

**Kramer Electronics, Ltd.**



# **USER MANUAL**

**Model:**

**VA-40**

*4 Channel PC Image Shifter*

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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.

Thank you for purchasing the Kramer **VA-40 4 Channel PC Image Shifter**, which is ideal for home-entertainment, multimedia, and presentation applications.

Each package includes the following items:

- The **VA-40 4 Channel PC Image Shifter**
- Power adapter (12V DC Input)
- This user manual<sup>2</sup>

## 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>3</sup>

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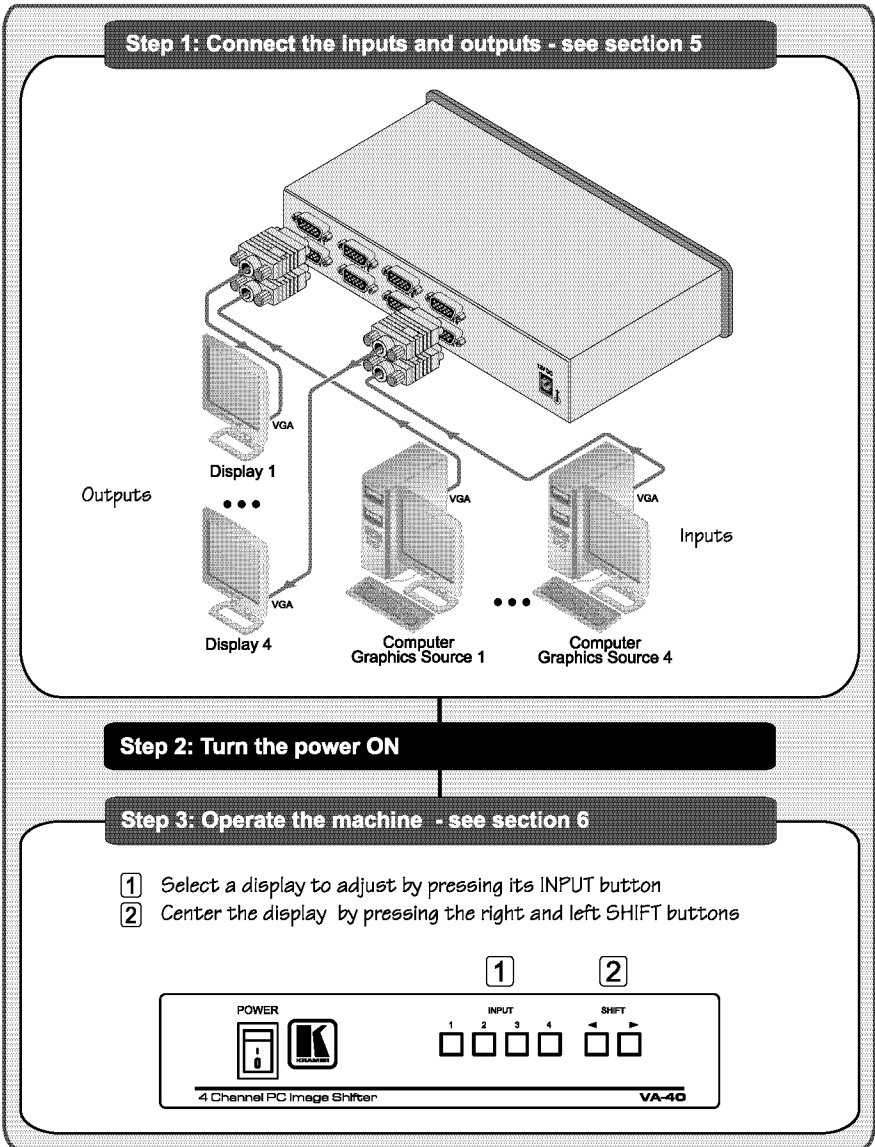
1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity;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

2 Download up-to-date Kramer user manuals from our Web site at <http://www.kramerelectronics.com>

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

## 2.1 Quick Start

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



### 3 Overview

The Kramer **VA-40** *4 Channel PC Image Shifter* is a high-performance sync delay corrector that can be used for any computer graphics video signal from VGA to UXGA.

When sending a computer graphics video signal from a PC to a monitor via a long-distance display cable, the delay between the picture information and the sync may cause a horizontal shift on the display. The **VA-40** compensates by shifting the sync accordingly, so that the picture is properly displayed.

The **VA-40** syncs up to four lines simultaneously and the shift setting for each input is stored in non-volatile memory that maintains the setting even after the unit is powered off.

The **VA-40** is especially useful when installed together with a display switching device. Sync is maintained on all displays even switching through the various PC sources.

To achieve the best performance:

- Use only good quality connection cables<sup>1</sup> 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 **VA-40** 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<sup>2</sup>.

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

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

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

## 4 Your VA-40 4 Channel PC Image Shifter

Figure 1 and Table 1 define the VA-40.

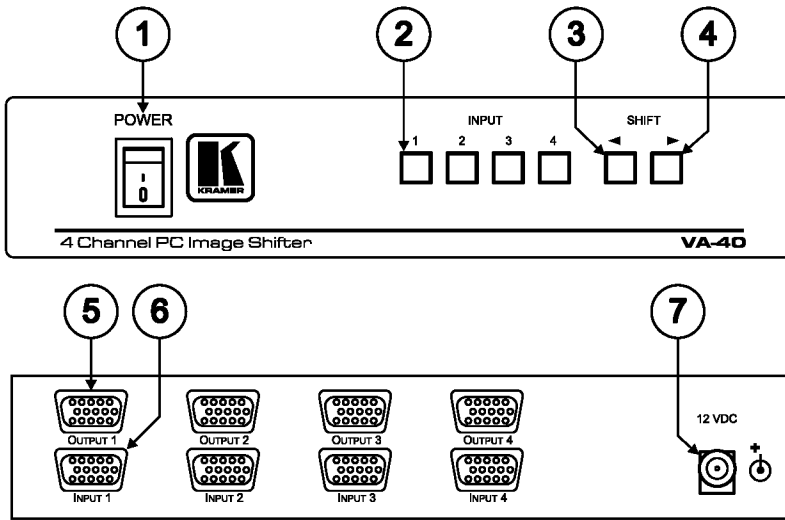


Figure 1: VA-40 4 Channel PC Image Shifter Functions

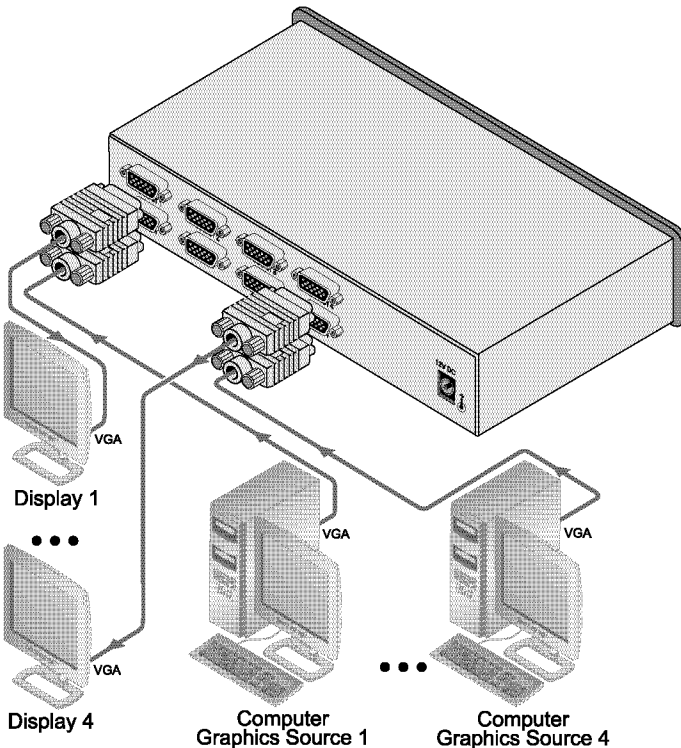
Table 1: VA-40 4 Channel PC Image Shifter Functions

| # | Feature                         | Function  |
|---|---------------------------------|---|
| 1 | POWER Switch                    | Illuminated switch for turning the unit ON and OFF            |
| 2 | INPUT Buttons                   | Selects the input source for image shifting (1 to 4)          |
| 3 | SHIFT Left Button               | Moves the image on the selected display to the left           |
| 4 | SHIFT Right Button              | Moves the image on the selected display to the right          |
| 5 | OUTPUT 15-pin HD (F) Connectors | Connect to the display acceptor (1 to 4)                      |
| 6 | INPUT 15-pin HD (F) Connectors  | Connect to the computer graphics video signal source (1 to 4) |
| 7 | 12V DC Connector                | +12V DC for powering the unit                                 |

## 5 Connecting the VA-40 4 Channel PC Image Shifter

To connect the **VA-40**, as the example in *Figure 2* illustrates, do the following<sup>1</sup>:

1. Connect the computer graphics video signal cable from each source PC (from one to four) to its INPUT connector<sup>2</sup> on the **VA-40**.
2. Connect the OUTPUT connector to each acceptor display (from one to four).
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.



*Figure 2: Connecting the VA-40 4 Channel PC Image Shifter*

1 Switch OFF the power on each device before connecting it to your VA-40. After connecting your VA-40, switch on its power and then switch on the power on each device

2 Not all inputs and outputs need to be connected

## 6 Operating the VA-40

To operate your **VA-40**:

1. Select a PC source by pressing its input button.
2. While observing the display, press the right or left SHIFT buttons as needed to center the picture. Depending on the resolution, the image can be shifted up to about 1/3 of the screen in either direction.

**Note:** To increase the correction speed, press and hold the SHIFT button for more than 3 seconds.

3. Repeat for all other inputs as needed. The settings are saved in non-volatile memory 5 seconds after the last press or correction.
4. When the **VA-40** is turned OFF and ON after a correction is made, the button of the last corrected input lights dimly.

**Note:** If the four buttons light and stay lit when the **VA-40** is powered ON, there is a problem reading from non-volatile memory. Contact Customer Support.

### 6.1 Resetting the Memory

To erase the contents of the non-volatile memory, perform the following:

1. Turn the unit OFF and ON.
2. Press the Left and Right shift buttons simultaneously for a short time.
3. When all four LEDs turn ON, the operation was successful.
4. Turn the unit OFF and ON again to resume normal operation.



## 7 Technical Specifications

The **VA-40** technical specifications are shown in *Table 2*:

*Table 2: VA-40 Technical Specifications<sup>1</sup>*

|                          |   |
|--------------------------|---|
| INPUTS:                  | 4 computer graphics video on 15-pin HD (F) connectors |
| OUTPUTS:                 | 4 computer graphics video on 15-pin HD (F) connectors |
| BANDWIDTH (-3dB):        | 1.5GHz  |
| DIFF. GAIN:              | 0.05%   |
| DIFF. PHASE:             | 0.05Deg   |
| K-FACTOR:                | <0.05%  |
| S/N RATIO:               | 75dB @5MHz  |
| CROSSTALK (all hostile): | -52.5dB @5MHz   |
| CONTROLS:                | Front panel input select and shift                    |
| COUPLING:                | DC  |
| POWER SOURCE:            | 12V DC; 50mA nom, 80mA max; fuse: 500mA               |
| DIMENSIONS:              | 21.5cm x 16.3cm x 4.4cm (8.4" x 6.4" x 1.7") W, D, H  |
| WEIGHT:                  | 0.6kg (1.4lbs)  |
| ACCESSORIES:             | Power supply  |

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

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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 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 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.**



**Caution**

**Safety Warning:**

Disconnect the unit from the power supply before opening/servicing.



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