Kramer Electronics, Ltd.

USER MANUAL

Model:

VP-210K

UXGA Line Amplifier

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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.

Thank you for purchasing your Kramer TOOLS **VP-210K** *UXGA Line Amplifier*, which is ideal for:

- Dual monitor systems, local or remote (loop and output)
- Presentation systems for remote transmission and cable equalization

The package includes the following items:

- **VP-210K** *UXGA Line Amplifier*
- Power adapter (5V DC input) and 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]

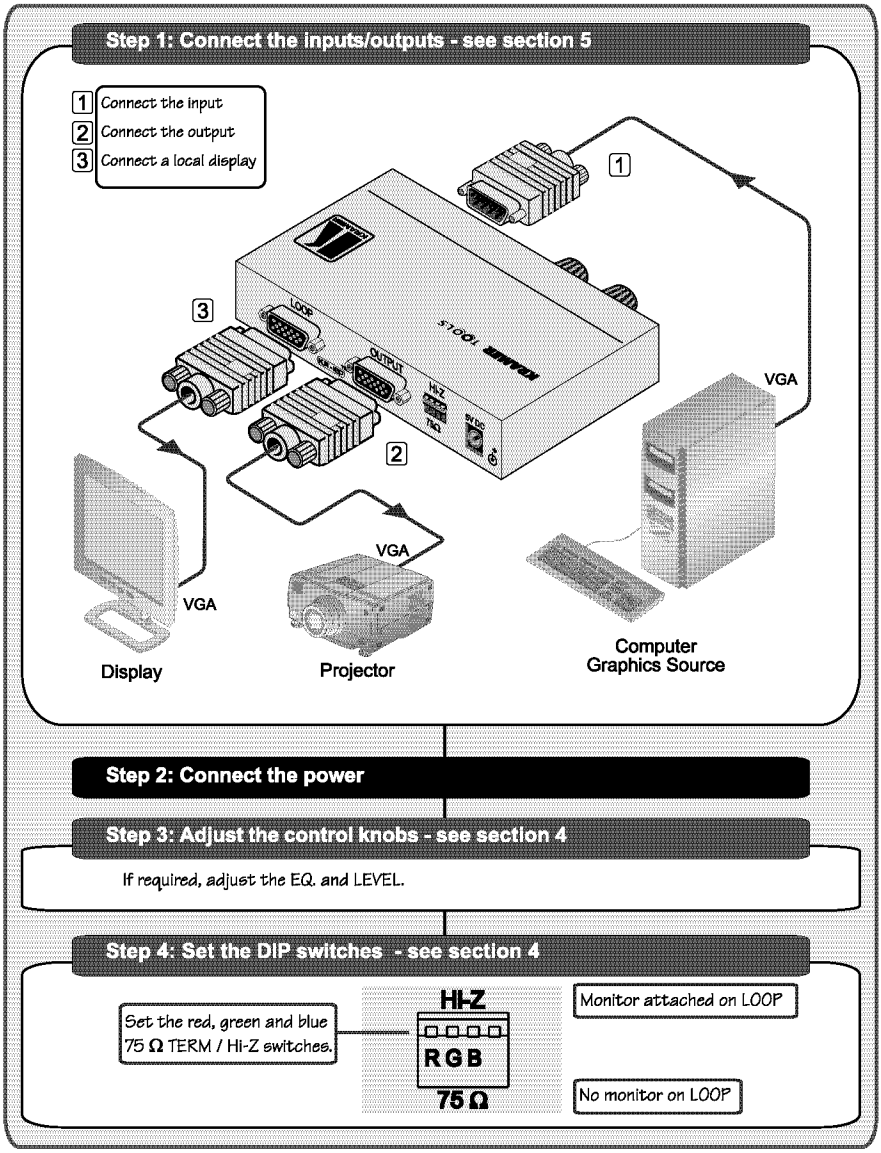
1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; 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

2.1 Quick Start

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



3 Overview

The high-performance **VP-210K** is a line amplifier for UXGA[1] computer graphics signals that provides controls to compensate for signal losses inherent in long cable runs.

In particular, the **VP-210K** *UXGA Line Amplifier* features:

- Video bandwidth of 350MHz, ensuring that it remains transparent for all resolutions
- HDTV compatibility
- Separate controls for output level and cable equalization, and independent input signal termination for red, green and blue
- A looping input
- KR-ISP™ advanced sync processing that ensures compatibility with a wide range of computers (even if the sync level is too low) by restoring the sync signal waveform

To achieve the best performance:

- Use only good quality connection cables[2] to avoid 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 **VP-210K** 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[3].

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

1 XGA, as used in this manual, means any RGBHV signal on a 15-pin HD connector having a resolution from VGA up to UXGA

2 Available from Kramer Electronics on our Web site at http://www.kramerelectronics.com

3 For example, part number 2535-052002

4 Your VP-210K UXGA Line Amplifier

Figure 1 and *Table 1* define the **VP-210K** :

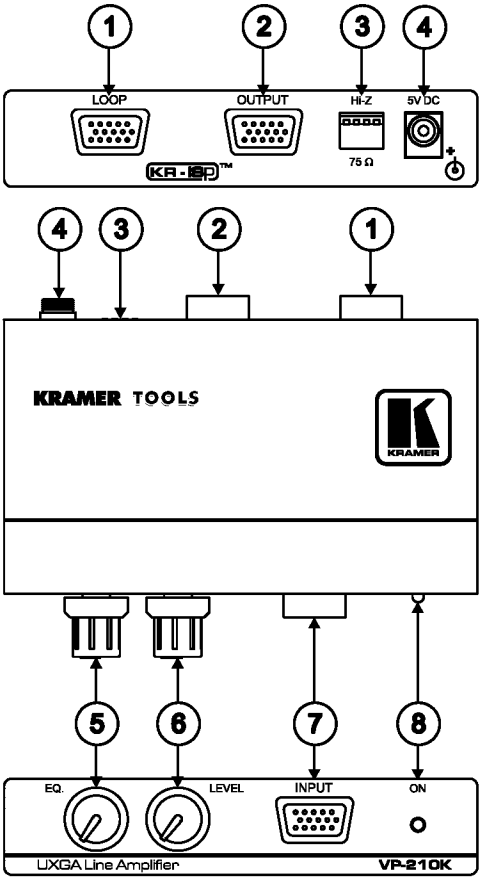


Figure 1: VP-210K UXGA Line Amplifier

Table 1: VP-210K UXGA Line Amplifier Features

#	Feature	Function
1	*LOOP* 15-pin HD (F) Connector	Connects to a local display
2	*OUTPUT* 15-pin HD (F) Connector	Connects to the computer graphics acceptor
3	*HI-Z/75Ω* DIP-switches	Set to 75Ω TERM (when a local monitor is not used); set to Hi-Z (when a local monitor is connected to the LOOP 15-pin HD connector)
4	*5V DC*	+5V DC connector for powering the unit
5	*EQ.* Control knob	Adjusts the video EQ. (equalization) compensation
6	*LEVEL* Control knob	Adjusts the video signal level
7	*INPUT* 15-pin HD (F) Connector	Connect to the computer graphics source
8	*ON* LED	Illuminates when receiving power

5 Connecting the VP-210K UXGA Line Amplifier

To connect your **VP-210K** *UXGA Line Amplifier*, as shown in the example in *Figure 2*, do the following[1]:

1. Connect a computer graphics source (for example, a computer) to the INPUT 15-pin HD (F) connector.
2. Connect the OUTPUT 15-pin HD (F) connector to an acceptor (for example, a projector).
3. Connect the LOOP 15-pin HD (F) connector to an acceptor (for example, a local display).
4. Connect the 5V DC power adapter to the 5V DC socket and connect the transformer to the mains electricity (not illustrated in *Figure 2*).
5. Adjust the video output signal level and/or cable compensation equalization level as needed.
6. Set the DIP-switches as follows:
   - If no terminal is attached to the LOOP connector, set the switches down to 75Ω TERM
   - If a terminal is attached to the LOOP connector, set the switches up to HI-Z

1 Switch OFF the power on each device before connecting it to your VP-210K. After powering up your VP-210K, switch on the power on each device

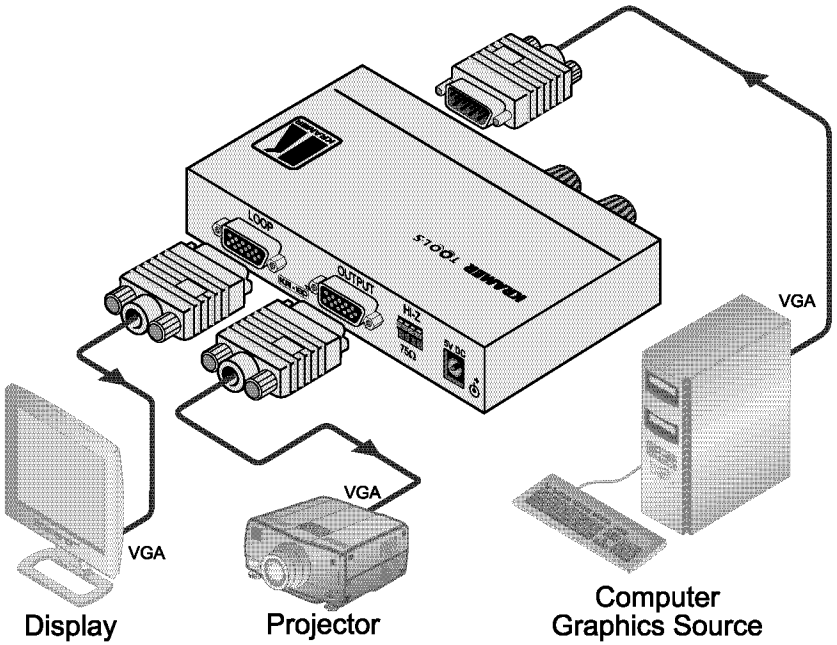


Figure 2: Connecting the VP-210K UXGA Line Amplifier

6 Technical Specifications

Table 2 includes the technical specifications:

Table 2: Technical Specifications[1] *of the VP-210K UXGA Line Amplifier*

INPUT:	1 UXGA on a 15-pin HD (F) connector
OUTPUT:	1 UXGA on a 15-pin HD (F) connector 1 LOOP UXGA on an 15-pin HD (F) connector
VIDEO BANDWIDTH (-3dB):	350MHz
DIFF. GAIN:	0.41%
DIFF. PHASE:	0.53°
VIDEO S/N RATIO:	66dB
K-FACTOR:	<0.05%
CONTROLS:	Level: -1.2 to +6.3dB; EQ: 0 to +4dB @50MHz
POWER SOURCE:	5V DC, 108mA
DIMENSIONS:	12cm x 7.5cm x 2.5cm (4.7" x 2.95" x 0.98") W, D, H
WEIGHT:	0.25kg (0.55lbs) approx.
ACCESSORIES:	Power supply, mounting brackets
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.

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P/N: 2900-000482 REV 1