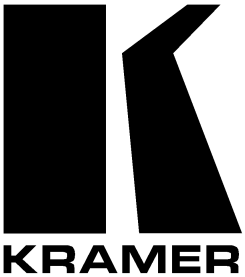
Kramer Electronics, Ltd.



USER MANUAL

Model:

VP-419xl

Video To SXGA/HD Scaler

Contents

Figures

Tables

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 500-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your Kramer **VP-419xl** *Video To SXGA/HD Scaler*. This product is ideal for:

- Projection systems in conference rooms, boardrooms, hotels and churches
- Home theater up-scaling

The package includes the following items:

- **VP-419xl** *Video To SXGA/HD Scaler*
- Power adapter (12V DC input)
- Infra red remote control transmitter
- 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]

2.1 Quick Start

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

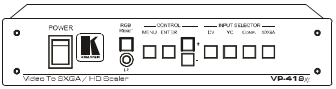
1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 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

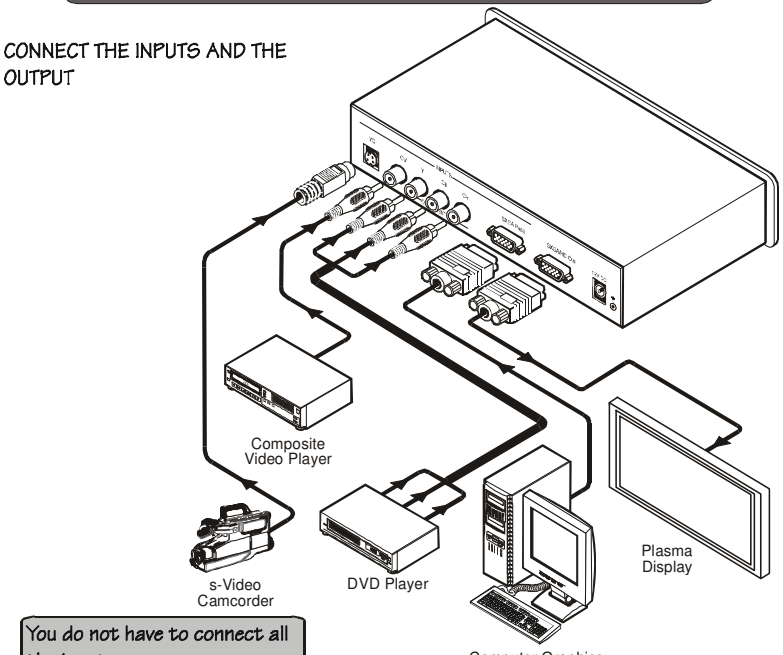
Step 1: Mount the machine

Mount the machine in a rack or stick the 4 rubber feet to the underside



Step 2: Connect the input and outputs - see section 5

CONNECT THE INPUTS AND THE OUTPUT

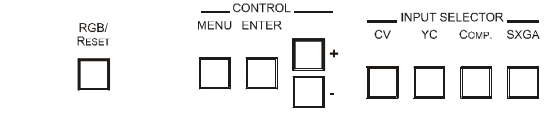


You do not have to connect all the inputs

Step 3: Turn the power ON

Step 4: Control the machine - see section 6

VIA THE FRONT PANEL BUTTONS

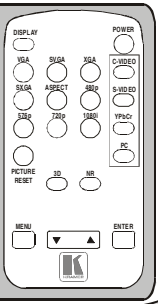


Select the output resolution or reset to VGA/480p

CONTROL via the OSD menus

Select the INPUT

VIA THE IR REMOTE CONTROL TRANSMITTER



3 Overview

The Kramer **VP-419xl** *Video To SXGA/HD Scaler* is a high quality converter for up-scaling composite video, s-Video (YC), and SD component video to XGA[1] and HD resolutions. It also has a computer graphics (XGA) input, which – when selected, or when the machine is not powered - is routed directly (bypassed) to the output. Video inputs are de-interlaced and scaled to the selected PC or HDTV resolutions, as follows:

- VGA (640x480)
- SVGA (800x600)
- XGA (1024x768)
- SXGA (1280x1024)
- 480p
- 576p
- 720p
- 1080i

The **VP-419xl** *Video To SXGA/HD Scaler* also features:

- Automatic detection of NTSC, PAL-B, PAL-G, PAL-I, PAL-D, and SECAM video standards
- An On-Screen Display (OSD) for easy setup and adjustment, accessible via the IR remote control and via the front-panel buttons
- A high-performance adaptive 3D comb filter (for precise color management)
- Per-pixel motion compensated de-interlacing for artifact-free video images
- Automatic detection for 3:2 pulldown for 24fps film source material
- Frame rate conversion of 50Hz to 60Hz for PAL input signals
- A Vertical Temporal (VT) Filter for removing jagged artifacts
- Advanced color/luminance transient improvement circuitry
- A PC Input connector for easy integration into an existing system
- A built-in procamp for convenient signal adjustment
- A non-volatile memory that retains the last settings used

The machine is fed from an external 12V DC source, making it suitable for field operation.

Control your **VP-419xl**:

- Directly, via the front panel push buttons
- Remotely, from the infra-red remote control transmitter

1 The terminology XGA is used throughout this manual, where this implies any RGBHV signal on an HD15 connector having a resolution from VGA up to SXGA

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-419xl** 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[1].

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

4 Your VP-419xl Video to SXGA/HD Scaler

Figure 1, Table 1 and Table 2 define the **VP-419xl** *Video To SXGA/HD Scaler*:

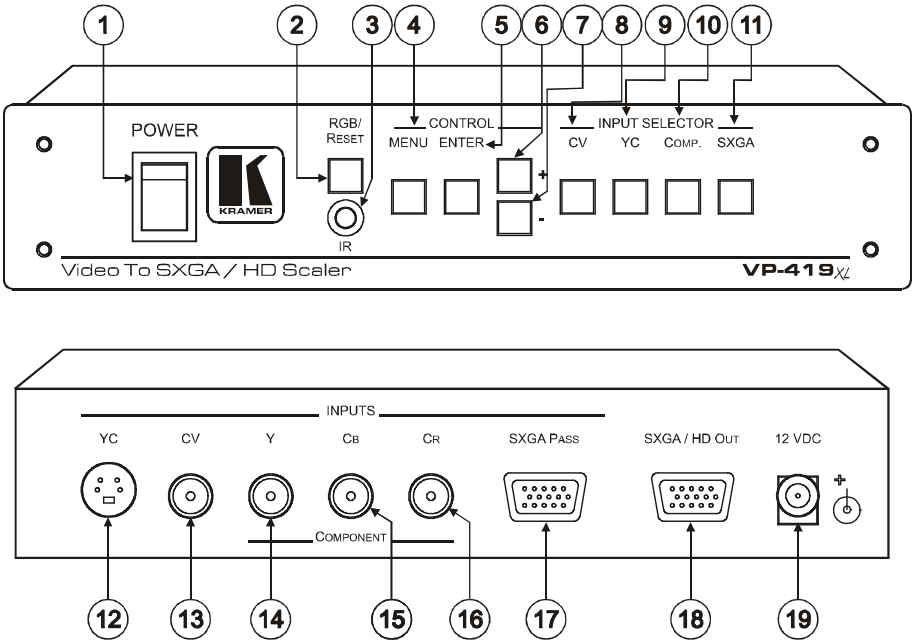


Figure 1: VP-419xl Video To SXGA/HD Scaler – Front and Rear View

1 For example: model number AD2512C, part number 2535-000251

Table 1: VP-419xl Video To SXGA/HD Scaler Front Panel Features

#	Feature		Function
1	*POWER* Switch		Switch for turning the unit ON or OFF
2	*RGB/RESET* Button		Illuminates when the output resolution is set to RGB. Press to set output to Y Pb Pr (the button no longer illuminates). Press and hold for more than 3 seconds to reset to VGA. Press and hold for 10 seconds to reset to 480p
3	*IR* Receiver		Lights when receiving signals from the remote control transmitter
4	*CONTROL*	*MENU* Button	Displays the OSD menu (see section 6.2)
5		*ENTER* Button	Press to accept changes and change the SETUP parameters (see section 6.2.3)
6		+ Button	Press to go up the menu list or adjust the PICTURE submenu values (see section 6.2.2)
7		- Button	Press to go down the menu list or adjust the PICTURE submenu values (see section 6.2.2)
8	*INPUT SELECTOR*	*CV* Button	Press to select the composite video source
9		YC Button	Press to select the s-Video (YC) video source
10		*COMP.* Button	Press to select the component video source
11		*SXGA* Button	Press to select the SXGA source

Table 2: VP-419xl Video To SXGA/HD Scaler Rear Panel Features

#	Feature		Function
12	*INPUTS*	*YC* 4p Connector	Connects to the s-Video source
13		*CV* RCA Connector	Connects to the composite video source
14		*Y* RCA Connector	Connects to the interlaced[1] component video source[2]
15		*CB* RCA Connector	
16		*CR* RCA Connector	
17		*SXGA PASS* HD15 Connector	Connects to the VGA/Y, Pb, Pr source[3]
18	*SXGA / HD OUT* HD15 Connector		Connects to the SXGA or HDTV (component video) acceptor
19	*12 VDC*		+12V DC connector for powering the unit

1 Not compatible with progressive scan Y, Pb, Pr or HDTV

2 For component video, connect all three connectors: Y, Cb, Cr (also known as YUV)

3 This PC input signal is not scaled, but is available for pass-through when the PC source is selected

5 Connecting the VP-419xl Video to SXGA/HD Scaler

Connect[1] your **VP-419xl**, as illustrated in the example in Figure 2:

1. Connect an s-Video source (for example, an s-Video camcorder) to the YC INPUT 4p connector.
2. Connect a composite video source (for example, a composite video player) to the CV INPUT RCA connector.
3. Connect a component video source (for example, a DVD player) to the Y, Cb and Cr INPUT RCA connectors.
4. Connect an SXGA graphics source to the SXGA PASS INPUT HD15 connector[2].
5. Connect the SXGA/HD OUT HD15 connector to a video acceptor (for example, a plasma display) as follows:
   - When connecting to an XGA acceptor (RGBHV), then connect to the acceptor's XGA connector
   - When connecting to a component acceptor (Y, Cb, Cr), then connect as shown in Table 3

Table 3: HD15 PINOUT for HD[3]

PIN #	Signal
1	Cr
2	Y
3	Cb

6. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity (not shown in Figure 2).

1 You do not have to connect all the inputs, connect only those that are required

2 This PC input signal is not scaled, but is available for pass-through when the PC Source is selected

3 The PINOUT should be: PIN 1 = Cr, PIN 2 = Y and PIN 3 = Cb (with pins 6, 7 and 8 as ground respectively)

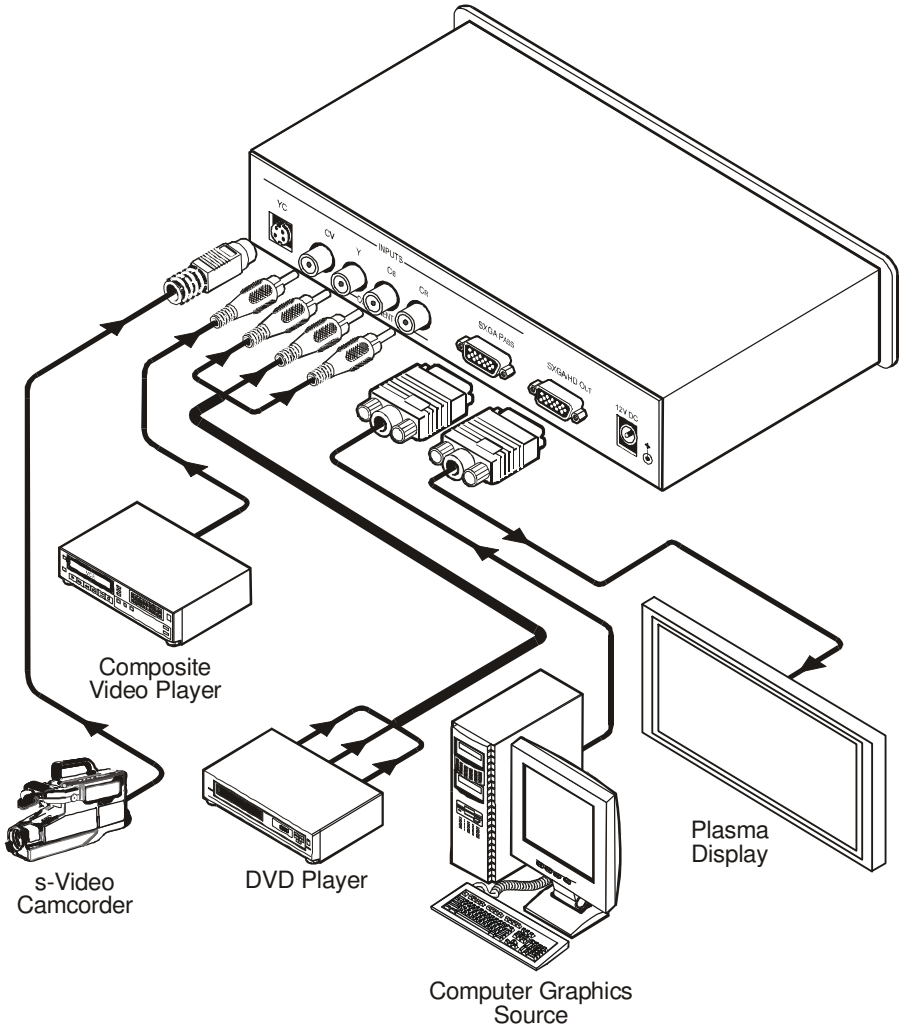


Figure 2: Connecting the VP-419xl Video To SXGA/HD Scaler

6 Controlling the VP-419xl

The **VP-419xl** can be controlled directly via the front panel buttons (see section 6.1), via the OSD menu (see section 6.2), and/or remotely from the infra-red remote control transmitter (see section 6.3).

6.1 Controlling via the Front Panel Buttons

The **VP-419xl** includes the following control front panel buttons:

- An RGB/RESET button for setting the output to either RGB or Y, Pb, Pr or resetting[1] the resolution to VGA or 480p
- CONTROL buttons, including the MENU, ENTER, + and – buttons
- INPUT SELECTOR buttons for selecting the required input (CV, YC, COMP. or SXGA)

6.2 Using the CONTROL Buttons

The CONTROL buttons let you control the **VP-419xl** via the OSD menu

- Press the MENU button to enter the menu[2]
- Press the ENTER button to accept changes and to change the menu settings
- Press the + and – buttons to move through the OSD menu, which is displayed on the video output, or adjust the PICTURE parameters

On the OSD menu, select EXIT to exit the menu.

6.2.1 The MAIN MENU

Table 4 defines the MAIN MENU features and functions.

Table 4: The MAIN MENU Features

Mode	Function
PICTURE	Set the picture parameters (contrast, brightness, color, hue, detail and reset), see section 6.2.2
SOURCE	Select the desired input source: video, s-Video, Y, CB, CR or computer
RESOLUTION	After selecting the output type[3], select between the RGB output resolutions (VGA, SVGA, XGA or SXGA) or the YPbPr output resolutions (480p, 576p, 720p or 1080i)
SETUP	Select the aspect, output, 3D enhance, digital NR, display and HV output (see section 6.2.3)
INFORMATION	Displays the source, resolution and software version
EXIT	Select to exit the menu

1 Press for 3 seconds to reset to VGA and press for 10 seconds to reset to 480p

2 The menu times out after 8 seconds

3 By pressing the RGB/RESET button or via the OSD menu

6.2.2 The PICTURE Menu

Table 5 defines the PICTURE menu.

Table 5: The PICTURE Menu Features

Parameter	Function	Range	Default
CONTRAST	Adjust the contrast	From 0 to 63	58
BRIGHT	Adjust the brightness	From 0 to 63	31
COLOR	Adjust the color	From 0 to 63	31
HUE	Adjust the hue	From 0 to 63	31
DETAIL	Adjust the sharpness	From 0 to 63	10
RESET	Select RESET and press ENTER to reset to the default parameters		
EXIT	Select to exit to the MAIN MENU		

6.2.3 The SETUP Menu

Table 6 defines the SETUP menu.

Table 6: The SETUP Menu Features

Parameter	Function
ASPECT[1]	Select between STANDARD, 4:3 and 16:9
OUTPUT	Select a PC (RGB) output or an HDTV (Y, Pb, Pr) output
3D ENHANCE	Turn the 3D comb filter function ON or OFF[2]
DIGITAL NR	Turn the digital noise reduction function ON or OFF
DISPLAY	Set to ON to display the input standard and the output resolution on the screen all the time Set to INFO to briefly display the input standard and the output resolution on the screen after a change is made Otherwise, set to OFF
HV OUTPUT	Select ON to send H and V synchronization when Y, Pb, Pr is selected for the output[3]
EXIT	Select to exit to the MAIN MENU

1 STANDARD will output the signal in the same aspect ratio as the input aspect ratio. 4:3 and 16:9 will always output as 4:3 and 16:9 respectively, regardless of the input aspect ratio

2 When a video player or a non-standard video source is connected to the input, the output picture may jitter. If this occurs, turn the 3D Comb Filter to OFF

3 H and V are **always** sent when RGB is selected at the output

6.3 Controlling via the Infra-Red Remote Control Transmitter

You can control the **VP-419xl** from the infra-red remote control transmitter, as Figure 3 and Table 7 define:

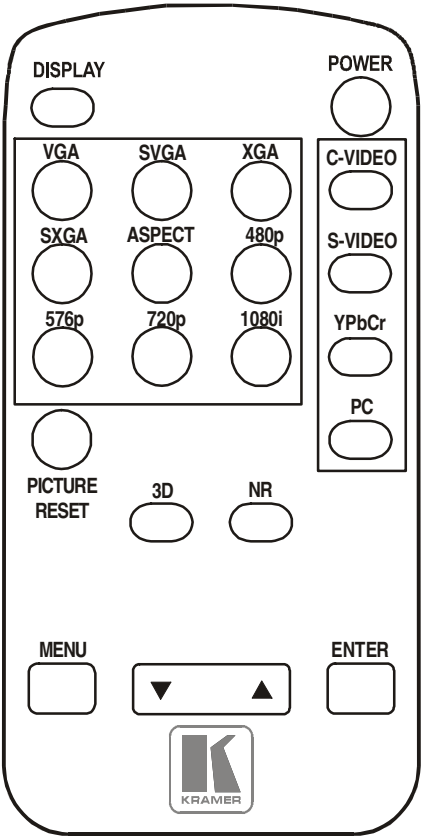


Figure 3: Infra-Red Remote Control Transmitter

Table 7: Infra-Red Remote Control Transmitter Functions

Keys	Function
POWER	Turn power ON or OFF
DISPLAY	Turn input standard and output resolution information display ON or OFF
C-VIDEO	Select the composite video input
S-VIDEO	Select the s-Video input
YCbCr	Select the component video input
PC	Select the input PC to loop-through
VGA	Set the output resolution to 640x480
SVGA	Set the output resolution to 800x600
XGA	Set the output resolution to 1024x768
SXGA	Set the output resolution to 1280x1024
480p	Set the output resolution to 852x480p
576p	Set the output resolution to 852x576p
720p	Set the output resolution to 1280x720p
1080i	Set the output resolution to 1920x1080i
ASPECT	Select the standard, normal (4:3) or the wide (16:9) aspect ratio
PICTURE RESET	Press and hold for 2 seconds to reset all the ProcAmp settings (contrast, brightness and so on)[1]
3D	Turn the 3D enhance feature ON or OFF
NR	Turn the digital noise reduction feature ON or OFF
MENU	Enter the OSD menu
ENTER	Press to accept changes and to change SETUP parameters
▼ ▲	Press to adjust the picture parameters

1 In some versions, you need to be within the PICTURE menu to do this

7 Technical Specifications

Table 8: Technical Specifications[1] of the VP-419xl Video To SXGA/HD Scaler

INPUTS:	1 VGA/SVGA/XGA/SXGA on an HD15F connector 1 composite video on an RCA connector 1 component video (Y, Cb, Cr) on RCA connectors 1 s-Video on a 4p connector
OUTPUT:	1 RGB/YPbPr on an HD15F connector
OUTPUT RESOLUTIONS[2]:	VGA (640x480), SVGA (800x600), XGA (1024x768), SXGA (1280x1024), HDTV: 480p, 576p, 720p, 1080i
PROCESSING DELAY:	2 frames
CONTROLS:	Front panel buttons and infra red remote for menu driven OSD control
ADDITIONAL CONTROLS:	Contrast, brightness, color, tint and sharpness; Resolution, output image scaling, output mode, 3D comb filter function and aspect ratio
POWER SOURCE:	12V DC, 350mA
DIMENSIONS:	21.5cm x 16.3cm x 4.36cm (8.46” x 6.4” x 1.7”) W, D, H
WEIGHT:	0.66kg (1.45lbs.) approx.
ACCESSORIES:	Power supply, IR remote control
OPTIONS	19" rack adapter RK-80, RK-80N

1 Specifications are subject to change without notice

2 All resolutions are outputted @ 60Hz, except 576p which is outputted @ 50Hz

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.
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, 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.

Kramer Electronics, Ltd.
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P/N: 2900-000201 REV 3