

Kramer Electronics, Ltd.



USER MANUAL

Models:

VM-30AV, 1:3 Audio/Video DA

VM-30AVB, 1:3 Audio/Video DA

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1 Introduction

Dedication by Kramer Electronics since 1981, to the development and manufacture of high quality video/audio equipment, makes the Kramer line an integral part of the finest production and presentation facilities in the world. In recent years, Kramer has redesigned and upgraded most of the line, making the best even better! The Kramer line of professional video/audio electronics is one of the most versatile and complete available and is a true leader in terms of quality, workmanship, price/performance ratio and innovation.

In addition to our high quality distribution amplifiers, we also offer excellent switchers and matrices, remote controllers, processors, interfaces and computer-related products. Congratulations on purchasing your Kramer **VM-30AV** and/or **VM-30AVB** *1:3 Audio/Video DA*.

The **VM-30AV** and/or **VM-30AVB** are ideal for the following applications:

- Video/Audio duplication studios
- Retail outlets and home theater systems

The package includes the following items:

- **VM-30AV** and/or **VM-30AVB** *1:3 Audio/Video DA*
- Power adapter(s)
- This user manual and the Kramer concise product catalog/CD

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

3 Overview

The **VM-30AV** and/or **VM-30AVB** *1:3 Audio/Video DA* are exceptionally high performance 1:3 distribution amplifiers for video and stereo audio signals. The **VM-30AV** and/or **VM-30AVB** accept one input¹ and distribute the signal to 3 identical outputs. Video signals transmit via:

- RCA connectors on the **VM-30AV**
- BNC connectors on the **VM-30AVB**

¹ Typically, a composite video source (such as VCR or camera)

Both the **VM-30AV** and/or **VM-30AVB** include:

- RCA connectors for stereo audio signals
- Extra wide video bandwidth of 430MHz that allows for high-resolution data/video signals, SDI (serial digital) video and other specialized signals
- An audio level control knob
- Front panel cable EQ (equalization) and video level trimmer controls

Achieving the best performance means:

- Connecting 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)
- Avoiding interference from neighboring electrical appliances that may adversely influence signal quality and positioning your Kramer **VM-30AV** or **VM-30AVB** in a location free from moisture and away from excessive sunlight and dust

4 Your Audio/Video DA

Figure 1 illustrates the front and rear panels of the **VM-30AV**:

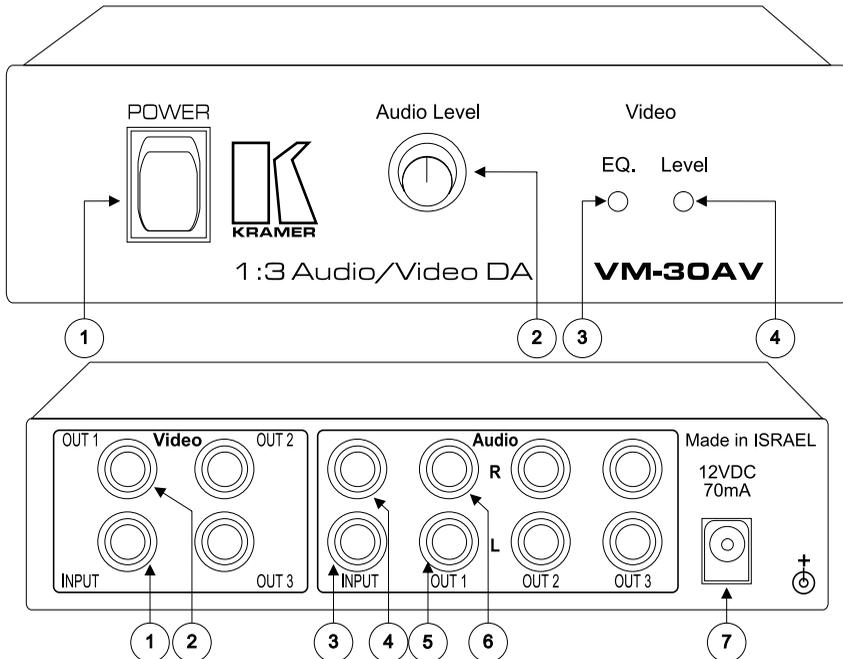


Figure 1: VM 30AV 1:3 Audio/Video DA

Figure 2 illustrates the front and rear panels of the **VM-30AVB**:

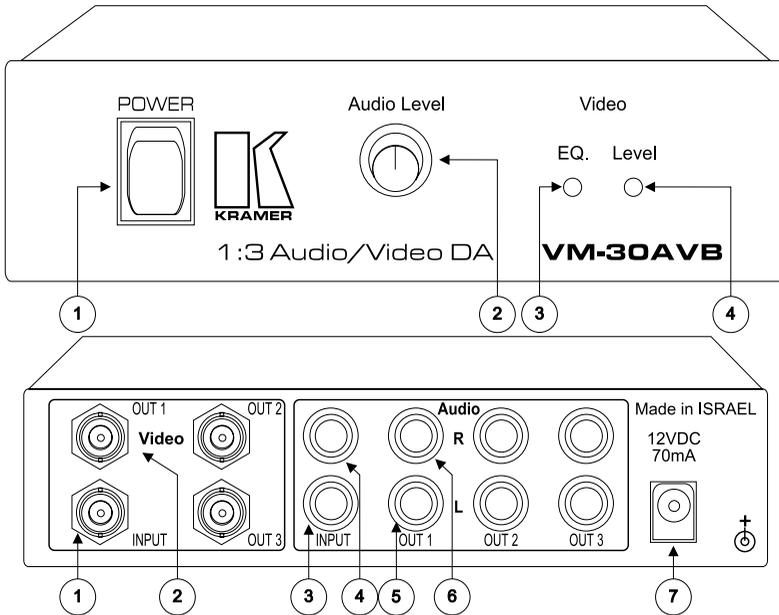


Figure 2: VM 30AVB 1:3 Audio/Video DA

Table 1 and Table 2 define the front and rear panels of the **VM-30AV** and the **VM-30AVB**, respectively.

Table 1: Front Panel VM 30AV and VM 30AVB 1:3 Audio/Video DA Features

#	Feature	Function
1	POWER Switch	Illuminated switch supplying power to the unit
2	Audio Level Knob	Adjusts the audio output signal level
3	Video EQ. Trimmer	Adjusts ¹ the video EQ. (equalization) compensation
4	Video Level Trimmer	Adjusts ¹ the video signal level

Table 2: Rear Panel VM 30AV and VM 30AVB 1:3 Audio/Video DA Features

#	Feature	Function
1	Video INPUT	VM-30AV: RCA Connectors VM-30AVB: BNC Connectors Connects to the video source
2	Video OUT	VM-30AVB: BNC Connectors Connects to the video acceptor (from 1 to 3)
3	Audio INPUT (L) RCA Connector	Connects to the left audio source
4	Audio INPUT (R) RCA Connector	Connects to the right audio source
5	Audio OUT (L) RCA Connector	Connects to the left audio acceptor (from 1 to 3)
6	Audio OUT (R) RCA Connector	Connects to the right audio acceptor (from 1 to 3)
7	12 VDC 70mA	+12V DC connector for powering the unit

¹ Insert a screwdriver into the small hole and carefully rotate it, to trim the appropriate level

5 Using Your Audio/Video DA

Section 5.1 describes how to connect a **VM-30AV/B**. Section 5.2 describes how to configure a 1:3 Audio/Video DA for Component (YUV) or RGB. You can also use the **VM-30AV/B**, with its very high frequency, to process SDI (serial digital interface) video.

5.1 Connecting a VM-30AV/B

Connect¹ the **VM-30AV/B 1:3 Audio/Video DA**, as Figure 3 illustrates, as follows:

1. Connect a composite video source to the video input connector.
2. Connect up to 3 video output connectors to the appropriate audio video acceptors.
3. Connect the audio source to the right and left audio input connectors.
4. Connect up to 3 right and left audio output connectors to the appropriate audio video acceptors.
5. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
6. Adjust the audio level and the video EQ and video level, as required.

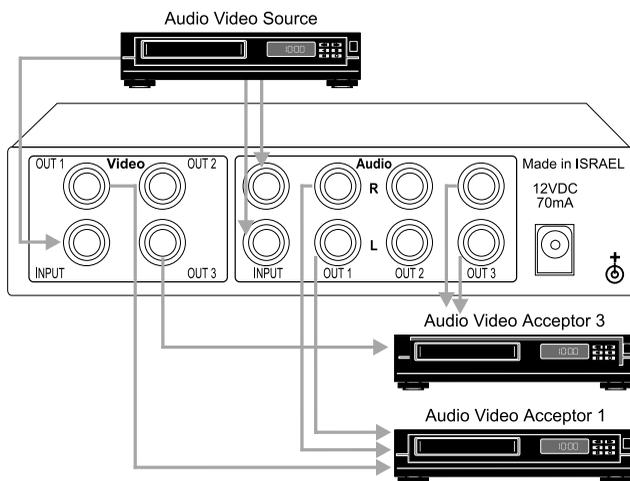


Figure 3: VM 30AV 1:3 Audio/Video DA Connection

¹ Switch OFF the power on each device before connecting it to your VM-30AV/B. After connecting your VM-30AV/B, switch on its power and then switch on the power on each device

5.2 Configuring a 1:3 Audio/Video DA for Component (YUV) or RGB

Configure a 1:3 Audio/Video DA for component (YUV) or RGB by combining 3 **VM-30AV/B** units, as Figure 4 illustrates.

Connect¹ the 1:3 Audio/Video DA for component (YUV) or RGB, as follows:

1. Connect the RGB source, by connecting:
 - The R cable to the first unit's INPUT connector
 - The G cable to the second unit's INPUT connector
 - The B cable to the third unit's INPUT connector
2. Connect the first RGB acceptor, by connecting the OUT 1 connector from the:
 - First unit to the R cable
 - Second unit to the G cable
 - Third unit to the B cable
3. Connect the second RGB acceptor, by connecting the OUT 2 connector² from the:
 - First unit to the R cable
 - Second unit to the G cable
 - Third unit to the B cable
4. Connect the third RGB acceptor, by connecting the OUT 3 connector from the:
 - First unit to the R cable
 - Second unit to the G cable
 - Third unit to the B cable
5. Connect the audio source and acceptors, as required.
6. On each **VM-30AV/B** unit, connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
7. Adjust the audio level and the video EQ. and video level, as required, on the front panel on the first **VM-30AV/B** unit.
This adjusts the levels on the combined 3 **VM-30AV/B** units.

¹ Switch OFF the power on each device before connecting it to your VM-30AV/B units. After connecting your VM-30AV/B units, switch on the power on each of the VM-30AV/B units and then switch on the power on each device

² Not illustrated in Figure 4

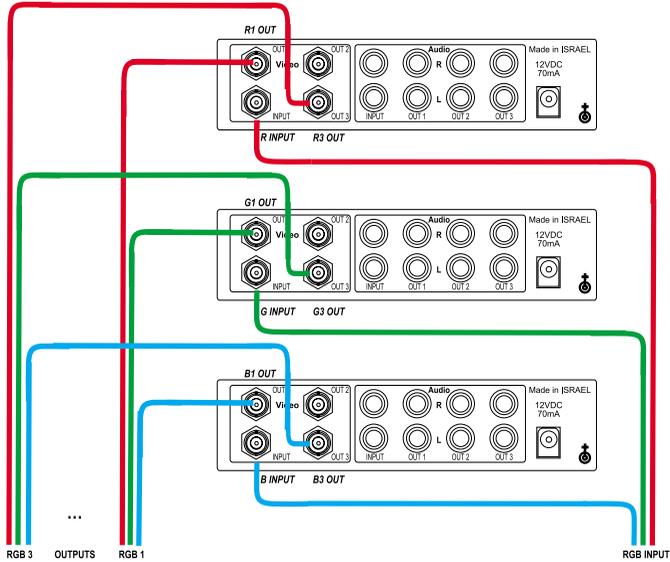


Figure 4: Configuring a 1:3 Audio/Video DA for Component (YUV) or RGB

6 Technical Specifications

Table 3 includes the technical specifications.

Table 3: VM 30AV and VM 30AVB Technical Specifications

Inputs:	1 composite video 1 Vpp/75Ω: RCA connector (VM-30AV); BNC connector (VM-30AVB) 1 stereo audio, 4.8 Vpp / 73kΩ on RCA connectors
Outputs:	3 composite video 1 Vpp/75Ω: RCA connectors (VM-30AV); BNC connectors (VM-30AVB) 3 stereo audio, 1 Vpp / 150Ω on RCA connectors
Coupling:	AC
Bandwidth:	Video: 430MHz (-3dB), 370MHz (-0.1dB), Full Load; Audio: >100kHz (-3dB), 20kHz (-0.1dB)
Gain Range:	Video: -1.1dB to +1.8dB; Audio: -66dB to +16dB
Maximum Output:	Video: 2.0Vpp; Audio: 5.4Vpp
Video Equalization:	0 to +14.6dB
S/N Ratio:	Video: 73.1dB; Audio: 83dB
Video Non-linearity:	0.1%
Differential:	Gain: 0.04%; Phase: 0.07 Deg
THD (Audio)/Noise:	0.38% @ 1kHz
2 nd Harmonic:	0.02% @ 1kHz
K-Factor:	<0.05%
Dimensions:	16.5cm x 12cm x 4.5cm (6.5" x 4.7" x 1.7", W, D, H)
Power Source:	12 VDC, 45mA
Weight:	0.6kg (1.3lbs.) approx.
Accessories:	12 VDC power supply
Options:	19" rack adapter RK-50RN kit (holds 2 units in a vertical space of a standard 19" rack)

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 three 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.



**The list of Kramer distributors appears on our web site:
www.kramerelectronics.com**

We welcome your questions, comments and feedback.

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