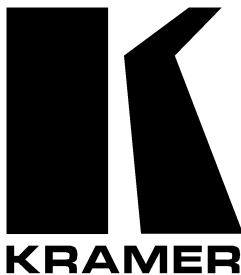


Kramer Electronics, Ltd.



USER MANUAL

Kramer TOOLS Model:

VP-100

VGA/XGA to RGBHV Converter

Contents

1	Introduction	1
2	Getting Started	1
3	Your VP-100	1
4	Connecting the VP-100	3

Figures

Figure 1: VP-100 VGA/XGA to RGBHV Converter	2
Figure 2: VP-100 VGA/XGA to RGBHV Converter Connections	4

Tables

Table 1: Features and Functions of the VP-100 VGA/XGA to RGBHV Converter	3
Table 2: Technical Specifications of the VP-100 VGA/XGA to RGBHV Converter	4

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 amplifiers, remote controllers, industrial and broadcast switchers, processors, interfaces and computer-related products. Congratulations on purchasing your Kramer **VP-100 VGA/XGA to RGBHV Converter**. This product is ideal for the following typical applications:

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

The package includes the following items:

- **VP-100 VGA/XGA to RGBHV Converter**
- 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 VP-100

The **VP-100 VGA/XGA to RGBHV Converter**:

- Is a high performance VGA/SVGA/XGA/UXGA to BNC converter that enables a single VGA/SVGA /XGA/UXGA source to drive a local monitor and a large remote display device¹ simultaneously
- Provides local monitor loop-through, buffering, amplification, and sync processing for remote acceptor applications

¹ Many projectors and large monitors use BNC connectors rather than multi-pin D connectors

- Accepts all typical graphic modes, including VGA, SVGA, XGA, SXGA, and UXGA and outputs RGB, RGBS, or RGBHV
- With its video bandwidth of 350 MHz, ensures transparent operation at multiple resolutions including UXGA
- Allows looping with a termination switch
- Includes cable EQ. control, Hs and Vs shift control and ID BIT control

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-100** in a location free from moisture and away from excessive sunlight and dust

Figure 1 and Table 1 define the **VP-100**:

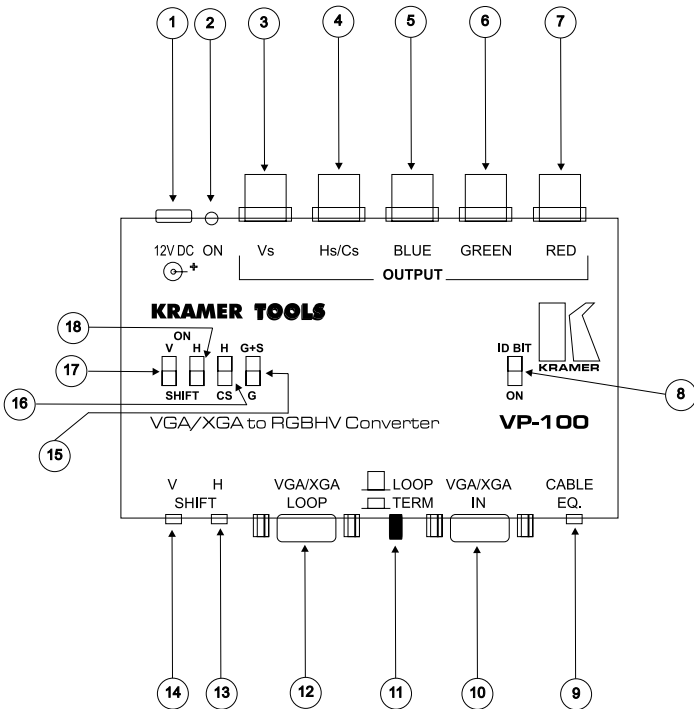


Figure 1: VP-100 VGA/XGA to RGBHV Converter

Table 1: Features and Functions of the VP-100 VGA/XGA to RGBHV Converter

#	Feature	Function
1	12V DC	+12V DC connector for powering the unit
2	ON LED	Illuminates when receiving power
3	Vs BNC connector	Vertical sync BNC connector for amplified and buffered vertical sync output
4	Hs/Cs BNC connector	Horizontal or composite sync (as determined by the switch (item 16)) BNC connector for amplified and buffered horizontal sync output
5	BLUE BNC connector	Amplified and buffered BLUE signal output
6	GREEN BNC connector	Amplified and buffered GREEN signal output. When item 15 is set to G+S, the GREEN BNC connector includes Sync ¹
7	RED BNC connector	Amplified and buffered RED signal output
8	ID BIT Switch	Selects ID BIT when switched ON in the downward position (when outputting a VGA signal from a notebook to an external VGA monitor ²)
9	CABLE EQ ³	Potentiometer adjusts cable equalization of the BNC output
10	VGA/XGA IN	VGA/XGA input
11	LOOP TERM	Controls loop termination. Put in Term position if the VGA/XGA Loop output (item 12) is not connected to an external device (for example, a monitor)
12	VGA/XGA LOOP	For VGA/XGA looping to increase output availability
13	H SHIFT ⁴	Potentiometer adjusts (when item 18 is ON) the horizontal display to compensate for delay problems due to long and/or unequal cables
14	V SHIFT	Potentiometer adjusts (when item 17 is ON) the vertical display to compensate for delay problems due to long and/or unequal cables
15	G+S or G Switch	Pushing upward (G+S) selects Green + Sync, pushing downward (G) selects Green at the GREEN BNC connector (item 6)
16	H or CS Switch	Pushing upward (H) selects horizontal sync, pushing downward (CS) selects composite sync at the Hs/Cs BNC connector (item 4)
17	V Switch	Pushing upward (ON) enables the vertical sync potentiometer (item 14)
18	H Switch	Pushing upward (ON) enables the horizontal sync potentiometer (item 13)

4 Connecting the VP-100

Connect the **VP-100**, as follows:

1. Connect the HD15M PC Graphic Source connector to the HD15F VGA/XGA IN port.
2. Connect the HD15F VGA/XGA LOOP port to the HD15M (Looped) Local Monitor⁵ connector and release the LOOP TERM switch⁵.

1 Some machine formats include the vertical and horizontal sync on the GREEN signal

2 Sometimes notebook computers refuse to output a VGA signal to an external VGA monitor. 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 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

4 Data delay problems, especially with long RGBHV cables, occur when electronic signals travel via coaxial cable and the picture shifts mainly in the horizontal axis (due to unequal delays between the sync signals and data). Center the picture by adjusting the potentiometers for Vertical and Horizontal sync

5 If no looping is required, push in the LOOP TERM button to the 75 ohm position

3. Connect the 5 BNC Output connectors (Vs, Hs/Cs, BLUE, GREEN, and RED) to the data projector or (remote monitor).

Figure 2 illustrates how to connect the **VP-100**:

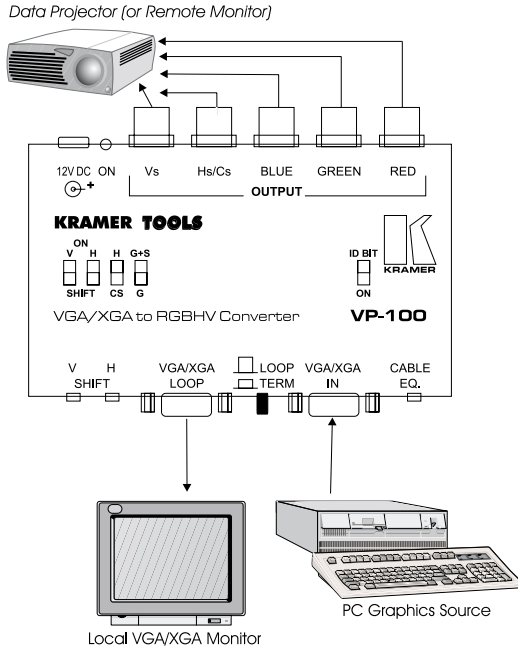


Figure 2: VP-100 VGA/XGA to RGBHV Converter Connections

Table 2: Technical Specifications of the VP-100 VGA/XGA to RGBHV Converter

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 BNC connectors. Composite sync - TTL level (Hi-Z load) or analog level (75 Ω load)
Video Bandwidth:	350 MHz -3dB
S/N Ratio:	71 dB
Diff. Gain:	0.07%
Diff. Phase:	0.03 Deg
K-Factor:	< 0.05%
Controls:	Cable EQ. control, H and V sync switches and controls, G / sync on green switch, Hs / Cs switch, ID BIT switch, input termination switch
Eq. Control:	0 to +9.7 dB @ 5 MHz
Dimensions:	12 cm x 7.5 cm x 2.5 cm (4.7 inch x 2.95 inch 0.98 inch, W, D, H)
Power Source:	12 VDC, 60 mA
Weight:	0.3 kg (0.67 lbs.) approx
Options:	RK-T1 or RK-T3 rack mount kit

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.



The list of Kramer distributors appears on our web site:
www.kramerelectronics.com

We welcome your questions, comments and feedback.

Kramer Electronics, Ltd.

3 Am VeOlam Street, Jerusalem 95463, Israel Tel: (+972-2)-654-4000

Fax: (+972-2)-653-5369, E-mail: kramerel@netvision.net.il