

**Kramer Electronics, Ltd.**



# **USER MANUAL**

**Model:**

**RTBUS-88**

*Round Table Connection Bus*

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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 the Kramer **RTBUS-88** *Round Table Connection Bus*, which is ideal for:

- Boardrooms
- Conference rooms
- Training rooms

The package includes the following items:

- **RTBUS-88** *Round Table Connection Bus*
- 2 mounting brackets
- Power cord and locking ties
- 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>

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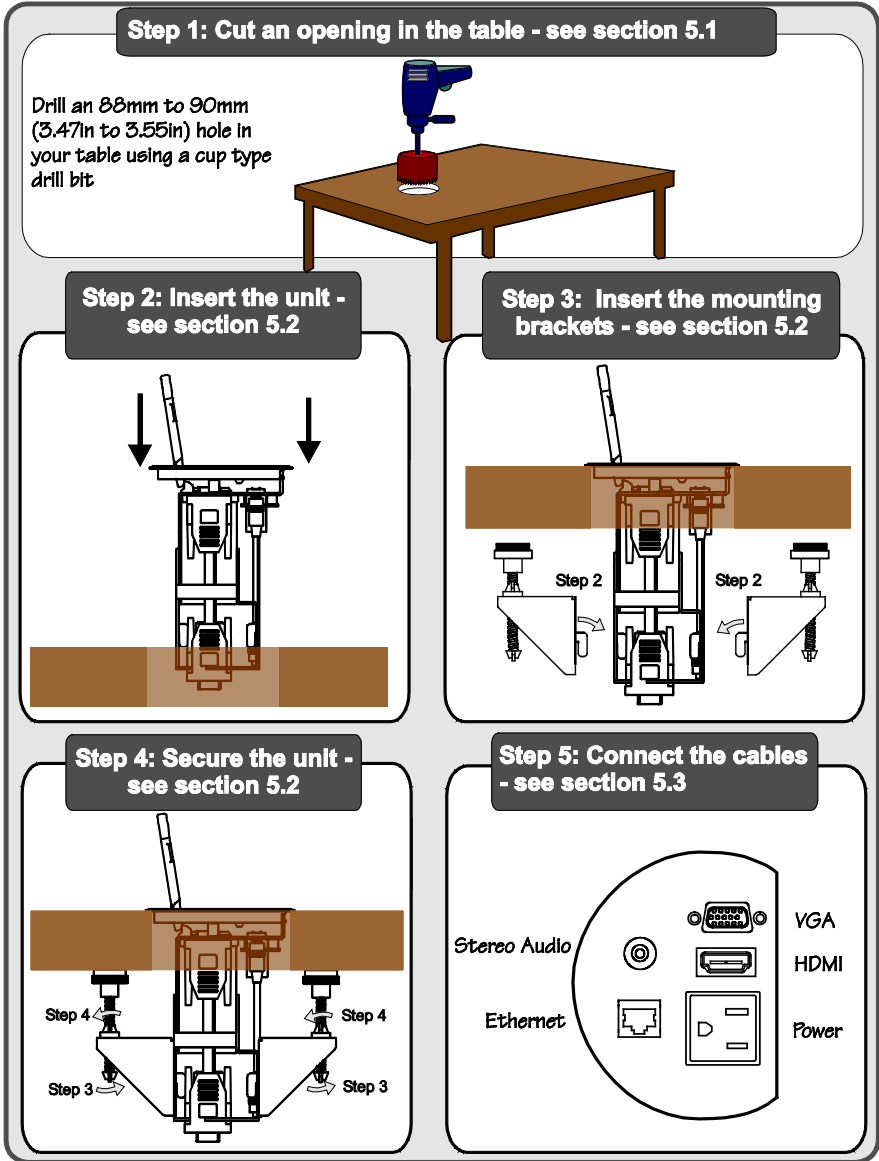
1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

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

3 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 **RTBUS-88** is an elegant furniture-mounted, round connection bus that is easily installed into a table or podium top for the USA (Power Input - 110V AC). The **RTBUS-88** enables you to connect any equipment to systems installed in a room via cable access or passive interfaces.

In addition, the **RTBUS-88** includes the following pass-through connectors:

- 1 VGA on a 15-pin HD connector
- 1 HDMI connector
- 1 stereo audio on a 3.5mm connector
- 1 Ethernet port on an RJ-45 connector

The **RTBUS-88** supports HDMI V.1.4 with Deep Color, x.v.Color™, Lip Sync, HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, and CEC.

The **RTBUS-88** surface is available in black anodized or brushed aluminum.

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 that may adversely influence signal quality and position your Kramer **RTBUS-88** away from moisture, excessive sunlight and dust

### 3.1 About HDMI

High-Definition Multimedia Interface (HDMI) is an uncompressed all-digital<sup>1</sup> audio/video interface, widely supported in the entertainment and home cinema industry. It delivers the highest high-definition image and sound quality. Note that Kramer Electronics Limited is an HDMI Adopter and an HDCP Licensee.

In particular, HDMI:

- Provides a simple<sup>2</sup> interface between any audio/video source, such as a set-top box, DVD player, or A/V receiver and video monitor, such as a digital flat LCD/plasma television (DTV), over a single lengthy<sup>3</sup> cable
- Supports standard, enhanced, high-definition video, and multi-channel digital audio<sup>4</sup> on a single cable
- Transmits all ATSC HDTV standards and supports 8-channel digital audio, with bandwidth to spare to accommodate future enhancements and requirements
- Benefits consumers by providing superior, uncompressed digital video quality via a single cable<sup>5</sup>, and user-friendly connector
- Is backward-compatible with DVI (Digital Visual Interface)
- Supports two-way communication between the video source (such as a DVD player) and the digital television, enabling new functionality such as automatic configuration and one-button play

HDMI has the capacity to support existing high-definition video formats (720p, 1080i, and 1080p/60), as well as standard definition formats such as NTSC or PAL.

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1 Ensuring an all-digital rendering of video without the losses associated with analog interfaces and their unnecessary digital-to-analog conversions

2 With video and multi-channel audio combined into a single cable, the cost, complexity, and confusion of multiple cables currently used in A/V systems is reduced

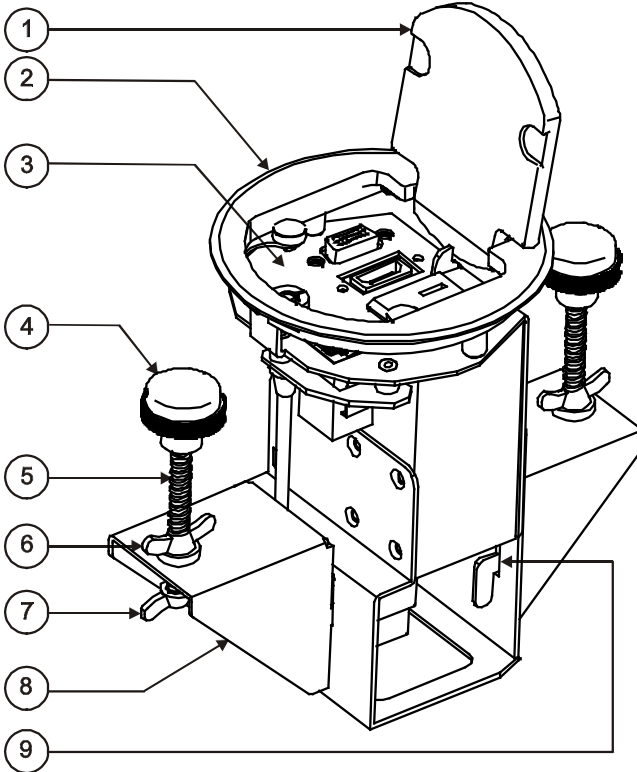
3 HDMI technology has been designed to use standard copper cable construction at up to 15m

4 HDMI supports multiple audio formats, from standard stereo to multi-channel surround-sound. HDMI has the capacity to support Dolby 5.1 audio and high-resolution audio formats

5 HDMI provides the quality and functionality of a digital interface while also supporting uncompressed video formats in a simple, cost-effective manner

## 4 Your RTBUS-88 Round Table Connection Bus

[Figure 1](#) and [Table 1](#) define the **RTBUS-88** unit:

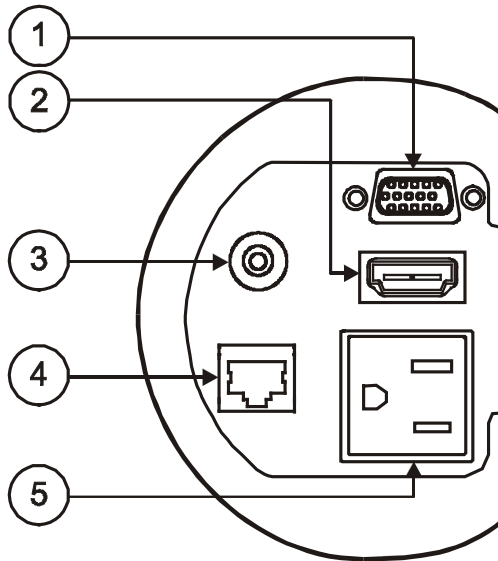


*Figure 1: RTBUS-88 Round Table Connection Bus Top View*

*Table 1: RTBUS-88 Round Table Connection Bus Features*

#	Feature	Function
1	Black Anodized or Brushed Aluminum Lid	Covers the connecting surface, leaving the table surface neat and tidy
2	Outer Rim	Fits over the table surface
3	Connecting Surface	See <a href="#">Figure 2</a> and <a href="#">Table 2</a>
4	Rubber Protectors	Protect the table surface when mounting the unit (one on each side)
5	Mounting Screws (2)	For securing the <b>RTBUS-88</b> to the table
6	Locking Butterfly Nuts	Tighten to lock the mounting butterfly screw (one on each side)
7	Mounting Butterfly Nuts	Tighten to secure the unit to the table surface (one on each side)
8	Mounting Brackets (2 units)	Place in the bracket slits after inserting the enclosure into the table – for securing the unit to the table surface (one on each side)
9	Mounting Bracket Slits	Insert the mounting brackets to the slits when installing the <b>RTBUS-88</b> (see section <a href="#">5.2</a> )

[Figure 2](#) and [Table 2](#) define the connecting surface:



*Figure 2: RTBUS-88 Connecting Surface*

*Table 2: RTBUS-88 Connecting Surface Features*

#	Feature	Function
1	15-pin HD Connector	Connects to a VGA source
2	HDMI Connector	Connect to HDMI source
3	3.5mm Mini Jack	Connects to an unbalanced stereo audio source
4	RJ-45 Connector	Connect to a network
5	Power Socket	Connects to 110V AC power



## 5 Installing the RTBUS-88 Round Table Connection Bus

To install the **RTBUS-88** perform the following steps:

1. Drill a hole in the table (see section [5.1](#)).
2. Insert the unit through the hole and secure the unit to the table (see section [5.2](#)).
3. Connect the cables (see section [5.3](#)).

### 5.1 Drilling a Hole in the Table

To drill an opening in the table:

1. Using any standard cup bit drill with a diameter ranging from 88mm to 90mm (3.47in to 3.55in), drill a hole in the table in the desired location.

**Note:** The thickness of the table should be 3in (76mm) or less.

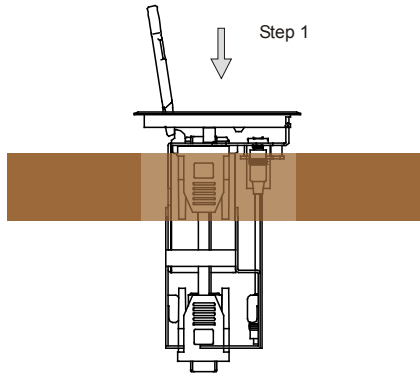
2. Clean the table surface.  
Take care not to damage the table.

Kramer Electronics is not responsible for any damage caused to the table

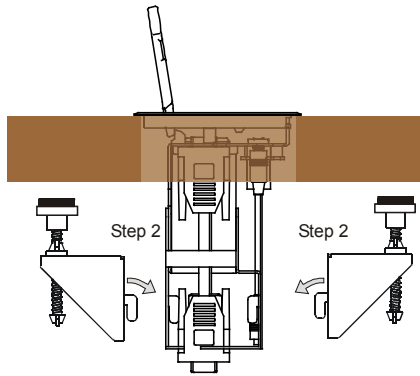
## 5.2 Mounting the RTBUS-88 in the Table

To mount the unit, follow these steps:

**Step 1:** Insert the **RTBUS-88** into the hole cut into the table making sure the outer rim is firm against the surface of the table.

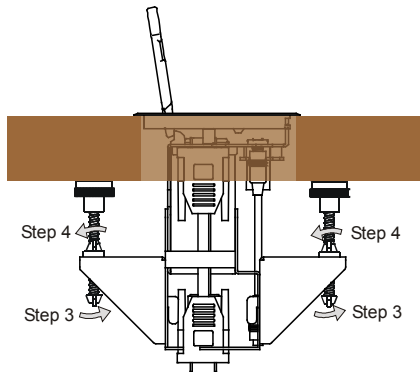


**Step 2:** From underneath the table, slide the mounting brackets into the appropriate slots.



**Step 3:** Tighten the butterfly mounting screws securely upward against the table.

**Step 4:** Lock the mounting screws into position with the locking butterfly screws.



### 5.3 Connecting the Cables

[Figure 3](#) describes how to connect the cables to the underside of the unit:

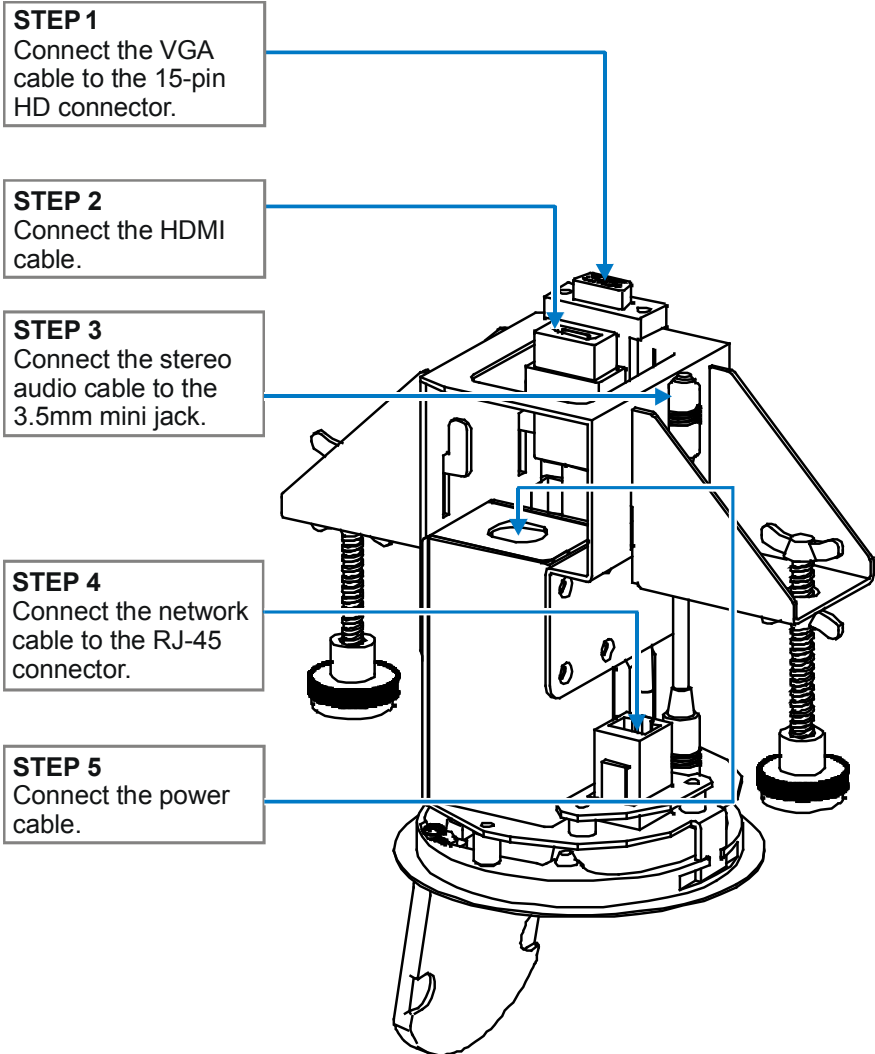


Figure 3: Connecting the Cables (from below)

## 6 Using the RTBUS-88 Round Table Connection Bus

Once the **RTBUS-88** is installed, you can easily customize it to your own needs by plugging in the required AV equipment, as illustrated in the example in [Figure 4](#).

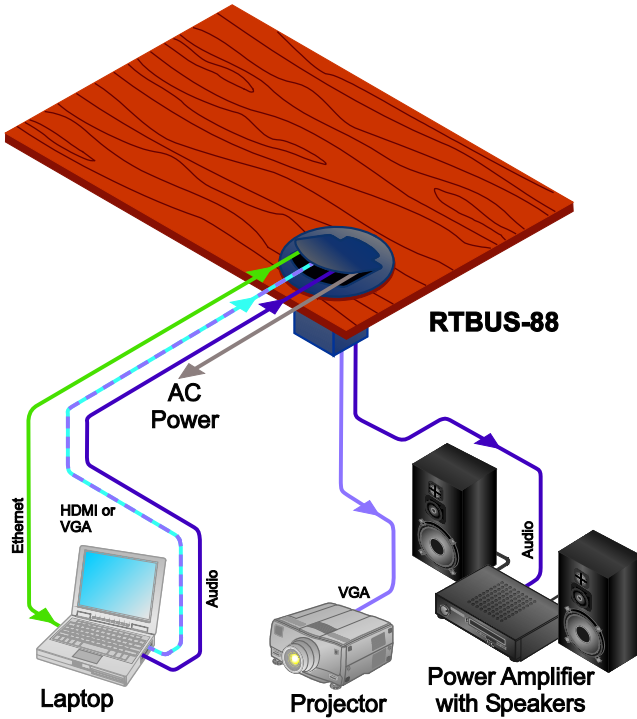


Figure 4: RTBUS-88 Boardroom Installation

## 7 Technical Specifications

[Table 3](#) includes the technical specifications:

*Table 3: Technical Specifications<sup>1</sup> of the RTBUS-88 Round Table Connection Bus*

POWER SOURCE (AC power limits):	110V AC, 50/60Hz, 5A
FUSE RATING:	T 6.3A 250V
DIMENSIONS:	10cm x 14cm (3.9" x 5.5") D, H
DIMENSIONS WITH CLAMPS:	16cm x 10cm x 14cm (6.3 x 3.9" x 5.5") W,D, H
WEIGHT:	0.7kg (1.5lbs) approx. 0.95kg (2.1lbs) approx. with clamps
ACCESSORIES:	Power cord, six self-locking ties

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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 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)



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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.**

Web site: [www.kramerelectronics.com](http://www.kramerelectronics.com)

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