Kramer Electronics, Ltd.

USER MANUAL

Model:

VP-211DS

Automatic VGA / Audio 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 350-plus different models now appear in 8 Groups[1], which are clearly defined by function.

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

The package includes the following items:

- **VP-211DS** *Automatic VGA / Audio Switcher*
- Power adapter (12V DC Input)[2]
- Mounting bracket
- This user manual[3] and the 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
- Use Kramer high performance high resolution cables[4]

3 Overview

Your Kramer **VP-211DS** is a high performance 2x1 automatic switcher for VGA/SVGA/XGA/UXGA and stereo audio signals. The **VP-211DS** detects

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 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 12VDC

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

4 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com (click “Cables and Connectors” in the Products section)

the presence of the active VGA-type input signal from either IN 1 (the default[1]) or IN 2—depending on how both DEFAULT SELECT switches[2] are set, as section 5.2 describes—and automatically routes it to the acceptor connected to the VGA OUT and the AUDIO OUT connectors.

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

- With its video bandwidth exceeding 400 MHz, 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 ID BIT control[3]
- Includes a pair of DEFAULT SELECT switches on the underside for selecting the default VGA master source signal
- Includes a looping XGA input with a loop termination switch
- Comes with contact closure remote control for forced operation
- Uses active switching and has very selective sync detection and reconstruction circuitry

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 that may adversely influence signal quality
- Positioning your Kramer **VP-211DS** in a location free from moisture and away from excessive sunlight and dust

4 Your Automatic VGA / Audio Switcher

Figure 1 and Table 1 define the topside of the **VP-211DS**:

1 That is, both DEFAULT SELECT switches on the underside are factory preset to IN 1

2 Both DEFAULT SELECT switches MUST be set to the identical IN #

3 Sometimes notebook computers refuse to output a VGA signal to an external VGA monitor. By setting the ID BIT to ON, the notebook will output to an external VGA monitor

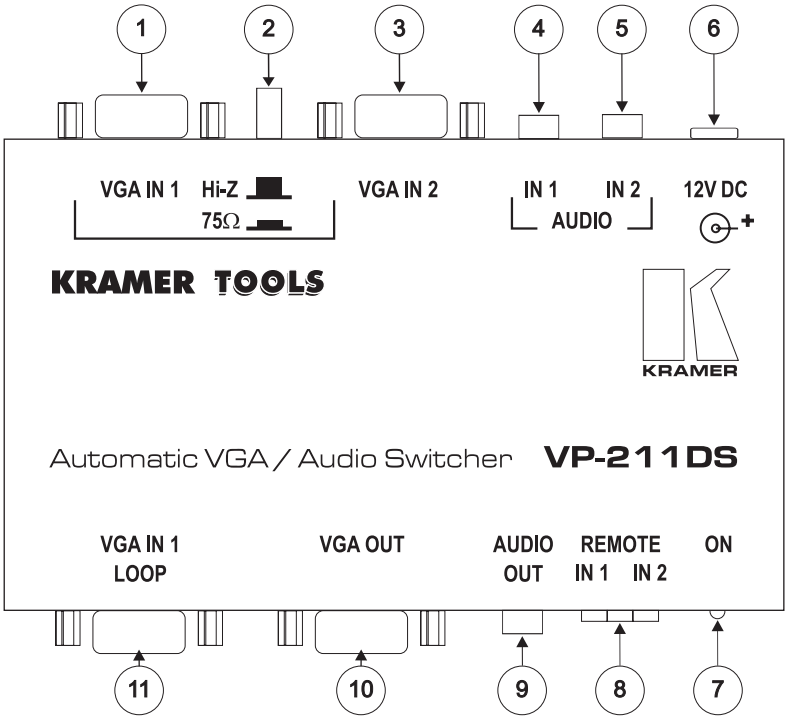


Figure 1: VP-211DS Automatic VGA / Audio Switcher Topside

Table 1: VP-211DS Automatic VGA / Audio Switcher Topside Features

#	Feature	Function
1	*VGA IN 1* HD15F Connector	Connects to the video source 1
2	*Hi-Z / 75Ω* Loop Termination Switch	Release to select Hi-Z; push in to terminate VGA IN 1 with 75Ω
3	*VGA IN 2* HD15F Connector	Connects to the video source 2
4	*AUDIO IN 1* mini plug Connector	Connects to audio source 1
5	*AUDIO IN 2* mini plug Connector	Connects to audio source 2
6	*12V DC*	+12V DC connector for powering the unit
7	*ON* LED	Illuminates when receiving power
8	*REMOTE IN 1* and *IN 2* Terminal Block Connectors	Connect to a dry contact switch
9	*AUDIO OUT* mini plug Connector	Connects to the audio acceptor
10	*VGA OUT* HD15F Connector	Connects to the video acceptor
11	*VGA IN 1 LOOP* HD15F Connector	Connects to an additional monitor

Figure 2 and Table 2 define the underside of the **VP-211DS**:

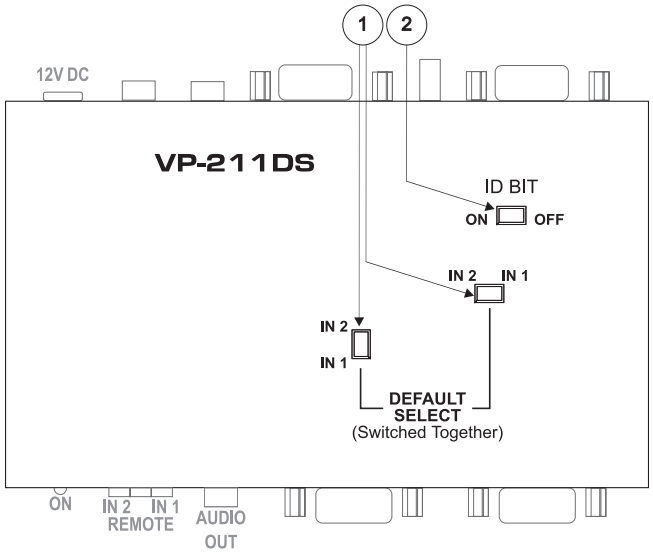


Figure 2: VP-211DS Automatic VGA / Audio Switcher Underside

Table 2: VP-211DS Automatic VGA / Audio Switcher Underside Features

#	Feature	Function
1	Pair of *DEFAULT SELECT* Switches	Set both switches to IN 1 to select input signal 1, as default; or to IN 2, to select input signal 2 as default (see section 5.2)
2	*ID BIT* Switch	Slide to the left to set to ON[1]; to the right to set to OFF

5 Using the Automatic VGA / Audio Switcher

This section describes:

- Connecting the **VP-211DS** (see section 5.1)
- Selecting the default master source signal (see section 5.2)
- Connecting the REMOTE connector (see section 5.3)

5.1 Connecting the Automatic VGA / Audio Switcher

To connect your **VP-211DS**, connect the 2 VGA INPUTS, with VGA INPUT IN 1 set as the active master source signal, as the example in Figure 3 illustrates:

1. Connect a VGA/Audio source (for example, a PC) to the VGA IN 1 HD15F connector and to the AUDIO IN 1 mini plug connector. Both underside DEFAULT SELECT switches should be set to IN 1 (the factory preset

1 Enabling the notebook to output a VGA signal to an external VGA monitor

default), as section 5.2 describes.

2. Connect a second VGA/Audio source (for example, another PC) to the VGA IN 2 HD15F connector and to the AUDIO IN 2 mini plug connector.
3. Connect the VGA OUT HD15F connector and the AUDIO OUT mini plug connector to the acceptor (for example, a video monitor with speakers).
4. Connect (optional) an additional monitor to the VGA IN 1 LOOP HD15F connector and release the loop termination switch to select Hi-Z. Select 75Ω on the loop termination switch if the VGA IN 1 LOOP is not connected.
5. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.

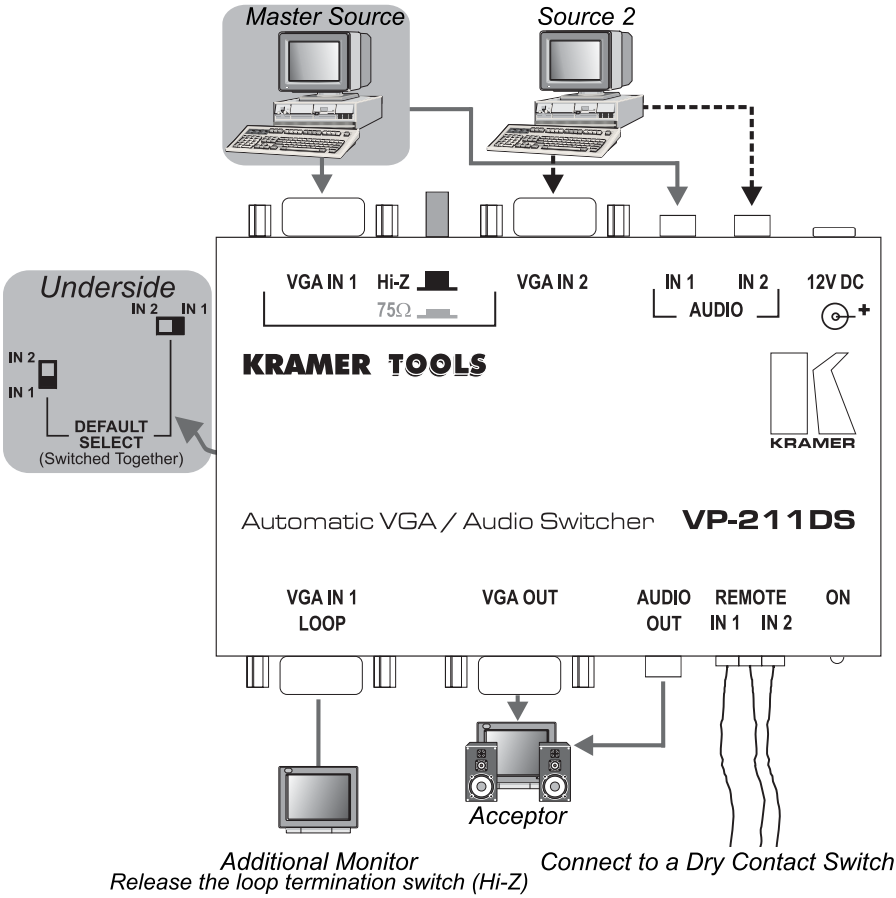


Figure 3: VP-211DS Automatic VGA / Audio Switcher Connections

5.2 Selecting the Default VGA Master Source Signal

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

You can change the default so that the **VP-211DS** automatically detects an active source signal from VGA IN 2, by setting the pair of DEFAULT SELECT switches[1] to IN 2. When active, the source at the VGA IN 2 connector takes priority over the source at the VGA IN 1 connector and it is routed to the VGA OUT and the AUDIO OUT connectors (audio follows the video).

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

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

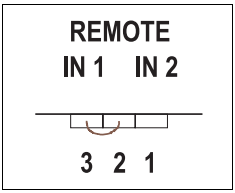
1 Both DEFAULT SELECT switches MUST be set to the identical IN #

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

5.3 Connecting the REMOTE Connector

You can force the routing of one of the 2 inputs to the VGA output by remote control. To do so, connect the appropriate REMOTE input terminal block connector pins to a dry contact switch[1]. For example, as Figure 4 illustrates, to route *REMOTE IN 1* to the VGA output, connect PIN 3 to PIN 2. To route *REMOTE IN 2* to the VGA output, connect PIN 1 to PIN 2. Do not connect both the *REMOTE IN 1* and the *REMOTE IN 2* to PIN 2 simultaneously.

Route input 1 to the output, by attaching PIN 3 to PIN 2:



Route input 2 to the output, by attaching PIN 1 to PIN 2:

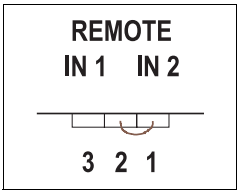


Figure 4: Remote Terminal Block Connector

When both VGA IN 1 and VGA IN 2 are connected, the signal from VGA IN 1 routes to the output. However, you can force the routing of VGA IN 2 to the output by attaching PIN 1 to PIN 2. If no input is present on VGA IN 1, you can even force the routing of the output from VGA IN 1 (displaying a blank screen) by attaching PIN 3 to PIN 2.

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

5.3.1 Connecting the REMOTE Connector when IN 2 is the DEFAULT

By default[1] the **VP-211DS** automatically detects an active source signal from VGA IN 1, and the order of the REMOTE input connectors is as printed:

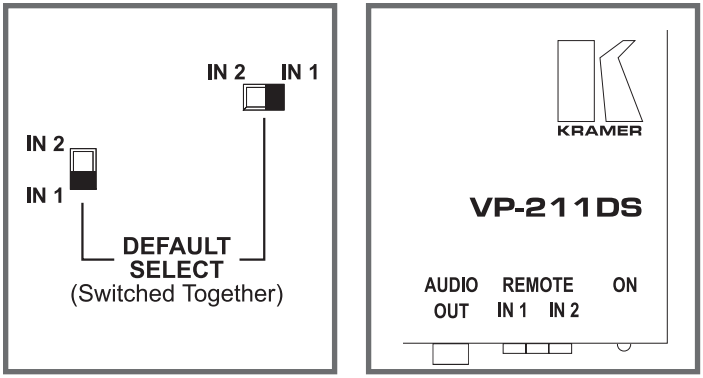


Figure 5: Connecting the REMOTE Connector when IN 1 is the DEFAULT

If you change the default[2] so that the **VP-211DS** automatically detects an active source signal from VGA IN 2, the order of the REMOTE input connectors automatically changes (IN 1 acts as IN 2, and IN 2 acts as IN 1):

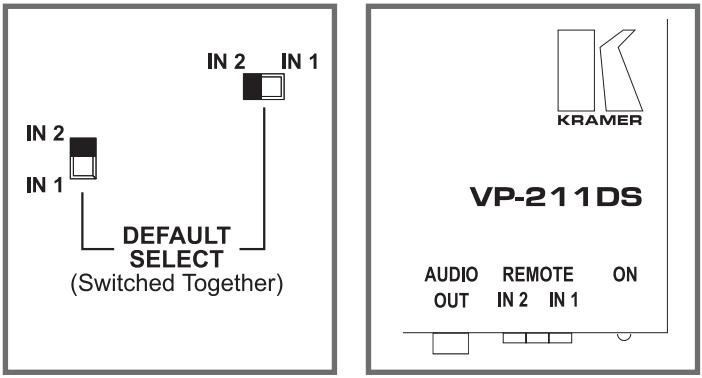


Figure 6: Connecting the REMOTE Connector when IN 2 is the DEFAULT

1 The pair of DEFAULT SELECT switches are set to IN 1

2 By setting the pair of DEFAULT SELECT switches to IN 2

6 Technical Specifications

Table 3 includes the technical specifications:

Table 3: Technical Specifications[1] of the VP-211DS Automatic VGA / Audio Switcher

INPUTS:	2 VGA/UXGA on HD15F connectors 2 unbalanced stereo audio on 3.5 mm mini audio connectors
OUTPUTS:	1 VGA/UXGA on a HD15F connector 1 VGA/UXGA on a HD15F connector (input #1 loop) 2 unbalanced stereo audio on a 3.5 mm mini audio connector
MAX. OUTPUT LEVEL:	Video: 1.8 Vpp; Audio: 5Vpp
BANDWIDTH (-3dB):	Video: 400 MHz; Audio: 100 kHz
DIFF. GAIN:	0.04%
DIFF. PHASE:	0.03 deg
K-FACTOR:	<0.05%
S/N RATIO:	Video: 70.6 dB; Audio: 89 dB unweighted
CROSSTALK:	Video: -56 dB @ 5 MHz; Audio: -52 dB @ 1kHz
CONTROLS:	Input 1 termination switch, contact closure remote control, input 1 ID Bit switch (accessible from the underside or internally) Input default selection switches accessible from the underside
COUPLING:	DC
AUDIO THD + NOISE:	<0.019%
AUDIO 2nd HARMONIC:	<0.003%
POWER SOURCE:	12 VDC 50 mA
DIMENSIONS:	12 cm x 7.5 cm x 2.5 cm (4.7" x 2.95" x 0.98", W, D, H)
WEIGHT:	0.3 kg (0.66 lbs.) approx.
ACCESSORIES:	Power supply, mounting bracket
OPTIONS:	RK-T1 or RK-T3 rack mount kit

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 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.

Kramer Electronics, Ltd.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com
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