

Kramer Electronics, Ltd.



USER MANUAL

Models:

VP-501xl, *UXGA Scan Converter*

VP-502xl, *UXGA/HD Scan Converter*

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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 groups¹ that are clearly defined by function.

Thank you for purchasing the Kramer **VP-501xl UXGA Scan Converter/VP-502xl UXGA/HD Scan Converter**. This product is ideal for:

- Multimedia, board rooms, and video conferencing
- Any application where high quality conversion of graphical data signals to video signals is required
- Set-top box and HD conversion to SD video (**VP-502xl**)

The package includes the following items:

- **VP-501xl UXGA Scan Converter** or **VP-502xl UXGA/HD Scan Converter**
- Power adapter (12V DC Input)
- This user manual²

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 cables³

1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; 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>

3 Overview

The Kramer **VP-501xl** is a high-quality scan converter for down-scaling computer graphics (VGA up to UXGA) to PAL or NTSC video.

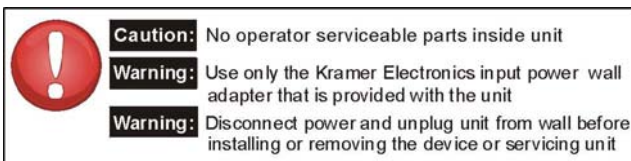
The Kramer **VP-502xl** is a high-quality scan converter for down-scaling computer graphics and HD to PAL or NTSC video. It supports VGA up to UXGA, as well as the HD resolutions: 480p, 576p, 720p and 1080i. The input color space (RGB or YUV) is selected via a DIP-switch¹.

The high quality **VP-501xl/VP-502xl** features:

- User-friendly front panel buttons for easy control of ProcAmp functions, flicker-reduction, image optimization, one-touch freezing, over-scanning and under-scanning
- Memory locations to save and recall up to four setups, including picture setup², input setup and output setup, zoom and advanced features
- Simultaneous high-quality composite video and s-Video (Y/C)
- Selectable the video standard (PAL or NTSC)
- An external 12V DC source

To achieve the best performance:

- Connect 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)
- Avoid interference from neighboring electrical appliances and position your Kramer **VP-501xl/VP-502xl** away from moisture, excessive sunlight and dust



¹ See section [8.6](#)

² Brightness, contrast, saturation and flicker filter

4 Your VP-501xl

[Figure 1](#) and [Table 1](#) describe the VP-501xl.

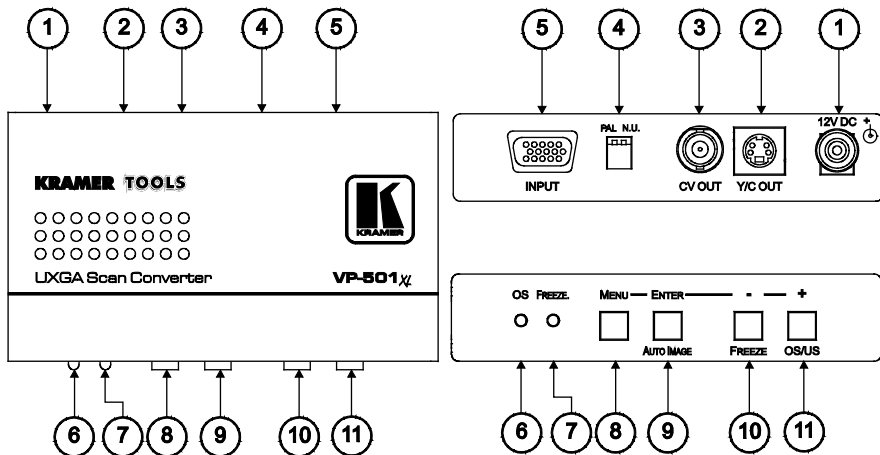


Figure 1: VP-501xl UXGA Scan Converter

Table 1: VP-501xl Features

#	Feature	Function
1	12V DC	+12V DC connector for powering the unit
2	Y/C OUT 4-pin Connector	Connect to the s-Video acceptor
3	CV OUT BNC Connector	Connect to the composite video acceptor
4	PAL DIP-switch	Select the video standard (ON for PAL, OFF for NTSC) (see section 8.6)
5	INPUT 15-pin HD Connector	Connect to the computer graphics source
6	OS LED	Lights when the image is over-scanned ¹
7	FREEZE. LED	Lights when the FREEZE button is pressed
8	MENU Button	Press to enter the menu and adjust the Scan Converter features
9	ENTER / AUTO IMAGE Button ²	Press ENTER to accept the settings; press AUTO IMAGE to acquire optimal screen display
10	- / FREEZE Button ²	Press - to scroll down the menu; press FREEZE to freeze the video image and features. Press again to disable
11	+ / OS/US Button ²	Press + to scroll up the menu; press OS/US to toggle between over-scan ¹ and under-scan ³

1 The displayed image, when set correctly, is larger than the screen

2 This button has dual functionality. When in the MENU mode, it functions according to the labeling above the button. When not in the MENU mode, the labeling below the button takes precedence

3 The image is smaller than the screen, leaving a border around the image

5 Your VP-502xl

[Figure 2](#) and [Table 2](#) describe the VP-502xl.

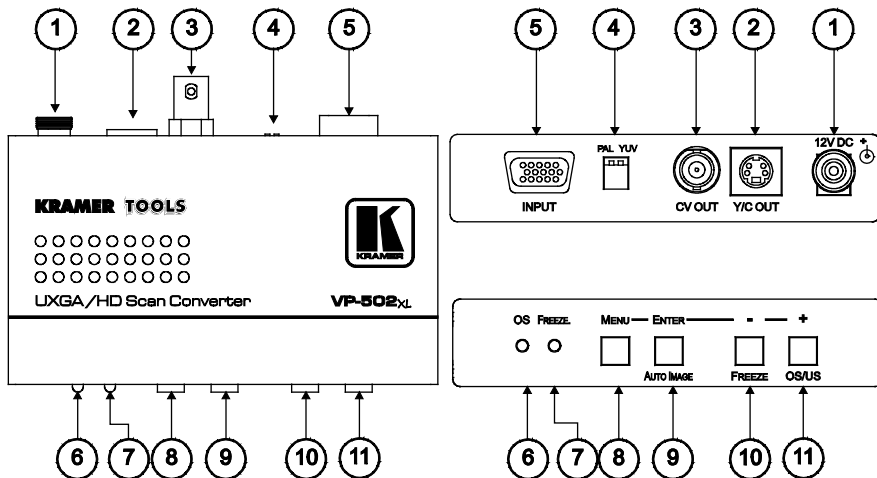


Figure 2: VP-502xl UXGA/HD Scan Converter

Table 2: VP-502xl Features

#	Feature	Function
1	12V DC	+12V DC connector for powering the unit
2	Y/C OUT 4-pin Connector	Connect to the s-Video acceptor
3	CV OUT BNC Connector	Connect to the composite video acceptor
4	YUV, PAL DIP-switches	Select the video standard (ON for PAL, OFF for NTSC) and the color space (ON for YUV, OFF for RGB) (see section 8.6)
5	INPUT 15-pin HD Connector	Connect to the computer graphics or HD source
6	OS LED	Lights when the image is over-scanned ¹
7	FREEZE. LED	Lights When the FREEZE button is pressed
8	MENU Button	Press to enter the menu and adjust the Scan Converter features
9	ENTER / AUTO IMAGE Button ²	Press ENTER to accept settings; press AUTO IMAGE to acquire optimal screen display
10	- / FREEZE Button	Press - to scroll down the menu; press FREEZE to freeze video image and features. Press again to disable
11	+ / OS/US Button	Press + to scroll up the menu; press OS/US to toggle between over-scan ³ and under-scan ³

1 The displayed image, when set correctly, is larger than the screen

2 This button has dual functionality. When in the MENU mode, it functions according to the labeling above the button. When not in the MENU mode, the labeling below the button takes precedence

3 The image is smaller than the screen, leaving a border around the image

6 Connecting the VP-501xl

To connect your **VP-501xl** as the example in [Figure 3](#) illustrates, do the following¹:

1. Connect a computer graphics source to the 15-pin HD INPUT connector.
2. Connect the Y/C OUT 4-pin connector to the Y/C acceptor (for example, an s-Video recorder) and/or the CV OUT BNC connector to the CV acceptor (for example, a composite video recorder).
3. Set the DIP-switches (see section [8.6](#)).
4. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.

Adjust the scan converter features if required (see section [8.3](#)).

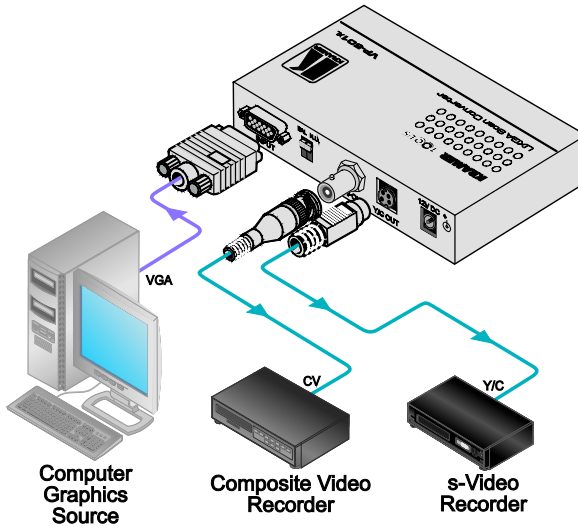


Figure 3: Connecting the VP-501xl

¹ Switch OFF the power on each device before connecting it to your VP-501xl. After powering up your VP-501xl, switch on the power on each device.

7 Connecting the VP-502xl

To connect your **VP-502xl** as the example in [Figure 4](#) illustrates, do the following¹:

1. Connect a computer graphics source to the 15-pin HD INPUT connector (for example, a PC as shown in [Figure 4](#)), or alternatively, connect a high definition source² to the 15-pin HD INPUT connector (for example, a set top box as shown in [Figure 5](#)).
2. Connect the Y/C OUT 4-pin connector to the Y/C acceptor (for example, an s-Video recorder) and/or the CV OUT BNC connector to the CV acceptor (for example, a composite video recorder).
3. Set the DIP-switches (see section [8.6](#)).
4. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.

Adjust the scan converter features if required (see section [8.3](#)).

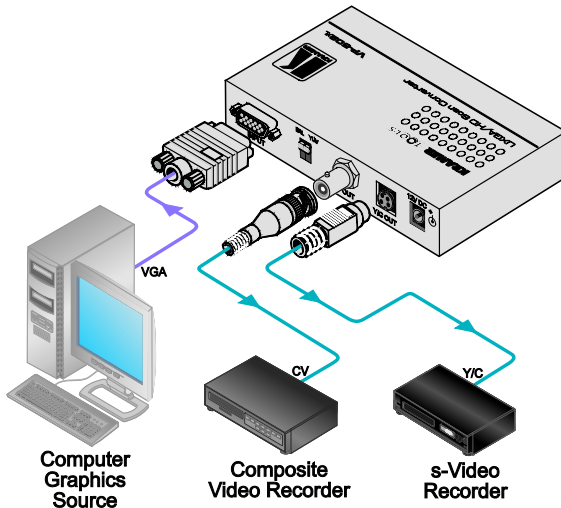


Figure 4: Connecting the VP-502xl

¹ Switch OFF the power on each device before connecting it to your VP-502xl. After powering up your VP-502xl, switch on the power on each device

² To connect a high definition source, use a breakout cable such as the Kramer C-GM/3RVF. If you have a VGA to a 5BNC cable, use the RGB wires only

INPUT Connector PINOUT

PIN #	Signal
1	Pr
2	Y
3	Pb

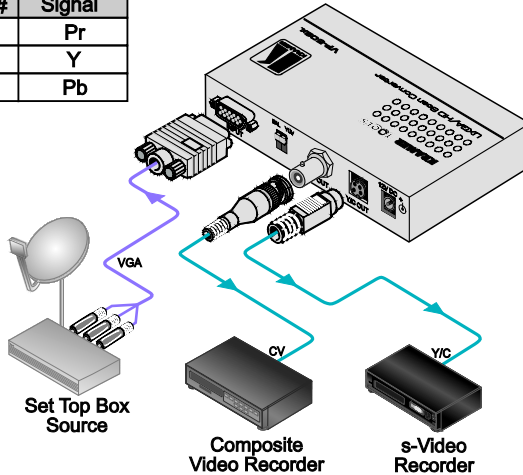


Figure 5: VP-502xl Alternate Connection

8 Operating the VP-501xl/VP-502xl

You can operate your **VP-501xl/VP-502xl** via the front panel buttons, which are dual-purpose buttons¹ that function as:

- Quick-set buttons: AUTO IMAGE, FREEZE and OS/US; or
- Menu buttons: MENU, ENTER, – and +

This section describes how to:

- Use the quick set buttons (see section [8.1](#))
- Use the set of menu buttons (see section [8.2](#))
- Use the Menu screen (see section [8.3](#))
- Use the test patterns (see section [8.4](#))
- Save and recall (see section [8.5](#))
- Set the DIP-switches (see section [8.6](#))

¹ Except for the MENU button

8.1 Using the Quick-Set Buttons

The following sub-sections describe the **VP-501xl** and **VP-502xl** quick set buttons.

8.1.1 Using the AUTO IMAGE Button

The **VP-501xl/VP-502xl** assesses the image and improves the quality, by automatically adjusting the phase, frequency and position, when the AUTO IMAGE button is pressed.

For example, if your computer application switches resolutions (and frequency), press the AUTO IMAGE button to automatically improve the picture quality.

8.1.2 Using the FREEZE Button

Press the FREEZE button to freeze the picture on the screen. The frozen picture is displayed regardless of the signal on the input to the unit. This allows you, for example, to change the programs on the PC, and set up the next image.

By pressing the FREEZE button again, the frozen image will be replaced by the most current image on the input to the unit.

8.1.3 Using the OS/US Button

Press the OS/US button to toggle between over-scan and under-scan:

- Over-scan omits the border. The displayed image, when set correctly, is larger than the screen¹
- Under-scan (sometimes know as the Compress mode) leaves a border around the image²



Over-scan



Under-scan

Figure 6: Over-scanned and Under-scanned images

¹ Making the data bigger and easier to read but running the risk of having some of it run off the edge of the screen

² The image appears reduced in size with a margin around it so that none of the data gets lost

8.2 Adjusting the Display via the Menu Buttons

The set of menu buttons (MENU, ENTER, – and +) let you adjust the screen settings. Use the menu buttons as follows:

- Press the MENU¹ button to display the menu on the screen
- Press the MENU button again each time you want to return to the previous menu level or exit the menu
- Press the + or - buttons to move up or down the menu respectively
- Press ENTER to accept changes
- Before exiting the menu, you can save settings²

8.3 Using the Menu

Using the main menu, you can adjust the screen display³. After pressing the MENU button⁴, the main Menu⁵ appears on the screen. Use the menu buttons to scroll through the menu and make the required adjustments.

[Table 3](#) defines the menu items.

Table 3: VP-501xl/VP-502xl Menu Items

Menu Items	Function
Picture Setup	Set the Contrast, Brightness, Sharpness and Saturation levels; Set the Flicker Filter for flicker reduction ⁶
TV Output Setup	Set the H Center, H Width, V Center and V Height levels
VGA Input Setup	Set the VGA Left, VGA Width, VGA Top and VGA Bottom levels
Zoom	Set the zoom to ON to zoom the image; when the zoom is selected, pan the H and V position
Advanced	Select from seven different Test Patterns (for example, see Figure Z); Select a test pattern to appear when no input is connected; and Save up to 4 setups ² and recall ⁷ them
Information	Verifies the V Total Line, the H Timing, V Timing, and the software version

1 Pressing the MENU button disables the quick-set buttons (AUTO IMAGE, FREEZE and OS/US)

2 See section [8.5](#)

3 Screen adjustments apply to both CV and Y/C displays

4 Quick set-buttons are disabled

5 The menu times-out after 20 seconds of inactivity

6 The flicker filter essentially blends the value of vertically adjacent pixels to decrease the differences in adjacent odd/even lines. This dramatically reduces the noticeable image flicker, but equally as noticeably reduces the level of vertical detail as compared to the original computer display.

7 To have a recalled setup appear after power cycling, you have to save that recalled setup once again before powering down the unit, since the unit “remembers” the last setting that was saved

8.4 Using Test Patterns

The Advanced menu lets you select Test Patterns and Save and Recall setups.

The **VP-501xl/VP502xl** stores 7 test patterns. From the Advanced menu, you can select a test pattern (from 1 to 7) to show on screen. [Figure 7](#) shows test pattern number 1.

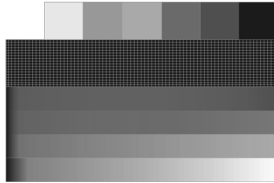


Figure 7: Test Pattern Number 1

You can set a test pattern to appear on the screen when there is no input connected to the **VP-501xl/VP502xl**. To do so, enter the Advanced menu, select No Input and set a test pattern number. This test pattern will appear when there is no input connected. For example, set No Input to 1 if you want test pattern 1 (as in [Figure 7](#)) to appear when there is no input connected to the unit.

8.5 Saving and Recalling

The **VP-501xl/VP-502xl** lets you save and recall up to four setups (from 0 to 3).

The Save mode stores all the menu settings¹ in one of the Save setup numbers.

Saving Through the Advanced Menu

To save setup 1, for example:

1. Adjust the Picture Setup, the VGA Input Setup, the TV Output Setup, the Zoom and panning, and the No Input number.
2. In the Advanced menu, select Save and set to number 1.
3. Press ENTER.
The setup is saved.

¹ The Save mode saves the Picture setup, the TV Output setup, the VGA Input Setup, the Zoom setup, and the advanced setup (test patterns)

When disconnecting the unit, the setup that was saved last will be stored and will reappear when connecting the unit once again.

Consider the following sequence, for example:

- A certain setup is saved to 1
- A different setup is saved to 2
- Setup 1 is recalled
- The unit is disconnected
- The unit is reconnected
- Setup 2 appears (since it was saved last)

8.5.1 Saving When Exiting the Menu

Whenever a change in the setup is performed, you are prompted to save the changes¹, be it recalling a different setup, or changing the Zoom mode:

- Select No to cancel setup changes
- Select Yes to save setup changes.
Changes will be saved to the setup number currently appearing next to the Save item²

8.5.2 Recalling a Setup

To recall a setup select Recall from the advanced menu and select the setup number you want to recall.

¹ The Save Setting item does not timeout, it remains until No or Yes is selected

² You should be aware that your setup will be saved to one of the 4 setups and will overwrite the previous setup associated with this setup number

8.6 Setting the DIP-Switches

[Figure 8](#) and [Table 4](#) describe the factory default DIP-switches setting for the **VP-501xl**:

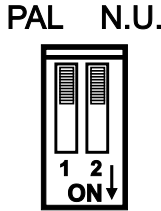


Figure 8: VP-501xl DIP-Switches

Table 4: VP-501xl DIP-Switch Settings

DIP	Function	Description
1	PAL/NTSC	Determines the video standard to be used: Set to ON (down) to select PAL Set to OFF (up) to select NTSC
2	N.U.	Not Used

[Figure 9](#) and [Table 5](#) describe the factory default DIP-switches setting for the **VP-502xl**:

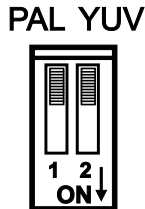


Figure 9: VP-502xl DIP-Switches

Table 5: VP-502xl DIP-Switch Settings

DIP	Function	Description
1	PAL/NTSC	Determines the video standard to be used: Set to ON (down) to select PAL Set to OFF (up) to select NTSC
2	YUV/RGB	Determines the input color space to be used: Set to ON (down) to select YUV Set to OFF (up) to select RGB

9 Technical Specifications

[Table 6](#) includes the technical specifications.

Table 6: Technical Specifications¹ of the VP-501xl/VP-502xl

INPUTS:	VP-501xl: 1 x VGA/ UXGA on an 15-pin HD connector VP-502xl: 1 x VGA/ UXGA, analog component HD on an 15-pin HD connector
OUTPUTS:	1 composite video 1Vpp/75Ω on a BNC connector 1 Y/C (s-Video) 1Vpp/75Ω (Y), 0.3Vpp/75Ω (C) on a 4-pin connector
MAX. OUTPUT LEVEL:	1Vpp
INPUT RESOLUTIONS:	VP-501xl: VGA up to UXGA VP-502xl: VGA up to UXGA; 480p, 576p, 720p, 1080i (for 1080i, does not support 50Hz)
CONTROLS:	Front panel and OSD: ProcAmp video controls, Freeze, Underscan / Overscan, Auto-image, 8 color bars
POWER SOURCE:	12V DC, 270mA
DIMENSIONS:	12cm x 7.5cm x 2.5cm (4.7" x 2.95" x 0.98", W, D, H)
WEIGHT:	0.3 kg. (0.67 lbs.) approx
ACCESSORIES:	Power supply, mounting bracket
OPTIONS:	19" rack adapters RK-T1, RK-T3 ; VGA to 3RCA breakout cable C-GM/3RVF

¹ Specifications are subject to change without notice

LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

What is Covered

This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs authorized by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

Without limiting any other exclusion herein, Kramer Electronics does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

How Long Does this Coverage Last

Seven years as of this printing; please check our Web site for the most current and accurate warranty information.

Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.
3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

How to Obtain a Remedy under this Limited Warranty

To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, please visit our web site at www.kramerelectronics.com or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required. You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

Limitation on Liability

THE MAXIMUM LIABILITY OF KRAMER ELECTRONICS UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

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IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPLICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY AS PROVIDED UNDER APPLICABLE LAW.

Other Conditions


This limited warranty gives you specific legal rights, and you may have other rights which vary from country to country or state to state.

This limited warranty is void if (i) the label bearing the serial number of this product has been removed or defaced, (ii) the product is not distributed by Kramer Electronics or (iii) this product is not purchased from an authorized Kramer Electronics reseller. If you are unsure whether a reseller is an authorized Kramer Electronics reseller, please visit our Web site at www.kramerelectronics.com or contact a Kramer Electronics office from the list at the end of this document.

Your rights under this limited warranty are not diminished if you do not complete and return the product registration form or complete and submit the online product registration form. Kramer Electronics thanks you for purchasing a Kramer Electronics product. We hope it will give you years of satisfaction.



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.

 <p>Caution</p>	<p>Safety Warning: Disconnect the unit from the power supply before opening/servicing.</p>
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