

Kramer Electronics, Ltd.



USER MANUAL

Model:

VM-50AN

1:5 Audio Distributor

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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 groups¹ that are clearly defined by function.

Congratulations on purchasing your Kramer **VM-50AN 1:5 Audio Distributor**, which is ideal for the following typical applications:

- Video/Audio duplication studios and retail outlets
- Any audio system requiring multiple outputs from a single source

The package includes the following items:

- **VM-50AN 1:5 Audio Distributor**
- Power adapter (12V DC Input)
- This user manual²

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 cables³

2.1 Quick Start

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

1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Twisted-Pair Solutions; 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

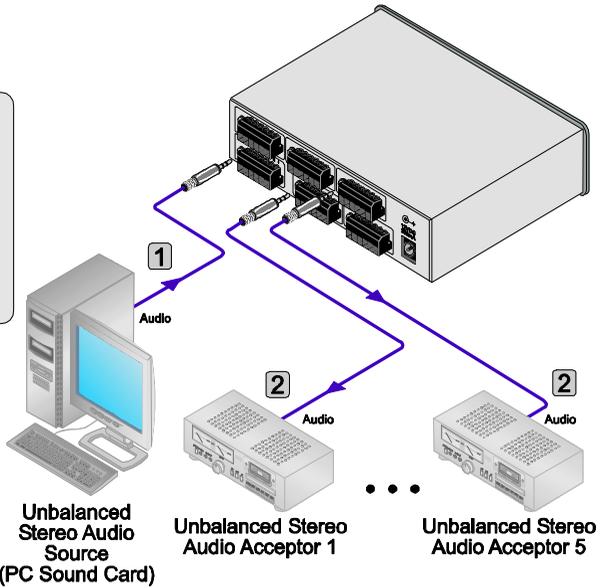
2 Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com>

3 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com>

Step 1: Connect the input and the outputs - see section 5

- 1 Connect the Input
- 2 Connect the outputs

To connect the VP-50AN as a balanced audio distributor, connect the audio source and acceptors to the terminal block connectors



To connect the VP-50AN as a 1:10 audio distributor, connect both the unbalanced and unbalanced outputs

Step 2: Connect the power

Step 3: Set the underside controls - see section 4

LEVEL
RIGHT LEFT
⊕ ⊕

Adjust the video EQ. and LEVEL

3 Overview

The Kramer **VM-50AN** is a high-performance distribution amplifier for balanced and unbalanced stereo audio signals. It takes one balanced or unbalanced stereo input and distributes the signal simultaneously to 10 stereo outputs (five balanced and five unbalanced).

In addition, the **VM-50AN**:

- Includes a balanced/unbalanced input selection button
- Features left and right level (gain) controls
- Operates as a stand-alone distributor, or as a companion to other Kramer “50” series products like the **VM-50V** video DA, or the **VM-50YC** s-Video DA

The **VM-50AN** is housed in a desktop sized enclosure. Two units can be rack mounted side-by-side with the optional **RK-1** adapter in a 1U rack space.

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 **VM-50AN** 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 unit¹.

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

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

4 Your Audio VM-50AN 1:5 Distributor

Figure 1 illustrates the front and rear panels of the **VM-50AN**. Table 1 defines the front and rear panels of the **VM-50AN**.

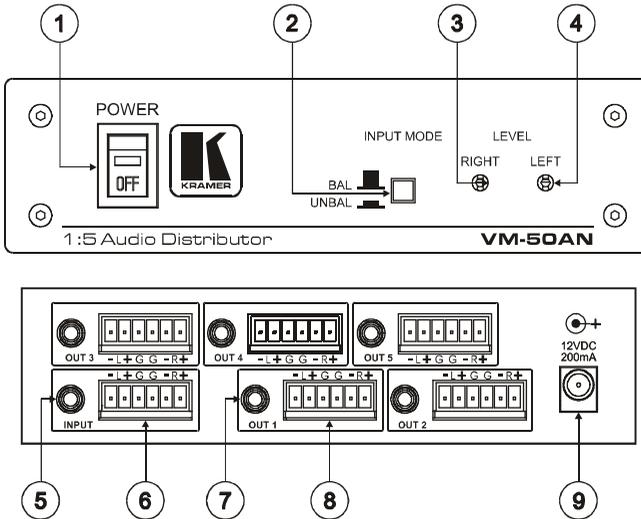


Figure 1: VM-50AN 1:5 Audio Distributor

Table 1: Front Panel VM-50AN 1:5 Audio Distributor Features

#	Feature	Function
1	POWER Switch	Illuminated switch supplying power to the unit
2	INPUT MODE BAL/UNBAL Button	When released, selects the balanced stereo audio input when pushed in, selects the unbalanced stereo audio
3	RIGHT LEVEL Trimmer	Adjusts ¹ the right output signal level
4	LEFT LEVEL Trimmer	Adjusts ¹ the left output signal level
5	INPUT 3.5mm Mini Plug Connector	Connects to the unbalanced audio source
6	INPUT Terminal Block Connector	Connects to the balanced audio source
7	OUT 3.5mm Mini Plug Connector	Connects to the unbalanced audio acceptor (from 1 to 5)
8	OUT Terminal Block Connector	Connects to the balanced audio acceptor (from 1 to 5)
9	12 VDC 200mA	+12V DC connector for powering the unit

5 Using Your VM-50AN 1:5 Audio Distributor

This section describes how to connect the **VM-50AN** as:

- A balanced stereo 1:5 audio distributor, see section 5.1
- An unbalanced stereo 1:5 audio distributor, see section 5.1
- A 1:10 audio distributor, see section 5.3

¹ Insert a screwdriver into the small hole and carefully rotate it, trimming the appropriate OUTPUT level

5.1 Connecting the VM-50AN as a Balanced Stereo 1:5 Audio Distributor

To connect¹ and operate the **VM-50AN** as a balanced stereo 1:5 audio distributor, as the example in Figure 2 illustrates, do the following²:

1. Connect the balanced stereo audio source to the INPUT terminal block connector.
2. Connect up to five balanced stereo audio acceptors to the OUT terminal block connectors.
3. Connect the 12V DC power adapter to the power socket, connect the adapter to the mains electricity, and then turn on the power switch.
4. Release the BAL/UNBAL INPUT MODE button to select balanced stereo audio operation.
5. Adjust³ the right and/or left output signal level, if required.

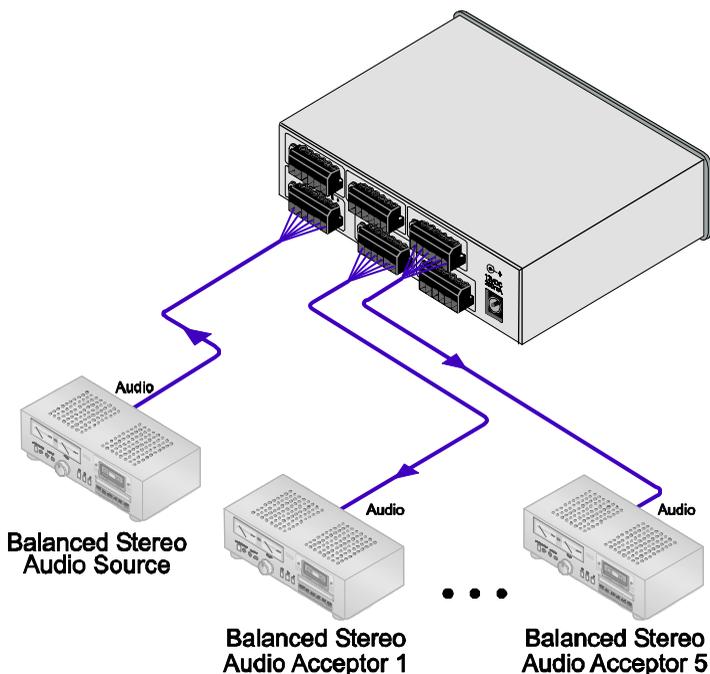


Figure 2: Connecting the VM-50AN as a Balanced Stereo 1:5 Audio Distributor

1 Switch OFF the power on each device before connecting it to your VM-50AN. After connecting your VM-50AN, switch on its power and then switch on the power on each device

2 You do not have to connect all the outputs

3 Insert a screwdriver into the hole and carefully rotate it, to trim the level

5.2 Connecting the VM-50AN as an Unbalanced Stereo 1:5 Audio Distributor

To connect¹ the **VM-50AN** as an unbalanced stereo 1:5 audio distributor, as the example in Figure 3 illustrates, do the following²:

1. Connect the unbalanced stereo audio source (for example, a PC sound card) to the INPUT mini 3.5mm socket.
2. Connect up to five unbalanced stereo audio acceptors to the OUT mini 3.5mm sockets.
3. Connect the 12V DC power adapter to the power socket, connect the adapter to the mains electricity, and then turn on the power switch.
4. Push in the BAL/UNBAL INPUT MODE button to select unbalanced stereo audio operation.
5. Adjust³ the right and/or left output signal level, if required.

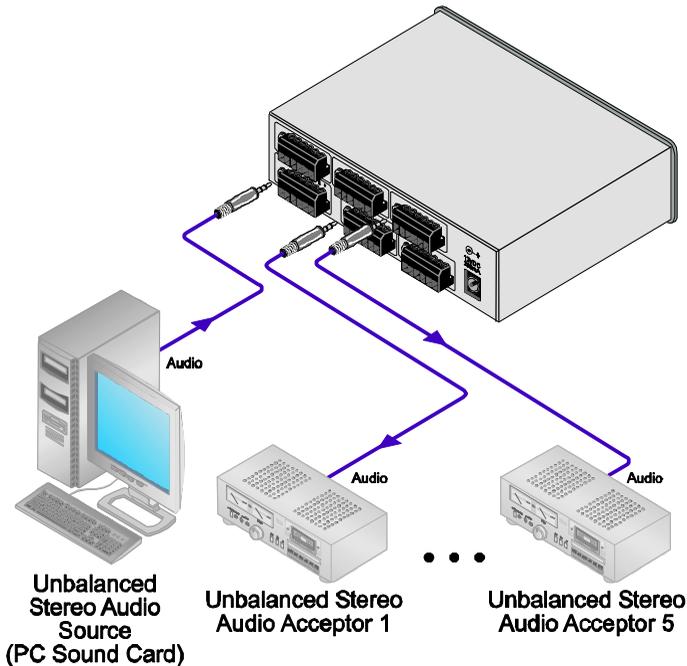


Figure 3: Connecting the VM-50AN as an Unbalanced Stereo 1:5 Audio Distributor

1 Switch OFF the power on each device before connecting it to your VM-50AN. After connecting your VM-50AN, switch on its power and then switch on the power on each device

2 You do not have to connect all the outputs

3 Insert a screwdriver into the hole and carefully rotate it, to trim the level

5.3 Connecting the VM-50AN as a 1:10 Audio Distributor

To connect the VM-50AN as a 1:10 audio distributor, as the example in Figure 4 illustrates, do the following¹:

1. Connect either (**but not both simultaneously**²) the:
 - Balanced stereo audio source to the INPUT terminal block connector (and release the BAL/UNBAL INPUT MODE button to select balanced stereo audio operation), or
 - Unbalanced stereo audio source to the INPUT mini 3.5mm socket (and push in the BAL/UNBAL INPUT MODE button to select unbalanced stereo audio operation)
2. Connect up to³ 10 acceptors, as follows:
 - 5 balanced stereo audio acceptors to the OUT terminal block connectors, **and**
 - 5 unbalanced stereo audio acceptors to the OUT mini 3.5mm sockets
3. Connect the 12V DC power adapter to the power socket, connect the adapter to the mains electricity, and then turn on the power switch.
4. Adjust⁴ the right and/or left output signal level, if required.

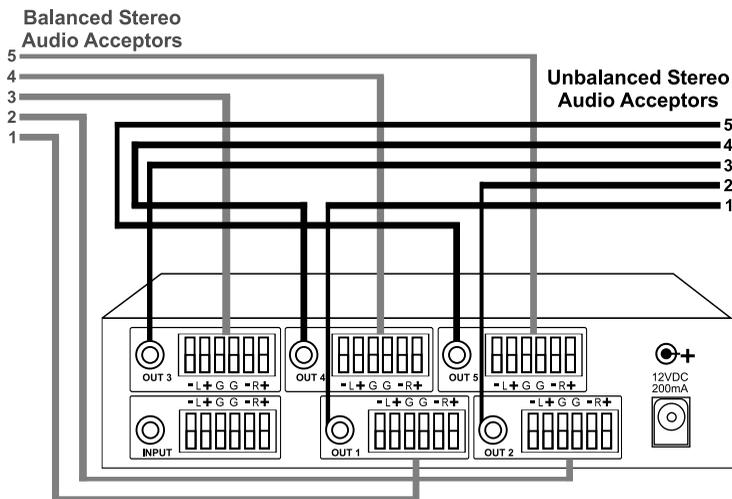


Figure 4: Connecting the VM-50AN as a 1:10 Audio Distributor

1 Switch OFF the power on each device before connecting it to your VM-50AN. After connecting your VM-50AN, switch on its power and then switch on the power on each device

2 Both formats cannot be connected to the machine at the same time, as they share some of the input connections

3 Outputs may be connected or left unconnected

4 Insert a screwdriver into the hole and carefully rotate it, to trim the level

6 Technical Specifications

Table 2 includes the technical specifications.

Table 2: Technical Specifications¹ of the VM-50AN 1:5 Audio Distributor

INPUTS:	1 balanced stereo +4dBm 50kΩ on detachable terminal block connector 1 unbalanced stereo 1Vpp/50kΩ on mini 3.5mm socket
OUTPUTS:	5 balanced stereo +4dBm 50Ω on detachable terminal block connectors 5 unbalanced stereo +22dBm 470Ω on mini 3.5mm sockets
MAX. OUTPUT LEVEL:	>24dBm
BANDWIDTH:	>100kHz; fully loaded
S/N RATIO:	84dB, unweighted
CONTROLS:	Level (for right and left): 0.4dB to 9.5dB
COUPLING:	Input: AC; Output: DC
AUDIO THD + NOISE:	0.022% @1kHz, Balanced Output
AUDIO 2nd HARMONIC:	0.002% @1kHz, Balanced Output
POWER SOURCE:	12VDC 200mA
DIMENSIONS:	16.5cm x 12cm x 4.5cm (6.5" x 4.7" x 1.7", W, D, H)
WEIGHT:	0.6kg (1.3lbs) approx.
ACCESSORIES:	12V DC power supply
OPTIONS:	RK-1 19" rack adapter

¹ Specifications are subject to change without notice

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.



Kramer Electronics, Ltd.

Web site: www.kramerelectronics.com

E-mail: info@kramerel.com

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