

# TRIAD INSTALLATION GUIDE - TRIAD SA1 RYFF-ENABLED 200W×2 STREAMING AMPLIFIER

## INTRODUCTION

The Triad SA1 is a single-zone, high-resolution streaming amplifier and an easy way to add music into any room without the need to pull wire back to a central location. The Triad SA1 supports high-resolution audio playback, up to 192 kHz / 24 bit, with a built-in amplifier boasting an impressive 115 dB signal-to-noise ratio and 200 watts per channel—enabling incredible sound in any room. Also included are equalizer, speaker presets, delay, and subwoofer tuning options.

The Triad SA1 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 SA1 have digital, analog audio, and HDMI ARC/eARC 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 SA1 can be placed horizontally or vertically, and can be installed on a bookshelf, shelf, or in a rack.

## WARNINGS

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**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 and allow 5 cm on all sides and above the amplifier.

**IMPORTANT !** Pour éviter de produire de la chaleur excessive, ne pas disposer les amplificateurs, ou tout autre équipement, les uns sur les autres et laissez 5 cm de tous les côtés et au-dessus de l'amplificateur.

## FEATURES

- Add a high-resolution, amplified audio zone
- Built-in streaming music services synchronized with other Ryff-enabled devices
- Network control of audio and volume over an Ethernet or WiFi connection
- Analog and digital audio inputs support audio resolutions up to 192 kHz / 24 bit
- Volume, bass, treble, 6-band parametric 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 Ryff streaming services including Pandora, Spotify, TIDAL, Napster, Sirius XM, Deezer, iHeartradio, and more
- Supports built-in digital media playback including My Music, ShairBridge, and DLNA
- HDMI port with ARC/eARC support for audio return from TVs, including Dolby/DTS downmix support.

## SUPPORTED MODELS

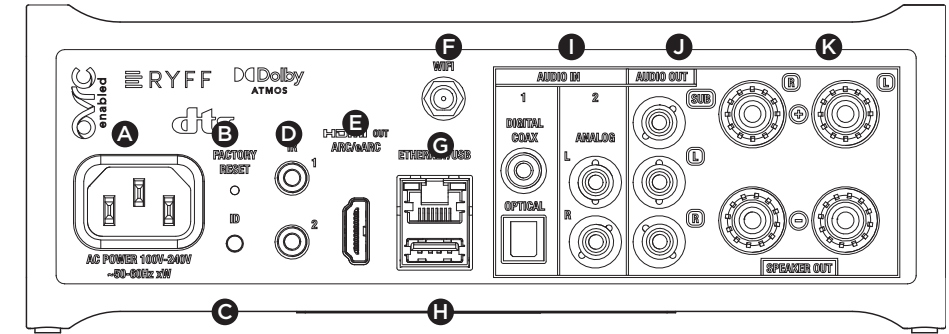
- TS-SA1-200 Triad SA1, Ryff-Enabled 200W×2 Streaming Amplifier

## BOX CONTENTS

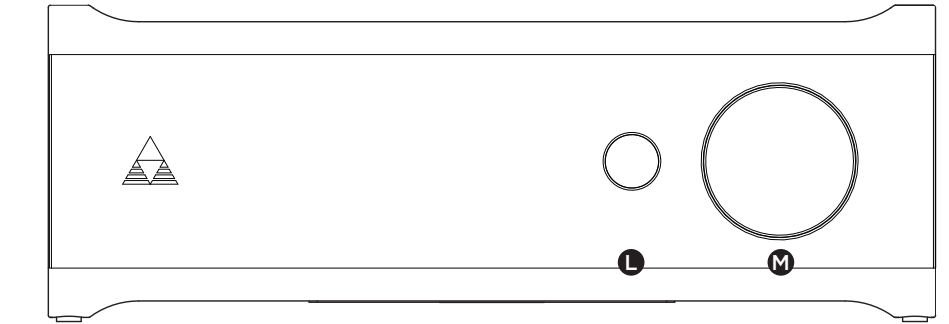
- Triad SA1
- AC power cord
- Wi-Fi antenna

## FRONT AND REAR PANEL DESCRIPTION

### REAR PANEL



- A Power plug port**—AC power connection 100V - 240V, 50 - 60 Hz.
- B FACTORY RESET**—Button used to reset the amplifier to factory settings.
- C ID**—Button used to identify the device in a Control4 system.
- D IR**—Two 3.5 mm IR ports. Used to control devices such as a TV or local AVR in a Control4 system.
- E HDMI OUT ARC/eARC**—HDMI port for HDMI ARC/eARC audio.
- F WIFI**—Antenna connector for the WiFi antenna.
- G ETHERNET**—RJ-45 port for network connection. Used for device control, device configuration, and digital audio streaming.
- H USB**—USB 2.0 port used for local media file storage.
- I AUDIO IN**—Two audio inputs. One analog stereo input, one digital S/PDIF or digital coax input. Digital inputs accept stereo PCM audio only.
- J AUDIO OUT**— Line-level audio outputs. One stereo RCA connection and one mono RCA connection for subwoofer out.
- K SPEAKER OUT**—Binding posts for speaker connections.



### FRONT PANEL

- L Play/Pause button**—Press the button to easily play or pause music. LED shows power, boot, and device status.
- M Volume knob**—Turn the knob to quickly turn the volume up or down.

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## INSTALLING THE TRIAD SA1

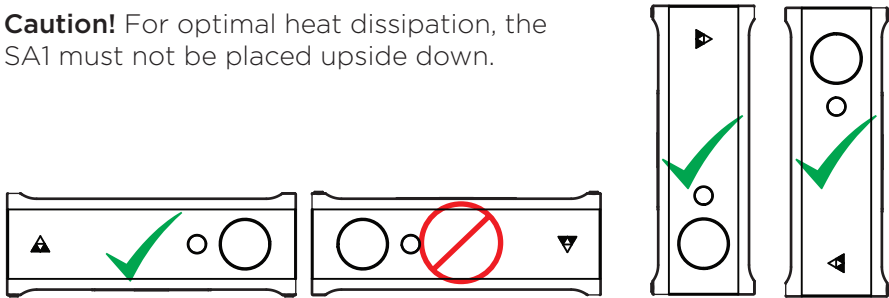
### MOUNTING OPTIONS

The Triad SA1 can be mounted in a rack for distributed audio, or on a shelf or tabletop. Mounting kits are sold separately.

- Triad SA1 Rack-Mount Kit (TS-SA1RM-BL)

The *Triad SA1 Rack-Mount Kit Installation Guide* ([triadspkrs.co/sa1-rmk](http://triadspkrs.co/sa1-rmk)) and describe how to use the mounting kit.

**Caution!** For optimal heat dissipation, the SA1 must not be placed upside down.

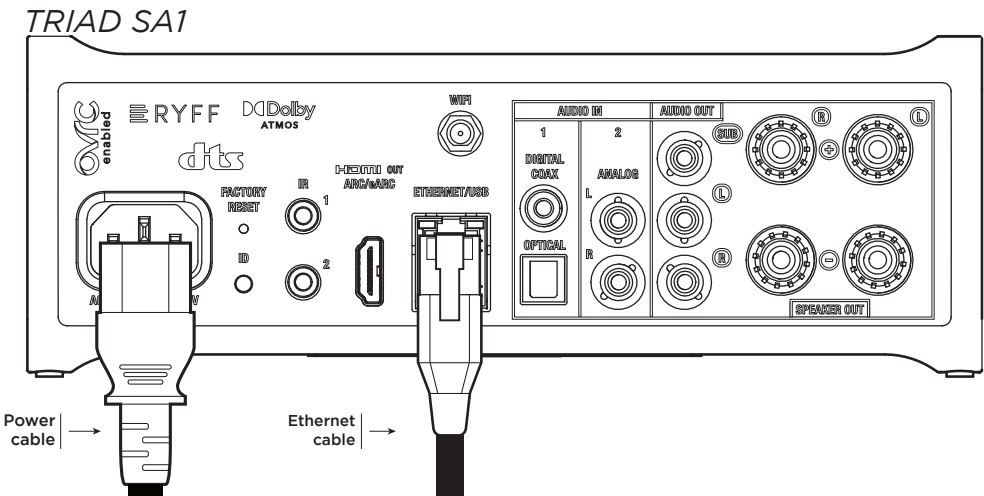


### CONNECTING THE TRIAD SA1 TO ETHERNET AND POWER

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

**Note:** The Triad SA1 can be configured for WiFi, but must be connected to an Ethernet connection first. To configure WiFi, open **System Manager**, connect to the SA1, click **Configure**, and follow the steps in the **Network Configuration Wizard**. See the *Composer Pro User Guide* ([ctrl4.co/cpro-ug](http://ctrl4.co/cpro-ug)) for more details.

- 2 Connect the provided power cable from the back of the Triad SA1 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 AUDIO TO THE TRIAD SA1

Both physical audio connections and connections in software are required to control, navigate, and use the Triad SA1 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](http://ctrl4.co/cpro-ug)) for details.

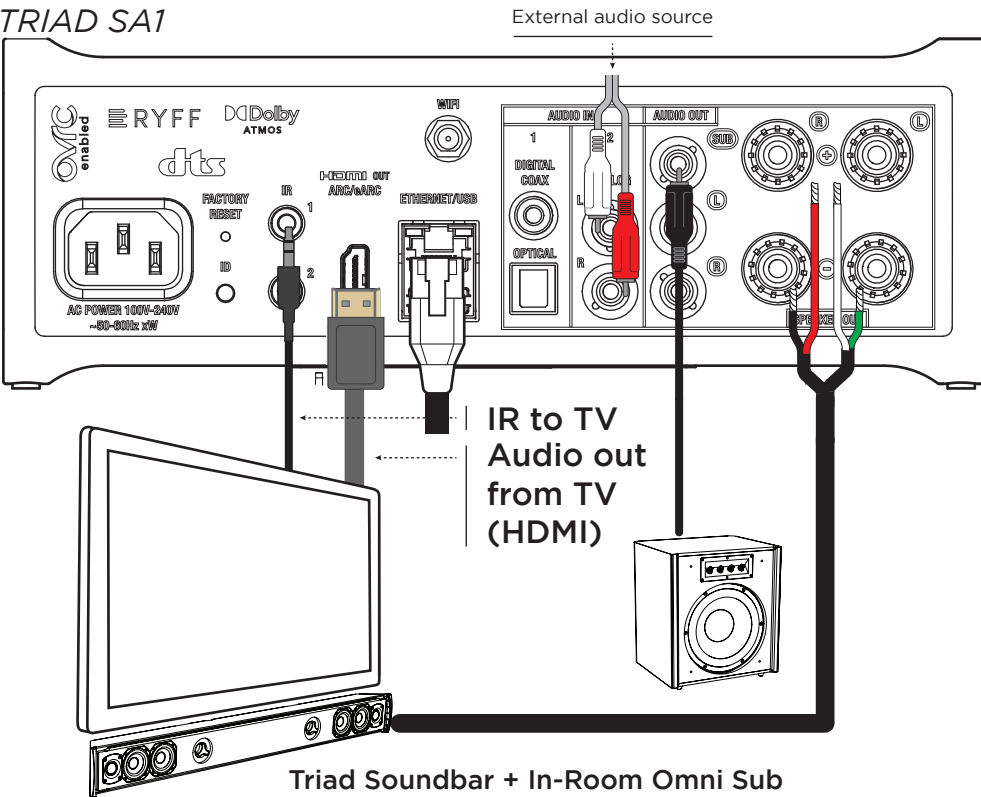
The Triad SA1 can be used as a local amplifier and/or as a streaming amplifier. To use the SA1 as a streaming amplifier, connect power and network (as already shown) and speakers.

### CONNECTING THE TRIAD SA1 AS A LOCAL AMPLIFIER

The Triad SA1 can control the local devices in a room and can deliver streaming, amplified audio to the room as well as amplified audio from local sources like a TV. The system must have a Control4 controller, such as CORE 5, in the project.

- 1 Connect audio sources (outputs from a TV or other audio source) to the **AUDIO IN** or **HDMI OUT ARC/eARC**.
- 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** out.
- 4 (Optional) Connect IR emitters to the **IR** outputs to control local devices.

**IMPORTANT!** The speaker outputs of the Triad SA1 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 SA1 may shut down or not work as designed.



## TROUBLESHOOTING

### RESETTING THE TRIAD SA1

To restore the controller to the factory default image:

- 1 Insert one end of a paper clip into the small hole on the back of the amp labeled **FACTORY RESET**.
- 2 Press and hold the **FACTORY RESET** button.
- 3 Hold the button until the **Status LED** blinks **white**. This should take five to seven seconds. When complete, the LED turns off and the device power cycles one more time to complete the factory reset process.

**Caution!** The factory reset process will remove any device configuration.

To reset the controller network settings to the default:

- 1 Disconnect power to the amp.
- 2 While pressing and holding the **ID** button on the back of the amp, power on the amp.
- 3 Hold the **ID** button until **Status LED** button turns solid **orange**, and then immediately release the button.

### LED TROUBLESHOOTING GUIDE

#### Status LED

	= solid		= flashing (4 times a second)
	= flashing (2 times a second)		= flashing (once every 2 seconds)
	Booting		Amplifier fault
	Booting complete, has IP address		Over-temperature condition
	Connected to Director		Amplifier is clipping occasionally
	Playing audio (white LED)		Amplifier is clipping constantly
	Audio paused (1 white blink/sec)		USB over-current condition
	Audio muted (white dimmed)		No IP address
	Firmware is updating		Factory restore in progress (white LED)
	Firmware update error		Factory restore error

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## 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, 4-way binding posts
HDMI output	HDMI ARC/eARC audio input, video output
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	External antenna, 2.4GHz and 5GHz (802.11b/g/n/ac) – Security options to include Encryption: 64/128 WEP, TKIP/AES, Authentication: WEP, WPA, WPA2.
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	200W @ 4 ohms / 100W @ 8 ohms (@1% THD FTC full bandwidth)
Minimum load impedance	Tolerates 3 ohm loads minimum
Max voltage output	28.7V RMS
Voltage gain	25.6 dB
Damping factor	>150
Crosstalk	>91 dB

### DIGITAL IN TO AMP OUT

Frequency response	48 kHz sampling 20 Hz-20 kHz +0, -0.5 dB 96 kHz sampling 20 Hz-20 kHz +0, -0.5dB, 20 Hz-47 kHz +0, -3dB 192 kHz sampling 20 Hz-20 kHz +0, -0.5 dB, 20 Hz-50 kHz +0, -3dB
Phase response	+/-0.5 deg 20 Hz -20 kHz
SNR (A-weighted)	117 dB
DNR (A-weighted) -AES17	118 dB
IMD - SMPTE	< -91 dB @ 10W
THD+N (20-20kHz)	< 0.002%

### DIGITAL IN TO PREAMP OUT

Frequency response	48 kHz sampling 20 Hz-22 kHz +0, -0.5 dB 96 kHz sampling 20 Hz-43 kHz +0, -0.5dB 192 kHz sampling 20 Hz-87 kHz +0, -0.5 dB
Phase response	+/-0.5 deg 20 Hz -20 kHz
SNR (A-weighted)	113 dB
DNR (A-weighted) -AES17	114 dB
Output level	2V rms @ 0 dBFS
THD (20-20 kHz)	< 0.0005% @ 2V rms
THD+N (20-20kHz)	< 0.002% @ 2V rms
IMD - SMPTE	< -100 dB @ 1V rms
Crosstalk	> 110 dB

### ANALOG INPUT

Frequency response	48 kHz sampling 20 Hz-22 kHz +0, -0.5 dB 96 kHz sampling 192 kHz sampling
Phase response	+/-0.5 deg 20 Hz -20 kHz
SNR (A-weighted)	113 dB
DNR (A-weighted) -AES17	114 dB
Input sensitivity	2V rms
THD (20-20 kHz)	< 0.002% @ 2V rms
THD+N (20-20kHz)	< 0.002% @ 2V rms
IMD - SMPTE	< -105 dB @ 1V rms
Crosstalk	> 108 dB

### 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	Fanless

## REGULATORY/SAFETY INFORMATION

To review regulatory information for your particular Triad products, see the information located on the Snap One website at <https://snapone.com/legal>.

## WARRANTY

Limited 2-year Warranty. Go to <https://snapone.com/legal> for details.

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