KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

VP-480
CV to 3G HD-SDI Scaler

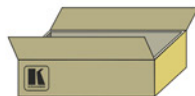# VP-480 CV to 3G HD-SDI Scaler Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to http://www.kramerelectronics.com/support/product_downloads.asp to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

☑ **VP-480** CV to 3G HD-SDI Scaler
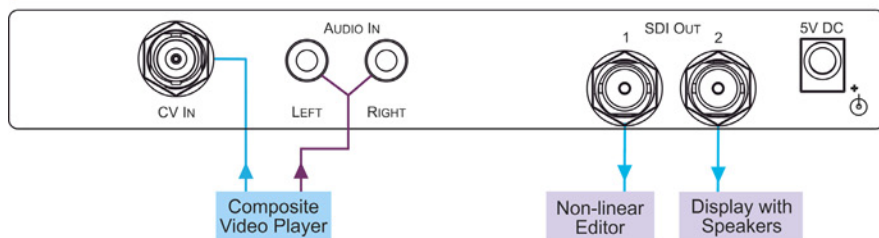☑ 1 power adapter (5V DC
☑ 1 Quick Start sheet
☑ 4 Rubber feet

Save the original box and packaging in case your **VP-480** needs to be returned to the factory for service.

Step 2: Install the VP-480

Mount the device in a rack (using the optional RK-T2B rack adapter available for purchase) or place the device on a shelf.

Step 3: Connect the inputs and outputs

Always switch off the power to each device before connecting it to your **VP-480**.

AUDIO IN
1   SDI OUT   2
5V DC

CV IN   LEFT   RIGHT

Composite Video Player

Non-linear Editor

Display with Speakers

Always use Kramer high-performance cables for connecting AV equipment to the **VP-480.**

Step 4: Connect the power

Connect the 5V DC power adapter to the **VP-480** and plug the adapter into the mains electricity.

Step 5: Operate the VP-480

Set the parameters using the OSD and the front panel buttons.

CONTRAST
BRIGHTNESS
FINETUNE
COLOR
SIZE
OUTPUT
AUDIO
OSD
FACTORY RESET
INFORMATION
AUTO SYNC OFF
EXIT

RESET TO 1080P
MENU   ENTER   -   +
AUTO ADJUST   FREEZE
RESET TO 720P

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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 that are clearly defined by function: 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 and GROUP 11: Sierra Products.

Congratulations on purchasing your Kramer **VP-480** *CV to 3G HD-SDI Scaler*, which is ideal for the following typical applications:

- Projection systems in conference rooms, boardrooms, hotels and churches

- Home theater up-scaling

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

> Go to http://www.kramerelectronics.com to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables 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

- Position your Kramer **VP-480** away from moisture, excessive sunlight and dust

> This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

> **Caution:** No operator serviceable parts inside the unit
>
> **Warning:** Use only the Kramer Electronics input power wall adapter that is provided with the unit
>
> **Warning:** Disconnect the power and unplug the device from the wall before installing

2.2   Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country go to our recycling pages at *http://www.kramerelectronics.com/support/recycling/*.

3   Overview

The Kramer **VP-480** *CV to 3G HD-SDI Scaler* is a high-performance digital scaler for composite video signals. It up-scales to SDI, HD-SDI and 3G HD-SDI signals. The following output resolutions are supported:

- SDTV: 480i and 576i

- HDTV: 720p @60, 1080p SF30/29/25, 1080p 30/29/25/24/23, 1080p @59, 1080i @59, 720p @59, 480i @59, 576i, 1080p @50, 1080i @50, 720p @50, 1080p @60, 1080i @60

The **VP-480** also features:

- A data rate of up to 3Gbps

- A composite video input

- An unbalanced stereo audio input

- Two SDI outputs (up to 3G HD-SDI)

- Multi-standard operation: SDI (SMPTE 259M), HD-SDI (SMPTE 292M) and 3G HD-SDI (SMPTE 424M)

- An OSD (On-screen Display) accessible via the front panel buttons for easy setup and adjustment

- A built-in ProcAmp for convenient signal adjustment

- A non-volatile memory that retains the last settings used

- A freeze button

- An external 5V DC power supply

4 Defining the VP-480 CV to 3G HD-SDI Scaler

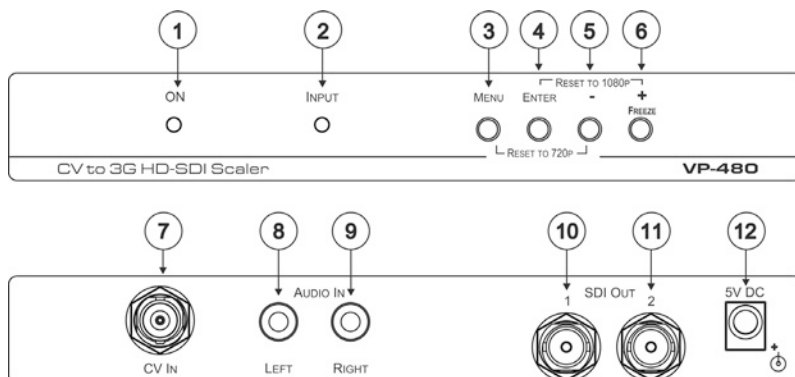Figure 1 defines the front and rear panels of the **VP-480**.

Figure 1: VP-480 CV to 3G HD-SDI Scaler

#	Feature	Function
1	*ON* LED	Lights green when the device is powered on
2	*INPUT* LED	Lights green when a composite video signal is detected on the input
3	*MENU* Button	Press to display the OSD (On-screen Display) menu. When the OSD is not displayed, press together with the – button to set the output resolution to 720p (1280x720)
4	*ENTER* Button	In the OSD, press to select the highlighted menu item. When the OSD is not displayed, press together with the + button to set the output resolution to 1080p (1920x1080)
5	– Button	In the OSD, press to step up through the options or to decrement the parameter value
6	+ / *FREEZE* Button	In the OSD, press to step down through the options or to increment the parameter value. When the OSD is not displayed, press to freeze the display
7	*CV IN* BNC connector	Connect to a composite video source
8	*AUDIO IN LEFT* RCA Connector	Connect to the left channel of the unbalanced stereo audio source. Audio from this input is output to SDI channel 1 of the first group
9	*AUDIO IN RIGHT* RCA Connector	Connect to the right channel of the unbalanced stereo audio source. Audio from this input is output to SDI channel 2 of the first group
10	*SDI OUT 1* BNC Connector	Connect to SDI acceptor 1. The signal is re-clocked and equalized
11	*SDI OUT 2* BNC Connector	Connect to SDI acceptor 2. The signal is re-clocked and equalized
12	*5V DC*	Connect to the +5V DC power adapter, center pin positive

5 Connecting the VP-480

> Always switch off the power to each device before connecting it to your **VP-480**. After connecting your **VP-480**, connect its power and then switch on the power to each device.
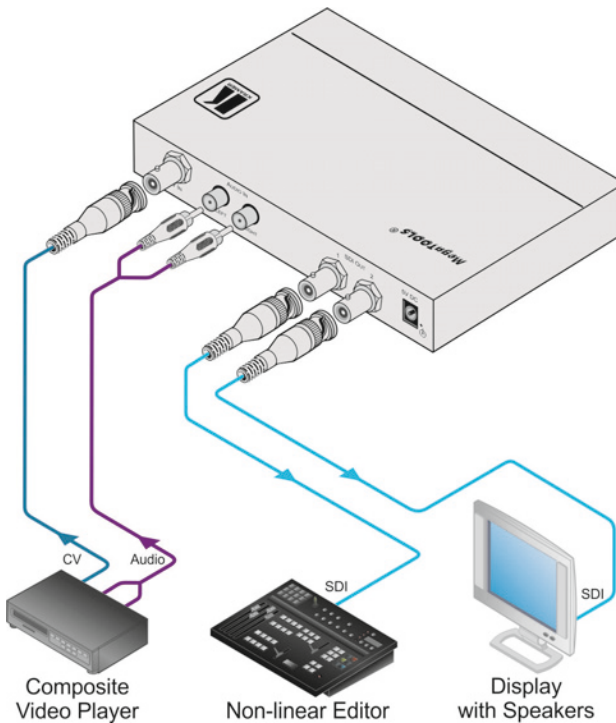

Figure 2: Connecting the VP-480 CV to 3G HD-SDI Scaler

To connect the VP-480 as illustrated in the example in Figure 2:

1. Connect a composite video source (for example, a composite video player) to the CV IN BNC connector.

2. Connect an unbalanced stereo audio source (for example, the audio output from the composite video player) to the LEFT and RIGHT AUDIO IN RCA connectors.

3. Connect the SDI OUT 1 BNC connector to an SDI acceptor (for example, a non-linear editor).

4. Connect the SDI OUT 2 BNC connector to an SDI acceptor (for example, an SDI display with speakers).

5. Connect the 5V DC power adapter to the 5V DC power socket and to the mains electricity (not shown in the illustration).

6 Operating the VP-480 CV to 3G HD-SDI Scaler

The **VP-480** is operated directly via the front panel buttons and via the OSD menu.

6.1 Using the Front Panel Buttons

During normal operation (without the OSD), the front panel buttons operate in the following manner:

- **MENU**: Press once to display the OSD Main Menu (see Section 6.2). Press again to close the OSD

- **FREEZE**: Press once to freeze the display. Press again to unfreeze the display

- **MENU** and **–**: Press together to set the output to 720p

- **ENTER** and **FREEZE**: Press together to set the output to 1080p

6.2 Using the OSD

The OSD is used to set a variety of parameters (see Sections 6.2.1 to 6.2.5). When using the OSD, the front panel buttons operate in the following manner:

- **MENU**: Press once to open the OSD main menu. Press again to close the OSD

- **ENTER**: Press to select the highlighted menu item or parameter

- **–** : Press to step up through the menu list or decrement the parameter value

- **+** : Press to step down through the menu list or increment the parameter value

Note: After a period of 10 sec with no button activity, the OSD menu automatically turns off. This can be changed using the **OSD** > **Timer setting** parameter.

To change settings:

1. From normal operation, press MENU.
   The OSD main menu appears on the screen.

2. Press the **+** or **–** button to move up or down the list or highlight the main menu item in green.

3. Press Enter.
   If the menu item has a parameter after it, the parameter changes to red and the **+** and **–** buttons are used to cycle through the available parameters.
   If there is no parameter after the menu item, a submenu appears.

4. Press ENTER to set the value.

5. Press the **+** or **–** button to move up or down the list and highlight the submenu item in green.

6. Press ENTER.
   The submenu parameter changes to red.

7. Press the **+** or **–** button to increase or decrease the value of the parameter.

8. Press ENTER to set the value.

9. To return to the main menu, select EXIT and press ENTER.

10. To return to normal operation, select EXIT from the main menu and press ENTER.

To exit from the OSD at any point, press the MENU button. Unsaved values return to their previous value.

6.2.1 OSD Main Menu

Main Menu	Function	Value Range	Factory Default
CONTRAST	Sets the output contrast	0-100	48
BRIGHTNESS	Sets the output brightness	0-100	35
SIZE	Sets the output size/aspect ratio	FULL, BEST FIT, PANSCAN, LETTERBOX, UNDERSCAN, OVERSCAN	FULL
OUTPUT	Sets the output resolution	720p @60, 1080p SF30/29/25, 1080p 30/29/25/24/23, 1080p @59, 1080i @59, 720p @59, 480i @59, 576i, 1080p @50, 1080i @50, 720p @50, 1080p @60, 1080i @60	1080p @60
FACTORY RESET	Resets all parameters to factory defaults		YES
INFORMATION	Displays current input resolution, output resolution and firmware revision	SOURCE, INPUT, OUTPUT, VERSION	
AUTO SYNC OFF	When on, de-activates the output after a few minutes if no input is present. For example, when the output is connected to a projector, the projector shuts down automatically when there is no input	ON, OFF	OFF
EXIT	Closes the OSD and returns to normal operation		

6.2.2 Finetune Sub-menu

Options	Function	Value Range	Factory Default
HUE	Sets the output hue	0-100	50
SATURATION	Sets the output saturation	0-100	53
SHARPNESS	Sets the output sharpness	0-100	48
EXIT	Returns to the main menu		

6.2.3   Color Sub-menu

Options	Function	Value Range	Factory Default
RED	Sets the output red value	0-100	48
GREEN	Sets the output green value	0-100	48
BLUE	Sets the output blue value	0-100	52
EXIT	Returns to the main menu		

6.2.4   Audio Sub-menu

Options	Function	Value Range	Factory Default
DELAY	Sets the audio delay	OFF, 40ms, 110ms, 150ms	OFF
SOUND	Turns the sound on or off	ON, MUTE	ON
EXIT	Returns to the main menu		

6.2.5   OSD Sub-menu

Main Menu Submenu	Function	Value Range	Factory Default
H-POSITION	Sets the right/left position of the OSD on the screen	0-100	10
V-POSITION	Sets the up/down position of the OSD on the screen	0-100	90
TIMER	Sets the length of time (in seconds) that the OSD remains visible on the screen	0-100	10
BACKGROUND	Sets the darkness of the OSD background	0-100	63
DISPLAY	Displays the input signal state and current output resolution on the output	INFO, ON, OFF	INFO
EXIT	Returns to the main menu		

7   Technical Specifications

INPUTS:	1 composite video on a BNC connector 1 unbalanced stereo audio on 2 RCA connectors
OUTPUTS:	2 3G HD-SDI on BNC connectors
INPUT RESOLUTIONS:	See the document "Kramer Scalers Input Output Resolutions" available for download from http://www.kramerelectronics.com
OUTPUT RESOLUTIONS:	720p @60, 1080p SF30/29/25, 1080p @30/29/25/24/23, 1080p @59, 1080i @59, 720p @59, 480i @59, 576i, 1080p @50, 1080i @50, 720p @50, 1080p @60, 1080i @60
OUTPUT SIZE:	Full, best fit, panscan, letterbox, underscan, overscan
PROCESSING DELAY:	30ms
CONTROLS:	Menu, Enter, "–" and +/Freeze front panel buttons
POWER SOURCE:	5V DC, 1.55A
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)
STORAGE TEMPERATURE:	–40° to +70°C (–40° to 158°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	18.8cm x 11.4cm x 2.5cm (7.4" x 4.5" x 1") W, D, H
WEIGHT:	0.47kg (1.04lbs) approx.
ACCESSORIES:	Power supply
OPTIONS:	RK-T2B 19" rack adapter
Specifications are subject to change without notice at http://www.kramerelectronics.com	

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 attempted 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.

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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.

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For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

We welcome your questions, comments, and feedback.
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SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing