

**Kramer Electronics, Ltd.**



# **USER MANUAL**

**Model:**

**VA-14**

*4x1 Balanced Audio Mixer*

## Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Getting Started</b>	<b>1</b>
2.1	Quick Start	1
<b>3</b>	<b>Overview</b>	<b>3</b>
<b>4</b>	<b>Your VA-14 4x1 Balanced Audio Mixer</b>	<b>4</b>
<b>5</b>	<b>Using Your VA-14 4x1 Balanced Audio Mixer</b>	<b>6</b>
5.1	Connecting Your VA-14 4x1 Balanced Audio Mixer	6
5.2	Operating Your VA-14 4x1 Balanced Audio Mixer	8
<b>6</b>	<b>Technical Specifications</b>	<b>8</b>

## Figures

Figure 1: VA-14 4x1 Balanced Audio Mixer	4
Figure 2: VA-14 4x1 Balanced Audio Mixer Underside Features	5
Figure 3: Connecting the VA-14 4x1 Balanced Audio Mixer	7

## Tables

Table 1: VA-14 4x1 Balanced Audio Mixer Front Panel Features	4
Table 2: VA-14 4x1 Balanced Audio Mixer Rear Panel Features	4
Table 3: VA-14 4x1 Balanced Audio Mixer Underside Features	5
Table 4: Technical Specifications of the VA-14 4x1 Balanced Audio Mixer	8

## 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 500-plus different models now appear in 8 Groups<sup>1</sup>, which are clearly defined by function.

Congratulations on purchasing your Kramer **VA-14**, which is ideal for:

- Live stage and studio audio mixing
- Presentation systems and press conferences
- Post production in video/audio studios

The package includes the following items:

- **VA-14 4x1 Balanced Audio Mixer**
- Power adapter (12V DC Input)
- This user manual<sup>2</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>3</sup>

### 2.1 Quick Start

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

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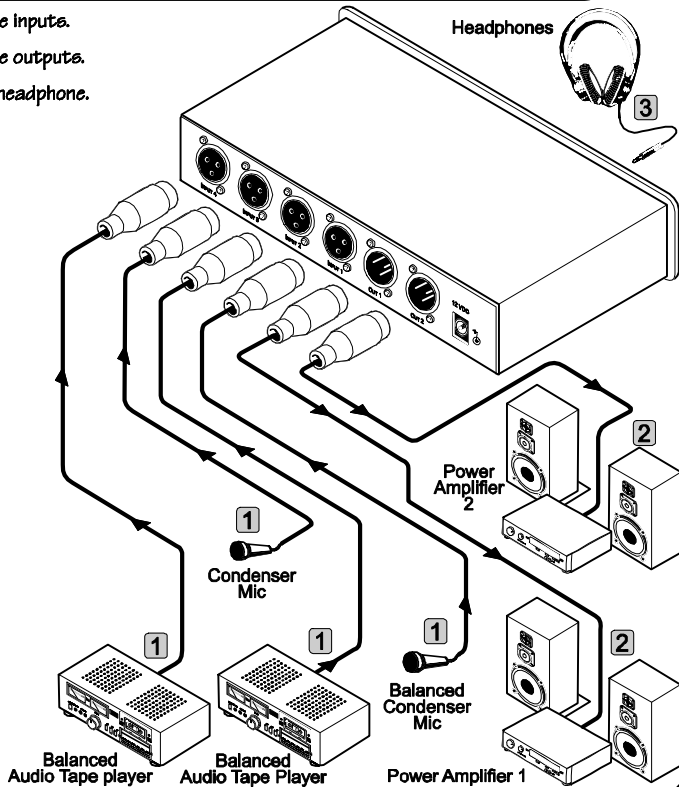
1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers;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

2 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>

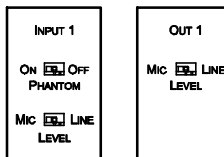
**Step 1: Connect the inputs and the outputs - see section 5**

- 1 Connect the inputs.
- 2 Connect the outputs.
- 3 Connect a headphone.

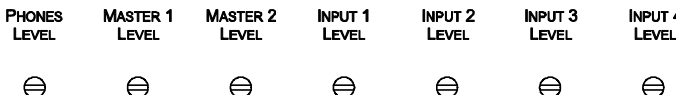


**Step 2: Connect the power**

**Step 3: Set the underside switches - see section 5**



**Step 4: Adjust the audio levels - see section 5**



### 3 Overview

The **VA-14 4x1 Balanced Audio Mixer** is a high quality, low noise, 4-input balanced audio standalone mixer that provides for two different levels on each input - Mic level or line level, as well as the selection of either a dynamic or phantom microphone.

The **VA-14** includes:

- Four rear panel XLR input connectors and two XLR output connectors
- A front panel headphone output, positioned alongside a phones level potentiometer
- Two master front panel potentiometers for adjusting each of the master outputs of all<sup>1</sup> channels
- Four front panel level potentiometers<sup>3</sup> for adjusting each input
- A 12 VDC rear panel power socket, which is ideal for field use<sup>2</sup>. The unit generates broadcast voltage level  $\pm 15V$  and  $\pm 48V$  internally from the single 12 VDC input
- Underside panel switches<sup>3</sup> for selecting the balanced level (Mic or line)
- Underside panel switches<sup>3</sup> for applying 48V phantom power<sup>4</sup>

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 **VA-14** in a location free from moisture and away from 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 unit<sup>5</sup>.

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

<sup>1</sup> The combined signals from inputs 1 to 4 are mixed

<sup>2</sup> Via a belt battery, for example

<sup>3</sup> Each corresponds to its respective input

<sup>4</sup> This is for applications that require typical condenser microphones to be connected directly to the VA-14. To prevent unnecessary damage, apply phantom power to the Mic only when required

<sup>5</sup> For example: model number AD2512C, part number 2535-000251

## 4 Your VA-14 4x1 Balanced Audio Mixer

Figure 1, Table 1 and Table 2 define the **VA-14 4x1 Balanced Audio Mixer**.

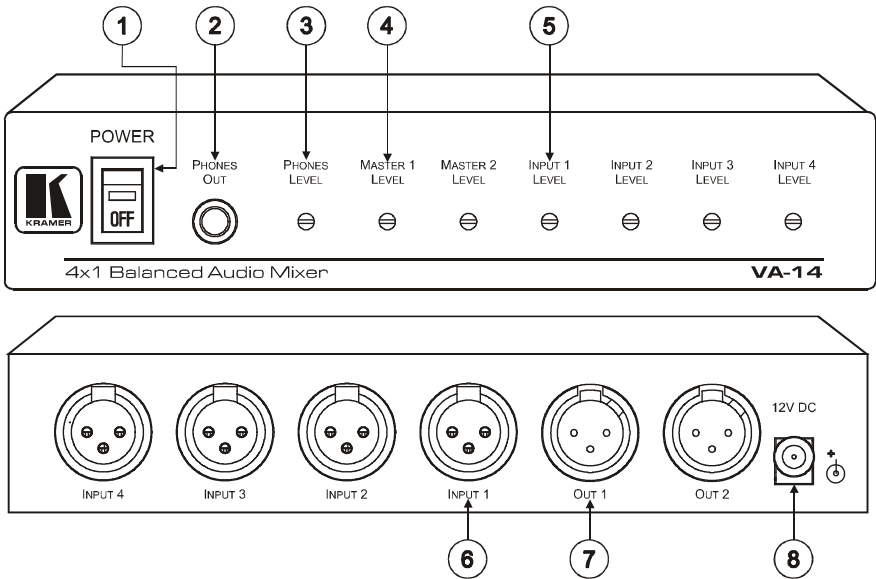


Figure 1: VA-14 4x1 Balanced Audio Mixer

Table 1: VA-14 4x1 Balanced Audio Mixer Front Panel Features

#	Feature	Function
1	POWER Switch	Illuminated switch for turning the unit ON or OFF
2	PHONES OUT 6.5mm Connector	Connect to the headphone set
3	PHONES LEVEL Potentiometer	Adjusts the headphone volume
4	MASTER LEVEL Potentiometer	Adjusts the combined signals from all inputs mixed to the output (from 1 to 2)
5	INPUT LEVEL Potentiometer	Adjusts the input level (from 1 to 4)

Table 2: VA-14 4x1 Balanced Audio Mixer Rear Panel Features

#	Feature	Function
6	INPUT XLR Female Connectors	Connect to the audio source (from 1 to 4)
7	OUT XLR Male Connectors	Connect to the audio acceptor (from 1 to 2)
8	12V DC	+12V DC connector for powering the unit

Figure 2 and Table 3 define the underside of the **VA-14 4x1 Balanced Audio Mixer**:

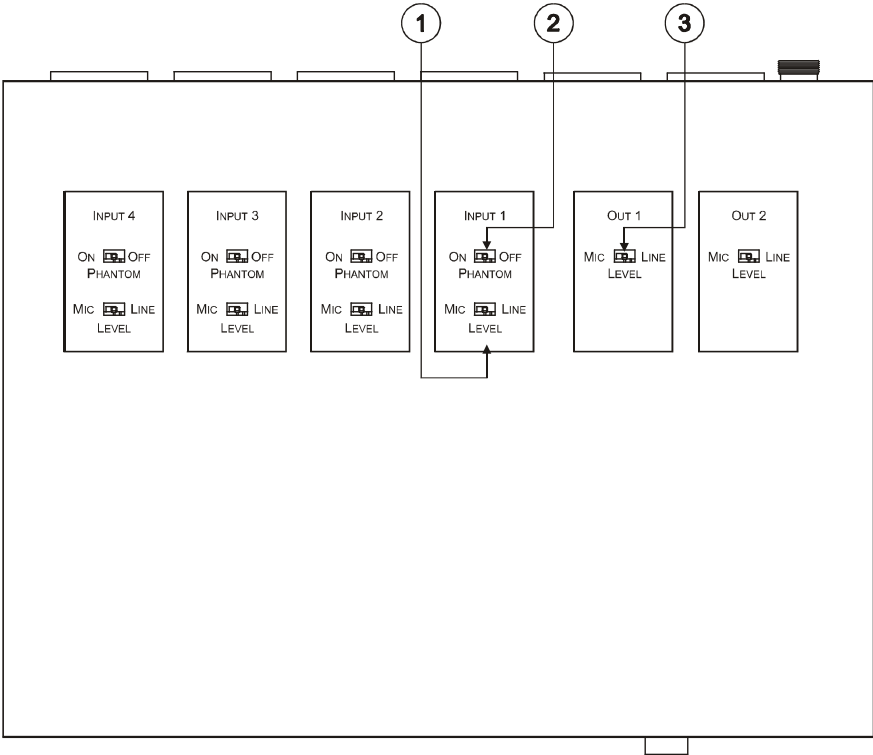


Figure 2: VA-14 4x1 Balanced Audio Mixer Underside Features

Table 3: VA-14 4x1 Balanced Audio Mixer Underside Features

#	Feature		Function
1	INPUT (from 1 to 4)	PHANTOM	Move to ON to select a phantom microphone; move to OFF to select a dynamic microphone
2		LEVEL	Move to MIC to select a microphone level input; move to LINE to select a LINE level input
3	OUT LEVEL		Move to MIC to select a microphone level output; move to LINE to select a LINE level output (from 1 to 2)

## 5 Using Your VA-14 4x1 Balanced Audio Mixer

Sections 5.1 and 5.2 describe how to connect and operate your balanced audio mixer, respectively.

### 5.1 Connecting Your VA-14 4x1 Balanced Audio Mixer

To connect up to four balanced audio sources to the **VA-14 4x1 Balanced Audio Mixer** unit, as the example in Figure 3 illustrates, do the following:

1. Connect a balanced audio source (for example, a condenser microphone) to the XLR female:

- INPUT 1 connector
- INPUT 3 connector

On the underside set the INPUT 1 and INPUT 3:

- PHANTOM switches to ON
- LEVEL switches to MIC

2. Connect a balanced audio source (for example, a balanced audio tape player) to XLR female:

- INPUT 2 connector
- INPUT 4 connector

On the underside set the INPUT 2 and INPUT 4:

- PHANTOM switches to OFF
- LEVEL switches to LINE

3. Connect each of the XLR male OUTPUT 1 and OUTPUT 2 connectors to two power amplifiers, and connect each power amplifier to a pair of speakers.

On the machine underside, set the OUT 1 and OUT 2 switches to LINE.

4. Connect the PHONES OUTPUT connector to a headphone set.
5. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.

For every unused input, be sure to rotate the LEVEL potentiometer fully counter-clockwise (to the minimum level)



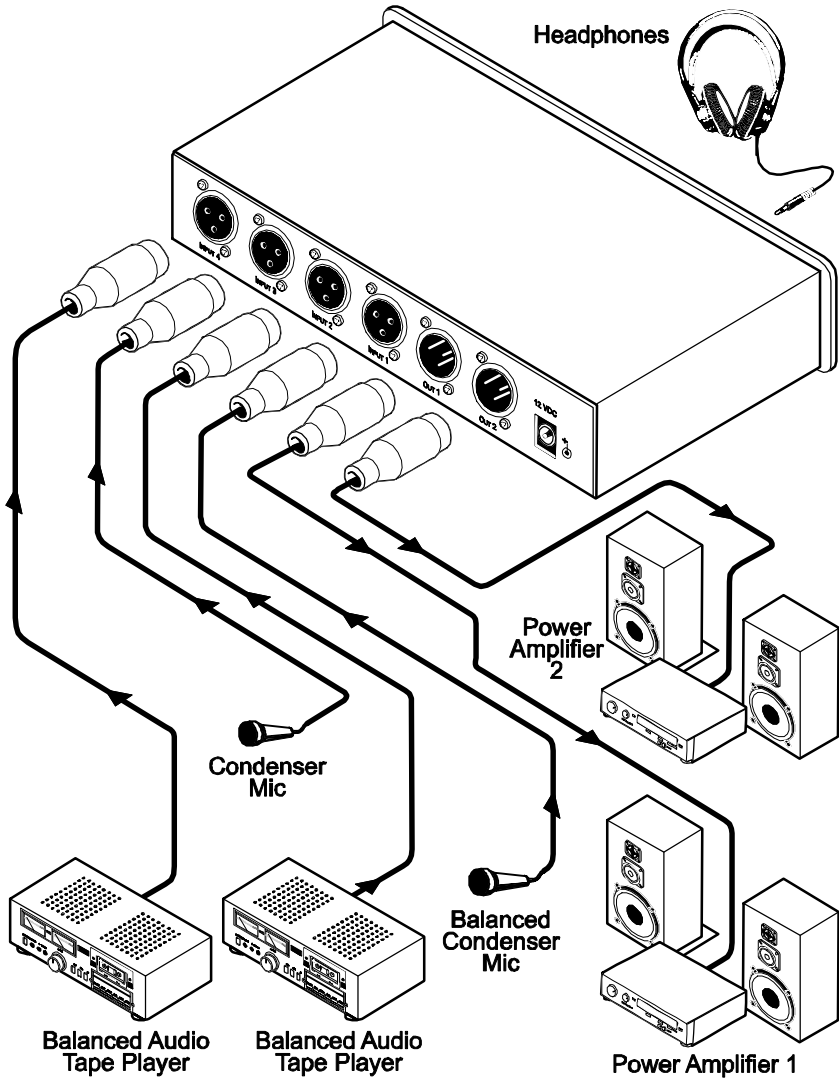


Figure 3: Connecting the VA-14 4x1 Balanced Audio Mixer

## 5.2 Operating Your VA-14 4x1 Balanced Audio Mixer

On the **VA-14x1 4x1 Balanced Audio Mixer** unit, you can adjust the level:

- From a specific<sup>1</sup> input, by rotating the appropriate LEVEL potentiometer
- From all the inputs mixed together, by rotating each of the MASTER potentiometers (1 and 2) respectively
- At the headphone set, by rotating the PHONES LEVEL potentiometer

## 6 Technical Specifications

*Table 4: Technical Specifications<sup>2</sup> of the VA-14 4x1 Balanced Audio Mixer*

INPUTS:	4 balanced audio, Line or Mic, on female XLR connectors
OUTPUTS:	2 audio, balanced on a male XLR connector One headphone output on a 6.5mm connector
MAX. OUTPUT LEVEL:	Line: 20Vpp; Phones: 4.5Vpp; Mic: 300mVpp
BANDWIDTH (-3dB):	> 40 kHz
S/N RATIO:	Mic In, Phones Out: 45.3dB Line In, Phones Out: 83.3dB Line In, Line Out: 84.3dB Mic In, Line Out: 64dB
CROSSTALK (all hostile):	Mixed inputs
CONTROLS:	Line In, Line Out: <-57dB to -14.3dB Mic In, Line Out: <0dB to 60.5dB Line In, Phones Out: <-47dB to -18dB Mic In, Phones Out: <0dB to 58.9dB In level and master/phones level, min to max position for both Line In, MIC OUT range: <-50dB to -25dB Mic In, Mic Out range:<0dB to 21.6dB Underside slide switches: inputs: Line/Mic and +48V phantom ON/OFF Outputs: Line/Mic
COUPLING:	In: AC; out: bal line/mic – DC; phones, AC
AUDIO THD + NOISE:	Line In, Line Out: 0.007%; Mic In, Line Out: 0.15% Line In, Phones Out: 0.085% Mic In, Phones Out: 0.38%
AUDIO 2nd HARMONIC:	Line In, Line Out: 0.001%; Mic In, Line Out: 0.005% Line In, Phones Out: 0.009%; Mic In, Phones Out: 0.024%
POWER SOURCE:	12 V, 250mA DC
DIMENSIONS:	21.5cm x 16.2cm x 4.4cm (8.46" x 6.38" x 1.73"), W, D, H
WEIGHT:	1.4 kg. (3.1 lbs.) approx.
ACCESSORIES:	Power supply
OPTIONS:	19" rack adapter

<sup>1</sup> For example, rotating the LEVEL potentiometer 2 will adjust the volume generated to the speakers via the power amplifier from the balanced audio source 2

<sup>2</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
- 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.





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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.



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**Kramer Electronics, Ltd.**

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P/N: 2900-000314 REV 1