

**Kramer Electronics, Ltd.**



# **USER MANUAL**

**Model:**

**VM-1120**

*1:10 Balanced Stereo 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 groups<sup>1</sup> that are clearly defined by function.

Thank you for purchasing your Kramer **VM-1120 1:10 Balanced Stereo Audio Distributor**.

This product is ideal for the following typical applications:

- Audio duplication and production studios, delivering undiminished quality duplicates
- Recording studios
- Broadcast studios for on-line signal distribution

The package includes the following items:

- **VM-1120 1:10 Balanced Stereo Audio Distributor**
- Power cord<sup>2</sup>
- This user manual<sup>3</sup>

## 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 cables<sup>4</sup>

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<sup>1</sup> 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 Scalars; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

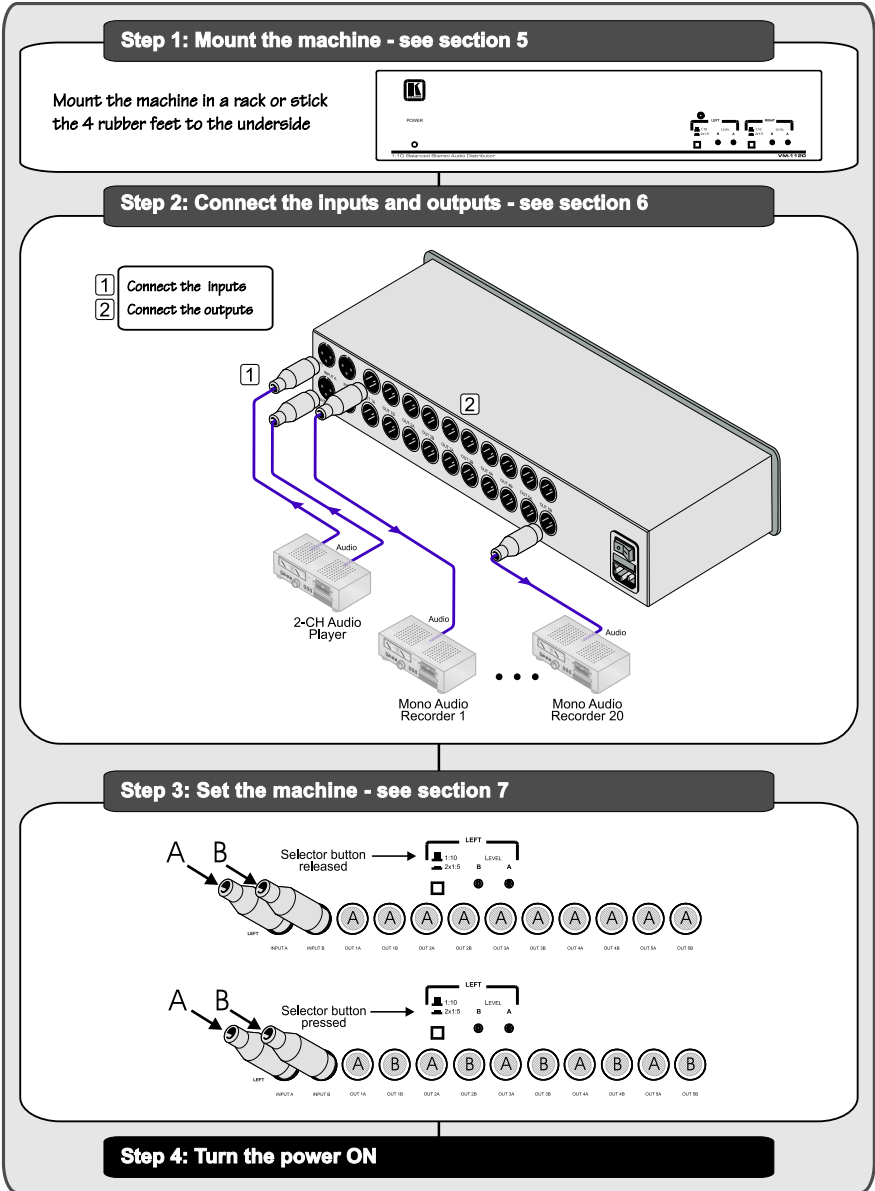
<sup>2</sup> We recommend that you use only the power cord supplied with this device

<sup>3</sup> Download up-to-date Kramer user manuals from our Web site at <http://www.kramerelectronics.com>

<sup>4</sup> The complete list of Kramer cables is on our Web site at <http://www.kramerelectronics.com>

## 2.1 Quick Start

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



### 3 Overview

The **VM-1120** is a high performance balanced stereo audio DA (distribution amplifier) using XLR connectors that includes:

- Front panel output level trimmer controls
- Active J-FET amplifying circuitry that ensures hum-free, full-bandwidth operation
- A high-power discrete buffering system providing excellent performance

You can configure your **VM-1120** as a mono DA (2x1:10 or 1:20) or as a stereo DA (2x1:5 or 1:10).

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
- Positioning your Kramer **VM-1120** in a location free from moisture and away from excessive sunlight and dust

### 4 Your Balanced Stereo Audio Distributor

*Figure 1* illustrates the front and rear panels of the **VM-1120**. *Table 1* and *Table 2* define the front and rear panels of the **VM-1120**, respectively.

# Your Balanced Stereo Audio Distributor

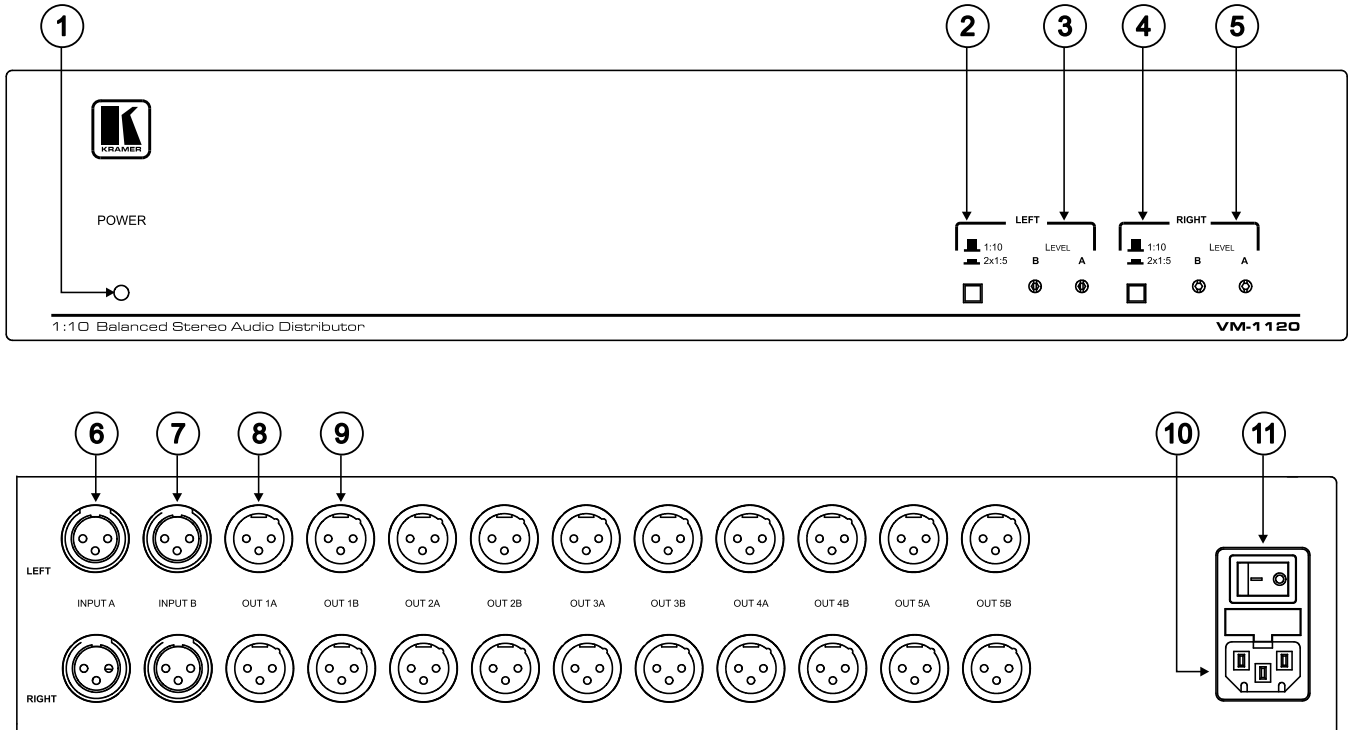


Figure 1: VM-1120 1:10 Balanced Stereo Audio Distributor

*Table 1: Front Panel VM-1120 1:10 Balanced Stereo Audio Distributor Features*

#	Feature		Function
1	Power LED		Illuminates when the unit is powered on
2	LEFT	1:10 / 2x1:5 Button	Push in to select $2x1:5^1$ , release to select $1:10^2$
3		Level B and A Trimmers	Adjusts <sup>3</sup> the output signal level for OUTPUTS A and B
4	RIGHT	1:10 / 2x1:5 Button	Push in to select $2x1:5^1$ , release to select $1:10^2$
5		Level B and A Trimmers	Adjusts <sup>3</sup> the output signal level for OUTPUTS A and B

*Table 2: Rear Panel VM-1120 1:10 Balanced Stereo Audio Distributor Features*

#	Feature	Function
6	INPUT A XLR Female Connector	Connects to the source A
7	INPUT B XLR Female Connector	Connects to the source B
8	OUT A XLR Male Connector	Connects to the acceptor A (from 1 to 5)
9	OUT B XLR Male Connector	Connects to the acceptor B (from 1 to 5)
10	Power Connector with Fuse	230V AC, 50/60Hz, (115V AC, U.S.A.) power inlet
11	Power Switch	Turns the unit ON and OFF

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1 Splits inputs A and B to outputs 1A-5A and 1B-5B, respectively

2 Splits input A to all 10 outputs

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

## 5 Installing the VM-1120 in a Rack

This section describes how to install the **VM-1120** in a rack.

### Before Installing in a rack

Before installing in a rack, be sure that the environment is within the recommended range:	
Operating temperature range	+5° to +45° C (41° to 113° F)
Operating humidity range	10 to 90% RHL, non-condensing
Storage temperature range	-20° to +70° C (-4° to 158° F)
Storage humidity range	5 to 95% RHL, non-condensing



### CAUTION!!

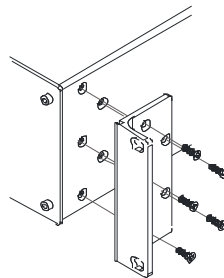
When installing on a 19" rack, avoid hazards by taking care that:

1. It is located within the recommended environmental conditions, as the operating ambient temperature of a closed or multi unit rack assembly may exceed the room ambient temperature.
2. Once rack mounted, enough air will still flow around the machine.
3. The machine is placed straight in the correct horizontal position.
4. You do not overload the circuit(s). When connecting the machine to the supply circuit, overloading the circuits might have a detrimental effect on overcurrent protection and supply wiring. Refer to the appropriate nameplate ratings for information. For example, for fuse replacement, see the value printed on the product label.
5. The machine is earthed (grounded) in a reliable way and is connected only to an electricity socket with grounding. Pay particular attention to situations where electricity is supplied indirectly (when the power cord is not plugged directly into the socket in the wall), for example, when using an extension cable or a power strip, and that you use only the power cord that is supplied with the machine.

### How to Rack Mount

To rack-mount a machine:

1. Attach both ear brackets to the machine. To do so, remove the screws from each side of the machine (3 on each side), and replace those screws through the ear brackets.



2. Place the ears of the machine against the rack rails, and insert the proper screws (not provided) through each of the four holes in the rack ears.

Note that:

- **In some models, the front panel may feature built-in rack ears**
- Detachable rack ears can be removed for desktop use
- Always mount the machine in the rack before you attach any cables or connect the machine to the power
- If you are using a Kramer rack adapter kit (for a machine that is not 19"), see the Rack Adapters user manual for installation instructions (you can download it at: <http://www.kramerelectronics.com>)

## 6 Connecting Your Balanced Stereo Audio Distributor

You can easily connect the following configurations:

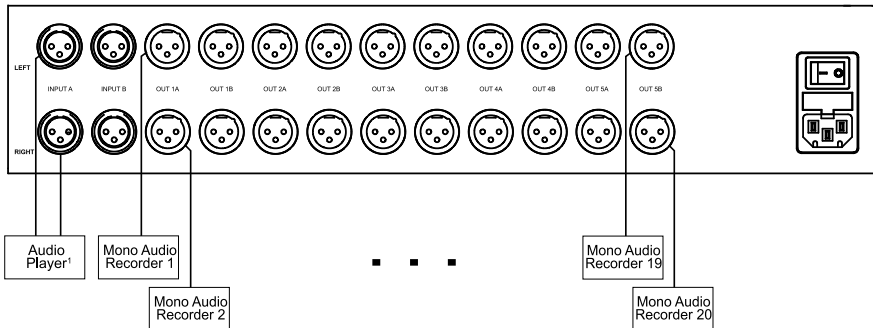
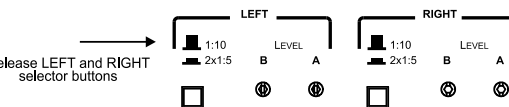
- 1:20 mono DA (see section 6.1)
- 2x1:10 mono DA (see section 6.2)
- 1:10 stereo DA (see section 6.3)
- 2x1:5 stereo DA (see section 6.4)



## 6.1 Connecting a 1:20 Mono DA

To configure a 1:20 mono DA, as illustrated in *Figure 2*, do the following:

1. Connect a source (for example, an audio player<sup>1</sup>) to LEFT INPUT A and RIGHT INPUT A.
2. Connect up to 20 mono audio acceptors (for example, mono audio recorders) to any of the OUTPUT connectors.
3. Release the LEFT and RIGHT selector buttons 1:10/2x1:5 to select 1:10.
4. Connect the power cord to the electricity supply.
5. Switch on the **VM-1120**.



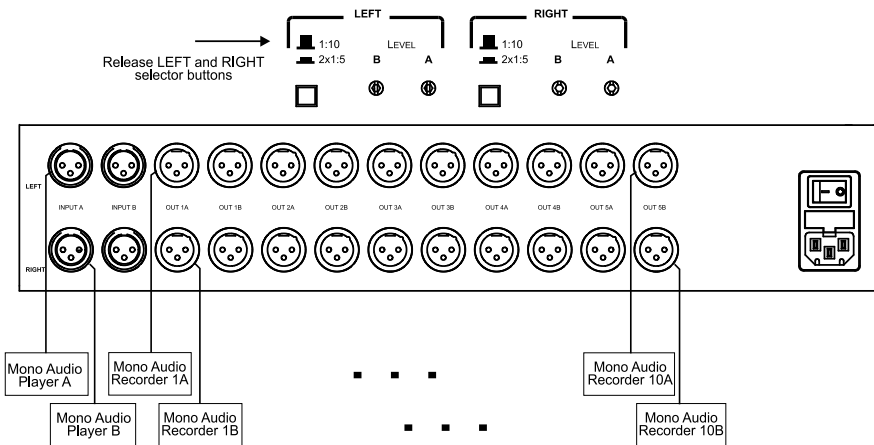
*Figure 2: 1:20 Mono DA Configuration*

<sup>1</sup> With 2 identical outputs, or via a 1:2 splitter

## 6.2 Connecting a 2x1:10 Mono DA

To configure a 2x1:10 mono DA, as illustrated in *Figure 3*, do the following:

1. Connect mono audio source (for example, a mono audio player A) to LEFT INPUT A.
2. Connect up to 10 mono audio acceptors (for example, mono audio recorders 1A to 10A) to any of the LEFT OUTPUT connectors.
3. Connect mono audio source (for example, a mono audio player B) to RIGHT INPUT A.
4. Connect up to 10 mono audio acceptors (for example, mono audio recorders 1B to 10B) to any of the RIGHT OUTPUT connectors.
5. Release the LEFT and RIGHT selector buttons 1:10/2x1:5 to select 1:10.
6. Connect the power cord to the electricity supply.
7. Switch on the **VM-1120**.  
The audio input(s) is/are distributed to the audio outputs.



*Figure 3: 2x1:10 Mono DA Configuration*

### 6.3 Connecting a 1:10 Stereo DA

To configure a 1:20 stereo DA, as illustrated in *Figure 4*, do the following:

1. Connect a stereo audio source (for example, a stereo audio player) to LEFT INPUT A and RIGHT INPUT A.
2. Connect up to 10 stereo audio acceptors (for example, stereo audio recorders 1 to 10) to the LEFT and RIGHT channels of any of the OUTPUT connectors.
3. Release the LEFT and RIGHT selector buttons 1:10/2x1:5 to select 1:10.
4. Connect the power cord to the electricity supply.
5. Switch on the **VM-1120**.  
The audio input(s) is/are distributed to the audio outputs.

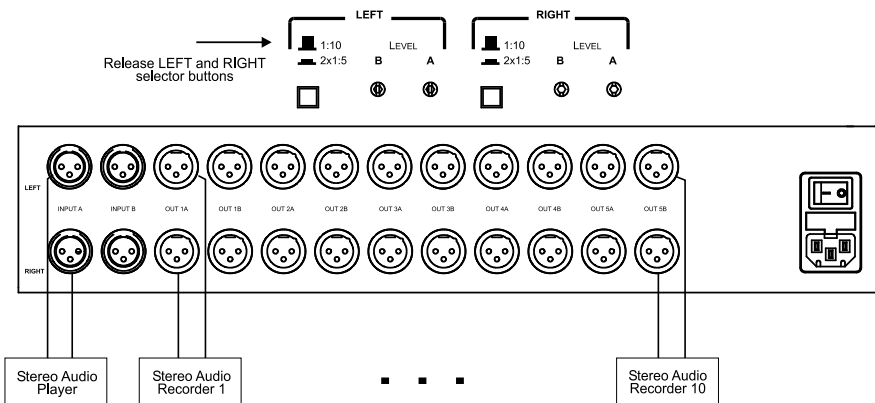
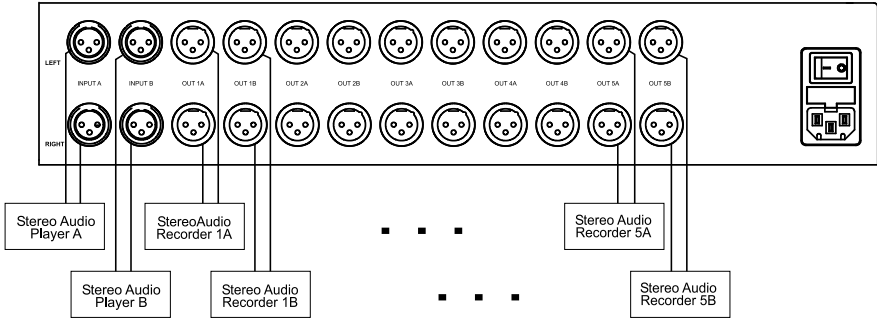
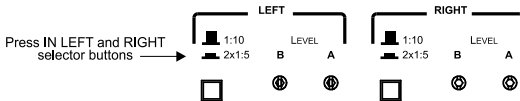


Figure 4: 1:10 Stereo DA Configuration

## 6.4 Connecting a 2x1:5 Stereo DA

To configure a 2x1:5 stereo DA, as illustrated in *Figure 5*, do the following:

1. Connect a stereo audio source (for example, a stereo audio player A) to LEFT and RIGHT INPUT A.
2. Connect up to 5 stereo audio acceptors (for example, mono audio recorders 1A to 5A) to any of the LEFT and RIGHT A OUTPUT connectors.
3. Connect a stereo audio source (for example, a stereo audio player B) to LEFT and RIGHT INPUT B.
4. Connect up to 5 stereo audio acceptors (for example, mono audio recorders 1B to 5B) to any of the LEFT and RIGHT B OUTPUT connectors.
5. Push IN the LEFT and RIGHT selector buttons 1:10/2x1:5 to select 2x1:5.
6. Connect the power cord to the electricity supply.
7. Switch on the **VM-1120**.



*Figure 5: 2x1:5 Stereo DA Configuration*

## 7 Setting the VM-1120

Figure 6 illustrates how the selector button works when two inputs are connected to one channel.

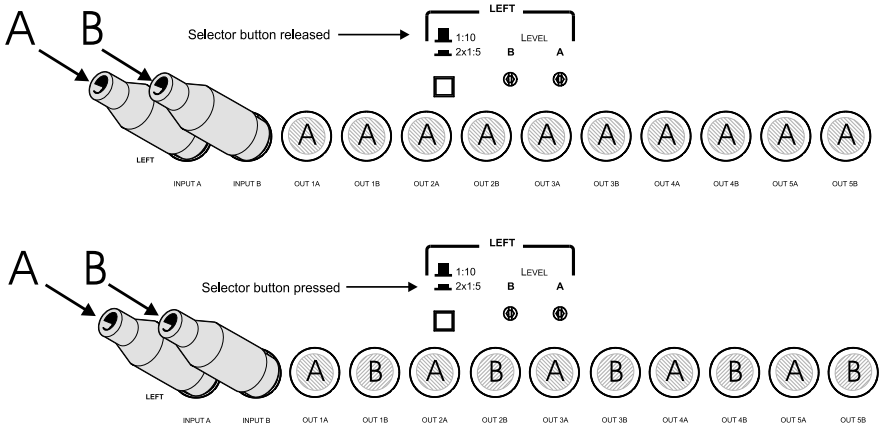


Figure 6: Using the Selector Button

Note the following when using the **VM-1120**:

- The left and right channels are not connected. Left inputs only distribute to left outputs and right inputs only distribute to right outputs
- Only the “A” input can distribute to 10 outputs. The “B” input only distributes to the 5 “B” outputs

If necessary, adjust the volume on the outputs by turning the LEVEL A and B potentiometers using a small screwdriver.

## 8 Technical Specifications

The **VM-1120** technical specifications are shown in *Table 3*:

*Table 3: VM-1120 Technical Specifications<sup>1</sup>*

INPUTS:	4 balanced audio +4dBu/50kΩ on XLR (F) connectors
OUTPUTS:	20 balanced audio +4dBu/50Ω on XLR (M) connectors
MAX. OUTPUT LEVEL:	>26dBu
BANDWIDTH (-3dB):	>100kHz
S/N RATIO:	89.3dB
CROSSTALK:	-78dB
CONTROLS:	Level (x4): -0.7dB to +5.1dB, mode selector switches
COUPLING:	AC (input); DC (output)
AUDIO THD + NOISE:	0.081%
AUDIO 2nd HARMONIC:	0.006%
POWER SOURCE:	230V AC, (115V AC U.S.A) 15VA
DIMENSIONS:	19" x 7" x 2U W, D, H, rack mountable
WEIGHT:	3.5kg (7.7lbs) approx
ACCESSORIES:	Power cord, rack ears

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<sup>1</sup> Specifications are subject to change without notice

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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](http://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 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.

\* FCC and CE approved using STP cable (for twisted pair products)



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**For the latest information on our products and a list of Kramer distributors, visit our Web site: [www.kramerelectronics.com](http://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.



P/N: 2900-001029



Rev: 3



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**Kramer Electronics, Ltd.**

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