Control4 EA-5 Controller
Installation Guide

Introduction
The Control4 4EA-5 Entertainment and Automation Controller is designed to deliver the ultimate in smart home experience, featuring the highest-quality audio of the EA series and processing power to control a multitude of devices. The 4EA-5 can automate sophisticated home theaters, complex interior and exterior lighting systems, vital security and communications systems, and climate controls for multiple zones.

The 4EA-5 features five independent audio outputs—two digital coaxial, two RCA stereo analog, and one HDMI—with an audiophile-grade signal-to-noise ratio of 118dB. A built-in music server delivers immersive, multi-stream, high-resolution audio with a built-in multistream audio server from your local music collection, a variety of streaming services, or from AirPlay-enabled devices using native Control4 ShairBridge technology. Expand beyond five streams by including additional EA-5 or EA-3 Controllers.

Secure, wireless ZigBee communication; plentiful I/O including IR, serial, contacts and relays; and IP control enable integration to your smart home devices such as thermostats, door locks, doorbells, cameras, security panels, sensors, lighting, shades, garage door openers, and more. The sleek design, rack-mount form factor, and top-of-the-line connectivity make the 4EA-5 the ultimate foundation for any Control4 system and the platform to power the future of your smart home.

Box contents
The following items are included in the box:
- Control4 EA-5 Controller (C4-EA5)
- AC power cord
- IR emitters (6)
- Warranty card (1)
- Dual-band antennas (3)
- Four-position terminal block for contacts and relays

Accessories sold separately
- Control 3.5 mm-B09 Serial Cable (C4-CBL3-5DBB)

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.

In a over-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 contrôle le logiciel discontinue ne semble pas s’alimenter, retirez le périphérique du contrôleur.

For more information, visit the Products page 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-5 Controller.

Composer Pro is required to configure this device. See the Composer Pro User Guide (c4.tm.co/q0u-up) for details.

Specifications

<table>
<thead>
<tr>
<th>Model number</th>
<th>C4-EA5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs / Outputs</td>
<td></td>
</tr>
<tr>
<td>Video out</td>
<td>1 video out—1 HDMI</td>
</tr>
<tr>
<td>Video</td>
<td>HDMI 1.4 output, HD 1080p, 50-60 Hz</td>
</tr>
<tr>
<td>Audio out</td>
<td>5 audio output—HDMI, 2 digital audio</td>
</tr>
<tr>
<td>Audio in</td>
<td>4 audio in—2 stereo analog, 2 digital audio</td>
</tr>
<tr>
<td>Audio playback formats</td>
<td>AAC, MP3, ALAC, FLAC, WMA, WPP, WMA, Ogg Vorbis, FC4, WAV, WMA</td>
</tr>
<tr>
<td>High-resolution audio playback</td>
<td>Up to 192 kHz/24-bit</td>
</tr>
<tr>
<td>Advanced audio subsystem</td>
<td>Dual audio signal processors, multiple sample rate converters</td>
</tr>
<tr>
<td>Audio system controls (analog or digital coax)</td>
<td>10-band graphic equalizer, input gain, output gain, loudness, tone control, balance</td>
</tr>
<tr>
<td>Signal-to-noise ratio</td>
<td>&gt; 96 dBFS</td>
</tr>
<tr>
<td>Total harmonic distortion</td>
<td>&lt; -118 dBFS</td>
</tr>
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</table>

| Network | Ethernet 10/100/1000BaseT compatible (required for controller setup) |
| Wireless | Built-in Ethernet switch 1 Ethernet in + 4 gigabit Ethernet switch ports |
| Wireless security | Dual-band Wireless-N (2.4 GHz, 5.0 GHz) |
| Wireless antenna | WiFi Antenna, and WiFi2 |
| ZigBee antenna | External reverse SMA connector |
| Zip-Up | 401.5 ft |
| ZigBee antenna | External reverse SMA connector |
| eSATA port | eSATA port |
| USB port | USB 2.0 port—600mA |

Connect system devices. Attach IR and serial devices as described in "Connecting the controller to IP devices." Connect external storage devices as described in "Setting up external storage devices." Connect TV and other devices as described in "Connecting the controller to the TV." Connect speakers as described in "Connecting the controller to speakers." Connect HDMI devices as described in "Connecting the controller to HDMI devices." Connect CATv4 devices as described in "Connecting the controller to CATv4 devices." Connect AV devices as described in "Connecting the controller to AV devices." Connect digital audio devices as described in "Connecting the controller to digital audio devices." Connect security and control devices as described in "Connecting the controller to security and control devices." Connect climate control devices as described in "Connecting the controller to climate control devices." Connect lighting devices as described in "Connecting the controller to lighting devices." Connect all other devices as described in "Connecting the controller to other devices.”

Additional resources

Note: These resources are available for more support.

- Control4 Knowledgebase: b4.com/cp 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: c4.tm.co/docs

Front view

A Data LED—The LED indicates that the controller is streaming audio. The controller is designed to deliver the ultimate in smart home experience, featuring the highest-quality audio of the EA series and processing power to control a multitude of devices. The controller is the ultimate foundation for your Control4 system and the platform to power the future of your smart home.

C Power LED—The LED indicates that the controller has been identified in a Control4 Composer project and is communicating with the server.

Note: The insulated dry contact input. The LED indicates that the controller has been identified in a Control4 Composer project and is communicating with the server.

D LED—The LED indicates that the controller has been identified in a Control4 Composer project and is communicating with the server.

Note: The LED shows yellow during the factory reset process. See “Factory Restore” in this document.

E Power LED—The blue LED indicates that AC power is connected. The controller turns on immediately after power is applied to the device.

Back view

A Power plug port—AC power receptacle for an IEC 60320-C13 power cord
B WiFi—Antenna 1 for the WiFi radio
C Contact/Relay port—Connect up to four relay devices and four contact sensor devices to the terminal block. Relay connections are COM, NC (normally closed), NO (normally open), and contact sensor connections are +12V, 5V (signal), and GND (ground).
D GIAGBIT SWITCH—Four port gigabit ethernet switch to connect controller to network
E Ethernet port—Connect system devices. Attach IR and serial devices as described in "Connecting the controller to IP devices."
F GIGABIT SWITCH—An Ethernet switch to display system menus. Also an audio output over HDMI.
G E-SATA port—For external eSATA drive. See "Set up external storage devices" in this document.
H WiFi port—Connect to WiFi network. Use a WiFi antenna to improve signal strength.
I SERIAL port—For RS-232 control. See "Connecting the controller to serial devices." Set up any external storage devices as described in "Setting up external storage devices." in this document.
J Power port—Connect the controller to the network. The Ethernet or WiFi network should be installed before you install the EA-5 Controller.
K COM1 port—Connect to serial devices. Set up any external storage devices as described in "Setting up external storage devices." in this document.
L COM2 port—Connect to serial devices. Set up any external storage devices as described in "Setting up external storage devices." in this document.
M DIGITAL AUDIO—Two digital coaxial audio input and two output ports. Allows audio to be shared (IN 1 or 2) over the local network to other Control4 devices. Outputs audio (OUT 1 or 2) from other Control4 devices or from digital audio sources (local media or digital streaming services such as TuneIn.)
N ANALOG AUDIO—Two stereo audio input and two output ports. Allows audio to be shared (IN 1 or 2) over the local network to other Control4 devices. Outputs audio (OUT 1 or 2) from other Control4 devices or from digital audio sources (local media or digital streaming services such as TuneIn.)
O ZIGBEE—Antenna for the ZigBee radio.

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 (required) and WiFi (optional) are both functional on the 4EA-5. When connected, the controller can access web-based media databases and communicate with other IP devices in the home, and access Control4 system updates.
2. Mount the controller in a rack or stack a shelf. Always allow plenty of ventilation. See “Mounting the controller in a rack” in this document.
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 IN”) and the network port on the wall or at the network 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.

4. Connect system devices. Attach IR and serial devices as described in "Connecting the controller to IP devices." Set up external storage devices as described in "Setting up external storage devices." Set up power over the controller. Plug the power cord into the controller’s power port and then into an electrical outlet.

Mounting the controller in a rack
Using the included rack-mount ears, the EA-5 can easily be mounted in a rack for convenient installation and flexible rack placement.

To attach the rack ears to the controller:
1. Remove the three screws in each of the rubber feet on the bottom of the controller.
2. Remove the rubber feet and place the rack ears. The rack ears can be positioned for front or rear rack mounting.
3. Use the two screws from the rubber feet to secure the rack ears to the controller.

Pluggable terminal block connectors

For the control and relay ports, the EA-5 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.
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, and insert the wire into the hole below the slotted retention tab, and use a pair of pliers to secure the wire in place.

Example: To add a motion sensor (see Figure 3), connect its wires to the following contact openings:
   • Power input to +12V
   • Output signal to SIG
   • Ground connector to GND

Note: To connect dry contact closure devices, such as doorbells, connect the switch between +12V (Power) and SIG (Signal).
Connecting the contact ports

The EA-5 controller provides four contact ports. Serial ports 1 and 2 (serial 3 and 4) 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-CBL-3.5-DB9, sold separately).

1 The serial ports support many different baud rates (acceptable range: 1200 to 115200 baud for odd and even parity). Serial ports 3 and 4 (IR 1 and 2) do not support hardware flow control.

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

3 To configure a port's serial settings, make the appropriate connections for your project using Composer Pro. Connecting the port to the device will apply the serial settings contained in the driver file to the serial port. See the Composer Pro User Guide for details.

Note: Serial ports 3 and 4 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 (3/4).

Setting up IR emitters

The EA-5 controller provides 8 IR ports. 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.

Setting up external storage devices

You can store and access media from an external storage device, for example, a USB drive or eSata 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 actively 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 SDOP 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 REPLACE.

2 Press and continue to hold the FACTORY REPLACE 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 turns off 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

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 view regulatory information for your 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.