VADDIO
A brand of legrand

Complete Manual for the

EasyIP Ceiling Speaker D

Recessed Speaker with Dante Networked Audio

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Contents

Overview

This guide covers:

EasyIP Ceiling Speaker D network-connected speaker: 999-86650-000 (worldwide)

Features

- Powered speaker with Dante® networked audio, based on the Vaddio Ceiling Speaker design
- High-performance metalized polypropylene cone woofer with doubled neodymium magnet assembly for increased efficiency and butyl rubber driver surround for longevity
- Coaxially located damped poly cone tweeter, rigidly affixed to woofer magnet structure
- Recessed cable cavity with pivoting cover and wiring clamp
- Steel enclosure with safety loop and convenient swivel-out mounting tabs
- Ceiling or wall installation
- Magnetically attached grille

Specifications

Power	25 W if PoE+ powered, 15 W if PoE powered
Characteristic Impedance	8 ohms
Height	6 in. (152.4 mm)
Body Diameter	7.2 in. (182.9 mm)
Grille Diameter	8.6 in. (218.4 mm)
Installed Weight	6.6 lb. (3 kg)

What's included

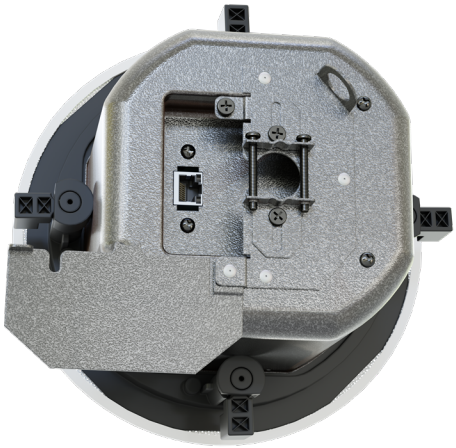
Make sure you received all the items you expected.

- EasyIP Ceiling Speaker D with magnetically attached grille
- Tile brace
- 28 in. (71 cm) stainless steel safety cable with steel carabiner clips

Contact Vaddio Technical Support at 800.572.2011 or +1.763.971.4400, or email av.vaddio.techsupport@legrand.com if you did not receive all the items listed.

A quick look at the speaker

- Magnetically attached speaker grille (with the logo badge you know and love)
- Quick mounting tabs swivel into position
- Connector cover plate with strain relief clamp
- Convenient loop for securing safety wire



Installation

This section covers:

- Tools you will need
- Safety information
- Tips for a successful audio installation
- Cabling notes
- Physical installation
- Connection diagrams

Don't void your warranty!

Caution

This product is for indoor use. Do not install it outdoors or in a humid environment without the appropriate protective enclosure. Do not allow it to come into contact with any liquid.
Do not install or operate this product if it has been dropped, damaged, or exposed to liquids. If any of these things happen, return it to Vaddio for safety and functional testing.

Placement tips

Avoid common audio problems:

- The effective range for a Vaddio speaker or microphone is about 12 ft. (3.7 m) under most circumstances. Be sure the room design includes enough of each to provide adequate coverage.
- To prevent audio feedback, install speakers at least 4 ft. (1.2 m) from microphones. More separation is better.
- Good echo cancellation requires the room's microphones to be closer to the people who will be talking than to the speakers. Make sure the speakers are at an appropriate distance from the microphones.

Tools you will need

- Hole saw for the appropriate type of ceiling
- #2 Phillips screwdriver
- Wire cutters
- Tape measure
- Ladder or lift
- Appropriate personal protective equipment

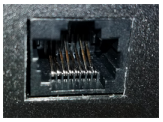
We recommend suspending the tile brace using Chief's "Speed Connect Hardware Kit," part number CMSHDW, available from legrandav.com.

Cabling notes

Caution

Do not use pass-through RJ-45 connectors when making cables for this product. Poorly crimped connectors of this type can cause intermittent connections and degraded signal quality. They can also damage the connectors on the product, which will void your warranty.

Intact – will make reliable contact with cable connector



Damaged – Bent contact fingers will NOT make reliable contact with cable connector

When making cables for this product, use Cat-5e or better cable. We recommend using high-quality connectors and a high-quality crimping tool.

We recommend shielded cabling if the cables will be coiled, run tightly with other cables, or routed near sources of electromagnetic interference such as power lines or fluorescent light fixtures.

Caution

Check your cables. Connecting a cable to the wrong port or using the wrong pin-out can result in equipment damage and will void the warranty.

Pro Tip

Label all cables at both ends.

Basic connections

Connect EasyIP products to the EasyIP Switch.

You will need to pair EasyIP speakers and microphones to the host device using the Dante Controller application. Controls are available in the Vaddio Dante Interface Application.

Preparing the ceiling

Warning

Follow standard safety practices when using ladders or lifts. Failure to do so can result in injury or death. We like you, we don't want you to be injured or killed, and we hope you understand the gravity of the situation.

Note

All above-ceiling work must conform to local building codes and should be performed by qualified personnel.

If installing in a hard ceiling:

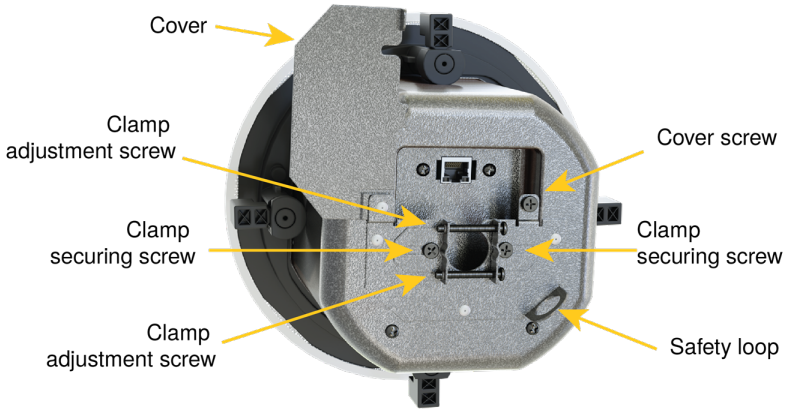
Using the tile brace as a template, make a hole in the ceiling where the speaker will be mounted.

If installing in a suspended tile ceiling:

1. Remove the ceiling tile where the speaker will be mounted, and make a hole in the ceiling tile using the tile brace as a template.
2. Reinstall the ceiling tile and position the tile brace.
3. Optional but recommended: Secure the tile support brace to the building structure using appropriate hardware such as Chief's "Speed Connect Hardware Kit," part number CMSHDW. The ends of the tile brace have holes to accommodate support wires.

Connecting the cable

1. Loosen the screw holding the connector cover in place, and pivot the cover outward.
2. Loosen the screw securing each side of the cable clamp to the speaker body, and loosen the two long clamp adjustment screws.



3. Route the cable through the cable clamp and connect it.
4. Tighten the clamp adjustment screws until the cable is held securely in the clamp. Then tighten the screws securing the clamp to the speaker body.
5. Move the connector cover back into place and tighten the screw.

Installing the speaker

1. Attach the included safety wire to a secure anchoring-point above the ceiling and to the loop on the back of the speaker. If you are using the tile brace, you can attach the safety wire to one of its corners.
2. Remove the magnetically attached speaker grille.
3. Guide the speaker up through the hole in the ceiling.
4. Turn each of the four Phillips screws in the front face of the speaker clockwise. The first quarter-turn rotates the mounting tabs outward to keep the speaker from falling. Tighten the screws gently to hold the speaker in place.

Caution
Do not use power tools. Do not tighten the screws past 8 foot-pounds (10 newton-meters). The tabs may break if you tighten them too much.

5. Put the speaker grille back in place.

Adding EasyIP speakers to the EasyIP environment

EasyIP Ceiling Speaker D speakers must be paired to a compatible host device such as an EasyIP Mixer or AV Bridge 2x1. For pairing and adjustments, you will need:

- **Dante Controller** – For routing audio devices with Dante® connectivity to the A/V equipment. Download and install the free Dante Controller application from Audinate Pty. Ltd.: www.audinate.com/products/software/dante-controller
- For muting and volume control, use the Audio page of the host device's web interface.

About Dante technology and devices

Audinate Pty. Ltd (www.audinate.com) provides the latest information, training, and documentation for Dante technology on their website. Information in this manual about Dante technology and Audinate products may be out of date.

Things to know about Dante technology and the Dante Controller application:

- **Dante audio does not work over Wi-Fi.**
- Without additional software, **Dante Controller does not work across subnets.** Your computer must be on the same subnet as the Dante devices you need to configure and manage.
- **Default device names and IP addresses shown in Dante Controller do not match the corresponding information shown in Vaddio devices' web interfaces.** The Dante chip in each Dante device has its own IP address and device name. The Dante Controller application uses this information.
- **Dante Controller allows you to rename devices**, so you can make their identifying labels match what's displayed in the Vaddio web interface. We recommend doing this as your first step. We have a saying at Vaddio: the first rule of Dante Club is renaming the device in the Dante controller.

Renaming Dante devices

DANTE CONTROLLER APPLICATION

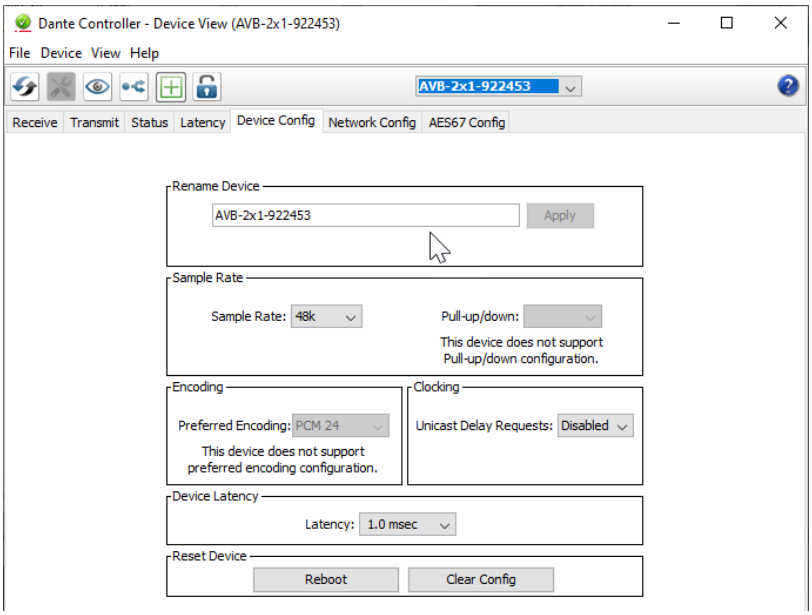
Notes

The Dante chip in each EasyIP device has its own IP address and device name. The host device's name and IP address shown in the Dante Controller application may differ from the hostname and IP address in its web interface.

We recommend renaming your Dante devices as a first step, because renaming the device removes any routing that has been configured on that device.

To rename a device in the Dante Controller application:

In the Device View window, select the device and go to its Device Config tab. The Rename Device option is near the top of the tab.



Pairing audio devices to the host device

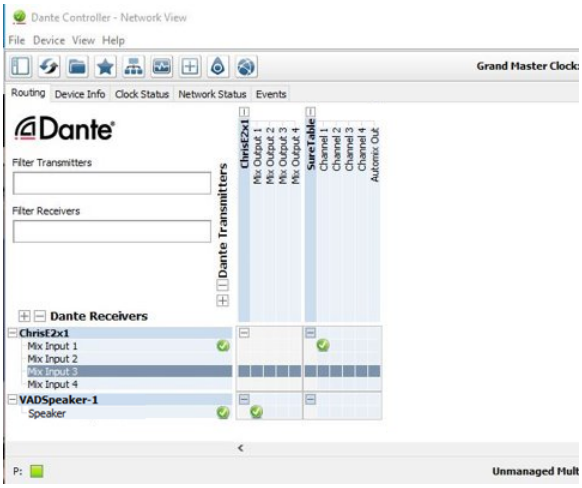
Devices using Dante technology may be **transmitters**, **receivers**, or both.

- **Host devices are both:** they receive audio from the microphone(s) and transmit audio to speakers and amplifiers. They also transmit the AEC reference signal to the microphone(s).
- **Microphones are both:** they originate an audio signal and transmit it to the EasyIP host device, and they receive the AEC reference signal for acoustic echo cancellation.
- **Speakers are receivers:** they receive an audio signal from the EasyIP host device.
- **Amplifiers are receivers:** they receive an audio signal from the EasyIP system, which they convert to a signal for an analog speaker.

Follow these steps to pair network-connected audio devices to the host device.

To pair EasyIP audio devices to the host device:

1. From the main Network View, select Routing.
2. Use the matrix to pair Dante receivers and transmitters to the host device, which is both a receiver and a transmitter.



In this example, the receiver "Speaker" is routed to Dante output 1 of the device "ChrisE2x1". The transmitter "Table" (a tabletop microphone) is routed to the device's Dante input 1.

Pairing to multiple EasyIP audio outputs

The EasyIP Ceiling Speaker D and EasyIP AMP D are Dante receivers: They do not send audio back to the host device.

In our example, we use the Dante Controller application to set up a room to use an AV Bridge 2x1 as the host device for four microphones, two speakers, and an amp that drives one or more analog speakers. The amp and speakers will all receive audio from the host device's Mix Output 1. The microphones will also use Mix Output 1 as the AEC reference signal. (Refer to your microphone's manual for details on routing the microphones.)

We will need to set up a *multicast flow* to allow the audio from Mix Output 1 to go to the seven devices that will use it.

About channels and flows

- A **channel** in a Dante environment is the same thing it would be in other environments: a signal from a single source.
- A **flow** in a Dante environment is one to four channels that can be routed from device to device. Channels remain separate within the flow. For example, left and right audio channels can be part of the same flow.
- By default, flows are **unicast** – they can only be routed to one receiving device.
- If a channel needs to be routed to more than one device, the flow containing that channel needs to be **multicast**. A multicast flow goes to all the receiving devices. Each device subscribes only to the channel it needs to receive.

This manual only covers the very most basic information about working with Dante products; Audinate Pty. Ltd. provides a great deal of useful information on their website. Please visit www.audinate.com/learning for documentation, tutorials, white papers, and more.

Creating a multicast flow

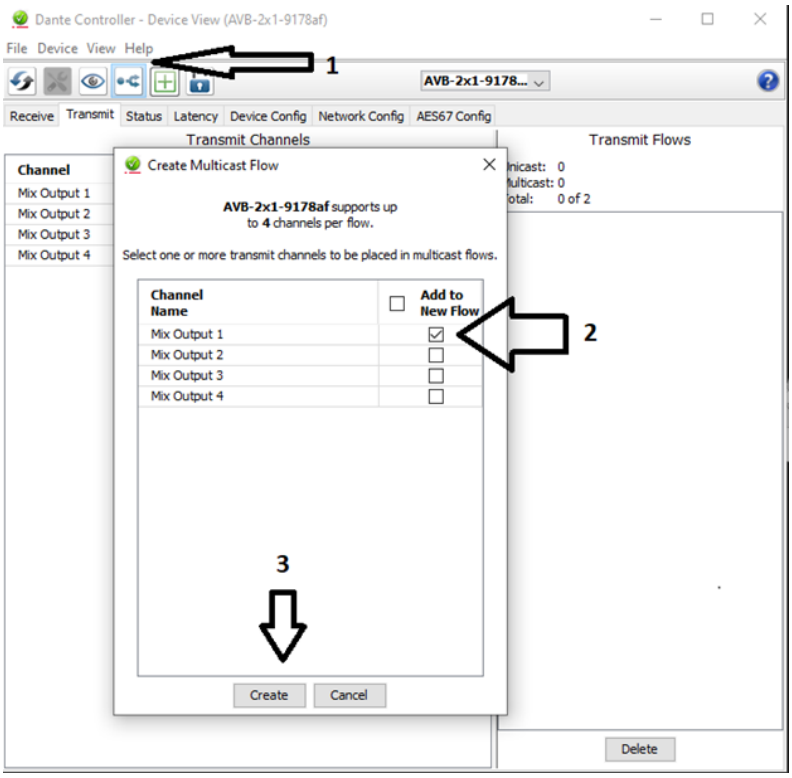
DANTE CONTROLLER APPLICATION

To allow one audio channel from the host device to go to the speaker and also serve as the AEC reference signal that goes to the four microphones in our example set-up, define a multicast flow containing only that channel.

To define the multicast flow:

1. Select Device : Device View, and go to the Transmit tab.
2. Select the Multicast icon (labeled 1 in this screen shot).
3. Select the output from the host device. In this case we're using Mix Output 1.
4. Select Create.

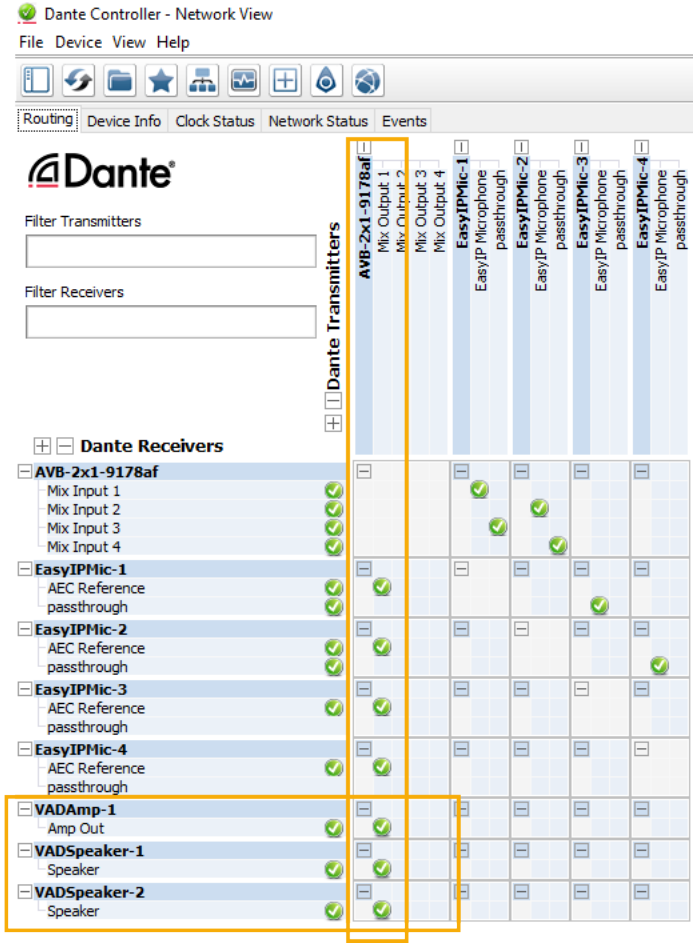
Now Mix Output 1 is available to every device that can receive it – the speaker and the four microphones. These devices will only use the channel in the multicast flow if it is routed to them.



Routing a multicast flow to speakers or amps

DANTE CONTROLLER APPLICATION

1. In the Dante Controller application, go to the Network view and select the Routing tab.
2. Under Dante Receivers, find the rows for the amp and speakers
3. In the Network View, look under Dante Transmitters to find the column for the desired output from the host device, Mix Output 1.



4. Select the box where each Dante receiver device intersects with the Mix Output 1 channel.

Note

In addition to the audio routing for the speakers and amplifier, this screen shot also shows four microphones using the same audio from Mix Output 1 as the AEC reference. The microphones are set up to deliver four channels of audio to the host device. Refer to the manual for your EasyIP microphone for details on setting up the multicast flows and using the microphones' passthrough channel.

Troubleshooting

What is it doing?	Possible causes	Check and correct
Nothing. Connected devices do not recognize the speaker.	The speaker is not connected.	Verify that the cable is connected at both ends.
	The cable is bad.	Check the cable for correct pin-out and continuity. Use a known good cable.
	The speaker is connected in an incompatible environment.	If connecting to a switch, ensure it is an EasyIP speaker. If connecting directly to a camera or AV Bridge series product, you need an analog speaker instead.
	The speaker is not paired to the conferencing device.	Use the Dante Controller application to pair the speaker with the conferencing device.
The speaker is paired but no sound comes out.	Volume is turned down.	Adjust the volume using the host device's audio controls.
	Far-end audio is muted.	Ask the people at the far end to unmute their microphones.

Use, storage, and care

Keep this device away from food and liquids. Do not attempt to take this product apart. There are no user-serviceable components inside.

Do not operate or store the device under any of the following conditions:

- Temperatures above 104° F (40° C) or below 32° F (0° C)
- High humidity, condensing or wet environments
- Inclement weather
- Severe vibration
- In a blender (our engineers advise against this for acoustic reasons)
- Dry environments with an excess of static discharge

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