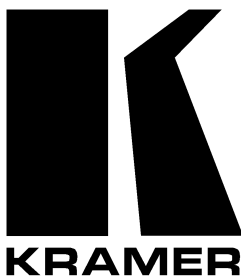


Kramer Electronics, Ltd.



USER MANUAL

Model:

VS-24xl

Video-Audio Standby Switcher

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1 Introduction

Dedication by Kramer Electronics since 1981, to the development and manufacture of high quality video/audio equipment, makes the Kramer line an integral part of the finest production and presentation facilities in the world. In recent years, Kramer has redesigned and upgraded most of the line, making the best even better! The Kramer line of professional video/audio electronics is one of the most versatile and complete available, and is a true leader in terms of quality, workmanship, price/performance ratio and innovation.

In addition to our high quality switchers and matrices, we also offer excellent distribution amplifiers, remote controllers, processors, interfaces and computer-related products.

Congratulations on purchasing your Kramer **VS-24x1** *Video-Audio Standby Switcher*. This product is ideal for the following typical applications:

- Presentation systems requiring automatic selection via active wall plate inputs
- Security applications for automatic switching of control cameras
- Broadcast applications to eliminate dead air time
- Retail stores and other point-of-sale systems requiring uninterrupted demonstrations and advertising

The package includes the following items:

- **VS-24x1** Video-Audio Standby Switcher
- Power adapter (12V DC Input)¹
- This user manual²
- Kramer concise product catalog/CD

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

¹ As an option, you can purchase the Kramer VA-50P 6 Port Universal 12-Volt Power Supply, enabling you to supply power to up to 6 Kramer devices that require 12V DC

² Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com/manuals.html>

3 Overview

The **VS-24xl** is a 2x1 standby switcher for composite video and balanced stereo audio signals. The **VS-24xl** is designed to automatically switch to the second input whenever the primary video signal is interrupted. If the primary signal reappears, the **VS-24xl** will automatically switch back to input one.

In addition, the **VS-24xl**:

- Can operate as a simple 2x1 video and audio switcher using two front panel buttons or as a remote controlled video and audio 2x1 switcher
- Includes a front panel button allowing the user to select between automatic and manual switching
- Offers video LEVEL and cable EQ. control via trimmers accessible from the front panel

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
- Position your Kramer **VS-24xl** in a location free from moisture and away from excessive sunlight and dust

4 Your Video-Audio Standby Switcher

Figure 1, Table 1 and Table 2 define the front and rear panels of the **VS-24xl**:

Your Video-Audio Standby Switcher

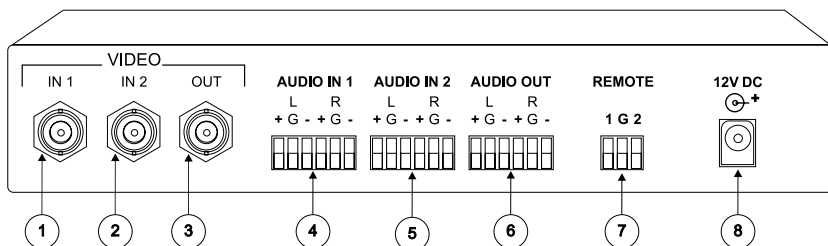
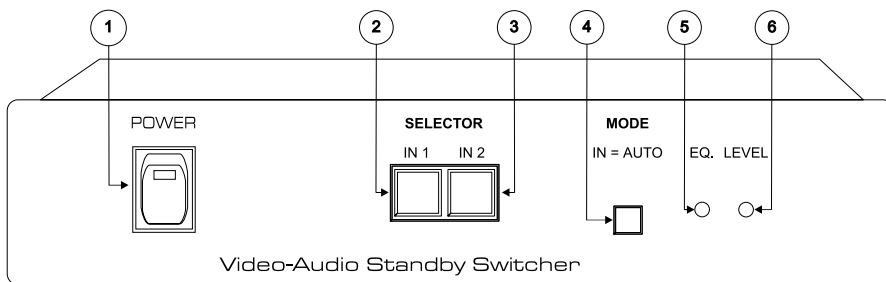


Figure 1: VS-24xl Video-Audio Standby Switcher

Table 1: Front Panel VS-24xl Video-Audio Standby Switcher Features

#	Feature	Function
1	POWER Switch	Illuminated switch supplying power to the unit
2	SELECTOR IN 1 Button	In manual mode, switches input 1 to the output
3	SELECTOR IN 2 Button	In manual mode, switches input 2 to the output
4	MODE IN=AUTO Button	Pushing in selects automatic switching, releasing selects manual switching
5	EQ Trimmer	Adjusts ¹ the cable compensation equalization level
6	LEVEL Trimmer	Adjusts ¹ the output video signal level

Table 2: Rear Panel VS-24xl Video-Audio Standby Switcher Features

#	Feature	Function
1	VIDEO IN 1 (Master) BNC Connector	Connects to the primary video source 1
2	VIDEO IN 2 BNC Connector	Connects to the standby video source 2
3	VIDEO OUT BNC Connector	Connects to the video acceptor
4	AUDIO IN 1 (Master) Terminal Block Connector	Connects to the primary balanced audio input 1
5	AUDIO IN 2 Terminal Block Connector	Connects to the standby balanced audio input 2
6	AUDIO OUT Terminal Block Connector	Connects to the balanced audio output
7	REMOTE Terminal Block Connector	Connects to dry contact switches
8	12V DC	+12V DC connector for powering the unit

¹ Insert a screwdriver into the hole and carefully rotate it, to trim the level

5 Connecting the Video-Audio Standby Switcher

To connect the **VS-24xl**, as Figure 3 illustrates, connect the following¹ to the rear panel ports:

- Video inputs and video output cables
- Balanced audio inputs and balanced audio output cables
- Power adapter
- A dry contact switch (optional) to the remote connector (see section 5.1.3)

5.1 Modes of Operation

Section 5.1.1 describes how to set the automatic mode, section 5.1.2 describes how to set the manual mode, and section 5.1.3 describes how to connect the remote connector.

5.1.1 Selecting the Automatic Mode

When the **VS-24xl** is set to the automatic mode, the signal from input 1 takes priority over the signal from input 2. If the signal from input 1 is interrupted, the signal from input 2 automatically routes to the output. In the automatic mode, pushing the SELECTOR buttons IN 1 and IN 2 has no effect.

To set the Automatic Mode

- Push in the MODE IN=AUTO button²

5.1.2 Selecting the Manual Mode

In manual mode, you choose which input to route to the output.

To set the Manual Mode

1. Release the MODE IN=AUTO button².
2. Press one of the SELECTOR buttons:
 - SELECTOR IN 1 (to route the signal from input 1 to the output); **or**
 - SELECTOR IN 2 (to route the signal from input 2 to the output)

5.1.3 Connecting the Remote Connector

In addition to its automatic switching function, the **VS-24xl** can operate as a remote controlled video and audio 2x1 switcher, by connecting dry contact

¹ Switch OFF the power on each device before connecting it to your VS-24xl. After connecting your VS-24xl, switch on its power and then switch on the power on each device

² Item 4 in Figure 1

switches to the appropriate REMOTE input terminal block connector pins thus forcing the routing of one of the 2 inputs to the output by remote control.

To do so, connect the appropriate REMOTE input terminal block connector pins to a dry contact switch and release the MODE IN=AUTO button¹. For example, as Figure 2 illustrates, to route remote input 1 to the output, connect PIN 1 to the Ground. To route remote input 2 to the output, connect PIN 2 to the Ground. Do not connect both the remote input 1 and the remote input 2 to the Ground simultaneously.

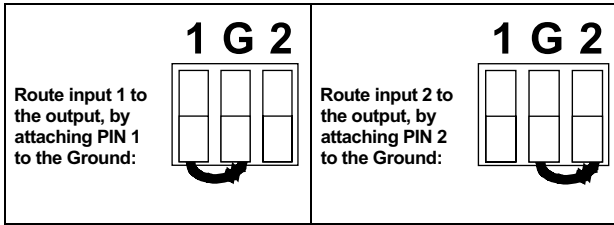


Figure 2: Remote Terminal Block Connector

When both input 1 and input 2 are connected, the (valid) signal from remote input 1 routes to the output. However, you can force the routing of remote input 2 to the output by attaching PIN 2 to the ground. If no input is present on remote input 1, you can even force the routing of the output from remote input 1 (displaying a blank screen) by attaching PIN 1 to the ground.

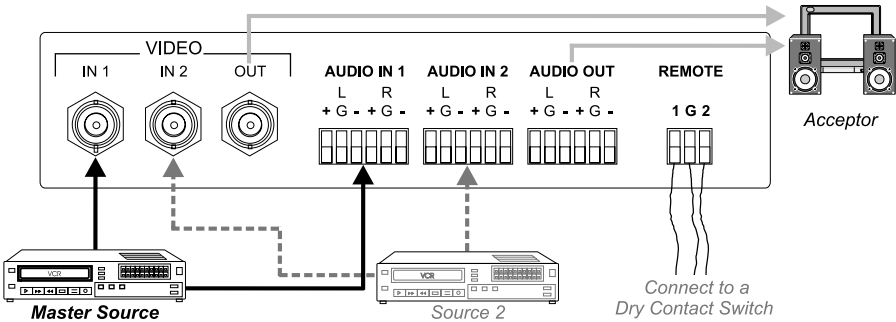


Figure 3: Connecting the VS-24xl Video-Audio Standby Switcher

¹ Item 4 in Figure 1

6 Technical Specifications

Table 3 includes the technical specifications:

Table 3: Technical Specifications of the VS-24xl Video-Audio Standby Switcher

INPUTS:	2 composite video on BNC connectors 2 balanced stereo audio detachable terminal block connectors
OUTPUTS:	1 composite video on a BNC connector 1 balanced stereo audio detachable terminal block connector
MAX. OUTPUT LEVEL:	Video: 2.1 Vpp @ 100% colorbars
VIDEO BANDWIDTH:	430 MHz -3dB; Max flat response: 620 MHz
VIDEO CROSSTALK:	-56.3 dB
VIDEO S/N RATIO:	74 dB
VIDEO LEVEL:	-0.8dB to +6.4dB
VIDEO EQUALIZATION:	0 to +12.8dB @ 50MHz
DIFF. GAIN:	0.03%
DIFF. PHASE:	0.03 Deg.
K-FACTOR:	<0.05%
AUDIO BANDWIDTH:	> 20 kHz (relay switching)
AUDIO S/N RATIO:	71dB weighted
AUDIO CROSSTALK:	-65.8dB @ 1 kHz
AUDIO THD + NOISE:	0.019%
2 ND HARMONIC:	0.002%
DIMENSIONS:	22cm x 18cm x 4.5 cm (8.7" x 7" x 1.7") W, D, H (half 19", 1U)
POWER SOURCE:	12 VDC, 69 mA
WEIGHT:	1.2 kg. (2.65 lbs.) approx.

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.
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.

**Updates to this user manual may be found at
<http://www.kramerelectronics.com/manuals.html>.**

We welcome your questions, comments and feedback.

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