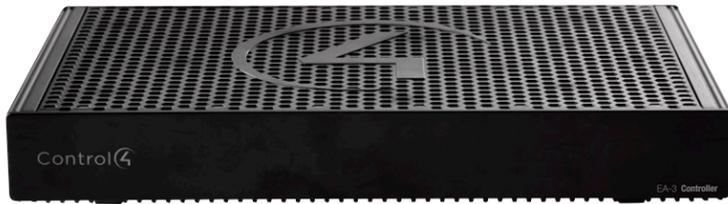




Control4 EA-3 Controller

Installation Guide



Supported models

- C4-EA3 Entertainment and Automation Controller, 3 Zone
- C4-EA3-V2 Entertainment and Automation Controller, 3 Zone, V2

Box contents

- EA-3 controller
- AC power cord
- IR emitters (6)
- External antennas (1 EA-3 V2, 2 EA-3 V1)
- Terminal block for contacts and relays

Accessories sold separately

- Control4 3.5 mm-to-DB9 Serial Cable (C4-CBL3.5-DB9B)
- 1U Rack-Mount Kit, Single EA-3 Controller (C4-EA3RMK1-BL)
- 1U Rack-Mount Kit, Dual EA-3 Controllers (C4-EA3RMK2-BL)
- EA-3 Wall-Mount Bracket (C4-WMEA3)
- Dual-Band WiFi USB Adapter (C4-USBWIFI or C4-USBWIFI-1)

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.

Caution! If this product is used as a means to open and close a garage door, gate, or similar device, use safety or other sensors to ensure safe function. Follow appropriate regulatory and safety standards governing project design and installation. Failure to do so may result in property damage or personal injury.

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

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.
- Note:** The EA-3 V2 requires OS 2.10.2 or higher. The EA-3 V1 requires OS 2.8.1 or higher.

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

Specifications

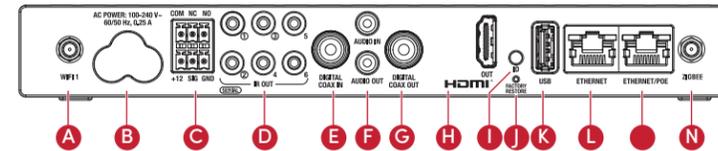
Inputs / outputs	
Video out	1 video out—1 HDMI
Video	HDMI 1.4 output; HD 1080p, 50-60 Hz
Audio out	3 audio outputs—1 HDMI, 1 stereo analog (3.5 mm), 1 digital coax
Audio in	2 network-encoded audio inputs—1 stereo analog (3.5 mm), 1 digital coax
Audio delay on audio in	Up to 3.5 seconds, depending on network conditions
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
WiFi	Internal Dual-Band Wireless-N (EA-3 V1) (2.4 GHz, 5 GHz, 802.11n/g/b) Optional Dual-Band WiFi USB Adapter (EA-3 V2) (2.4 GHz, 5 GHz, 802.11ac/b/g/n/a)
WiFi security	WPA/WPA2
WiFi antenna	External reverse SMA connector (EA-3 V1 only); optional WiFi adapter on the EA-3 V2
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—2V-30VDC input, 12VDC 125mA maximum output
Relay	1 relay—AC: 36V, 2A maximum voltage across relay; DC: 24V, 2A maximum voltage across relay
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° F × 104° F (0° C × 40° C)
Storage temperature	4° F × 158° F (-20° C × 70° C)
Fan dB level	Max: 35 dB
Dimensions (H × W × D)	8.75 × 5.875 × 1.25" (221 × 149 × 31 mm)
Weight	1.60 lbs (0.74 kg)
Shipping weight	2.75 lbs (1.26 kg)

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 orange during the factory restore process. See "Reset to factory settings" 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 (EA-3 V1 only).
- 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 Tuneln).
- 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 Tuneln).
- 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. The ID button on the EA-3 V2 is also an LED that displays feedback useful during a factory restore.
- J** FACTORY RESTORE—Used to restore the controller to its factory defaults.
- K** USB—One port for an external USB drive, or, on an EA-3 V2, the optional Dual-Band WiFi USB Adapter. See "Setting 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:

- 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.
- Mount the controller behind a TV, on a wall, placed in a rack, or stacked on a shelf. See "Mounting the controller behind a TV or on the wall" below if mounting the controller on a wall or behind a TV.
- Attach antennas to the WIFI and ZIGBEE antenna connectors and for an EA-3 V2 controller, connect the optional WiFi USB Adapter to the USB port if WiFi connectivity is needed.

4 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. An additional Ethernet-connected device can be connected to the Ethernet Out RJ-45 port.

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.

- Connect system devices such as IR and serial devices as described in "Connect the IR ports/serial ports" and "Set up IR emitters."
- Set up any external storage devices as described in "Setting up external storage devices" in this document.
- Connect the power cord to the controller's power port and then into an electrical outlet, or for a PoE connection, power on the PoE-enabled network switch or PoE+ injector.

Mounting the controller behind a TV or on the wall

Using the optional 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* (ctrl4.co/ea-wmb) for details.

Pluggable terminal block connectors

For the contact and relay ports, the EA-3 makes use of terminal block connectors which are removable plastic parts that screw down to secure individual wires (included).

To connect a device to the terminal block:

- 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).
- Insert the wire into the appropriate terminal connection and use a small, flat-blade screwdriver to tighten the screw and secure the wire.

Example: If you add a motion sensor (see Figure 5), connect its wires to the following contact openings:

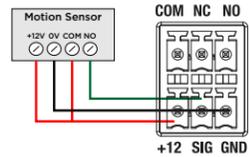
- Power input to +12V
- Output signal to SIG
- Ground connector to GND

Tip: To connect a dry contact closure device, such as a doorbell button, connect the wires from the button to +12V (Power) and SIG (Signal).

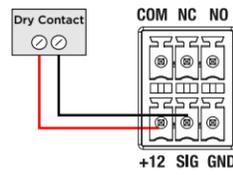
Connecting the contact port

The EA-3 provides one contact port on the included pluggable terminal block (+12, SIG, GRD). See the examples below to learn how to connect various devices to the contact port.

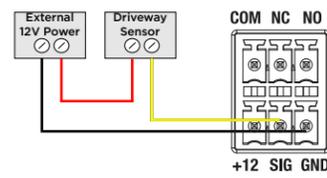
Wire the contact to a sensor that also needs power (Motion sensor)



Wire the contact to a dry contact sensor (Door contact sensor)



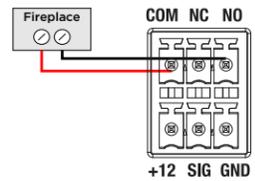
Wire the contact to an externally powered sensor (Driveway sensor)



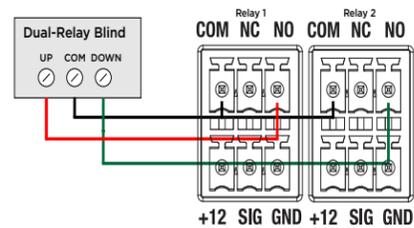
Connecting the relay port

The EA-3 provides one relay port on the included pluggable terminal block. See the examples below to learn how to connect various devices to the relay port.

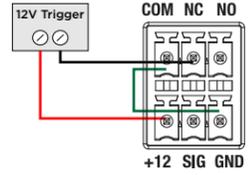
Wire the relay to a single-relay device, normally open (Fireplace)



Wire the relay to a dual-relay device (Blinds)



Wire the relay with power from the contact, normally closed (Amplifier trigger)



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)*.

Setting up IR emitters

Your system may contain third-party products that are controlled through IR commands.

- 1 Connect one of the included IR emitters to an **IR OUT** port on the controller.
- 2 Place the stick-on emitter end onto the IR receiver on the Blu-ray player, TV, or other target device to drive IR signals from the controller to the targets.

Setting up external storage devices (optional)

You can store and access media from an external storage device, for example, a network hard drive or USB memory device, by connecting the USB drive to the USB port and configuring or scanning the media in Composer Pro.

- Note:** We support only externally powered USB drives or solid state USB sticks. Self-powered USB drives are not supported.
- Note:** When using USB storage devices on an EA-3 controller, you can use only one partition with a 2 TB maximum size. This limitation also applies to the USB storage on other controllers.

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 resets and the caution LED turns solid red.
- 3 Hold the button until the Caution LED flashes double orange. This should take five to seven seconds. The Caution LED flashes orange while the factory restore is running. When complete, the Caution LED turns off and the device power cycles one more time to complete the factory restore process.

Note: On an EA-3 V2 controller, the ID button is also an LED that provides the same feedback as the Caution LED on the front of the controller.

Power cycle the controller

- 1 Press and hold the **ID** button for five seconds. The controller turns off and back on.

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 Caution LED (rear ID LED) appears solid orange and the Link and Power LEDs are solid blue, and then immediately release the button.

Note: In OS 2.10.1 and lower, the Caution LED appears solid blue during the network reset check. After updating to OS 2.10.2 and higher, the Caution LED appears orange during the network reset check.

LED status information

				← on EA-3 V2 only	
					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.



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