Kramer Electronics, Ltd.

USER MANUAL

Kramer TOOLS Model:

VPM-2

XGA Line Driver

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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 Kramer TOOLS, we also offer excellent distribution amplifiers, remote controllers, switchers and matrices, processors, interfaces and computer-related products.

Congratulations on purchasing your Kramer **VPM-2** *XGA Line Driver*. This product is ideal for the following typical applications:

- Any professional display system requiring VGA up to UXGA signal splitting
- Long distance graphics signal distribution

The package includes the following items:

- **VPM-2** *XGA Line Driver* (available in 2 versions[1])

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1 A wall plate version and a small enclosure version (for under the floor or for a confined space), as Figure 1 illustrates

- Power adapter (12V DC Input)
- This user manual
- 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

3 Your VPM-2 XGA Line Driver

The **VPM-2** *XGA Line Driver*:

- Is a high performance VGA/SVGA/XGA/UXGA line driver that enables a single VGA/SVGA /XGA/UXGA source to drive a local monitor and a large remote display device simultaneously
- Provides local monitor loop-through, buffering, and amplification for remote acceptor applications
- Accepts all typical graphic modes, including VGA, SVGA, XGA, SXGA, and UXGA
- With its video bandwith of 380 MHz, ensures transparent operation at multiple resolutions including UXGA
- Allows looping with cable EQ. Control
- Includes ID BIT control
- Includes a button for activating a remote switcher[1]

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 **VPM-2** *XGA Line Driver* in a location free from moisture and away from excessive sunlight and dust

Figure 1 and Table 1 define the **VPM-2** *XGA Line Driver*:
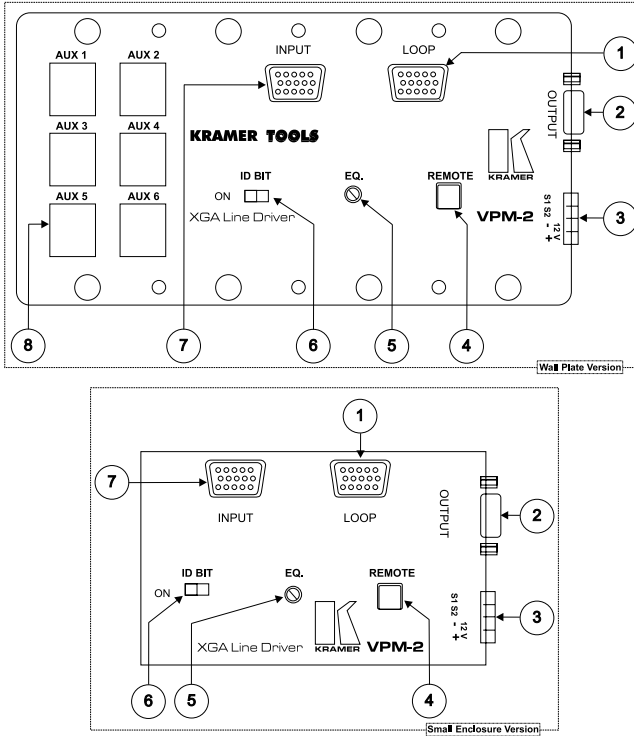
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1 Such as the VP-81

Figure 1: VPM 2 XGA Line Driver

Table 1: VPM 2 XGA Line Driver Features and Functions

#	Feature	Function
1	LOOP	For VGA/XGA looping to increase output availability
2	OUTPUT	VGA/XGA output
3	12V DC	+12V DC connector for powering the unit
4	REMOTE	Button for activating a remote switcher
5	CABLE EQ[1]	Potentiometer for adjusting cable equalization
6	ID BIT Switch	Selects ID BIT when switched ON in the left position (when outputting a VGA signal from a notebook to an external VGA monitor[2])
7	INPUT	VGA/XGA input
8	AUX[3]	Openings for optional video, audio, telephone and network connectors

1 Degradation and VGA/XGA signal loss can result from using long cables (due to stray capacitance), sometimes leading to a total loss of sharpness in high-resolution signals

2 Sometimes notebook computers refuse to output a VGA signal to an external VGA moni tor. By setting the ID Bit to ON, (and using pin # 4 on the VGA connector that is normally unused), the notebook will output to an external VGA monitor

3 Applicable to the Wall Plate version only

4   Connecting the VPM-2 XGA Line Driver

Connect the **VPM-2** *XGA Line Driver*, as follows:

1. Connect the HD15M PC Graphic Source connector to the HD15F INPUT port.

2. Connect the HD15F LOOP port to the HD15M (Looped) Local VGA/XGA Monitor connector, if required.

3. Connect the OUTPUT connector to the projector (or remote monitor).

Figure 2 illustrates how to connect the **VPM-2** *XGA Line Driver*:
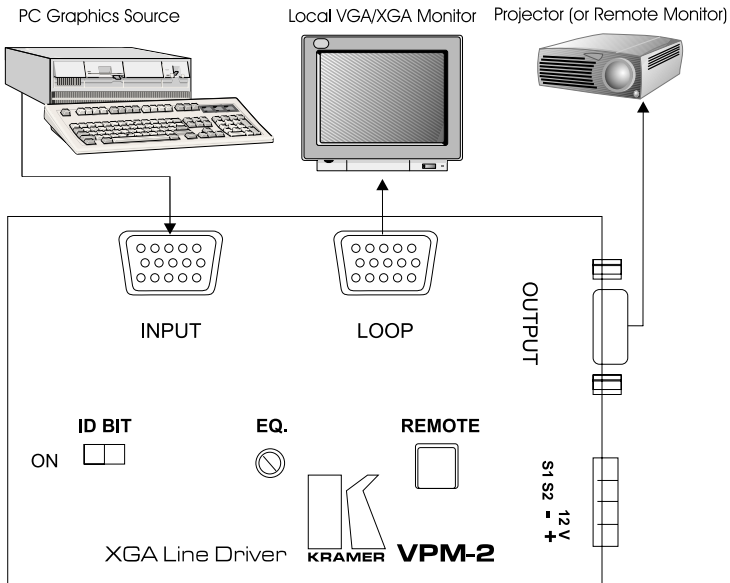

Figure 2: VPM 2 XGA Line Driver Connections

As Figure 2 illustrates:

- Set the ID Bit to ON, if required, by pushing the ID BIT switch to the left

- Achieve a desirable level of sharpness by turning the potentiometer with a screwdriver to adjust cable equalization, while observing the output on a projector or remote monitor

- Press the REMOTE button to activate a remote switcher

5   Technical Specifications

Table 2 includes the technical specifications:

Table 2: VPM 2 XGA Line Driver Technical Specifications

Inputs	Looping analog red, green, blue signals: 0.7 Vpp/75 Ω, H and V sync, TTL level, on HD15F connector
Outputs	1 x analog red, green (with or without composite sync), blue signals: 0.7 Vpp/75 Ω, H and V sync, TTL level (Hi-Z load) or analog level (75 Ω load), on a HD15F connector Composite sync - TTL level (Hi-Z load) or analog level (75 Ω load)
Video Bandwidth	380 MHz -3dB
S/N Ratio	73 dB
Diff. Gain	0.9%
Diff. Phase	0.3 Deg
K-Factor	< 0.05%
Controls	Cable EQ. control: 0 to +10 dB @ 5 MHz, ID bit switch, remote switcher activating switch
Dimensions	Wall Plate: 18.2 cm x 9.5 cm x 3.5 cm (7 inch x 3.7 inch 1.4 inch, W, D, H)
Dimensions	Small Enclosure: 11.3 cm x 7.1 cm x 3.4 cm (4.4 inch x 2.8 inch 1.3 inch, W, D, H)
Power Source	12 VDC, 120 mA
Weight	0.4 kg (0.88 lbs.) approx.
Options	VP-81 remote controllable switcher

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.

KRAMER ELECTRONICS, LTD.