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 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

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

<table>
<thead>
<tr>
<th>Stereo</th>
<th>100V</th>
<th>70V</th>
<th>50W+50W</th>
<th>30W+30W</th>
<th>15W+15W</th>
<th>7.5W+7.5W</th>
<th>3.75W+3.75W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono</td>
<td>100V</td>
<td>70V</td>
<td>60W</td>
<td>40W</td>
<td>30W</td>
<td>15W</td>
<td>7.5W</td>
</tr>
</tbody>
</table>

- 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.
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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 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.

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

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

Figure 3 defines the **Yarden 8-T** side view:

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Yarden 8-T - Overview
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).

![Amplifier diagram]

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).
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).
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).
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.
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

<table>
<thead>
<tr>
<th>Audio and Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>DESCRIPTION: Ceiling tile speaker</td>
</tr>
<tr>
<td>FREQUENCY RESPONSE: 65Hz to 20kHz @ -10dB</td>
</tr>
<tr>
<td>80Hz to 20kHz @ ±3dB</td>
</tr>
<tr>
<td>WOOFER: 8&quot; (200mm) Kevlar(R) with rubber surround</td>
</tr>
<tr>
<td>TWEETER: 4 x 0.75&quot; (20mm) pivoting titanium dome</td>
</tr>
<tr>
<td>IMPEDANCE: 8Ω stereo, 4Ω mono (transformer tap in off position)</td>
</tr>
<tr>
<td>TRANSFORMER TAPS: Stereo: 70V – 3.75W/7.5W/15W/30W; 100V – 7.5W/15W/30W</td>
</tr>
<tr>
<td>Mono: 70V – 7.5W/15W/30W/60W; 100V – 15W/30W/60W</td>
</tr>
<tr>
<td>SENSITIVITY: 87dB 1W @1m</td>
</tr>
<tr>
<td>MAX SPL: Continuous: 102dB</td>
</tr>
<tr>
<td>Peak: 105dB</td>
</tr>
<tr>
<td>POWER HANDLING: 40W RMS</td>
</tr>
<tr>
<td>110W continuous program</td>
</tr>
<tr>
<td>CROSSOVER FREQUENCY: 2.175kHz</td>
</tr>
<tr>
<td>DIRECTIVITY FACTOR (Q): 9.43, averaged 1kHz to 10kHz</td>
</tr>
<tr>
<td>DIRECTIVITY INDEX (DI): 9.5dB averaged 1kHz to 10kHz</td>
</tr>
<tr>
<td>INPUT CONNECTORS: Terminal block connectors</td>
</tr>
<tr>
<td>CONTROLS: Mono/Stereo select switch, Music/Speech select switch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shipping and Installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIALS: Frame, steel grilles (595x595mm, 600x600mm), cable holder</td>
</tr>
<tr>
<td>DIMENSIONS: 60cm x 60cm x 10cm (tile size)</td>
</tr>
<tr>
<td>59.5cm x 59.5cm x 10cm (tile size) for any region with suspended ceiling tiles of 595mm</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE: 0° to +40°C (32° to 104°F)</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE: -40° to +70°C (-40° to 158°F)</td>
</tr>
<tr>
<td>HUMIDITY: 10% to 90%, RHL non-condensing</td>
</tr>
<tr>
<td>WEIGHT: 8.8 kg (19.3lbs) approx.</td>
</tr>
<tr>
<td>SHIPPING WEIGHT: 10.5 kg (27.1lbs) approx.</td>
</tr>
<tr>
<td>ACCESSORIES: 2 available grilles (595x595mm, 600x600mm)</td>
</tr>
<tr>
<td>COLORS: Available in white</td>
</tr>
</tbody>
</table>

Specifications are within a 10% tolerance and are subject to change without notice at 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:

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 unessential use, misuse, abuse, 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 a material 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.

3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time the remedy is sought under this limited warranty.

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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 setup or 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 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 Kramer Electronics authorized service providers, please visit our Web site at 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.

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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
E-mail: info@kramerel.com

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