Control4 EA-3 Controller

Installation Guide

Supported model

- C4-EA3   Entertainment and Automation Controller, 3 Zone

Introduction

The versatile Control4 EA-3 Entertainment and Automation Controller is the perfect fusion of multi-room, high-resolution audio and smart home automation for small to mid-size homes.

Powered by a next-generation multi-core processor, the EA-3 delivers a new level of speed and performance for instantaneous, interactive on-screen access to all the systems in the home. A built-in music server with three audio outputs delivers high-resolution audio throughout the home from your local music library, popular streaming music services, and AirPlay-enabled devices using native Control4 ShairBridge technology.

The EA-3 includes a variety of I/O to automate audio and video, lighting, climate control, door locks, and other devices controlled by IP, infrared (IR), serial, and ZigBee. With PoE+ for power, a port for Ethernet out, and its included mounting bracket, the compact form factor of the EA-3 makes it easy to install behind any TV or projector.

Box contents

The following items are included in the box:

- Control4 EA-3 Controller (C4-EA3)
- EA-3 Wall-Mount Bracket (C4-WMEA3)
- AC power cord
- IR emitters (6)
- Dual-band antennas (2)
- Single-position terminal block for contact/relay
- Warranty card

Accessories sold separately

- Control4 3.5 mm-to-DB9 Serial Cable (C4-CBL3.5-DB9B)
- Rack Mount Kit (C4-EA3RMK1-BL, C4-EA3RMK2-BL)

Warnings

⚠ **Caution!** 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.

⚠ **Caution!** In an over-current condition on USB or contact output the software disables the output. If the attached USB device or contact sensor does not appear to power on, remove the device from the controller.

Avertissement ! Dans une condition de surintensité sur USB ou sortie de contact le logiciel désactive sortie. Si le périphérique USB ou le capteur de contact connecté ne semble pas s'allumer, retirez le périphérique du contrôleur.

For more information, visit the Products pages at www.control4.com.

Requirements and specifications

✎ **Note:** We recommend using Ethernet instead of WiFi for the best network connectivity.

✎ **Note:** The Ethernet or WiFi network should be installed before you install the EA-3 Controller.

Composer Pro is required to configure this device. See the *Composer Pro User Guide* (ctrl4.co/cpro-ug) for details.

Specifications

Model number	C4-EA3
Inputs / Outputs	
Video out	1 video out—1 HDMI
Video	HDMI 1.4 output; HD 1080p, 50-60 Hz
Audio out	3 audio out—1 HDMI, 1 stereo analog (3.5 mm), 1 digital coax
Audio in	2 audio in—1 stereo analog (3.5 mm), 1 digital coax
Audio playback formats	AAC, AIFF, ALAC, FLAC, M4A, MP2, MP3, MP4/M4A, Ogg Vorbis, PCM, WAV, WMA
High-resolution audio playback	Up to 192 kHz / 24 bit
Advanced audio subsystem	Dedicated audio signal processor
Audio system controls (analog only)	10-band graphic equalizer, input gain, output gain, loudness, tone controls, balance
Signal-to-noise ratio	<-110 dBFS
Total harmonic distortion	0.0015 (-96.5 dB)
Network	
Ethernet	10/100/1000BaseT compatible (required for controller setup). PoE+ supported.
Power over Ethernet	802.3at-2009 (PoE+) / 25.5W
Built-in Ethernet switch	1 Ethernet/PoE in + 1 Ethernet switch port
Wireless	Dual-Band Wireless-N (2.4GHz, 5GHz, 802.11n/g/b)
Wireless security	WEP, WPA, and WPA2
Wireless antenna	External reverse SMA connector
ZigBee Pro	802.15.4
ZigBee antenna	External reverse SMA connector
USB port	1 USB 2.0 port—500mA minimum
Control	
IR OUT	6 IR out—5V 27mA max output 1 IR blaster—front
IR capture	1 IR receiver—front; 20-60 KHz
SERIAL OUT	3 Serial out (shared with IR out 1-3)
Contact	1 contact sensor—30VDC, 125mA maximum
Relay	1 relay—AC: 36V, 2A; DC: 24V, 2A maximum
Power	
Power requirements	100-240 VAC, 60/50Hz or PoE+
Power consumption	Max: 18W, 61 BTUs/hour Idle: 9W, 30 BTUs/hour
Other	
Operating temperature	32˚ - 104˚ F (0˚ - 40˚ C)
Storage temperature	4˚ - 158˚ F (-20˚ - 70˚ C)
Fan dB level	Max: 35 dB
Dimensions (H x W x D)	8.75" (221 mm) x 5.875" (149 mm) x 1.25" (31 mm)
Weight	1.60 lbs (0.74 kg)
Shipping weight	2.75 lbs (1.26 kg)

Additional resources

The following resources are available for more support.

- Control4 Knowledgebase: kb.control4.com and Dealer Forums: forums.control4.com
- Control4 Technical Support
- Control4 website: www.control4.com
- Composer Pro documentation in online help or PDF format available on the Dealer Portal under Support: ctrl4.co/docs

Front view
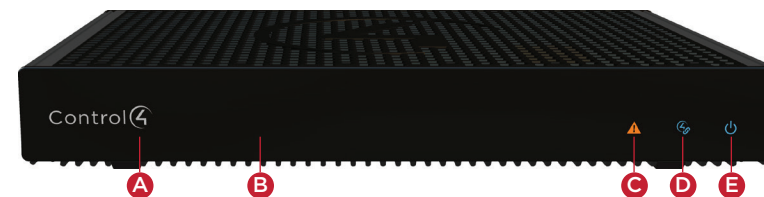
- **A Data LED**—The LED indicates that the controller is streaming audio.
- **B IR window**—IR blaster and IR receiver for learning IR codes.
- **C Caution LED**—This LED shows solid red, then blinks blue during the boot process.

  ✎ **Note:** The Caution LED flashes yellow during the factory restore process. See "Factory Restore" in this document.

- **D Link LED**—The blue LED indicates that the controller has been identified in a Control4 Composer project and is communicating with Director.
- **E Power LED**—The blue LED indicates that AC power is connected. The controller turns on immediately after power is applied to it.

Back view

- **A WIFI**—Reverse SMA connector for WiFi antenna.
- **B Power plug port**—AC power receptacle for an IEC 60320-C5 power cord.
- **C Contact/Relay port**—Connect one relay device and one contact sensor device to the terminal block connector. Relay connections are COM, NC (normally closed), and NO (normally open). Contact sensor connections are +12, SIG (signal), and GND (ground).
- **D Serial and IR OUT**—3.5 mm jacks for up to six IR emitters or for a combination of IR emitters and serial devices. Ports 1, 2, and 3 can be configured independently for serial control or for IR control. See "Connect IR/serial ports" in this document for more information.
- **E DIGITAL COAX IN**—Allows audio to be shared over the local network to other Control4 devices.
- **F AUDIO IN and OUT**—Stereo audio input and output ports (3.5 mm stereo audio jack). Allows audio to be shared (AUDIO IN) over the local network to other Control4 devices. Outputs audio (AUDIO OUT) shared from other Control4 devices or from digital audio sources (local media or digital streaming services such as TuneIn).
- **G DIGITAL COAX OUT**—Outputs audio (AUDIO OUT) shared from other Control4 devices or from digital audio sources (local media or digital streaming services such as TuneIn).
- **H HDMI OUT**—An HDMI port to display navigation menus. Also an audio out over HDMI.
- **I ID button**—Button to identify the device in Composer Pro.
- **J FACTORY RESTORE**—Restores the controller to its factory defaults.
- **K USB**—One port for an external USB drive. See "Set up external storage devices" in this document.
- **L Ethernet**—Ethernet port that can be used as a network switch to connect another local Ethernet device to the network.
- **M Ethernet/POE**—RJ-45 jack for a 10/100/1000 BaseT Ethernet connection. Use this port as the 'uplink port' to your local network. If using PoE+ to power the controller, this port must be used.
- **N ZIGBEE**—Reverse SMA connector for ZigBee antenna.

Installing the controller

To install the controller:

1. Ensure that the home network is in place before starting system setup. The controller requires a network connection, Ethernet (recommended) or WiFi, to use all of the features as designed. When connected, the controller can access web-based media databases, communicate with other IP devices in the home, and access Control4 system updates.

2. Mount the controller behind a TV, on a wall, placed in a rack, or stacked on a shelf. See "Wall mount options" below if mounting the controller on a wall or behind a TV.

3. Connect the controller to the network.

   - **Ethernet**—To connect using an Ethernet connection, plug the data cable from the home network connection into the controller's RJ-45 port (labeled "ETHERNET/POE") and the network port on the wall or at the network switch.

     ✎ **Note:** If using PoE+ to power the controller, make all connections prior to plugging in the PoE injector or switch.

   - **WiFi**—To connect using WiFi, first connect the controller to Ethernet, and then use Composer Pro System Manager to reconfigure the controller for WiFi.

     ✓ **Important:** Do *not* install your EA controller on a 172.18.xxx.xxx subnet.

4. Connect system devices. Attach IR and serial devices as described in "Connect the IR ports/serial ports" and "Set up IR emitters."

5. Set up any external storage devices as described in "Setting up external storage devices" in this document.

6. Power up the controller. Plug the power cord into the controller's power plug port and then into an electrical outlet.

Mounting the controller behind a TV or on the wall

Using the included Wall-Mount Bracket (C4-WMEA3), the EA-3 can easily be mounted behind a TV, on the wall using a 1- or 2-gang wall box, or mounted directly on the wall. See the *EA-3 Wall-Mount Bracket Installation Guide* for details.

Pluggable terminal block connectors

For the contact and relay ports, the EA-3 makes use of a pluggable terminal block connector which is a removable plastic part that locks in individual wires (included).

To connect a device to the pluggable terminal block:

1. Insert one of the wires required for your device into the appropriate opening in the pluggable terminal block you reserved for that device (see Figure 3).

2. Insert the wire:

   - If using solid-core wire, insert the wire into the hole below the slotted retention tab, and ensure that the wire is tightly secured.
   - If using stranded wire, press the slotted retention tab in using a small, flat-blade screwdriver. Insert the wire into the hole below the tab, and then release the tab to secure the wire.

     ✎ **Example:** If you add a motion sensor (see Figure 5), connect its wires to the following contact openings:
     - Power input to **+12V**
     - Output signal to **SIG**
     - Ground connector to **GND**

     ✎ **Note:** If you connect dry contact closure devices, such as doorbells, connect the switch between +12V (Power) and SIG (Signal).

Connecting the contact port

The EA-3 provides one contact port for the included pluggable terminal block.

See Figures 3 through 5 to learn how to connect the device to the contact port.

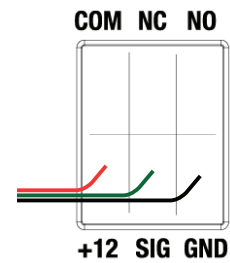*Figure 3. Contact Port for Voltage Source (Motion Sensor)*

COM NC NO

+12 SIG GND

Figure 4. Contact for Dry Contact (Door Contact Sensor)

COM NC NO

+12 SIG GND
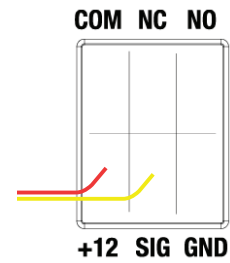
Figure 5. Contact for Self-Powered Voltage Source Device

COM NC NO

+12 SIG GND
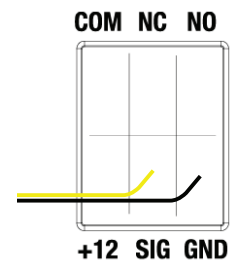
Connecting the relay port

The EA-3 provides one relay port for the included pluggable terminal block. With most applications, attach one wire to the COM terminal and the other to the NO terminal. The relay switch closes when the relay is activated.

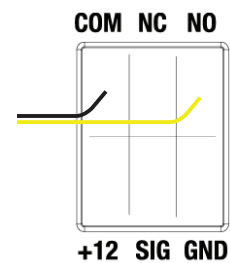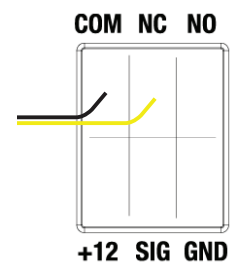*Figure 7. Relay Port, Normally Open*

COM NC NO

+12 SIG GND

Figure 8. Relay Port, Normally Closed

COM NC NO

+12 SIG GND

Connecting the IR ports/serial ports (optional)

The controller provides six IR ports. Ports 1, 2, and 3 can be reconfigured independently for serial communication. If not used for serial, they can be used for IR. Connect a serial device to the controller using the Control4 3.5 mm-to-DB9 Serial Cable (C4-CBL3.5-DB9B, sold separately).

1 The serial ports support many different baud rates (acceptable range: 1200 to 115200 baud for odd and even parity). The serial ports do not support hardware flow control.

2 See Knowledgebase article #268 (https://dealer.control4.com/dealer/knowledgebase/article/268) for pinout diagrams.

3 To configure a port for serial or IR, make the appropriate connections in your project using Composer Pro. See the *Composer Pro User Guide* for details.

> **Note:** The serial ports can be configured as straight-through or null with Composer Pro. Serial ports by default are configured straight-through and can be changed in Composer by selecting the option *Enable Null-Modem Serial Port (1/2/3)*.

Set up IR emitters

Your system may contain third-party products that are controlled through IR commands. The included IR emitters can send commands from the controller to any IR-controlled device.

1 Connect one of the included IR emitters into an **IR OUT** port on the controller.

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.

Set up external storage devices

You can store and access media from an external storage device, for example, a USB drive, by connecting the USB drive to the USB port and configuring or scanning the media in Composer Pro. A NAS drive can also be used as an external storage device, see the *Composer Pro User Guide* (ctrl4.co/cpro-ug) for more details.

> **Note:** We support only externally powered USB drives or solid-state USB drives (USB thumb drives). USB hard drives that do not have a separate power supply are not supported.

> **Note:** When using USB or eSATA storage devices on an EA-5 Controller, a single primary partition formatted FAT32 is recommended.

Composer Pro driver information

Use Auto Discovery and SDDP to add the driver to the Composer project. See the *Composer Pro User Guide* for details.

Troubleshooting

Reset to factory settings

> ⚠ **Caution!** The factory restore process will remove the Composer project. Back up the project with Composer Pro before you start the factory restore process

To restore the controller to the factory default image:

1 Insert a straightened paper clip into the small hole on the back of the controller labeled **FACTORY RESTORE**.

2 Press and continue to hold the **FACTORY RESTORE** button, the controller will reset and the caution LED will turn solid red.

3 Continue to hold the button for about five to seven seconds until the caution LED blinks twice yellow. After the caution LED blinks twice yellow, release the button and the factory restore process will begin.

The caution LED will blink orange while the factory restore is running. When complete, the caution LED turn offs and the device will reset.
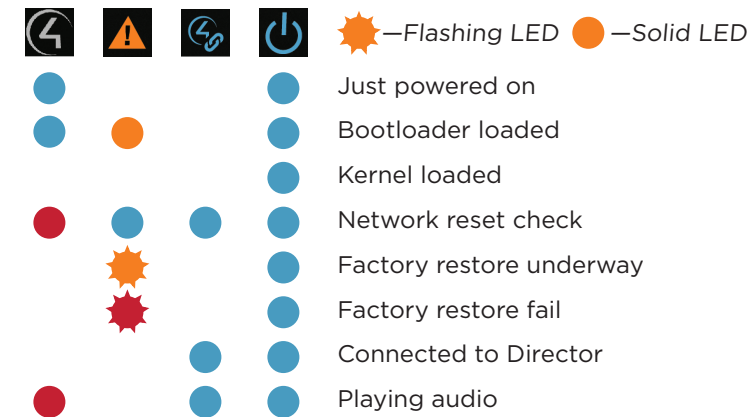
Power cycle the controller

Press and hold the **ID** button for five seconds. The controller will reset.

Reset the network settings

To reset the controller network settings to the default:

1 Disconnect power to the controller.

2 While pressing and holding the **ID** button on the back of the controller, reconnect power to the controller.

3 Hold the **ID** button until the data, link and power LEDs are solid blue, then immediately release the button.

4 If the caution LED stays orange during the boot sequence, press and hold the **ID** button until the caution LED blinks blue, and then release it.

LED status information

☀—*Flashing LED*   ●—*Solid LED*

|				
●			●	Just powered on
●	●		●	Bootloader loaded
●			●	Kernel loaded
●	●	●	●	Network reset check
	☀		●	Factory restore underway
	✷		●	Factory restore fail
		●	●	Connected to Director
●		●	●	Playing audio

Regulatory/Safety information

To review regulatory information for your particular Control4 products, see the information located on the Control4 website at ctrl4.co/reg.

Warranty

Visit ctrl4.co/warranty for details.

More help

For the latest version of this document and to view additional materials, open the URL below or scan the QR code on a device that can view PDFs.

MOST RECENT VERSION
ctrl4.co/ea3-ig

MORE INFO ON EA CONTROLLERS
ctrl4.co/ea
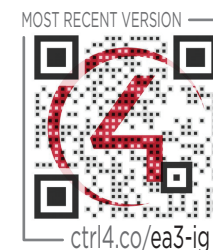
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