Kramer Electronics, Ltd.

USER MANUAL

Rack Adapter Model:

RK-1

Contents

Figures

Tables

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[1] that are clearly defined by function.

Congratulations on purchasing your Kramer **RK-1** rack adapter, which is ideal for mounting combinations of several 1U Kramer products in a 19" rack. These include half-19" 1U units, 1/4-19" 1U units, 1/8-19" 1U units and separately, up to two 6.5"-1U units.

The package includes the following items:

- **RK-1** *Rack Adapter*
- Additional mechanical parts (blank panel[2], screws, nuts and so on)
- This user manual[3]

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

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1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; 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 One half-19" blank panel (P/N: 60-900013)

3 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com

3 Overview

You can mount a combination of several Kramer products in a 19" 1U rack. These include half-19" 1U units, 1/4-19" 1U units and 1/8-19" 1U units. The examples in Table 1 illustrate how different products could be combined:

Table 1: Using the RK-1

Mounting Kramer Products[1] on the RK-1	For example:
1/2 1/2	• Two VM-9T units • Two VP-5xl units
1/2 1/4 1/4	• One VM-9T unit • Two 104B units
1/2 1/4 1/8 1/8	• One VM-9T unit • One 104B unit • One PS-1DVI unit • One PT-1PS unit
1/2 1/8 1/8 1/8 1/8	• One VM-9T unit • Two PS-1DVI units • Two PT-1PS units
1/4 1/4 1/4 1/4	• Two 104B units • Two FC-4 units
1/4 1/4 1/4 1/8 1/8	• Two 104B units • One FC-4 unit • Two PS-1DVI units
1/4 1/4 1/8 1/8 1/8 1/8	• Two FC-4 units • Two PS-1DVI units • Two PT-1PS units
1/4 1/8 1/8 1/8 1/8 1/8 1/8	• One 104B unit • Three PS-1DVI units • Three PT-1PS units
1/8 1/8 1/8 1/8 1/8 1/8 1/8 1/8	• Four PS-1DVI units • Four PT-1PS units

You can also mount 6.5"-1U units, as defined in Table 2:

Table 2: Using the RK-1 for 6.5"-1U Units

Mounting Kramer 6.5"-1U products on the RK-1	For example:	Notes:
6.5" 6.5"	• One VM-50V unit • One VM-50YC unit	The gap between the units is closed with the short blank panel, see Table 3
6.5"	• One VM-30AV unit	The opening is closed with the long blank panel, see Table 3

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1 Each product is measured in inches

The **RK-1** does not have to be entirely full with mounted units. Use blank panels to fill the empty spaces (see Table 3).

Table 3: RK-1 Blank Panels – Part Numbers

Blank Panel Description	Part Number
PNL-BLANK/1/2U-19"	60-900013
PNL-BLANK/1/4U-19"	60-900014
PNL-BLANK/1/8U-19"	60-900015
PNL-BLANK/SHORT6.5"1U[1]	60-900016
PNL-BLANK/LONG6.5"1U[2]	60-900017

3.1 Recommendations for Best Performance

We recommend that you:

- Have a Philips screwdriver and an Allen screwdriver available
- Disconnect the mains voltage and all cables connected to each machine that is being mounted in the rack adapter before proceeding with the installation
- 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 rack adapter on the rack away from moisture, excessive sunlight and dust

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1 Use when mounting two units

2 Use when mounting one unit

4 Your Kramer RK-1 Rack Adapter

The example in Figure 1 illustrates the mounting of:

- One half-19" unit (for example, the Kramer **VM-9T**)
- One 1/4-19" 1U unit (for example, the Kramer MultiTOOLS® **104B**)
- Two 1/8-19" 1U units (for example, two Kramer MultiTOOLS® **PS-1DVI**)

VM-9T   PS-1DVI   104B
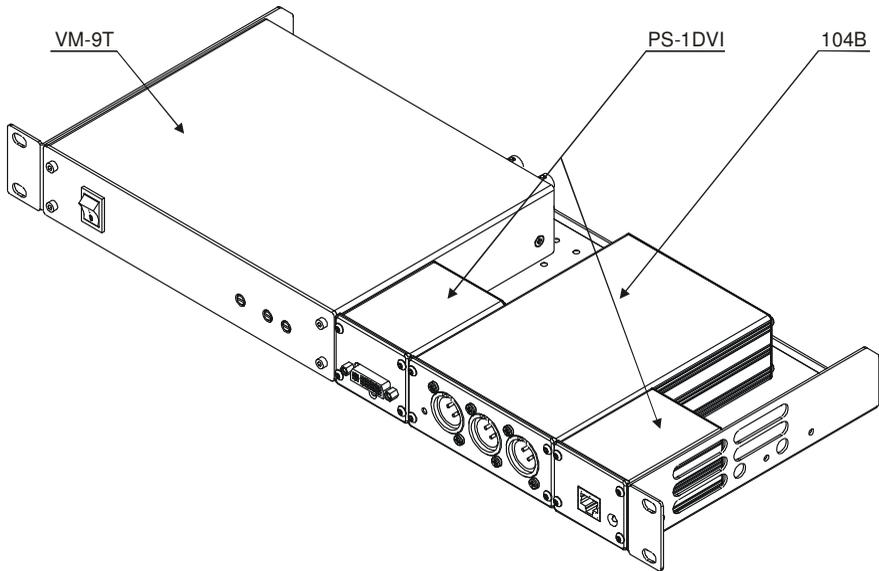
Figure 1: RK-1 Rack Adapter

You can order additional blank panels to cover a 1/4-19" 1U opening[1] and/or a 1/8-19" 1U opening[2] on the **RK-1**

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1 Part number 60-900014

2 Part number 60-900015

5 Mounting on the Kramer RK-1 Rack Adapter

The **RK-1** underside includes a set of screw holes that are suitable for any combination of units to be mounted.

To mount the units on the **RK-1**, as illustrated in Figure 1, do the following:

1. Place the first unit on the rack (for example, the Kramer **VM-9T**).

2. Hold both the **VM-9T** and the **RK-1** with your hands and turn them upside down.

3. Insert and the appropriate amount of screws through the holes on the **RK-1** that fit the holes on the underside of the **VM-9T**, using the M3x5 screws supplied with the unit (as illustrated in Figure 2).

4. Tighten the screws.

5. Rotate the **RK-1** horizontally with the unit connected.

6. Place the next unit (for example, the Kramer **PS-1DVI**) next to the unit that is already mounted.

7. Repeat steps 2 to 6 for each other unit.
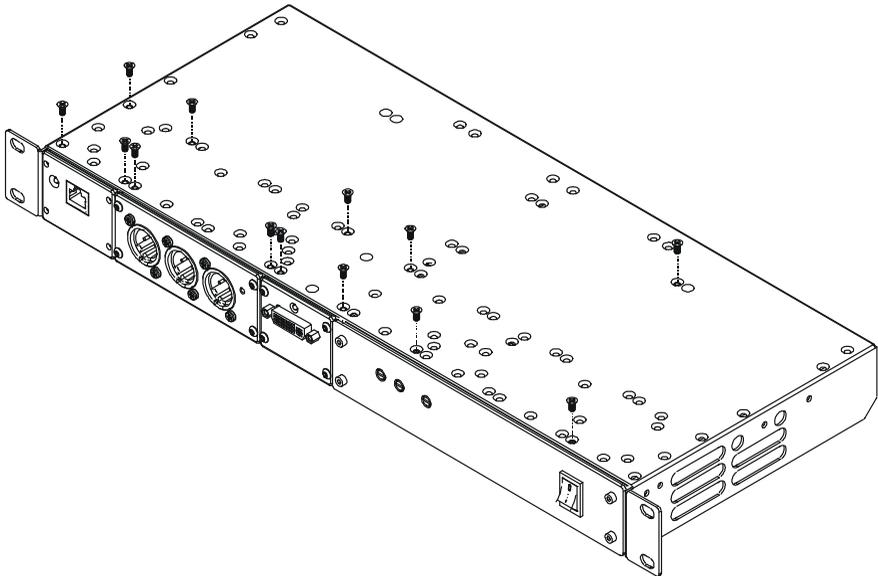
Figure 2: RK-1 Rack Adapter – Underside

5.1 Mounting Units that do not have Underside Screw Holes

Some Kramer machines do not have screw holes on the underside, which fit the holes on the **RK-1**. These machines (for example, the **VP-5xl**[1] or the **VA-50P**[2]) are connected via the screw holes on the sides of the **RK-1**.

To mount the units on the RK-1 as illustrated in Figure 3 and Figure 4 (**VP-5xl** and the **VA-50P** respectively), do the following:

1. Unscrew the two M3x6 screws from the side panel of the unit (for example, the Kramer **VP-5xl** or the **VA-50P**), which will be attached to the side panel of the **RK-1**.

2. Place the unit on the rack (for example, the Kramer **VP-5xl** or the **VA-50P**), adjacent to the inner side panel of the **RK-1**.

3. Insert the two M3x6 screws through the holes on the side panel of the **RK-1** that fit the holes on the side panel of the unit (as illustrated in Figure 3 and Figure 4).

4. Tighten the screws.
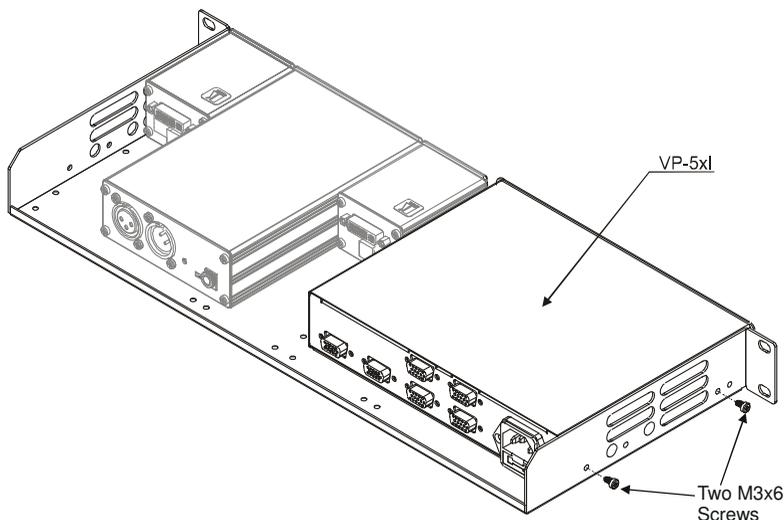
Figure 3: Mounting a half-19" unit via Screws on the RK-1 Side Panel

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1 A half-19" unit

2 A 6.5" unit, see Table 2

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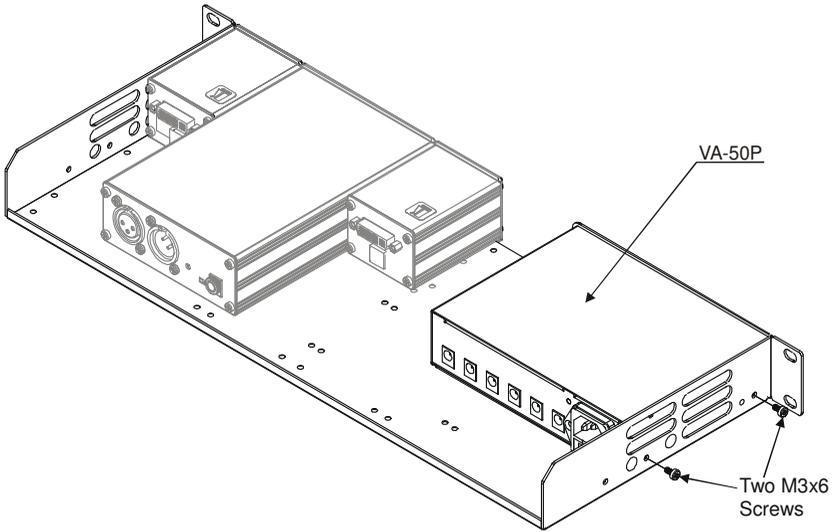
Figure 4: Mounting a 6.5" Machine via Screws on the RK-1 Side Panel

5.2 Connecting a Blank Panel to the RK-1

You can connect a blank panel[1] to the **RK-1** to cover any empty spaces, as the example in Figure 5 illustrates:
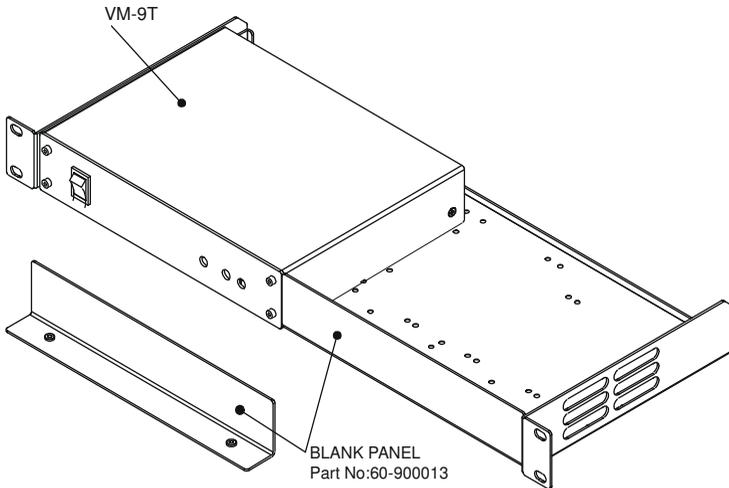
Figure 5: RK-1 Rack Adapter – Connecting a Blank Panel

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1 Specified in section 6

6 Technical Specifications

Table 4 includes the technical specifications:

Table 4: Technical Specifications[1] of the RK-1

DIMENSIONS:	19-inch (W), 7-inch (D) 1U (H)
WEIGHT:	1.2 kg. (2.65 lbs.) approx.
ACCESSORIES:	20 M3x5 screws, 1 half-19" 1U blank panel[2]
OPTIONS:	Blank panels[3]

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1 Specifications are subject to change without notice

2 P/N: 60-900013

3 See Table 3

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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, or on which the WARRANTY VOID IF TAMPERED sticker has been torn, reattached, removed or otherwise interfered with.
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.
    * FCC and CE approved using STP cable (for twisted pair products)

**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.**

⚠ **Caution**	**Safety Warning**: Disconnect the unit from the power supply before opening/servicing.