TRIAD INSTALLATION GUIDE - TRIAD ONE, SINGLE ZONE HIGH-RESOLUTION STREAMING AMPLIFIER

INTRODUCTION

The Triad One is a single-zone, high-resolution streaming amplifier and the easy way to add music into any room of a Control4-enabled home without the need to pull wire back to a central location. The Triad One supports high-resolution audio playback, up to 192 kHz / 24 bit, with a built-in amplifier boasting an impressive 105 dB signal-to-noise ratio and 100 watts per channel—enabling incredible sound in any room. Also included is a built-in 10-band parametric EQ delivering exceptional sound output and room optimization.

The Triad One is also a great alternative to an AVR in a bedroom, kitchen, or other location when surround sound is not a requirement. Not only does the Triad One have digital and analog audio inputs to take the audio output from a TV to power a soundbar, it has two IR outputs to control the TV and another local source, if needed.

A line-level subwoofer output rounds out the system for deep bass when connected to a powered subwoofer. The Triad One is available in white and black, can be placed horizontally or vertically, and can be installed on a bookshelf, in a rack, or mounted behind a TV.

WARNINGS

WARNING! To reduce the risk of electrical shock, do not expose this apparatus to rain or moisture.

AVERTISSEMENT ! Pour réduire le risque de choc électrique, n'exposez pas cet appareil à la pluie ou à l'humidité.

WARNING! Do not expose the apparatus to dripping or splashing. Do not place objects filled with liquids near the apparatus.

AVERTISSEMENT ! N'exposez pas l'appareil aux éclaboussures et éloignez de toutes substances liquides. Ne placez pas les objets contenant du liquides près de l'appareil.

IMPORTANT! Using this product in a manner other than outlined in this document voids your warranty. Further, Control4 is *not* liable for any damage incurred with the misuse of this product. See "*Warranty*."

IMPORTANT ! Employer ce produit en quelque sorte autre que décrit dans ce document vide votre garantie. De plus, Control4 *n'est pas* responsable d'aucun dommage encouru avec l'abus de ce produit. Voyez que « *Warranty*. »

IMPORTANT! To avoid generating excessive heat, do not stack amplifiers on top of each other or other equipment.

IMPORTANT ! Pour éviter de produire de la chaleur excessive, ne pas disposer les amplificateurs, ou tout autre équipement, les uns sur les autres.

FEATURES

- Add a high-resolution, amplified audio zone to any Control4 system
- Built-in streaming music services synchronized with EA controllers
- Network control of audio and volume over a wired or WiFi connection
- Analog and digital audio inputs support audio resolutions up to 192 kHz / 24 bit
- Volume, bass, treble, 10-band 1-octave EQ, balance, loudness, and mono summing
- Input gain for analog source input
- Audio sensing supports programmable events based on the presence of audio
- Built-in EQ presets for Triad speakers
- Supports native Control4 streaming services including Pandora, Spotify, TIDAL, Napster, Sirius XM, Deezer, and iHeartradio
- Supports built-in Control4 digital media playback including My Music, ShairBridge, and DLNA

SUPPORTED MODELS

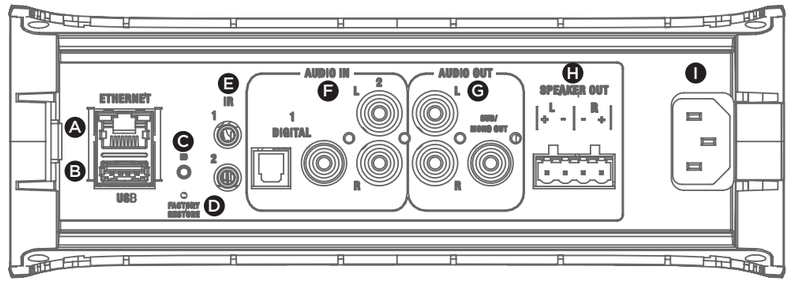
- TS-SAMP-100-BL Triad One, Single Zone, High-Resolution Streaming Amplifier in Black
- TS-SAMP-100-WH Triad One, Single Zone, High-Resolution Streaming Amplifier in White

BOX CONTENTS

- Triad One
- AC power cord
- Phoenix connector for speaker wires
- Rear cover

FRONT AND REAR PANEL DESCRIPTION

REAR PANEL



A ETHERNET—RJ-45 port for network connection. Used for device control, device configuration, and digital audio streaming.

B USB—USB 2.0 port. Used for local media file storage.

C ID—Button used to identify the device in a Control4 system.

D FACTORY RESTORE—Button used to reset the amplifier to factory settings.

E IR—Two 3.5 mm IR ports. Used to control devices such as a TV or local AVR in a Control4 system.

F AUDIO IN—Two audio inputs. One RCA stereo input, one S/PDIF or digital coax input. Digital inputs accept stereo PCM audio only.

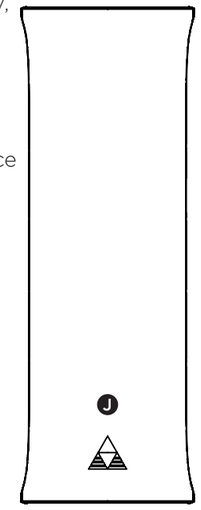
G AUDIO OUT— Line-level audio output. One stereo RCA connection and one mono RCA connection for subwoofer out.

H SPEAKER OUT—Phoenix-style connector for speakers.

I Power plug port—AC power connection 100V – 240V, 50 - 60 Hz.

FRONT PANEL

J Status LED—Logo LED shows power, boot, and device status.



TRIAD®

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INSTALLING THE TRIAD ONE

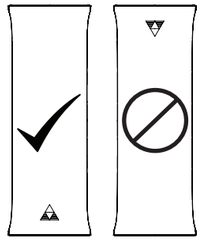
MOUNTING OPTIONS

The Triad One can be mounted in a rack for structured, distributed audio, or in the wall for a minimal look when mounting behind a TV. Mounting kits are sold separately to accomodate these installations.

- Triad One Rack-Mount Kit (TS-AMP1RM-BL)
- Multi-Purpose In-Wall Box (C4-MPIWB-BL)

The *Triad One Rack-Mount Kit Installation Guide* (triadspkrs.co/one-rmk) and the *Control4 Multi-Purpose In-Wall Box Installation Guide* (ctrl4.co/inwallbox-ig) describe how to use each mounting kit.

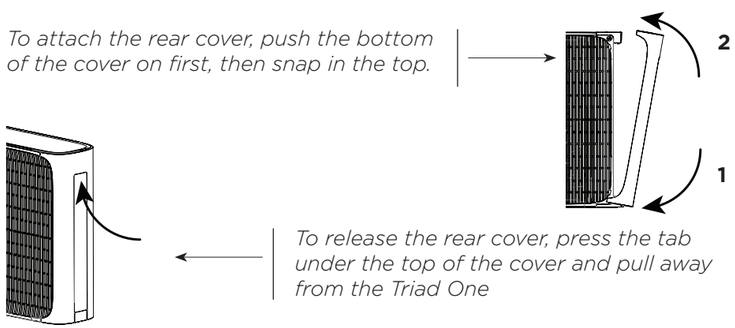
Caution! For optimal heat dissipation, the Triad One must not be placed upside down. The correct position when installed vertically has the Triad logo triangle on the bottom pointing up.



REAR COVER

The Triad One comes with an optional Rear Cover to assist with cable management, especially when the Triad One is installed on a bookshelf or on a piece of furniture in the room.

To attach the rear cover, push the bottom of the cover on first, then snap in the top.



To release the rear cover, press the tab under the top of the cover and pull away from the Triad One

CONNECTING THE TRIAD ONE TO ETHERNET AND POWER

1. Plug the Ethernet CAT5E/6 cable from a local network connection into the **ETHERNET** port.

   Note: The Triad One can be configured for WiFi, but must be connected to a wired connection first. See the *Composer Pro User Guide* (ctrl4.co/cpro-ug) for more details.

2. Connect the provided power cable from the back of the Triad One to the power outlet. When the power cable is connected, the amp should power up and the Status LED on the front should light up.

CONNECTING USB STORAGE AND IR CABLES

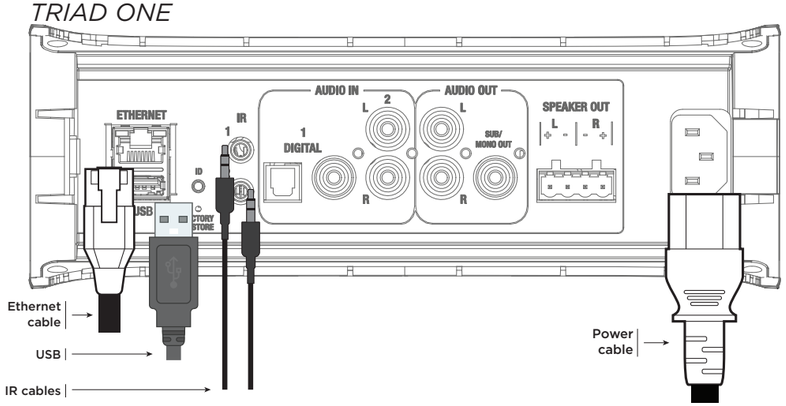
You can connect USB storage to your Triad One to have access to stored music files for playback within your Control4 system. Playback of AAC, AIFF, ALAC, FLAC, M4A, MP2, MP3, MP4/M4A, Ogg Vorbis, PCM, WAV, and WMA files are supported. See the *Composer Pro User Guide* (ctrl4.co/cpro-ug) for help on adding digital media files to your system.

1. Connect a USB flash drive or externally-powered USB hard drive to the **USB** port.
2. Set up digital media in the Control4 project using Composer Pro.

The Triad One has two IR emitter ports to control local devices, such as a TV or media player.

1. Connect an IR emitter (sold separately) into an **IR** port on the amp.
2. Remove the adhesive backing from the emitter (round) end of the IR emitter and affix it to the device to be controlled over the IR receiver on the device.
3. Make connections in Composer Pro from the Triad One to the drivers for the connected devices. See the *Composer Pro User Guide* (ctrl4.co/cpro-ug) for more help.

TRIAD ONE



CONNECTING AUDIO TO THE TRIAD ONE

Both physical audio connections and connections in software are required to control, navigate, and use the Triad One as designed. Use Composer Pro to add the driver to the desired room and set up the connections. See the *Composer Pro User Guide* (ctrl4.co/cpro-ug) for details.

Connect the physical connections to your Triad One from your other audio equipment using the examples below:

- Connecting a single zone in a Control4 system
- Adding a streaming audio zone with the Triad One
- Adding analog and streaming audio zones with the Triad One
- Adding an outdoor zone with the Triad One

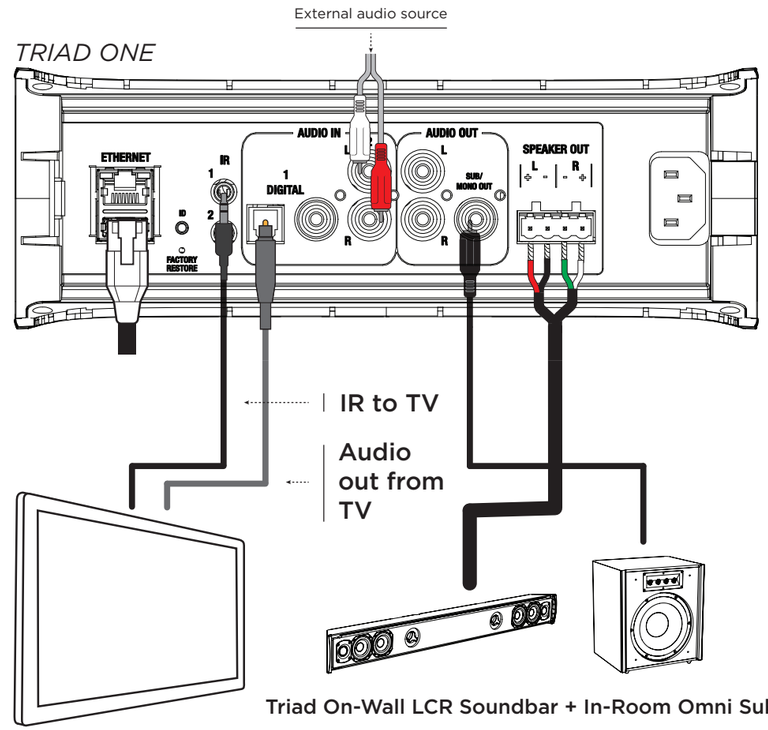
CONNECTING A SINGLE ZONE IN A CONTROL4 SYSTEM

As part of a Control4 home automation system, the Triad One can control the local devices in a room and can deliver streaming, amplified audio to the room. The system must have a Control4 controller, such as an EA-5, in the project.

1. Connect audio sources (outputs from a TV or other audio source) to the **AUDIO IN**.
2. Connect the speakers to the wiring connector and connect to the **SPEAKER OUT** output.
3. (Optional) Connect an active (self-powered) subwoofer to the **SUB/MONO OUT**.
4. (Optional) Connect IR emitters to the **IR** outputs to control local devices.

IMPORTANT! The speaker outputs of the Triad One must not be connected together or to any other common signal. In particular, the **L -** and **R -** terminals should not be joined together. Doing so will result in a fault condition and the Triad One may shut down or not work as designed.

TRIAD ONE



Triad On-Wall LCR Soundbar + In-Room Omni Sub

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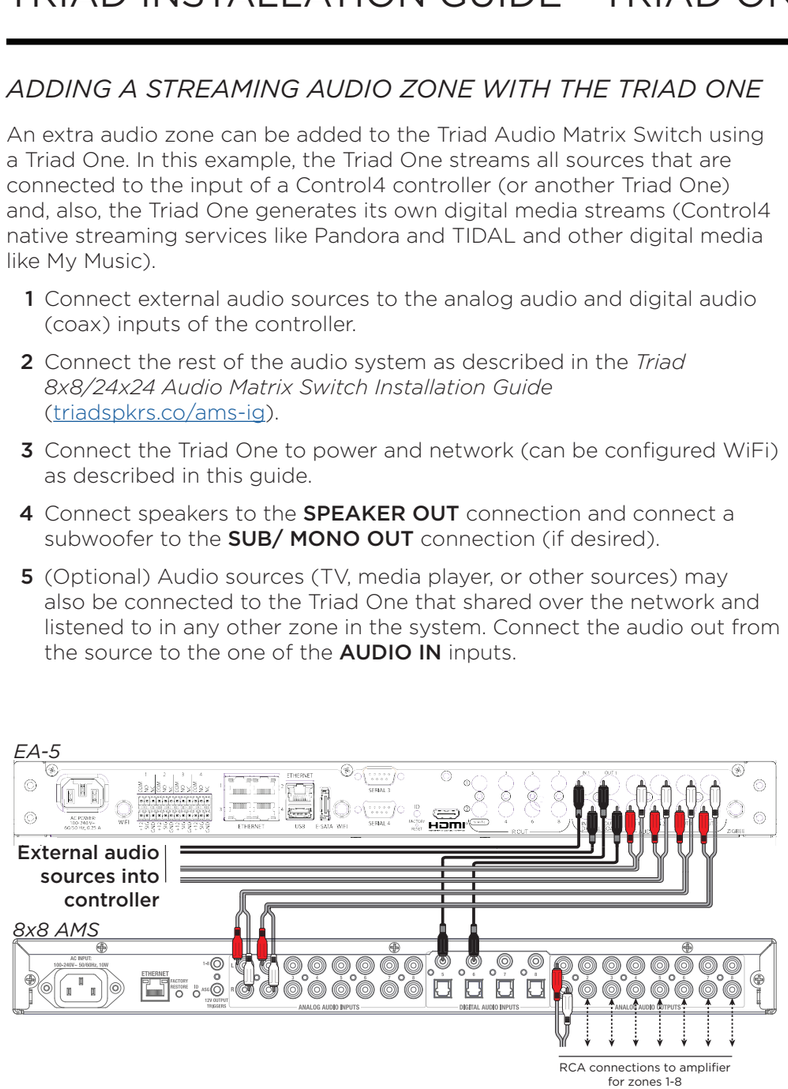
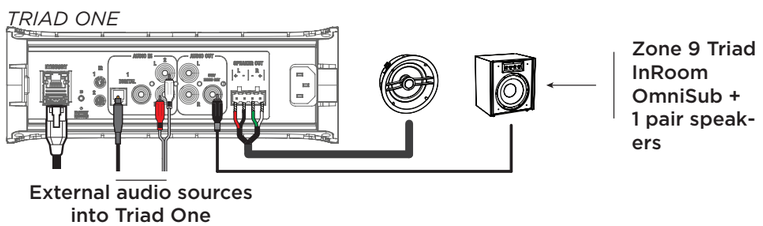
ADDING A STREAMING AUDIO ZONE WITH THE TRIAD ONE

An extra audio zone can be added to the Triad Audio Matrix Switch using a Triad One. In this example, the Triad One streams all sources that are connected to the input of a Control4 controller (or another Triad One) and, also, the Triad One generates its own digital media streams (Control4 native streaming services like Pandora and TIDAL and other digital media like My Music).

1. Connect external audio sources to the analog audio and digital audio (coax) inputs of the controller.
2. Connect the rest of the audio system as described in the *Triad 8x8/24x24 Audio Matrix Switch Installation Guide* (triadspkrs.co/ams-ig).
3. Connect the Triad One to power and network (can be configured WiFi) as described in this guide.
4. Connect speakers to the **SPEAKER OUT** connection and connect a subwoofer to the **SUB/ MONO OUT** connection (if desired).
5. (Optional) Audio sources (TV, media player, or other sources) may also be connected to the Triad One that shared over the network and listened to in any other zone in the system. Connect the audio out from the source to the one of the **AUDIO IN** inputs.



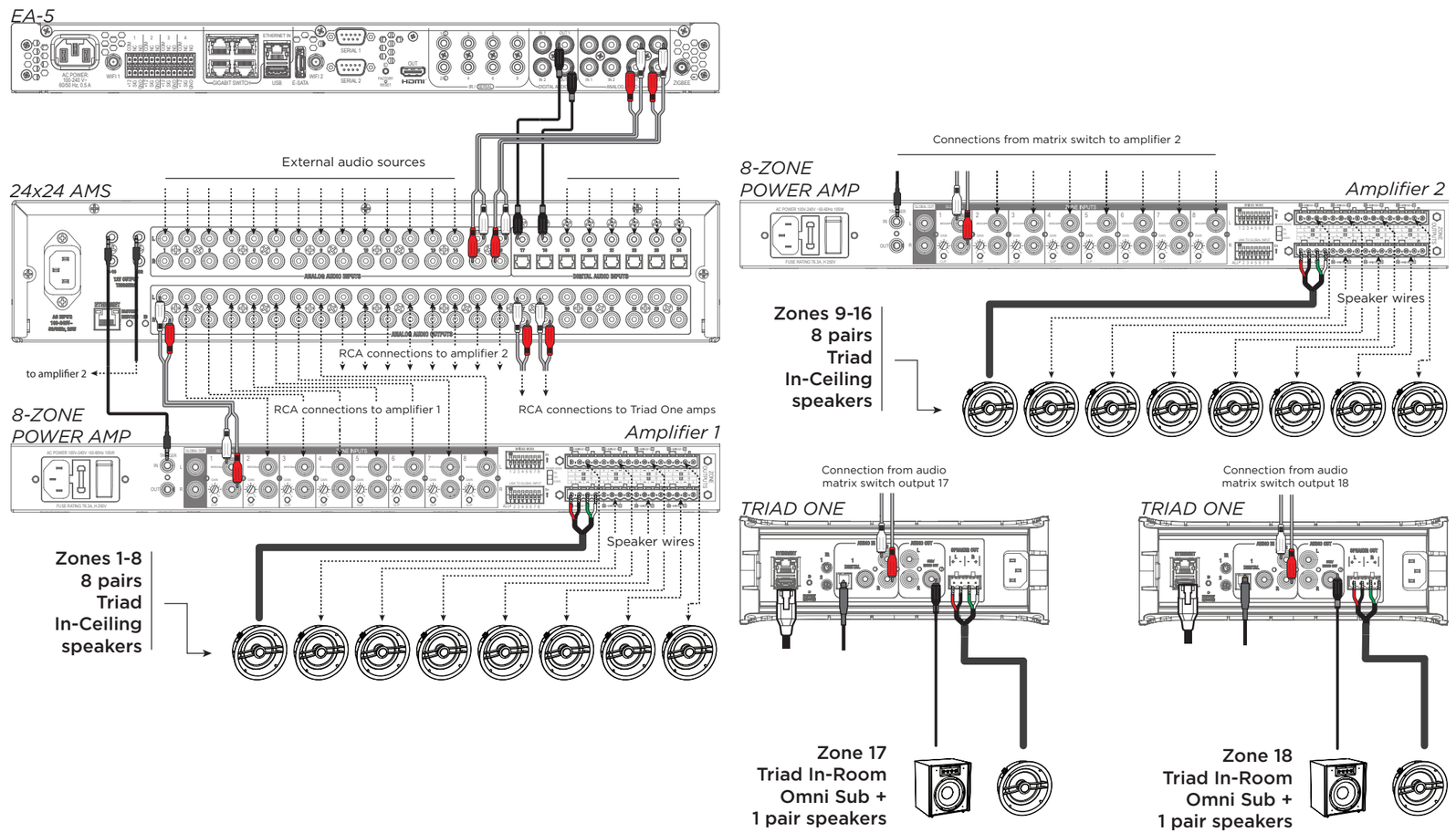
(connect the rest of the system (zones 1-8) as described in the audio matrix installation guide)



ADDING ANALOG AND STREAMING AUDIO ZONES WITH THE TRIAD ONE

If an extra audio zone is needed, the Triad One can be used as a single-zone amplifier behind an audio matrix switch to provide another zone of audio with access to the analog audio sources in the audio matrix switch, and an additional digital media audio stream for the new zone.

1. Connect external audio sources to the **ANALOG AUDIO INPUT** of the audio matrix switch.
2. Connect audio sources (outputs from a Control4 controller, audio streaming devices, tuners, etc.) to the **ANALOG AUDIO INPUT** and **DIGITAL AUDIO INPUT** jacks of the audio matrix switch.
3. Connect the **ANALOG AUDIO OUTPUT** jacks and 12V trigger cables from the Triad 24x24 Audio Matrix Switch to Triad Power Amplifiers as described in the *Triad 8x8/24x24 Audio Matrix Switch Installation Guide* (triadspkrs.co/ams-ig)
4. Connect the **ANALOG AUDIO OUTPUT 17** and **18** to the **AUDIO IN** inputs of the Triad One amplifiers.
5. Connect the Triad One amplifiers to power and network (can be configured WiFi) as described in this guide.
6. Connect speakers to the **SPEAKER OUT** connections and connect a subwoofer to the **SUB/MONO OUT** connection (if desired).
7. (Optional) Audio sources (TV, media player, or other sources) may also be connected to the Triad One that shared over the network and listened to in any other zone in the system. Connect the audio out from the source to the one of the **AUDIO IN** inputs.



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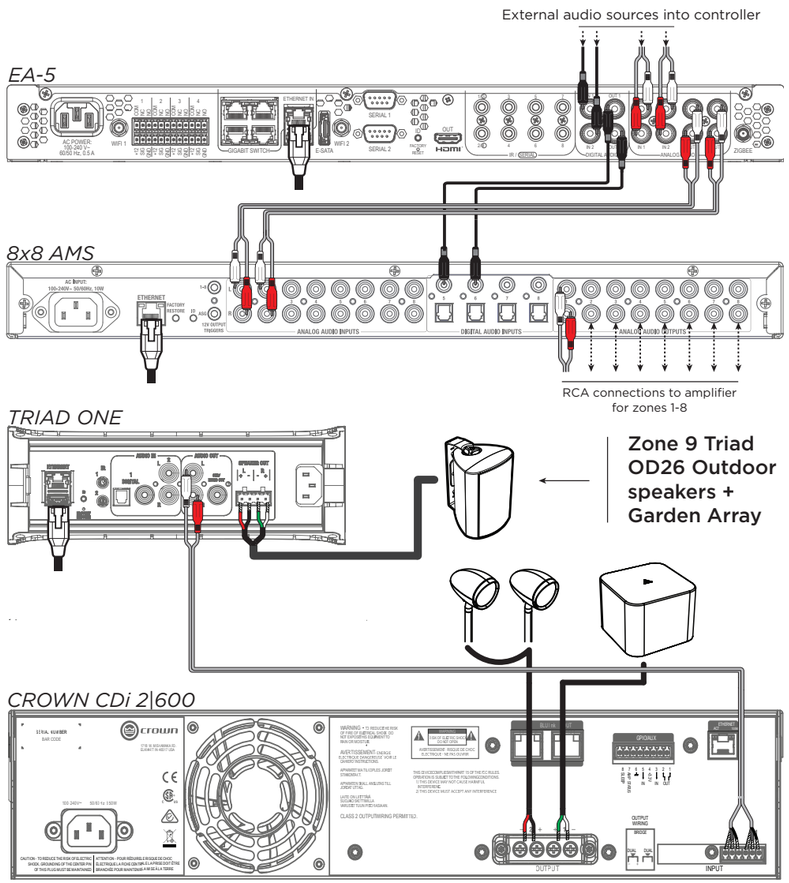
ADDING AN OUTDOOR ZONE WITH THE TRIAD ONE

An outdoor audio zone can be added to the system using the Triad One and a high-power amp for the subwoofer or a garden array (if desired).

1. Connect external audio sources to the analog audio and digital audio (coax) inputs of the controller (to be able to stream those sources to the Triad One).
2. Connect the rest of the system as normal.
3. Connect the **SUB/MONO OUT** from the Triad One to the Crown amplifier for the garden array.
4. Connect Triad OD26 outdoor speakers to the **SPEAKER OUT** of the Triad One and connect a Triad Garden Array GA10 Outdoor Sub and GA4 Sats to the Crown amp as shown in Triad Garden Array documentation (triadspkrs.co/gardenarray).



TROUBLESHOOTING

RESETTING THE TRIAD ONE

- **Network reset**—Remove the power cord to power cycle the device. Hold the **ID** button while you replace the power cord to power on the Triad One. Hold the **ID** button until the Status LED turns solid **orange**.
- **Factory restore**—Press and hold the **FACTORY RESTORE** button for five seconds to restore the Triad One to its previous firmware image and restore factory-default settings. The Status LED will blink **white** rapidly when the factore restore begins.

Caution! The factory restore process will restore the Triad One to a factory state and replace the firmware image with the factory-default firmware.

LED TROUBLESHOOTING GUIDE

Status LED *(2 Hz = 2 flashes/second)*

= solid
= flashing (2 Hz)
= flashing (4 Hz)
= flashing (1/2 Hz)

Booting	Amplifier fault
Booting complete, has IP address	Over-temperature condition
Connected to Director	Amplifier is clipping occasionally
Playing audio (white LED)	Amplifer is clipping constantly
No IP address	USB over-current condition
Firmware is updating	Factory restore in progress (white LED)
Firmware update error	Factory restore error

REGULATORY/SAFETY INFORMATION

To review regulatory information for your particular Triad products, see the information located on the Triad website at: http://triadspkrs.co/reg.

WARRANTY

Limited 2-year Warranty. Go to http://triadspkrs.co/warranty for details.

SPECIFICATIONS

Zone line inputs	2 inputs, 1 analog stereo and 1 digital, (S/PDIF coax or TOSLINK optical)
Audio outputs	1 stereo analog out, 1 sub/mono audio out
Zone speaker outputs	1 stereo, Phoenix-style connector
USB	1 USB 2.0 port—supports playback of media stored on USB
IR	2 IR ports—3.5 mm jack
Ethernet	RJ45 jack for local network connection, 10/100/1000BaseT
WiFi	2 internal antennas, 2.4 Ghz and 5 Ghz, 802.11b/g/n
Front power LED	1 × RGB status LED
ID button	Yes
Factory restore button	Yes
Dimensions (H x W x D)	3 × 8.5 × 10.25" (7.6 × 21.6 × 26 cm)
POWER AMPLIFIER	
Rated wattage/channel	100W @ 4 ohms / 50W @ 8 ohms
Minimum load impedance	Tolerates 3 ohm loads minimum
Frequency response	+/- 0.5 dB ref 1kHz 20-20,000 Hz 4 or 8 ohms
Noise	< -105 dB reference to rated power "A" weighted
THD	< 0.01% 1 kHz at all output levels below clipping
	Typical < 0.005% at 1-50 watts RMS @ 1kHz in a 20 kHz bandwidth
Maximum voltage gain	+25.6 dB
ANALOG AUDIO INPUT	
Maximum input level	2V RMS
Analog to digital conversion	2V RMS = 0 dBFS
Analog frequency response	+/- 0.1 dB, 20 - 20,000 kHz ref, 1 kHz
Analog dynamic range	> 114 dB "A" Weighted
THD In a 20 kHz bandwidth	< 0.001% 20 - 20,000 Hz up to 2V RMS
DIGITAL AUDIO INPUTS	
S/PDIF input	Accepts IEC 60958 standard inputs in 16/24-bit PCM stereo only, surround not supported
Accepted sample rates	30 - 200 kHz for direct input mode; 44.1k, 48k, 96k, 192k for streaming output mode
Optical input TOSLINK	Standard TOSLINK levels
GENERAL AUDIO	
DSP audio processing	24-bit audio processing double-precision filters
Dynamic range	> 105 dB
Tone controls	+/- 12 dB with 650 Hz turnover frequency in 0.5 dB steps
10-band EQ	Ten one-octave filters centered at 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, and 16 kHz, in 0.5 dB Steps +/- 12 dB
Volume control	Attenuates from 0 to -80 dB and off in a tapered curve
Loudness control	Continuously variable from 100% volume to off, follows approximate Fletcher-Munson curves
Subwoofer output	Mono summing of stereo audio or crossover mode
Subwoofer crossover type	4th order (24 dB/octave) Linkwitz-Riley
Supported crossover frequencies	80 Hz, 90 Hz, 100 Hz, 110 Hz, 125 Hz, 140 Hz
Signal present detectors	-30 dB low pass filtered
THERMAL	
Operating temperature	32° F - 102° F (0° C - 40° C)
Humidity	5% to 95% non-condensing
Storage	-4 °F - 158 °F (-20 °C - 70 °C)
Cooling method	Internal fan
Thermal dissipation	40 BTU/hr (standby), 680 BTU/hr (max)