Kramer Electronics, Ltd.

USER MANUAL

Model:

VP-211K

Automatic UXGA / Audio 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 groups[1] that are clearly defined by function.

Congratulations on purchasing your Kramer TOOLS **VP-211K** *Automatic UXGA / Audio Switcher*. This product is ideal for any system requiring automatic computer and presentation UXGA routing, as well as presentation systems with wall plates.

The package includes the following items:

- **VP-211K** *Automatic UXGA / 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.

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

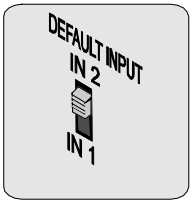
2 Download up-to-date Kramer user manuals from our Web site at http://www.kramerelectronics.com

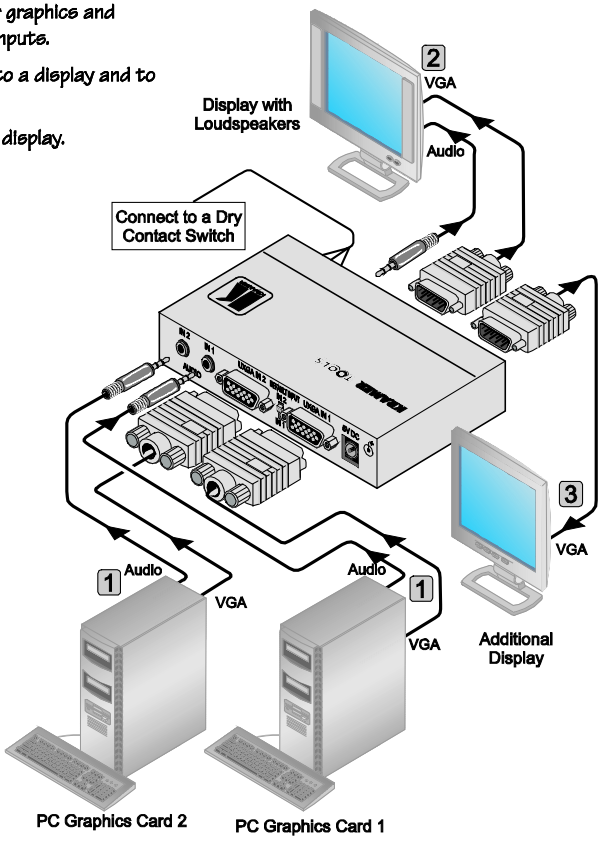
3 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com

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

1. Connect the computer graphics and audio sources to the inputs.
2. Connect the outputs to a display and to speakers.
3. Connect an additional display.

SELECT THE DEFAULT INPUT





Step 2: Connect the power

Step 3: Control via the REMOTE contact closure PINs - see section 5

Connect the appropriate input PIN (IN 1 or IN 2) to the G (Ground) PIN.



3 Overview

Your Kramer **VP-211K** is a high performance 2x1 automatic switcher for computer graphics video (UXGA) and stereo audio signals. The **VP-211K** detects the presence of the active VGA-type input signal from either IN 1 (the default[1]) or IN 2—depending on how the DEFAULT INPUT switch is set, as section 5.2 describes—and automatically routes it to the acceptor connected to the UXGA OUT and the AUDIO OUT connectors.

In addition, the **VP-211K**:

- With its video bandwidth of 300MHz, ensures transparent operation at the highest resolutions
- Automatically switches the stereo audio signal with the video signal (audio-follow-video) when switching the active input to the output
- Includes a DEFAULT INPUT switch for selecting the default UXGA master source signal
- Includes a loop UXGA output for connecting an additional display
- Comes with contact closure remote control for forced operation
- Uses active switching and has flexible sync detection and reconstruction circuitry
- Includes the Kramer innovative integrated sync processing; KRISP™ technology, which lets you achieve a sharp, stable image when the sync level is too low, by restoring the sync signal waveform
- Lets both PC inputs pass the EDID[2] information from the acceptor (display) to the source (LAPTOP/PC)

3.1 Defining EDID

The Extended Display Identification Data (EDID[3]) is a data-structure, provided by a display, to describe its capabilities to the source. The EDID includes the manufacturer's name, the product type, the timing data supported by the display, the display size, luminance data and (for digital displays only) the pixel mapping data.

1 When the DEFAULT INPUT switch is set to IN 1

2 EDID is Extended Display Identification Data

3 Defined by a standard published by the Video Electronics Standards Association (VESA)

Achieving the best performance means:

- Connecting 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)
- Avoiding interference from neighboring electrical appliances and positioning your **VP-211K** 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.

4 Your VP-211K Automatic UXGA / Audio Switcher

Figure 1 and Table 1 define the **VP-211K**:

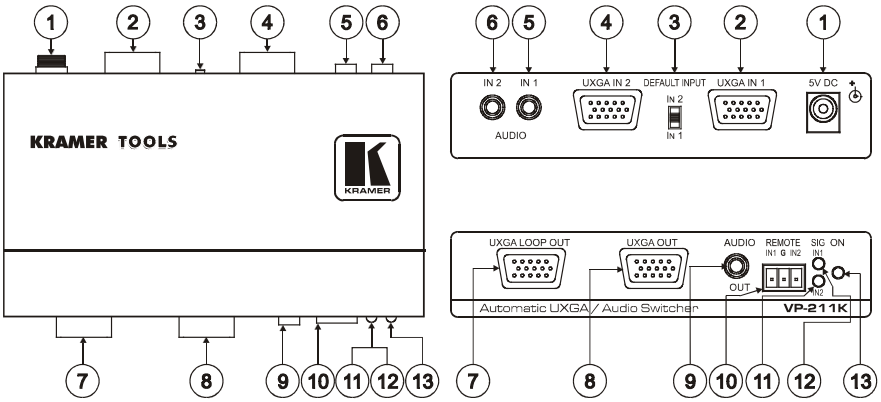


Figure 1: VP-211K Automatic UXGA / Audio Switcher

1 For example, part number 2535-052002

Table 1: VP-211K Automatic UXGA / Audio Switcher Features

#	Feature		Function
1	*5V DC*		+5V DC connector for powering the unit
2	*UXGA IN 1* 15-pin HD Connector		Connect to the computer graphics video source 1
3	*DEFAULT INPUT* Switch		Switch to set the default input (IN 1 or IN 2)
4	*UXGA IN 2* 15-pin HD Connector		Connect to the computer graphics video source 2
5	*AUDIO* 3.5mm mini-jack Connector	*IN 1*	Connect to audio source 1
6		*IN 2*	Connect to audio source 2
7	*UXGA LOOP OUT* 15-pin HD Connector		Connect to an additional monitor
8	*UXGA OUT* 15-pin HD Connector		Connect to the computer graphics video acceptor
9	*AUDIO OUT* 3.5mm mini-jack Connector		Connect to the audio acceptor
10	*REMOTE IN 1* and *IN 2* Terminal Block Connectors		Connect to a contact closure switch, see section 5.3
11	*SIG* LEDs	*IN2*	Illuminates when input 2 is selected
12		*IN1*	Illuminates when input 1 is selected
13	*ON* LED		Illuminates when receiving power

5 Using the VP-211K Automatic UXGA / Audio Switcher

This section describes how to:

- Connect the **VP-211K** (see Section 5.1)
- Select the default master source signal (see Section 5.2)
- Connect the REMOTE connector (see Section 5.3)

5.1 Connecting the VP-211K Automatic UXGA / Audio Switcher

1. Connect a UXGA/audio source (for example, a PC graphics card) to the UXGA IN 1 15-pin HD connector and to the AUDIO IN 1 mini plug connector.
2. Set the DEFAULT INPUT switch to IN 1 (the factory preset default), as Section 5.2 describes.
3. Connect a UXGA/audio source (for example, a PC graphics card) to the UXGA IN 2 15-pin HD connector and to the AUDIO IN 2 mini plug connector.
4. Connect the UXGA OUT 15-pin HD connector and the AUDIO OUT mini plug connector to the acceptor (for example, a display with speakers).
5. If required, connect an additional display to the UXGA LOOP OUT 15-pin HD connector.
6. Connect the 5V DC power adapter to the power socket and connect the adapter to the mains electricity.

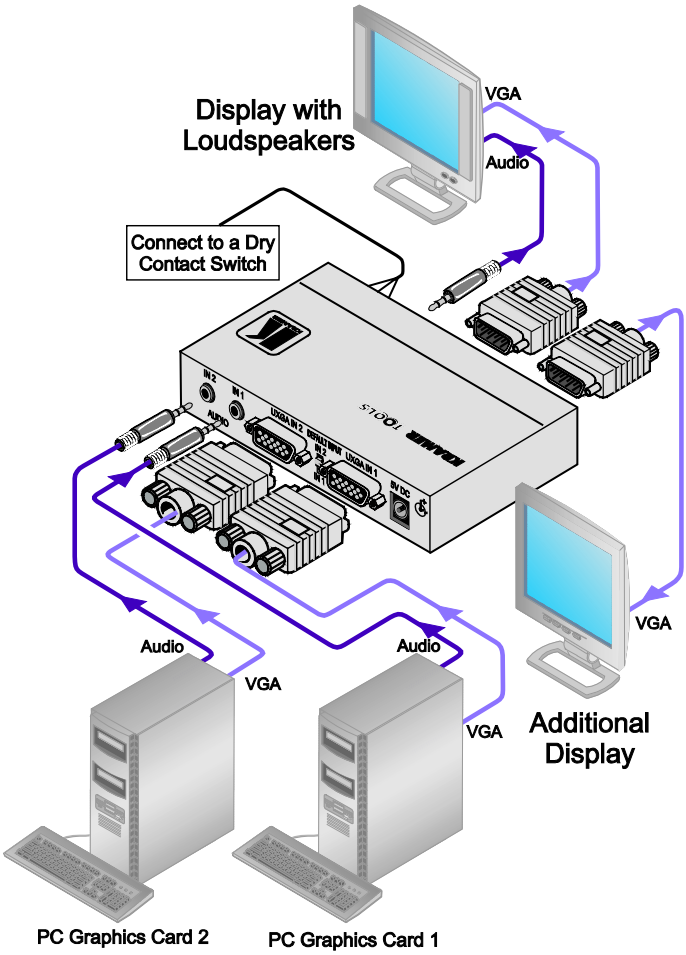


Figure 2: VP-211K Automatic UXGA / Audio Switcher Connections

5.2 Selecting the Default Master Source Signal

The DEFAULT INPUT switch is factory preset to IN 1 and the **VP-211K** will detect the presence of the master source signal at the UXGA IN 1 connector. If you connect active sources to both the UXGA IN 1 and the UXGA IN 2 connectors, the source at the UXGA IN 1 connector takes priority over the source at the UXGA IN 2 connector and it is routed to the UXGA OUT and the AUDIO OUT connectors (audio follows video).

You can change the default so that the **VP-211K** automatically detects an active source signal from UXGA IN 2, by setting the DEFAULT INPUT switch to IN 2. When active, the source at the UXGA IN 2 connector takes priority over the source at the UXGA IN 1 connector and it is routed to the UXGA OUT and the AUDIO OUT connectors (audio follows video).

If the **VP-211K** detects:

- No signal[1] at the UXGA IN 1 input (when IN 1 is selected as the default), the **VP-211K** routes the signal from the source at UXGA IN 2 to the UXGA OUT and the AUDIO OUT connectors. Similarly, if the **VP-211K** detects no signal at the UXGA IN 2 input (when IN 2 is selected as the default), the **VP-211K** routes the signal from the source at UXGA IN 1 to the UXGA OUT and the AUDIO OUT connectors
- A signal from the UXGA source at UXGA IN 1 input (when IN 1 is selected as the default), while routing the signal from the UXGA source at UXGA IN 2, the **VP-211K** will reroute the signal from the UXGA source at UXGA IN 1 to the UXGA OUT and the AUDIO OUT connectors. Similarly, if the **VP-211K** detects a signal from the UXGA source at UXGA IN 2 input (when IN 2 is selected as the default), while routing the signal from the UXGA source at UXGA IN 1, the **VP-211K** will reroute the signal from the UXGA source at UXGA IN 2 to the UXGA OUT and the AUDIO OUT connectors
- No signal at all (that is, when there is no active input from a source at UXGA IN 1 or at UXGA IN 2), the **VP-211K** will still route UXGA IN 2 to the UXGA OUT, and continue to examine UXGA IN 1 input (when IN 1 is selected as the default), switching back to it when it detects a valid signal. Similarly, if the **VP-211K** detects no signal at all (when IN 2 is selected as the default), it will still route UXGA IN 1 to the UXGA OUT, and continue to examine the UXGA IN 2 input, switching back to it when it detects a valid signal

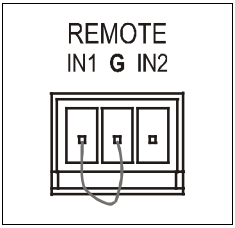
1 Perhaps no source is connected, or that source is connected but its power is OFF

5.3 Connecting the REMOTE Terminal Block Connector

You can force the routing of one of the two inputs to the UXGA output by remote control. To do so, connect the appropriate REMOTE input terminal block connector pins to a contact closure switch[1]. For example, as Figure 3 illustrates, to route REMOTE IN1 to the UXGA output, connect PIN IN1 to PIN G (Ground). To route REMOTE IN2 to the UXGA output, connect PIN IN2 to PIN G.

Do not connect both the REMOTE IN1 and the REMOTE IN2 to PIN G simultaneously

Route input 1 to the output, by attaching PIN IN1 to PIN G:



Route input 2 to the output, by attaching PIN IN2 to PIN G:

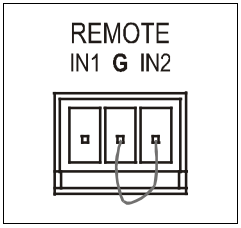


Figure 3: REMOTE Terminal Block Connector

1 Note that the connection should be permanent, since the VP-211K will revert to an automatic switcher when the connection is removed

6 Technical Specifications

Table 2 includes the technical specifications:

Table 2: Technical Specifications[1] of the VP-211K Automatic UXGA / Audio Switcher

INPUTS:	2 computer graphics video on 15-pin HD connectors 2 unbalanced stereo audio on 3.5mm mini audio connectors
OUTPUTS:	1 computer graphics video on a 15-pin HD connector 1 computer graphics video on a 15-pin HD connector (input #1 active loop) 1 unbalanced stereo audio on a 3.5mm mini audio connector
MAX. OUTPUT LEVEL:	Video: 1.6Vpp; Audio: >10.5Vpp
BANDWIDTH (-3dB):	Video: 300MHz; Audio: >100kHz
DIFF. GAIN:	0.03%
DIFF. PHASE:	0.03 Deg.
K-FACTOR:	<0.05%
S/N RATIO:	Video: 71dB; Audio: 71dB weighted
CROSSTALK:	Video: –59dB @5MHz; Audio: <–66dB @1kHz
CONTROLS:	Contact closure remote control, Input default selection switch
COUPLING:	DC
AUDIO THD + NOISE:	<0.032%
AUDIO 2nd HARMONIC:	<0.004%
POWER SOURCE:	5V DC 200mA
DIMENSIONS:	12.1cm x 7.18cm x 2.42cm (4.76" x 2.83" x 0.95", W, D, H)
WEIGHT:	0.3kg (0.66lbs) approx.
ACCESSORIES:	Power supply (5V/2.6A), mounting bracket
OPTIONS:	19" rack adapters

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); 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.



Safety Warning:
Disconnect the unit from the power supply before opening/servicing.

P/N: 2900-000414 Rev: 2

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P/N: 2900-000414 REV 2