

Kramer Electronics, Ltd.



USER MANUAL

Model:

VM-50AN

1:5 Audio Distributor

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 350-plus different models now appear in 8 Groups¹, which 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 adapter²
- This user manual³
- 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
- Use Kramer high performance high resolution cables⁴

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 The 12VDC power supply is included for typical operation. The machine internally raises the input supply voltage to +/- 15Volts, thus enabling full broadcast audio levels.

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

4 The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com> (click "Cables and Connectors" in the Products section)

3 Overview

The **VM-50AN 1:5 Audio Distributor** is a unique, high quality 1:5 (1:10) distribution amplifier for stereo audio signals that can function as one of the following:

- 1:5 balanced stereo audio DA
- 1:5 unbalanced stereo audio DA
- 1:10 distribution amplifier

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

- Accepts an unbalanced or a balanced stereo input, letting you select the input type via a front panel button
- Always has 10 stereo output channels available, of which five are unbalanced (on mini 3.5mm audio sockets), and five are balanced (on detachable snap-fit terminal block connectors). All output channels can be used simultaneously
- Has front panel right/left signal level trimmer controls
- Operates stand-alone, or is the perfect companion to other Kramer “50” series products like the **VM-50V** video DA, or the **VM-50YC** s-Video DA
- Is rugged and dependable, and is housed in a convenient desktop sized enclosure which can also be rack mounted using the RK-50RN kit which holds two units in two vertical spaces of a standard 19" rack

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 and positioning your **VM-50AN** away from excessive sunlight, moisture and dust

4 Your Audio Distributor

Figure 1 illustrates the front and rear panels of the **VM-50AN**. Tables 1 and 2 define the front and rear panels of the **VM-50AN**, respectively.

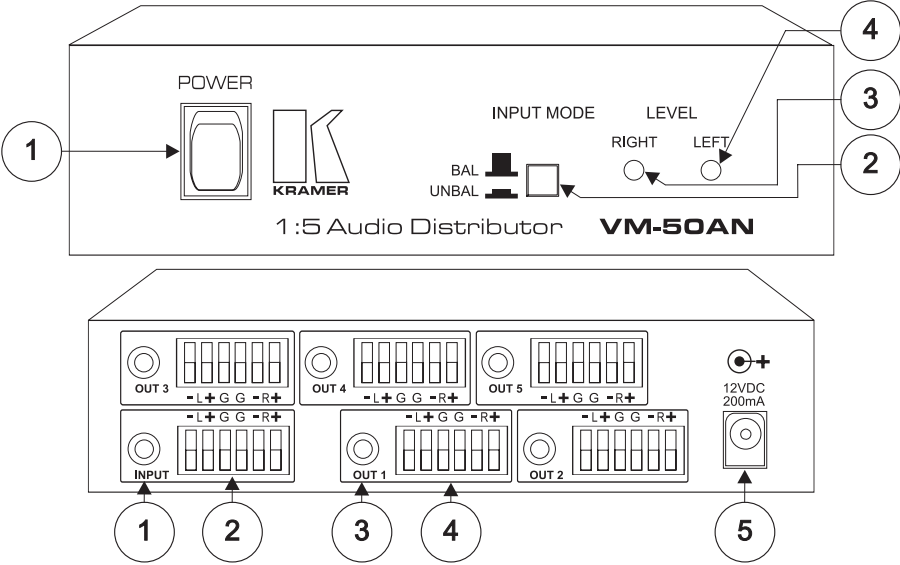


Figure 1: VM-50AN 1:5 Audio Distributor

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

#	Feature	Function
1	POWER Switch	Illuminated switch supplying power to the unit
2	BAL/UNBAL INPUT MODE Button	Selects balanced stereo audio when released; selects unbalanced stereo audio when pushed in
3	Right LEVEL Trimmer	Adjusts ¹ the right output signal level
4	Left LEVEL Trimmer	Adjusts ¹ the left output signal level

Table 2: Rear Panel VM-50AN 1:5 Audio Distributor Features

#	Feature	Function
1	INPUT Mini 3.5 mm Socket	Connects to the unbalanced audio source
2	INPUT Terminal Block Connector	Connects to the balanced audio source
3	OUT Mini 3.5 mm Socket	Connects to the unbalanced audio acceptors (from 1 to 5)
4	OUT Terminal Block Connector	Connects to the balanced audio acceptors (from 1 to 5)
5	12 VDC	+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 5.2
- 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 Your VM-50AN Balanced Stereo 1:5 Audio Distributor

To connect and operate the **VM-50AN** as a balanced stereo 1:5 audio distributor, as the example in Figure 2 illustrates, do the following¹:

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. Outputs may be connected or left unconnected.
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. Adjust² the right and/or left output signal level, if required.

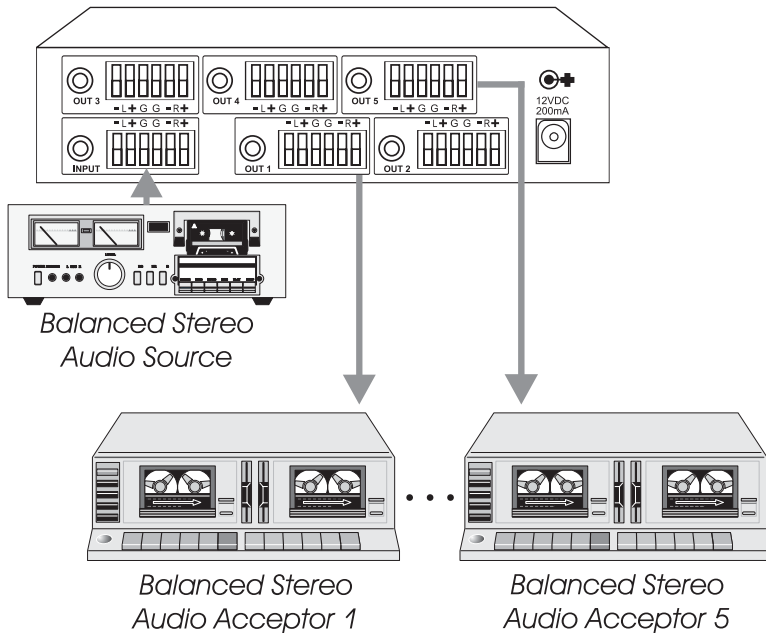


Figure 2: Connecting the VM-50AN as a Balanced Stereo 1:5 Audio Distributor

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

5.2 Connecting Your VM-50AN Unbalanced Stereo 1:5 Audio Distributor

To connect the **VM-50AN** as an unbalanced stereo 1:5 audio distributor, as the example in Figure 3 illustrates, do the following¹:

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. Outputs may be connected or left unconnected.
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. Adjust² the right and/or left output signal level, if required.

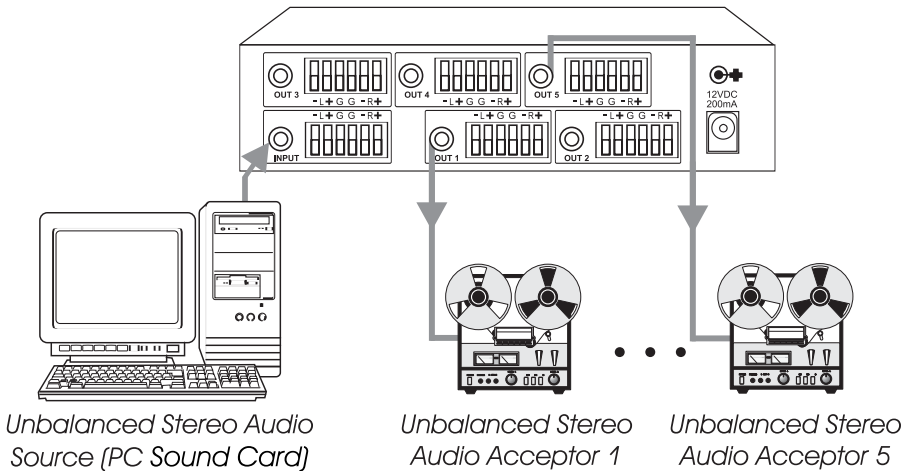


Figure 3: Connecting the VM-50AN as an Unbalanced Stereo 1:5 Audio Distributor

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

5.3 Connecting Your VM-50AN 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.

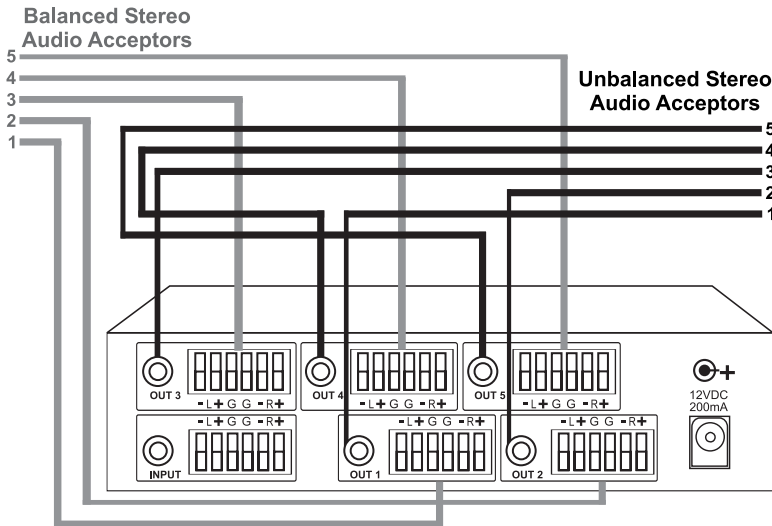


Figure 4: Connecting the VM-50AN as a 1:10 Audio Distributor

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 3 includes the technical specifications.

Table 3: Technical Specifications¹ of the VM-50AN 1:5 Audio Distributor

INPUTS:	1 balanced stereo +12dBm 50k Ω on detachable terminal block connector 1 unbalanced stereo on mini 3.5 mm socket
OUTPUTS:	5 balanced stereo +22dBm 50 Ω on detachable terminal block connectors 5 unbalanced stereo +22dBm 70 Ω on mini 3.5 mm sockets
MAX. OUTPUT LEVEL:	28Vpp
BANDWIDTH:	–3dB@>100kHz; –0.1dB@40kHz; Fully Loaded
S/N RATIO:	83.95dB, unweighted
CONTROLS:	Level (for right and left): 0.4 to 9.5dB
COUPLING:	Input: AC; Output: DC
AUDIO THD + NOISE:	0.022% @ 1 kHz, Balanced Output
AUDIO 2nd HARMONIC:	0.002% @ 1 kHz, 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:	12 VDC power supply
OPTIONS:	19" rack adapter RK-50RN kit (holds 2 units in a vertical space of a standard 19" rack)

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 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 your 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



For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com.

**Updates to this user manual may be found at
<http://www.kramerelectronics.com/manuals.html>.**

We welcome your questions, comments and feedback.

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