

Kramer Electronics, Ltd.



USER MANUAL

Model:

VS-33Vxl

3x1 Video Switcher

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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 groups¹ that are clearly defined by function.

Congratulations on purchasing your Kramer TOOLS **VS-33Vx1 3x1 Video Switcher** which is ideal for:

- Any professional system requiring high quality video switching
- Video production and broadcast facilities
- Retail stores and other point-of-sale systems
- Security and CCTV applications

The package includes the following:

- **VS-33Vx1 3x1 Video Switcher**
- Power adapter (5V DC Input)
- This user manual²

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 cables³

2.1 Quick Start

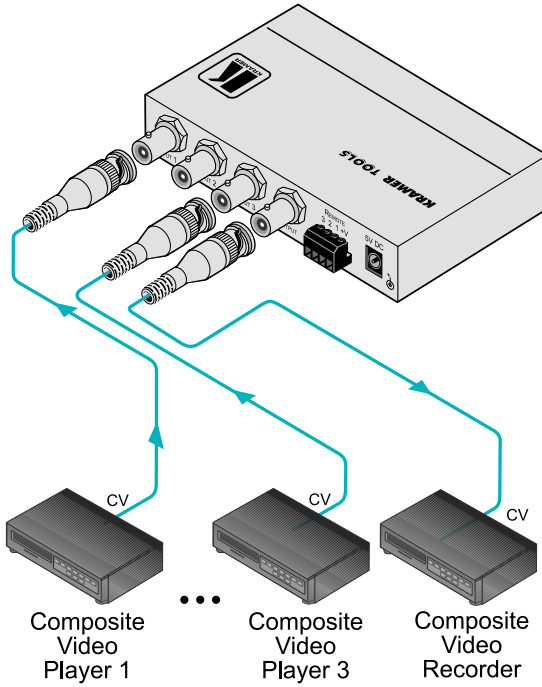
This quick start chart summarizes the basic setup and operation steps.

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>

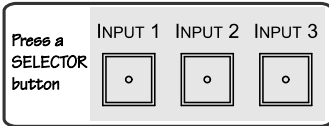
Step 1: Connect the inputs and output - see section 5



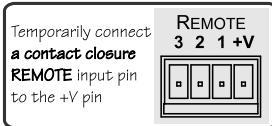
Step 2: Connect the power

Step 3: Operate the machine - see section 5

To switch an input to the output:



OR



3 Overview

The **VS-33Vxl** is a 3x1 video switcher for composite video signals. It features:

- BNC connectors
- Switching during the vertical interval, thus ensuring glitch-free switching with genlocked sources¹
- A bandwidth of 46MHz (-3dB)
- A 5VDC power supply and is housed in a Kramer TOOLS enclosure

3.1 Recommendations for Achieving the Best Performance

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 and position your **VS-33Vxl** 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 unit².

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

¹ This means that if all the sources are Genlocked to each other, uninterrupted switching will occur between them. The VS-33Vxl uses input # 1 as the vertical interval trigger source. If the sources are not Genlocked or if input # 1 is missing the VS-33Vxl will function as a regular switcher

² For example, part number 2535-052002

4 Your VS 33Vxl 3x1 Video Switcher

Figure 1 and Table 1 define the **VS-33Vxl 3x1 Video Switcher**:

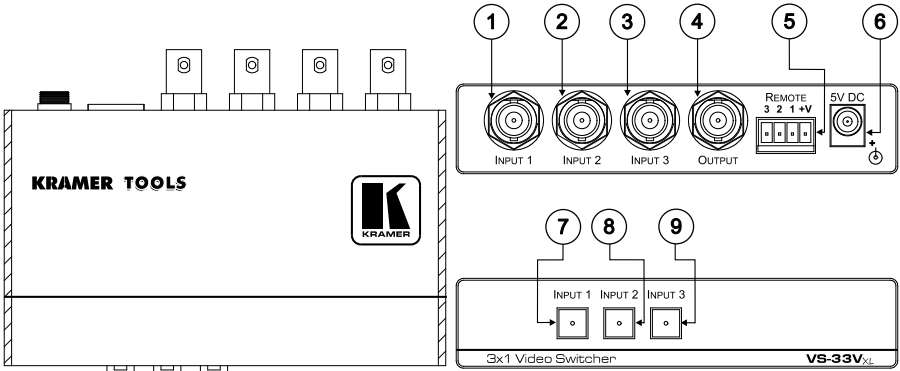


Figure 1: VS-33Vxl 3x1 Video Switcher

Table 1: VS-33Vxl 3x1 Video Switcher Features

#	Feature	Function
1	INPUT 1 BNC Connector	Connect to the composite video source 1
2	INPUT 2 BNC Connector	Connect to the composite video source 2
3	INPUT 3 BNC Connector	Connect to the composite video source 3
4	OUTPUT BNC Connector	Connect to the composite video acceptor
5	REMOTE Terminal Block	Connect to dry contact switches
6	5V DC	+5V DC connector for powering the unit
7	INPUT 1 Button	Press to select composite video source 1
8	INPUT 2 Button	Press to select composite video source 2
9	INPUT 3 Button	Press to select composite video source 3

5 Connecting the VS-33Vx1 3x1 Video Switcher

You can use the **VS-33Vx1** to switch any one of three sources to a single output. To connect the **VS-33Vx1**, as illustrated in the example in Figure 2, do the following:

1. Connect up to three sources to the three composite video input connectors, as follows:
 - Connect a composite video source (for example, a video player) to the INPUT 1 BNC connector
 - Connect a composite video source (for example, a video player) to the INPUT 2 BNC connector
 - Connect a composite video source (for example, a video player) to the INPUT 3 BNC connector
2. Connect the OUTPUT BNC connector to the composite video acceptor (for example, a video player recorder).
3. Connect the 5V DC power adapter to the power socket and connect the adapter to the mains electricity (not shown in Figure 2).

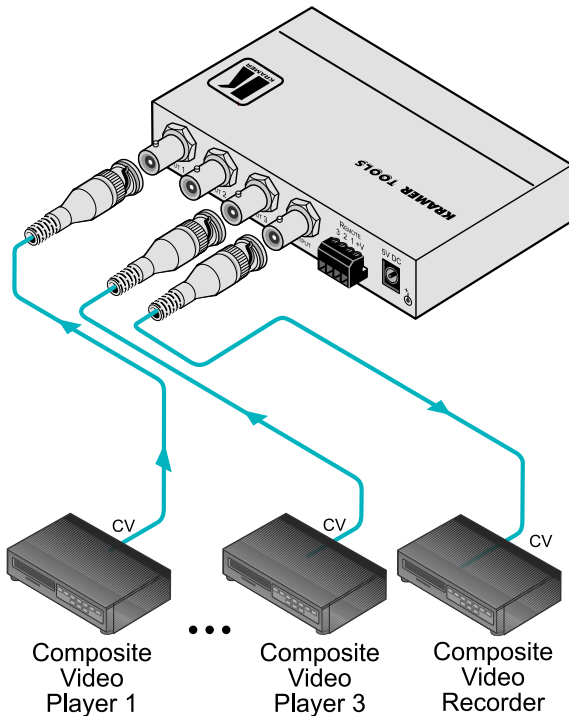


Figure 2: Connecting the VS-33Vx1 3x1 Video Switcher

6 Controlling the VS-33Vx1 3x1 Video Switcher

You can control the **VS-33Vx1** via the:

- Input selector buttons, see section 6.1
- Contact closure REMOTE connector, see section 6.2

6.1 Controlling via the Input Selector Buttons

To switch an input to the output, press the appropriate input selector button (that is, 1, 2 or 3).

6.2 Controlling via the Contact Closure 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 output by remote control. To do so, temporarily connect the required input (from 1 to 3) pin on the REMOTE terminal block connector to the +V pin.

DO NOT connect more than one PIN to the +V PIN at the same time

For example, to route input 2 to the output, as the example in Figure 3 illustrates, momentarily touch input # 2 to the +V pin.

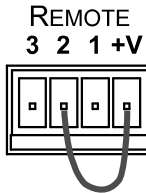


Figure 3: Using the REMOTE Connector

7 Technical Specifications

Table 2 includes the technical specifications¹.

Table 2: Technical Specifications of the VS-33Vxl

INPUTS:	3 composite video, 1Vpp/75Ω on BNC connectors
OUTPUT:	1 composite video, 1Vpp/75Ω on a BNC connector
MAX. VIDEO OUTPUT:	1.8Vpp/75Ω
VIDEO BANDWIDTH (-3dB):	46MHz
DIFF. GAIN:	1.25%
DIFF. PHASE:	0.52°
K-FACTOR:	<0.05%
VIDEO S/N RATIO:	73dB
SWITCHING:	Vertical interval
CROSSTALK:	-44dB@5MHz
POWER SOURCE:	5VDC 22mA
DIMENSIONS:	12cm x 6.95cm x 2.44cm (4.72" x 2.74" x 0.96", W, D, H)
WEIGHT:	0.3kg (0.66lbs.) approx.
ACCESSORIES:	5VDC power supply
OPTIONS:	19" Rack Adapters, VA-100P-5 5V DC Power Supply ²

¹ Specifications are subject to change without notice

² An efficient ten-outlet universal switching power supply that can supply 5V DC at up to 8A

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);
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)



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.



Caution

Safety Warning:

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



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