



KRAMER ELECTRONICS LTD.

# USER MANUAL

MODEL:

**Yarden 8-T (SPK-C820T)**

Ceiling Tile Speaker

---

P/N: 2900-300306 Rev 2



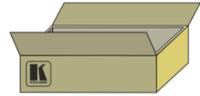
## Yarden 8-T Quick Start Guide

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](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

- Yarden 8-T Ceiling Tile Speaker
- 1 60cm x 60cm grille

- 1 Quick start guide



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

### Step 2: Choose the best location

Determine the number of speakers that are required, locate them above the main listening area, making sure that:

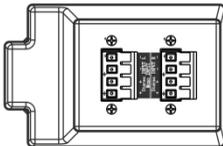
- The mounting location is free of obstructions, such as electrical piping, AC ducts or water lines, and so on
- There is enough space behind the mounting surface for the speaker
- The rear side of the speaker is not blocked by wall studs or other objects

### Step 3: Install the speakers

To install the speakers:

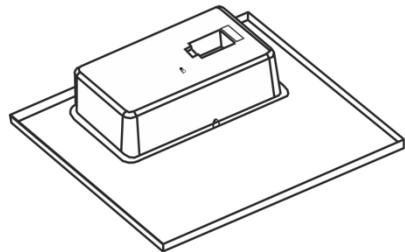
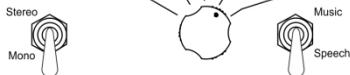
- Move the pivoting tweeters to the correct angle
- Run the wires through the ceiling
- Remove the ceiling tile at the correct location
- Connect the speaker wires to the speaker terminals, according to the pinout

Always switch OFF the power on each device before connecting it to your Speakers.



- Adjust the tap settings

Stereo	100V	●	30W+30W	15W+15W	7.5W+7.5W	8Ω
	70V		30W+30W	15W+15W	7.5W+7.5W	
Mono	100V	●	60W	30W	15W	4Ω
	70V		60W	30W	15W	



- Place the speaker in its place temporarily, test the audio quality and adjust the position of the tweeter until you are satisfied with the results
- Fit the speaker, tighten the screws and attach the grille
- Secure the speaker to the ceiling

For best results, we recommend that you always use Kramer BCP-2S speaker cables to connect AV equipment to your speakers

# Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>Getting Started</b>	<b>2</b>
2.1	Achieving the Best Performance	2
2.2	Recycling Kramer Products	3
<b>3</b>	<b>Overview</b>	<b>4</b>
3.1	Defining the Yarden 8-T	5
<b>4</b>	<b>Installing the Yarden 8-T</b>	<b>8</b>
4.1	Choosing the Best Location	8
4.2	Connecting the wires	8
4.3	Determining the Number of Speakers Needed and their Location	9
4.4	Preparing the Yarden 8-T for Operation	11
4.5	Installing the Tile Size Speaker	12
<b>5</b>	<b>Technical Specifications</b>	<b>16</b>

## Figures

Figure 1:	Tile Size ESD Ceiling Speaker (that fits into the ceiling)	5
Figure 2:	Yarden 8-T Top and Underside View	6
Figure 3:	Yarden 8-T Side View	7
Figure 4:	Yarden 8-T Terminal Blocks	8
Figure 5:	Speaker Location in a Room—Yarden 8-T vs. Standard Ceiling Speakers	9
Figure 6:	Stereo Layout	10
Figure 7:	Mono Layout	11
Figure 8:	Adjust Tap Selector	12
Figure 9:	Fitting the Tile Size Speaker	13
Figure 10:	Securing the Speaker to a Ceiling Anchor Point	14
Figure 11:	Yarden 8-T in a Boardroom Setup	15

---

# 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 video, audio, presentation, and broadcasting professionals 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 14 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; 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 Video Products; GROUP 12: Digital Signage; GROUP 13: Audio; and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer **Yarden 8-T** Ceiling Tile Speaker, which is ideal for overhead distributed audio for professional applications (music and speech) and educational applications.



ESD™ (Equal Sound Dispersion) Ceiling Speakers are designed for indoor dry locations and are suitable for use in air handling spaces.

---

## 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](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 Speakers 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.



Do not open the housing of the speaker; doing so may reduce the quality of the sound.



**UL2043** – Fire Test for Heat and Visible Smoke Release for Discrete Products and their Accessories Installed in Air-Handling Spaces.

## 2.2 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/>.

---

## 3 Overview

The ESD™ (*Equal Sound Dispersion*) *Ceiling Tile Speaker* is a high-performance complete K-coverage ESD ceiling speaker that can be mounted on the ceiling and appears as a suspended ceiling tile.

The ESD ceiling speaker is constructed with a central driver and four pivoting tweeters and is housed in an enclosed shallow enclosure.

The Kramer complete K-coverage ESD provides unmatched sound response in a suspended ceiling device for the professional and educational markets. This means that you get the sound you need but with a reduced number of speakers.

The ESD ceiling speaker features:

- Complete K-coverage ESD™ – a patent pending design with 4 pivoting silk dome tweeters that direct the sound, based on the room environment, for equal sound dispersion (ESD)
- 2 sets of 70V/100V transformers
- Mono/Stereo Switch – Toggles between Stereo mode (left in to left out + right in to right out) and Mono mode (left in to left and right out)
- Music/Speech Switch – Toggles between Music mode (full range) to Speech mode (cuts low frequencies and clears up speech frequencies to enhance intelligibility)
- Wide, up to 180°, sound dispersion
- One Kramer ESD speaker that replaces multiple standard speakers for quick and easy installation
- Excellent bass response that is optimized for music and high-quality voice reproduction
- A Kevlar(R) cone woofer
- A 40W RMS power rating
- Smooth frequency response
- A shallow 4-inch depth (approx. 100mm) enclosure

- **RoHS compliance**  
Compliance to RoHS means acting in full accordance with RoHS regulations that restrict the use of certain dangerous substances commonly used in electronic equipment
- A speaker grille that is supported by two screws and held together with a set of magnets
- A plastic ring to secure the wires to the speaker

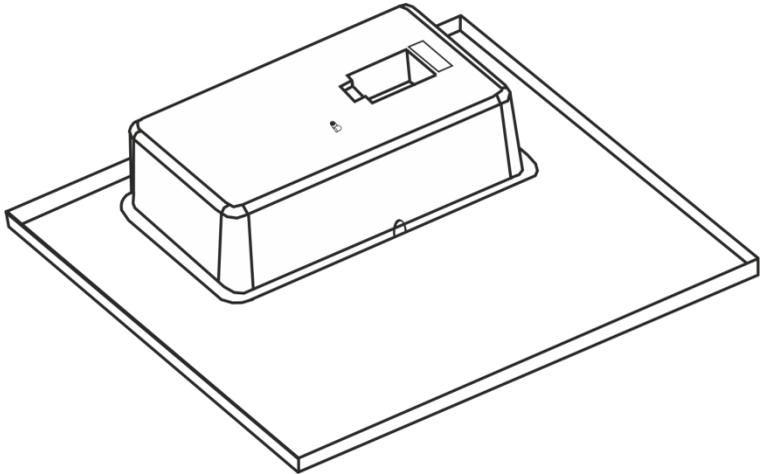


Figure 1: Tile Size ESD Ceiling Speaker (that fits into the ceiling)

The speaker is easily installed and is also available with a 60 X 60cm grille for the US and other markets, if required.

### 3.1 Defining the Yarden 8-T

[Figure 2](#) defines the **Yarden 8-T** top and underside view:

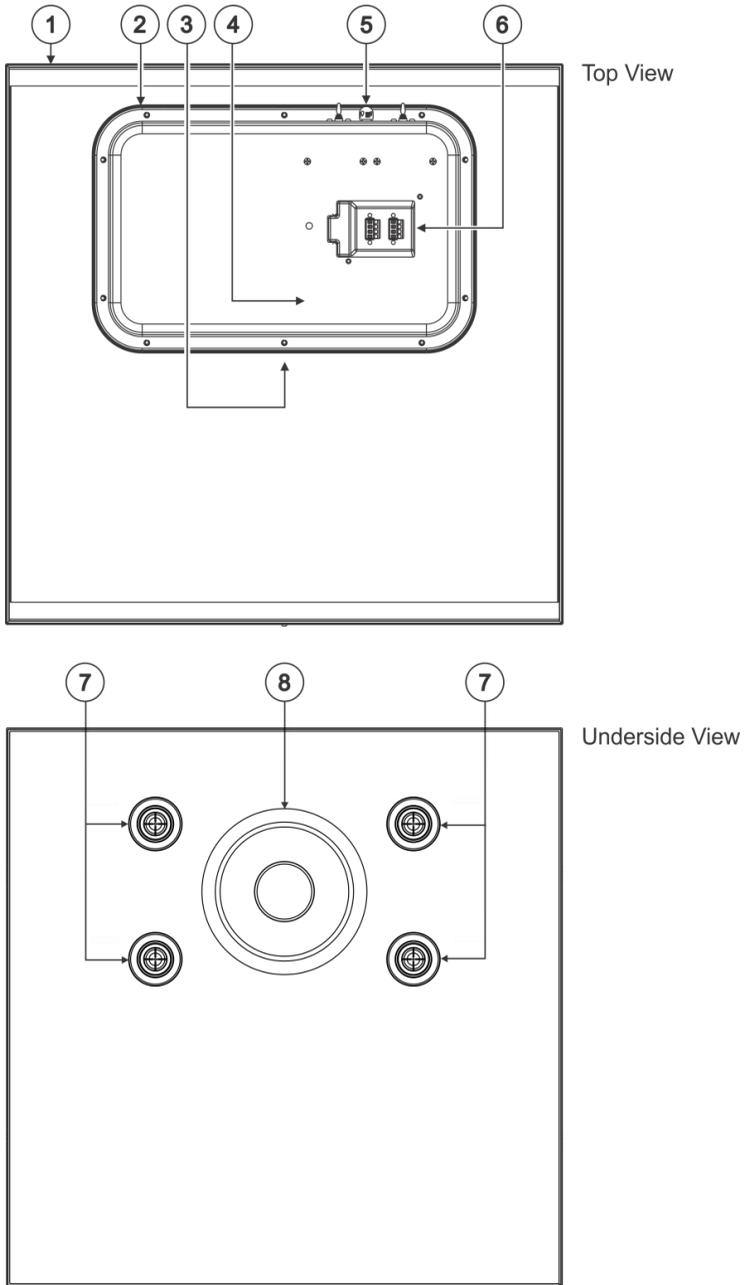


Figure 2: Yarden 8-T Top and Underside View

Ceiling Tile Speaker Features		
#	Feature	Function
1	Speaker Tile Base	Tile size
2	Speaker Steel Enclosure	Shallow fireproof enclosure
3	Anchor Ring	Secure the speaker to the ceiling anchoring point
4	Wire Secure Ring	Insert the wire through the plastic ring to secure the wires to the speaker
5	Tap Selector and Operation Switches	Control the speaker operation mode
6	INPUT Terminal Block Connector	Connect to the audio source (see <a href="#">Section 4.2</a> )
7	Tweeters (4)	Pivoting silk
8	Woofer	Kevlar(R) surrounded by rubber

[Figure 3](#) defines the **Yarden 8-T** side view:

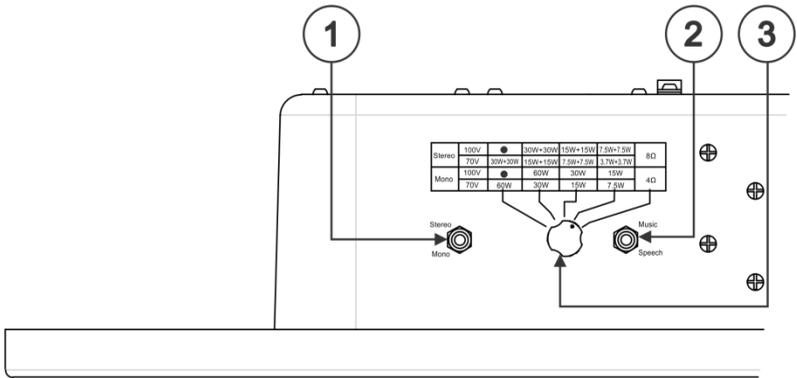


Figure 3: Yarden 8-T Side View

Ceiling Tile Speaker Features		
#	Feature	Function
1	Stereo/Mono Selector Switch	Select stereo or mono operation
2	Music/Speech Selector Switch	Select the speaker operation mode: Set to Music for boardrooms, offices, hotels and restaurants (for background music) Set to Speech for lecture halls and classrooms
3	Tap Selector Button	Use for tap setting, see <a href="#">Figure 8</a>

## 4 Installing the Yarden 8-T

This section explains how to install the **Yarden 8-T**, that is:

- Choosing the best place to locate your speaker (see [Section 4.1](#))
- Connecting the wires (see [Section 4.2](#))
- Determining the number of speakers (see [Section 4.3](#))
- Preparing the speaker for operation (see [Section 4.4](#))
- Installing the tile size speaker (see [Section 4.5](#))

### 4.1 Choosing the Best Location

Ideally, locate the speaker above the main listening area. Before doing so, be sure that:

- The desired location is free of obstructions, such as electrical piping, AC ducts or water lines, and so on
- There is enough space behind the mounting surface for the speaker
- The rear side of the speaker is not blocked by wall studs or other objects

### 4.2 Connecting the wires

[Figure 4](#) illustrates the terminal block pinout for the mono and stereo setups:

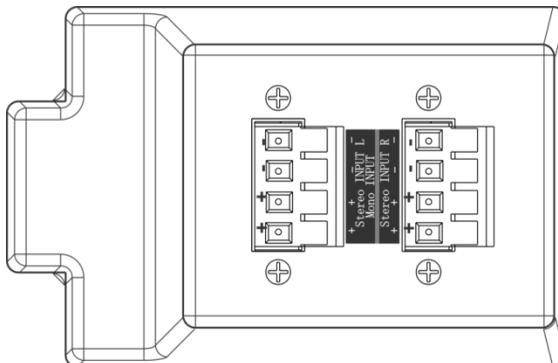


Figure 4: Yarden 8-T Terminal Blocks



The red wires connect to the + pins and the black wires connect to the – pins.

### 4.3 Determining the Number of Speakers Needed and their Location

When installed in a room with a standard ceiling height of 2.7m (8.8 feet), the optimal distance between the speakers is about 10 meters. The speaker should be installed lengthwise relative to the shape of the room. The example in [Figure 5](#) shows the **Yarden 8-T** installed in a 10m x 5m room. A 10m x 5m room size requires only one ESD speaker for full room coverage rather than four standard ceiling speakers.

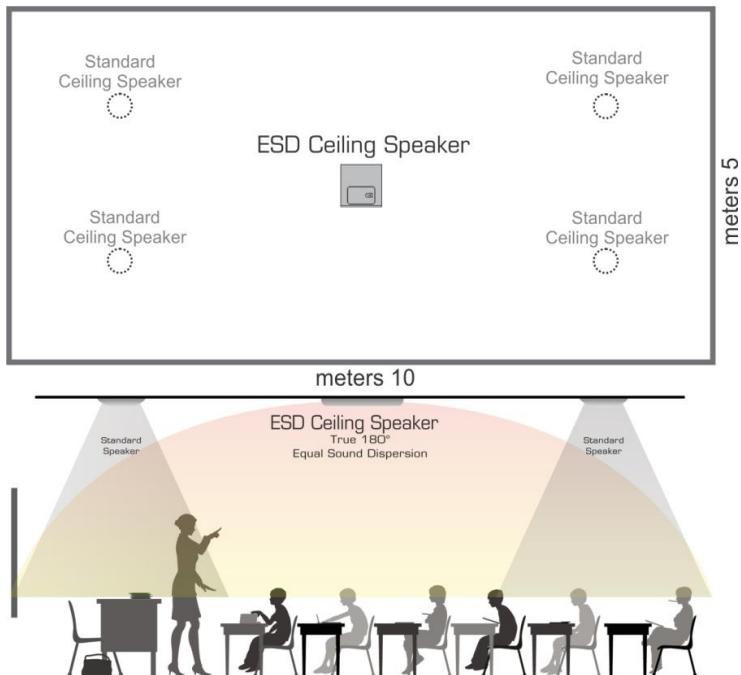


Figure 5: Speaker Location in a Room—Yarden 8-T vs. Standard Ceiling Speakers

To achieve optimum sound quality and ESD (Equal Sound Dispersion):

- Select the appropriate output from the amplifier to use with the speaker (either stereo or mono)

- If the size of the room only requires a single speaker, we recommend using the mono/stereo speaker for speech or music as required (see [Figure 6](#) and [Figure 7](#))

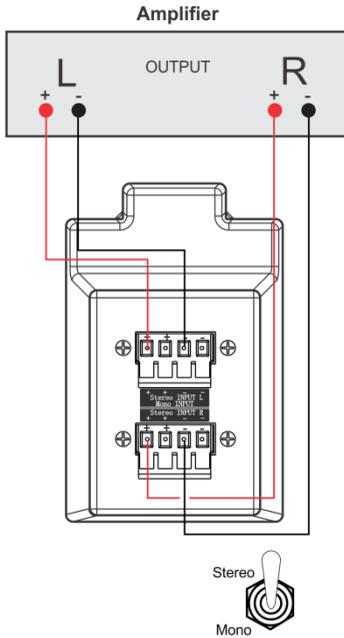


Figure 6: Stereo Layout

- If the size of the room requires more than one speaker, use two or more mono speaker models (see [Figure 7](#))

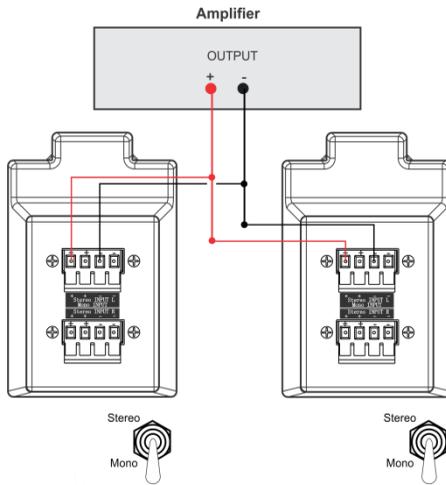


Figure 7: Mono Layout

## 4.4 Preparing the Yarden 8-T for Operation

Once the location of the speaker is determined, prepare the speaker for operation as follows:

1. Move each of the pivoting tweeters outward in an angle that is suited to the room shape and size.
2. Run the wires from the amplifier through the ceiling.
3. Remove the ceiling tile at the place where you plan to install the speaker.
4. Connect the speaker wires to the speaker terminals (see [Figure 4](#)) from the adjacent ceiling tile opening.
5. Adjust the speaker to the appropriate tap setting (see [Figure 8](#)).  
Set the tap according to the power requirements of the speaker based on its location in the room (for example, a speaker located in a remote corner may require additional power)

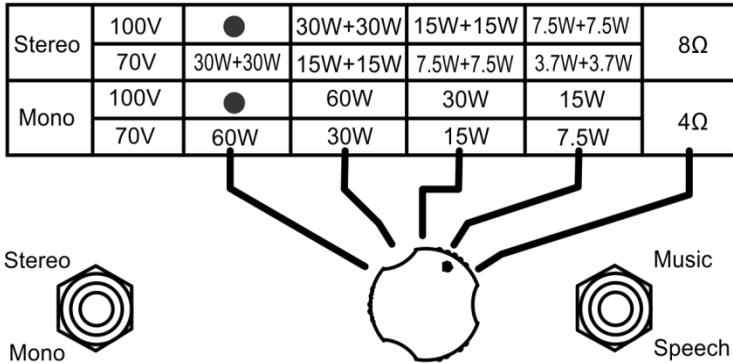


Figure 8: Adjust Tap Selector

6. Place the speaker temporarily in place, and test the audio quality.
7. If you are satisfied, disconnect the amplifier and remove the speaker from the ceiling. If not, change the position of the tweeters and check the audio quality again until you are happy with the results.
8. Fit the speaker grille over the speaker underside and tighten with screws.



Do not select the maximum tapping position when using 100V (in both the stereo and mono modes).

## 4.5 Installing the Tile Size Speaker

1. Drop the speaker into the ceiling tile space.  
Make sure that you position the speaker lengthwise relative to the room shape (see [Figure 9](#)).

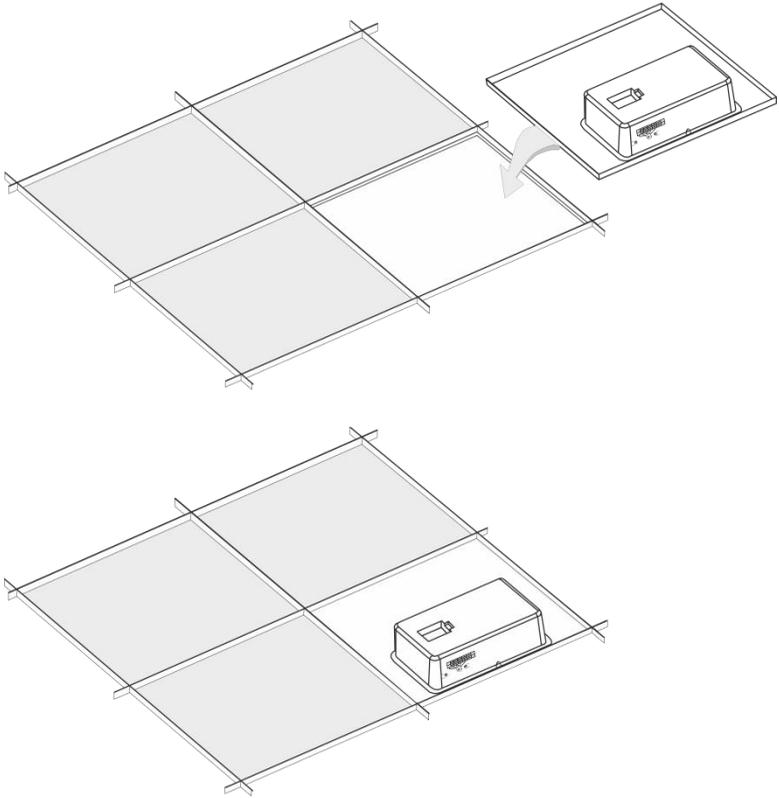


Figure 9: Fitting the Tile Size Speaker

2. Secure the speaker by connecting the speaker support ring to an independent secure ceiling anchor point (see [Figure 10](#)) as appropriate. The anchor prevents the speaker from falling if the tile itself comes out or falls apart.

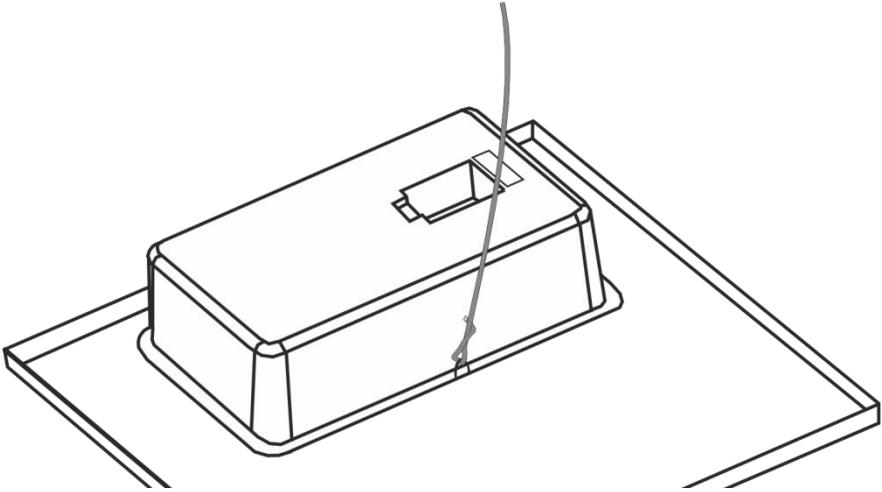


Figure 10: Securing the Speaker to a Ceiling Anchor Point

3. If required, daisy-chain the next speaker (see [Section 4.3](#)).



Do not over-tighten the screws. It may cause damage to both the speakers and the surface.

[Figure 11](#) shows an example of how the **Yarden 8-T** can be installed in a boardroom setup:

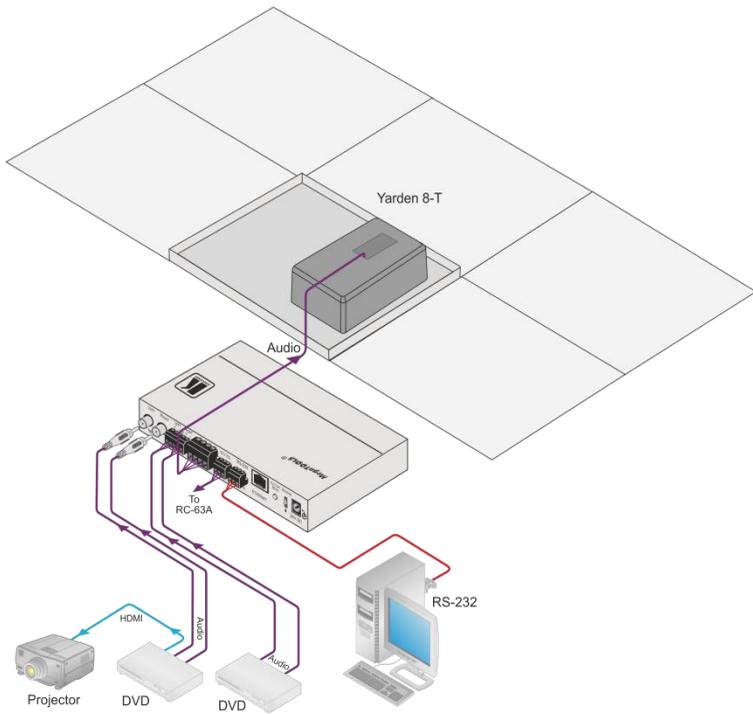


Figure 11: Yarden 8-T in a Boardroom Setup

## 5 Technical Specifications

<b>Audio and Power</b>	
DESCRIPTION:	Ceiling tile speaker
FREQUENCY RESPONSE:	65Hz to 20kHz @ -10dB 80Hz to 20kHz @ $\pm 3$ dB
WOOFER:	8" (200mm) Kevlar(R) with rubber surround
TWEETER:	4 x 0.75" (20mm) pivoting titanium dome
IMPEDANCE:	8 $\Omega$ stereo, 4 $\Omega$ mono (transformer tap in off position)
TRANSFORMER TAPS:	Stereo: 70V – 3.75W/7.5W/15W/30W; 100V – 7.5W/15W/30W Mono: 70V – 7.5W/15W/30W/60W; 100V – 15W/30W/60W
SENSITIVITY:	87dB 1W @ 1m
MAX SPL:	Continuous: 102dB Peak: 105dB
POWER HANDLING:	40W RMS 110W continuous program
CROSSOVER FREQUENCY:	2.175kHz
DIRECTIVITY FACTOR (Q):	9.43, averaged 1kHz to 10kHz
DIRECTIVITY INDEX (DI)	9.5dB averaged 1kHz to 10kHz
INPUT CONNECTORS:	Terminal block connectors
CONTROLS:	Mono/Stereo select switch, Music/Speech select switch
<b>Shipping and Installation</b>	
MATERIALS:	Frame, steel grilles (595x595mm, 600x600mm), cable holder
DIMENSIONS:	60cm x 60cm x 10cm (tile size) 59.5cm x 59.5cm x 10cm (tile size) for any region with suspended ceiling tiles of 595mm
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)
STORAGE TEMPERATURE:	-40° to +70°C (-40° to 158°F)
HUMIDITY:	10% to 90%, RHL non-condensing
WEIGHT:	8.8 kg (19.3lbs) approx.
SHIPPING WEIGHT:	10.5 kg (27.1lbs) approx.
ACCESSORIES:	2 available grilles (595x595mm, 600x600mm)
COLORS:	Available in white
Specifications are within a 10% tolerance and are subject to change without notice at <a href="http://www.kramerelectronics.com">http://www.kramerelectronics.com</a>	

## LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

### What is Covered

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

### What is Not Covered

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 unauthorized tampering with this product, 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.

Without limiting any other exclusion herein, Kramer Electronics does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

### How Long Does this Coverage Last

One year as of this printing; please check our Web site for the most current and accurate warranty information.

### Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

### What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
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.
3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

### What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

### How to Obtain a Remedy under this Limited Warranty

To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, please visit our web site at [www.kramerelectronics.com](http://www.kramerelectronics.com) or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required. You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

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.

### Limitation on Liability

THE MAXIMUM LIABILITY OF KRAMER ELECTRONICS UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

### Exclusive Remedy

TO THE MAXIMUM EXTENT PERMITTED BY LAW, THIS LIMITED WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF KRAMER ELECTRONICS CANNOT LAWFULLY DISCLAIM OR EXCLUDE IMPLIED WARRANTIES UNDER APPLICABLE LAW, THEN ALL IMPLIED WARRANTIES COVERING THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY TO THIS PRODUCT AS PROVIDED UNDER APPLICABLE LAW.

IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPLICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY AS PROVIDED UNDER APPLICABLE LAW.

### Other Conditions

This limited warranty gives you specific legal rights, and you may have other rights which vary from country to country or state to state.

This limited warranty is void if (i) the label bearing the serial number of this product has been removed or defaced, (ii) the product is not distributed by Kramer Electronics or (iii) this product is not purchased from an authorized Kramer Electronics reseller. If you are unsure whether a reseller is an authorized Kramer Electronics reseller, please visit our Web site at [www.kramerelectronics.com](http://www.kramerelectronics.com) or contact a Kramer Electronics office from the list at the end of this document.

Your rights under this limited warranty are not diminished if you do not complete and return the product registration form or complete and submit the online product registration form. Kramer Electronics thanks you for purchasing a Kramer Electronics product. We hope it will give you years of satisfaction.

This page is intentionally left blank



For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

**We welcome your questions, comments, and feedback.**

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

E-mail: [info@kramerel.com](mailto:info@kramerel.com)



**SAFETY WARNING**

Disconnect the unit from the power supply before opening and servicing



P/N: 2900-300306



Rev: 2