VP-510 Quick Start Guide

This guide helps you install and use your VP-510 for the first time.
Go to http://www.kramerav.com/manual/VP-510 to download the latest user manual (or scan the QR code) and check if firmware upgrades are available.

Step 1: Check what’s in the box
- VP-510 4K to 2K Downconverter
- 1 Power supply (5V DC)
- 4 Rubber feet
- 1 Quick start guide
- 1 Bracket kit

Step 2: Install the VP-510
To mount the VP-510 in a rack, use an RK-1 rack adapter. Alternatively, attach the rubber feet to the underside of the machine and place it on a table. You can use the TOOL bracket installation kit (supplied) to mount the VP-510 on a desktop, wall or similar area. Fasten a bracket on each side of the TOOL using the two M3x8 screws (supplied). Use the flat-head screws (supplied) to fix the TOOL to the mounting surface or enable it to slide in place.

Step 3: Connect inputs and outputs
Always switch OFF the power on each device before connecting it to your VP-510.
For best results, we recommend that you always use Kramer high-performance cables to connect AV equipment to the VP-510.

Step 4: Connect the power
Connect the 5 12V DC power adapter to the VP-510 and plug the adapter into the mains electricity.
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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 video, audio, presentation, and broadcasting professionals 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 14 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; GROUP 11: Sierra Video Products; GROUP 12: Digital Signage; GROUP 13: Audio; and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer VP-510 4K to 2K Down-Converter. This product, which incorporates HDMI™ technology, is ideal for:

- Allows the use of legacy equipment with the latest 4K signals
- Multimedia, board rooms, and video-conferencing
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

Go to www.kramerav.com/downloads/VP-510 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 (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Do not secure the cables in tight bundles or roll the slack into tight coils
- Avoid interference from neighbouring electrical appliances that may adversely influence signal quality
- Position your VP-510 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.

2.2 Safety Instructions

Caution: There are no operator serviceable parts inside the unit

Warning: Use only the Kramer Electronics power supply that is provided with the unit

Warning: Disconnect the power and unplug the unit from the wall before installing
2.3 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/.
Overview

The **VP-510** is a down-converter for 4K HDMI signals. The unit takes a 4K resolution input, provides a loop output and down-converts it to 2K resolution. It allows the use of legacy equipment with the latest 4K signals.

When used with a non-4K (or unsupported 4K) input source, the input is routed to the output with no down-conversion or scaling.

The **VP-510** features:

- A maximum data rate of 10.2Gbps (3.4Gbps per graphic channel)
- HDMI signal downscaling from 4K UHD to 2K / 1080p
- HDMI support for 3D, Deep Color, x.v.Color™, Dolby® TrueHD, Dolby Digital Plus, DTS−HD® and 7.1 multi−channel audio
- Support for HDMI 1.4 and HDCP 1.4
- 4K resolution down-scaling for 4096×2160p@24Hz and 3840×2160p@24/25/30Hz
- HDMI signal bypass for resolutions that are not down-scaled
- A simultaneous HDMI output (loop)
- EDID bypass of loop output
3.1 Defining the VP-510 4K to 2K Down-Converter

This section defines the VP-510.

Figure 1: VP-510 4K to 2K Down-Converter

<table>
<thead>
<tr>
<th>#</th>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ON LED</td>
<td>Lights when the unit is power on</td>
</tr>
<tr>
<td>2</td>
<td>BYPASS LED</td>
<td>Lights when a source is connected and the signal is bypassed to the OUTPUT connector</td>
</tr>
<tr>
<td>3</td>
<td>4K IN LED</td>
<td>Lights when a 4K source that can be downscaled is connected. The downscaled signal is available on the OUTPUT connector</td>
</tr>
<tr>
<td>4</td>
<td>OUTPUT CONNECTED LED</td>
<td>Lights when an output device is connected</td>
</tr>
<tr>
<td>5</td>
<td>INPUT HDMI Connector</td>
<td>Connects to an HDMI source</td>
</tr>
<tr>
<td>6</td>
<td>LOOP HDMI Connector</td>
<td>Connects to a display</td>
</tr>
<tr>
<td>7</td>
<td>OUTPUT HDMI Connector</td>
<td>Connects to a 1080p/2K acceptor</td>
</tr>
<tr>
<td>8</td>
<td>PROG USB Connector</td>
<td>Used for upgrading the firmware</td>
</tr>
<tr>
<td>9</td>
<td>5V DC Connector</td>
<td>Connects to a 5V DC power source</td>
</tr>
</tbody>
</table>
4 Connecting the VP-510

Always switch off the power to each device before connecting it to your VP-510. After connecting your VP-510, connect its power and then switch on the power to each device.

Note: The EDID is read through the loop output. The last EDID connected is saved as a default for when there is no connection to the loop output.

To connect the VP-510 as illustrated in the example in Figure 2:

1. Connect a 4K HDMI source (for example, a Blu-ray player) to the INPUT HDMI connector.

2. If desired, connect an HDMI acceptor (for example, a 4K display) to the LOOP HDMI connector.

3. Connect the OUTPUT HDMI connector to an HDMI acceptor (for example, a 2K display).

4. Connect a 5V DC power supply to the 5V DC connector to power on the device.

Figure 2: Connecting the VP-510 4K to 2K Down-Converter
## Technical Specifications

| INPUTS: | 1 HDMI (looping) on an HDMI connector |
| OUTPUTS: | 1 HDMI and 1 loop on HDMI connectors |
| PORT: | 1 mini-USB for firmware upgrading |
| MAX. DATA RATE: | 10.2Gbps (3.4Gbps per graphic channel) |
| INDICATOR LEDS: | ON, BYPASS, 4K IN, OUTPUT CONNECTED |
| DOWNSCALED 4K RESOLUTIONS: | 3840x2160 @23.98/24Hz, 3840x2160 @25Hz, 3840x2160 @29.97/30Hz, 4096x2160 @23.98/24Hz |
| POWER CONSUMPTION: | 5V DC, 550mA |
| 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: | 12.0cm x 7.2cm x 2.4cm (4.72” x 2.81” x 0.96”) W, D, H |
| WEIGHT: | 0.16kg (0.35lbs) |
| INCLUDED ACCESSORIES: | Power supply |
| OPTIONAL: | RK-3T 19” rack adapter |

Specifications are subject to change without notice
For the most updated resolution list, go to our Web site at [http://www.kramerelectronics.com](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 the installation site. Also, any repairs attempted by the owner of this product, not performed by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and 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. To repair or facilitate the repair of any defective parts within a reasonable period of time, free of 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. To 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 the 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 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 inspect the product.

If it is determined 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 this 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 liability, consequential damages, or the limitation of liability to specified amounts. so the above limitations or exclusions may not apply to you.

Exclusive Remedy

To the maximum extent permitted by law, this limited warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies and conditions, whether oral or written, express or implied. to the maximum extent permitted by law, Kramer Electronics specifically disclaims any and all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If Kramer Electronics cannot lawfully disclaim or exclude implied warranties under applicable law, then all implied warranties covering this product, including warranties of merchantability and fitness for a particular purpose, shall apply to this product as provided under applicable law.

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) the 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.
SAFETY WARNING

Disconnect the unit from the power supply before opening and servicing.

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

We welcome your questions, comments, and feedback.

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