KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

920
70V/100V Power Amplifier

P/N: 2900-300308 Rev 4
920 Power Amplifier Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to http://www.kramerelectronics.com/support/product_downloads.asp to download the latest manual or scan the QR code on the left.

Step 1: Check what’s in the box

- 920 Audio Amplifier
- 1 Power cord
- Rack “ears”
- 4 Rubber feet
- 1 Quick Start sheet

Save the original box and packaging materials in case you need to return your 920 for service.

Step 2: Install the 920

Attach the rubber feet and place on a table or mount the 920 in a rack (using the rack “ears” supplied).

Step 3: Connect the inputs and output

Always switch off the power to each device before connecting it to your 920.

Always use Kramer high-performance cables for connecting AV equipment to the 920.

Step 4: Configure the 920

- Adjust the line input level
- Set the microphone on or off
- Set the phantom power on or off
- Adjust the microphone input level
- Set the High-pass filter on or off

Step 5: Connect the power

- Connect the power cord to the 920 and plug it into the mains electricity
- Turn the device on
Contents

1 Introduction 1
2 Getting Started 2
  2.1 Achieving the Best Performance 2
  2.2 Safety Instructions 2
  2.3 Recycling Kramer Products 3
3 Overview 4
4 Defining the 920 Power Amplifier 5
5 Connecting the 920 7
  5.1 Connecting the 920 7
  5.2 Connecting Speakers 8
  5.3 Connecting a Microphone 9
6 Technical Specifications 10

Figures

Figure 1: 920 Power Amplifier Front Panel 5
Figure 2: 920 Power Amplifier Rear Panel 6
Figure 3: Connecting the 920 Power Amplifier 7
Figure 4: Connecting One or Multiple Speakers to the 920 (100V) 8
Figure 5: Connecting One or Multiple Speakers to the 920 (70V) 9
Figure 6: Connecting a microphone 9
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 that are clearly defined by function: 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 Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Products; GROUP 12: Digital Signage; and GROUP 13: Audio, and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer 920 Power Amplifier, which is ideal for the following typical applications:

- Boardrooms
- Classrooms
- Hospitality
- Transportation
- Retail
- Entertainment
- Houses of worship
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

Go to http://www.kramerelectronics.com/support/product_downloads.asp to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Do not secure the cables in tight bundles or roll the slack into tight coils
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer 920 away from moisture, excessive sunlight and dust

This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

2.2 Safety Instructions

Caution: There are no operator serviceable parts inside the unit

Warning: Use only the power cord that is supplied with the unit

Warning: Do not open the unit. High voltages can cause electrical shock! Servicing by qualified personnel only

Warning: Disconnect the power and unplug the unit from the wall before installing
2.3 Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer’s recycling arrangements in your particular country go to our recycling pages at http://www.kramerelectronics.com/support/recycling/.
The Kramer **920** is a high-performance audio power amplifier for balanced, unbalanced and microphone signals, that can output 200W of audio into 70V or 100V speaker systems.

The **920 Power Amplifier** features:

- 70V or 100V amplification
- Balanced, unbalanced and microphone inputs
- Input level sensitivity adjustment for line and microphone inputs
- Optional microphone 48V phantom power
- Optional high-pass filter
- 1U rack-mount enclosure
4 Defining the 920 Power Amplifier

Figure 1 defines the 920 Power Amplifier.

![Figure 1: 920 Power Amplifier Front Panel](image)

<table>
<thead>
<tr>
<th>#</th>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>STATUS LED</td>
<td>Lights green when the device is active.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lights orange when the device is in standby mode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lights red when the device is in protection mode</td>
</tr>
<tr>
<td>2</td>
<td>SIGNAL LED</td>
<td>Lights green when the input signal is present.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lights yellow when the signal is clipping</td>
</tr>
<tr>
<td>3</td>
<td>MIC LED</td>
<td>Lights green when the microphone input signal is present</td>
</tr>
</tbody>
</table>
Figure 2: 920 Power Amplifier Rear Panel

<table>
<thead>
<tr>
<th>#</th>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LINE INPUT</td>
<td>5-pin Terminal Block</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connect to the balanced stereo source</td>
</tr>
<tr>
<td>2</td>
<td>BAL/ RCA Selector</td>
<td>BAL/ RCA Selector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selects the balanced or unbalanced (RCA) input selector</td>
</tr>
<tr>
<td>3</td>
<td>RCA Connectors</td>
<td>RCA Connectors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connect to the unbalanced stereo source</td>
</tr>
<tr>
<td>4</td>
<td>LEVEL Trimmer</td>
<td>LEVEL Trimmer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusts the line-level input</td>
</tr>
<tr>
<td>5</td>
<td>MIC INPUT</td>
<td>3-pin Terminal Block</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connect to the microphone</td>
</tr>
<tr>
<td>6</td>
<td>LEVEL Trimmer</td>
<td>LEVEL Trimmer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adjusts the microphone input level</td>
</tr>
<tr>
<td>7</td>
<td>PHANTOM (48V) Switch</td>
<td>PHANTOM (48V) Switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phantom power on/off switch</td>
</tr>
<tr>
<td>8</td>
<td>MIC Switch</td>
<td>MIC Switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Microphone input on/off switch</td>
</tr>
<tr>
<td>9</td>
<td>SPEAKER OUT</td>
<td>3-pin Terminal Connector</td>
</tr>
<tr>
<td></td>
<td></td>
<td>70V or 100V output to speakers (see Section 5.2)</td>
</tr>
<tr>
<td>10</td>
<td>HIGH-PASS FILTER Switch</td>
<td>HIGH-PASS FILTER Switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High-pass filter on/off selector</td>
</tr>
<tr>
<td>11</td>
<td>Mains Power Unit</td>
<td>Mains Power Unit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connect to the mains power</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mains Fuse for protecting the 920</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Switch for turning the device on and off</td>
</tr>
</tbody>
</table>
5 Connecting the 920

This chapter comprises the following sections:

- Connecting the 920 (see Section 5.1)
- Connecting speakers (see Section 5.2)
- Connecting a microphone (see Section 5.3)

5.1 Connecting the 920

Always switch off the power to each device before connecting it to your 920. After connecting your 920, connect its power and then switch on the power to each device.

Figure 3: Connecting the 920 Power Amplifier
To connect the **920** as illustrated in the example in Figure 3:

1. Connect a balanced, stereo audio source, (for example, a multimedia player) to the 5-pin Line Input terminal block and an unbalanced stereo audio source to the Line Input RCA connectors.

2. Select the BAL-RCA switch accordingly.

3. Connect a microphone to the 3-pin Mic Input terminal block.

4. Connect the speaker(s) to the Speaker Out 3-pin terminal block, (see Section 5.2).

5. Connect the unit to the mains supply using the supplied power cord.

### 5.2 Connecting Speakers

You can connect one or more 70V or 100V speakers to the **920**. When connecting more than one speaker they must be connected in parallel as shown in Figure 4 (100V speakers) and Figure 5 (70V speakers).

![Diagram](image.png)

*Figure 4: Connecting One or Multiple Speakers to the 920 (100V)*
5.3 Connecting a Microphone

The 920 can provide phantom power (48V) to a microphone.
## Technical Specifications

| INPUT: | 1 Balanced stereo +4dBu/10kΩ on a 5-pin removable terminal block  
| | 1 Unbalanced stereo on 2 RCA connectors |
| OUTPUT: | 1 speaker 70/100V output on a 3-pin removable large terminal block |
| INPUT SENSITIVITY: | 0.3V to 1.23V –10dBu to 4 dBu |
| OUTPUT POWER: | 200W |
| AMPLIFIER TYPE: | Class D |
| MAXIMUM VOLTAGE GAIN: | +26dB |
| BANDWIDTH (-3dB): | 20Hz to 20kHz |
| S/N RATIO: | −75dB @14dBu amplification (0.039%) |
| CONTROLS: | Screw trimmer for line and mic input sensitivity |
| HIGH PASS FILTER: | When on:  
| | Frequencies below 120Hz are attenuated by 12dB per octave,  
| | −12dB @120Hz  
| | −24dB @60Hz  
| | −36dB @30Hz |
| INPUT SATURATION: | Maximum input level is 3.9V pp  @ −48dB |
| AUDIO THD + NOISE: | 70v main output: −71dB @ 7.8 dBu amplification  
| | 100v main output: −72 db @ 8.3 dBu amplification |
| AUDIO 2nd HARMONIC: | 0.08% for 70v/100v output |
| POWER SOURCE: | See label by power socket on rear panel of unit:  
| | USA version: 100-120V AC, 50/60Hz, 330VA  
| | OR  
| | European version: 200-240V AC, 50/60Hz, 480VA |
| DIMENSIONS: | 19” x 7.25” x 1U (W, D, H) rack-mountable |
| WEIGHT: | 1.7kg (3.75lbs) approx. |
| INCLUDED ACCESSORIES: | Power cord, rack ears |

Specifications are subject to change without notice at [http://www.kramerelectronics.com](http://www.kramerelectronics.com)
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The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

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This limited warranty covers defects in materials and workmanship in this product.

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This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

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2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.
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If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

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We welcome your questions, comments, and feedback.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com

SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing.

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