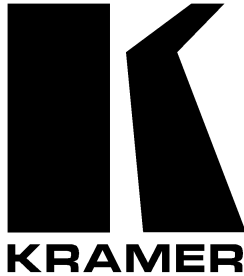


Kramer Electronics, Ltd.



USER MANUAL

Model:

VS-6YC

s-Video 4x4 Matrix Switcher

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 500-plus different models now appear in 8 Groups¹, which are clearly defined by function.

Congratulations on purchasing your Kramer **VS-6YC s-Video 4x4 Matrix Switcher**. This product is ideal for the following typical applications:

- Small video and audio editing systems
- Any professional system requiring outstanding value in a true 4x4 matrix
- Retail stores, restaurants and sports bars, home theaters

The package includes the following items:

- **VS-6YC s-Video 4x4 Matrix Switcher**
- Power cord
- 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

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 Download up-to-date Kramer user manuals and software 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>

3 Overview

The Kramer **VS-6YC** *s-Video 4x4 Matrix Switcher* is a high quality 4x4 matrix switcher for composite and/or s-Video and stereo audio signals, letting you route any input to any or all outputs simultaneously.

The **VS-6YC** features:

- Composite video and s-Video connectors for use with either format¹
- Four router knobs, one for each of the four outputs

The **VS-6YC** is easy to use, dependable, rugged, and fits into one vertical space of a standard 19" rack.

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 Kramer **VS-6YC** away from moisture, excessive sunlight and dust

4 Your VS-6YC s-Video 4x4 Matrix Switcher

Figure 1 and Table 1 define the **VS-6YC** *s-Video 4x4 Matrix Switcher*:

¹ However, although a mixing of formats is possible the VS-6YC does not perform any signal format conversion. Thus composite video sources need to be routed to composite video outputs and likewise, s-Video sources must be routed to s-Video outputs

Your VS-6YC s-Video 4x4 Matrix Switcher

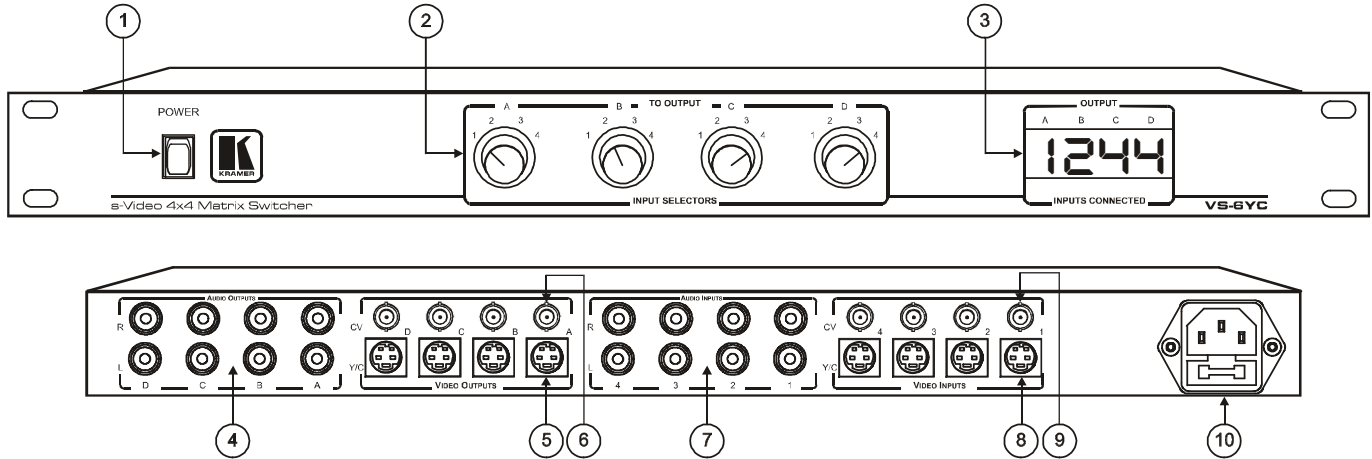


Figure 1: VS-6YC s-Video 4x4 Matrix Switcher

Table 1: Features and Functions of the VS-6YC s-Video 4x4 Matrix Switcher

#	Feature		Function
1	POWER Switch		Illuminated switch for turning the unit ON or OFF
2	INPUT SELECTOR Router Knobs ¹		Select the input to switch to the output ² (from A to D)
3	7-segment Display		Displays the input switched to the output (marked above each input)
4	AUDIO OUTPUTS	RCA Connectors	Connect to the audio acceptors ³ (from A to D)
5	VIDEO OUTPUTS ⁴	Y/C 4p Connectors	Connect to the s-Video acceptors (from A to D)
6		CVBNC Connectors	Connect to the composite video acceptors (from A to D)
7	AUDIO INPUTS	RCA Connectors	Connect to the audio sources ³ (from 1 to 4)
8	VIDEO INPUTS ⁵	Y/C 4p Connector	Connect to the s-Video sources (from 1 to 4)
9		CVBNC Connector	Connect to the composite video sources (from 1 to 4)
10	Power Connector with Fuse		AC connector enabling power supply to the unit

1 Each Router Knob lets you select which input is switched to which output

2 An input may be switched to one or more outputs

3 Supports unbalanced stereo audio signal types

4 For each channel (A to D), either a composite video or an s-Video acceptor can be connected

5 For each channel (1 to 4) either a composite video or an s-Video source can be connected

5 Installing the VS-6YC on a Rack

This section describes what to do before installing on a rack and how to rack mount.

Before Installing on a Rack

Before installing on a rack, be sure that the environment is within the recommended range:

Operating temperature range	+5 to +45 Deg. Centigrade
Operating humidity range	5 to 65 % RHL, non-condensing
Storage temperature range	-20 to +70 Deg. Centigrade
Storage humidity range	5 to 95% RHL, non-condensing



CAUTION!!

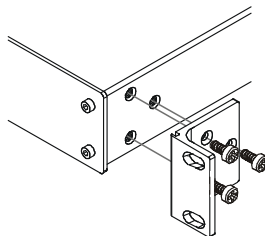
When installing on a 19" rack, avoid hazards by taking care that:

- 1 It is located within the recommended environmental conditions, as the operating ambient temperature of a closed or multi unit rack assembly may exceed the room ambient temperature.
- 2 Once rack mounted, enough air will still flow around the machine.
- 3 The machine is placed straight in the correct horizontal position.
- 4 You do not overload the circuit(s). When connecting the machine to the supply circuit, overloading the circuits might have a detrimental effect on overcurrent protection and supply wiring. Refer to the appropriate nameplate ratings for information. For example, for fuse replacement, see the value printed on the product label.
- 5 The machine is earthed (grounded) in a reliable way and is connected only to an electricity socket with grounding. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, the use of power strips), and that you use only the power cord that is supplied with the machine.

How to Rack Mount

To rack-mount the machine:

- 1 Attach both ear brackets to the machine. To do so, remove the screws from each side of the machine (3 on each side), and replace those screws through the ear brackets.



- 2 Place the ears of the machine against the rack rails, and insert the proper screws (not provided) through each of the four holes in the rack ears.

Note that:

- In some models, the front panel may feature built-in rack ears
- Detachable rack ears can be removed for desktop use
- Always mount the machine in the rack before you attach any cables or connect the machine to the power
- If you are using a Kramer rack adapter kit (for a machine that is not 19"), see the Rack Adapters user manual for installation instructions (you can download it at: <http://www.kramerelectronics.com>)

6 Connecting the VS-6YC

To connect the **VS-6YC** *s-Video 4x4 Matrix Switcher*, as the example in Figure 2 illustrates¹, do the following²:

1. Connect³ the sources as follows:
 - An s-Video source to (for example, s-Video player 1) to the VIDEO INPUT 1 4p connector
 - A composite video source (for example, composite video player 2) to the VIDEO INPUT 2 BNC connector
 - An s-Video source to (for example, s-Video player 3) to the VIDEO INPUT 3 4p connector
 - A composite video source (for example, composite video player 4) to the VIDEO INPUT 4 BNC connector
 - Up to four unbalanced stereo audio sources to the L and R AUDIO INPUTS RCA connectors (not shown in Figure 2)

The input signal format must match that of the output signal format. For example, if an input is composite video, then the output which it is switched to should also be composite video⁴

2. Connect⁵ the acceptors as follows:
 - The VIDEO OUTPUT A 4p connector to an s-Video acceptor (for example, s-Video recorder A)
 - The VIDEO OUTPUT B BNC connector to a composite video acceptor (for example, composite video recorder B)
 - The VIDEO OUTPUT C 4p connector to an s-Video acceptor (for example, s-Video recorder C)
 - The VIDEO OUTPUT D BNC connector to a composite video acceptor (for example, composite video recorder D)

1 You do not have to connect all the inputs and outputs, connect only those that are required

2 Switch OFF the power on each device before connecting it to your VS-6YC. After connecting your VS-6YC, switch on its power and then switch on the power on each device

3 For each channel (from 1 to 4) you can connect **either** a composite video source to the VIDEO INPUT BNC connector **or** an s-Video source to the VIDEO INPUT 4p connector. Up to four sources can be connected

4 Composite video sources must be routed to composite video acceptors and s-Video sources must be routed to s-Video acceptors, since the VS-6YC does not perform any signal format conversion

5 For each channel (from A to D) you can connect **either** a composite video acceptor to the VIDEO OUTPUT BNC connector **or** an s-Video acceptor to the VIDEO OUTPUT 4p connector. Up to four acceptors can be connected

- The L and R AUDIO OUTPUTS RCA connector (not shown in Figure 2) to up to four unbalanced stereo audio acceptors (for example, audio amplifiers)

3. Connect the power cord (not shown in Figure 2).

Set the TO OUTPUT select knobs to switch each connected input to the desired output(s).

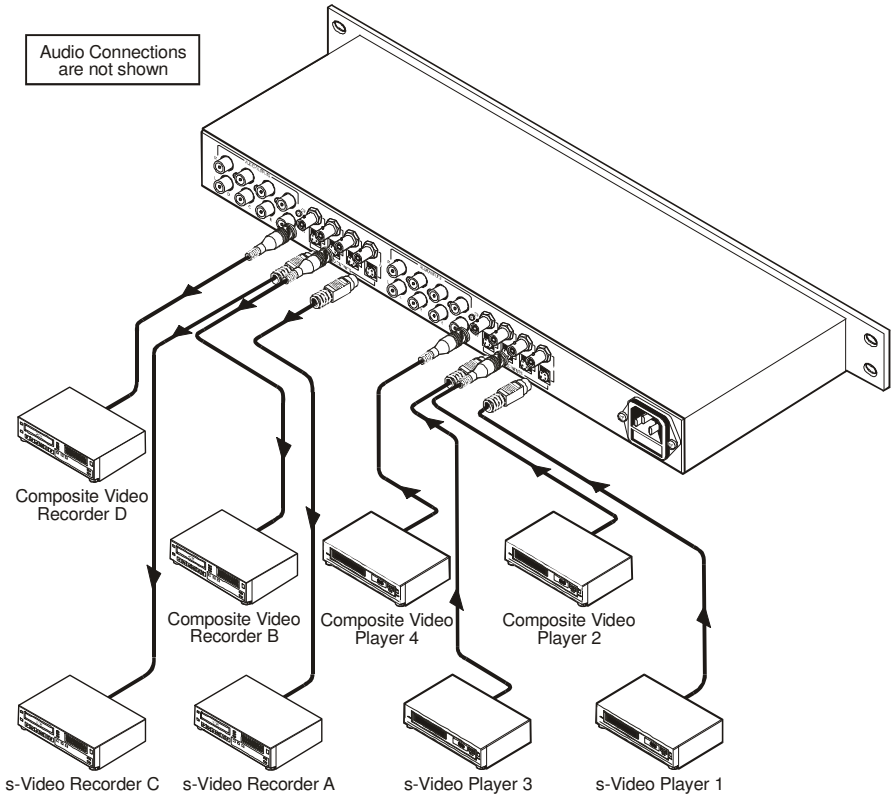


Figure 2: Connecting the VS-6YC s-Video 4x4 Matrix Switcher

7 Technical Specifications

Table 2 includes the technical specifications:

Table 2: Technical Specifications¹ of the VS-6YC s-Video 4x4 Matrix Switcher

INPUTS:	4 video, 1Vpp/75Ω composite on BNC connectors; 4 s-Video, 1Vpp/75Ω (Y), 0.3Vpp/75Ω (C) on 4p connectors; 4 audio stereo, 1Vpp/100Ω on RCA connectors
OUTPUTS:	4 video, 1Vpp/75Ω composite on BNC connectors; 4 s-Video, 1Vpp/75Ω (Y), 0.3Vpp/75Ω (C) on 4p connectors; 4 audio stereo, 1Vpp/100Ω on RCA connectors
MAX. VIDEO OUTPUT:	2Vpp/75Ω
VIDEO BANDWIDTH (-3DB):	37MHz
AUDIO BANDWIDTH (-3DB):	22kHz
DIFF. PHASE:	0.53 Deg.
VIDEO S/N RATIO:	72dB
VIDEO S/N RATIO:	78dB
VIDEO CROSSTALK:	-65dB (SYNC), -42dB (C)
CONTROL:	4 rotary control knobs
AUDIO THD:	0.1%
POWER SOURCE:	230VAC, 50/60Hz (115VAC USA) 12VA
DIMENSIONS:	19" (W), 7" (D), 1U (H) rack mountable
WEIGHT:	2.8kg (6.2lbs.) approx.
ACCESSORIES:	Power cord

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.
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.



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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