|---|---|---|
| INPUTS: | 3 UXGA on 15-pin HD connectors<br>3 balanced stereo audio 10kΩ on 5-PIN terminal block connectors | |
| OUTPUTS: | 2 UXGA on 15-pin HD connectors<br>2 balanced stereo audio on 5-PIN terminal block connectors | |
| MAX. OUTPUT LEVEL: | VIDEO: 2.3Vpp | AUDIO: 6.8Vpp |
| BANDWIDTH (-3dB): | VIDEO: 420MHz | AUDIO: >100kHz |
| DIFF. GAIN: | 0.03% | |
| DIFF. PHASE: | 0.03 deg | |
| K-FACTOR: | <0.05% | |
| S/N RATIO: | VIDEO: 72dB @5MHz | AUDIO: 88dB @1kHz |
| CROSSTALK (all hostile): | VIDEO: –54dB | AUDIO: –77dB @1kHz |
| CONTROLS: | Front panel push buttons, contact closure remote control (on rear panel) | |
| COUPLING: | VIDEO: DC | AUDIO: Input: AC; Output: DC |
| AUDIO THD + NOISE: | 0.009% | |
| AUDIO 2nd HARMONIC: | 0.001% | |
| POWER SOURCE: | 5V DC 210mA | |
| DIMENSIONS: | 21.46cm x 18cm x 4.36cm (8.45" x 7" x 1.72") W, D, H. | |
| WEIGHT: | 1.1kg (2.4lbs) approx. | |
| ACCESSORIES: | Power supply | |
| OPTIONS: | 19" rack adapters | |

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1 Specifications are subject to change without notice

**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.
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);<br>generic emission standard.<br>Part 1: Residential, commercial and light industry" |
| EN-50082: | "Electromagnetic compatibility (EMC) generic immunity standard.<br>Part 1: Residential, commercial and light industry environment". |
| CFR-47: | FCC* Rules and Regulations:<br>Part 15: "Radio frequency devices<br>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)

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

ISO 9001:2008
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