



Home Controller HC300 Installation Guide

Supported Model

C4-HC300-E-B Home Controller HC300

Graphical Symbols in this Guide

The following symbols and their descriptions draw your attention to important safe practices and additional information that can help you avoid death, injury, or loss of material or time.

WARNING! This indicates a potentially hazardous situation that, if not avoided, may result in death or serious injury. **DO NOT IGNORE A WARNING!**

IMPORTANT! This indicates information that will help you avoid damage to your equipment, loss of materials, or loss of time. **PAY ATTENTION TO THESE IMPORTANT STATEMENTS!**

NOTE: This indicates information related to the current topic.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug this apparatus during lightning storms or when unused for long periods of time.
13. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. This apparatus has no AC mains power switch. The power cable is the AC mains disconnect device.

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

WARNING! This CLASS I apparatus must be connected to an AC mains socket outlet that has a protective earthing connection (i.e., third-prong ground conductor). **DO NOT DEFEAT THE PROTECTIVE EARTHING CONNECTION!**

Introduction to Home Controller HC300

The Control4 Home Controller HC300 provides options for controlling lights, home theaters, distributed audio systems, and other devices controlled using various protocols, such as Infra Red (IR), Serial, Contact, and Relay.

It provides extensive media management services for audio sources, such as CDs and DVDs stored in connected devices. It also allows you to use an external storage device with USB support for media storage. It also includes multi-zone audio capabilities, sending music to rooms throughout the home.

Once the controller and other system components are installed and configured (using Control4 Composer software or another Control4 setup program), your users can control the system using one of the two user interfaces included with this controller: On-screen Navigator or System Remote Control.

Control4 Supported Devices

Control4 devices that can be controlled by this controller include:

- | | |
|---|-------------------------|
| Touch Screen (Wireless or Wall-Mounted) | Wireless Dimmer |
| Mini Touch Screen | Wireless Switch |
| Wireless LCD Keypad | Wireless Outlet Dimmer |
| Wireless 2, 3, & 6 Button Keypads | Wireless Outlet Switch |
| Wireless Thermostat | Multi Channel Amplifier |
| Speaker Point™ | Audio Matrix Switch |

For a complete list of Control4 supported devices and solutions, see "Products" at <http://www.control4.com>.

Requirements and Specifications

Prior to installing this product, ensure that:

- Wired Ethernet network is in place
- A monitor or TV is available for on-screen navigation and control

The Home Controller HC300 specifications are:

- | | |
|-----------------------------------|--|
| Model Number | • C4-HC300-E-B |
| Media Recognition | • AMG online CD/DVD recognition and media information service |
| Audio Recording Formats | • MP3: 192kbps |
| Audio Playback Formats | • Uncompressed WAV and PCM: 44.1kHz, 16 bit stereo |
| Display Power Requirements | • MP3: 32kbps to 320kbps, CBR and VBR |
| Dimensions | • LED indicators |
| | • 100-240 VAC, 60/50 Hz, 0.18 A MAX |
| | • H x W x D: 2.78" x 7.24" x 11.98" (with feet and connectors) |
| Weight | • 4.7 pounds |

What's in the Box

The following are included in your Home Controller box:

- Home Controller HC300
- Pluggable terminal block connector (1)
- System Remote Control with LCD Navigator display and 4 AAA batteries
- Composite video cable
- IEC power cord
- IR emitters (6)
- *Home Controller HC300 Installation Guide* (this document)
- *Control4 System User Guide*
- *Control4 System Remote Control User Guide*
- Ferrite Cable Clamp (See "Connect to the Contact Port")

Additional Resources

The following resources are available to provide you with additional support.

- Your authorized Control4 reseller
- Control4 Web Site: <http://www.control4.com>

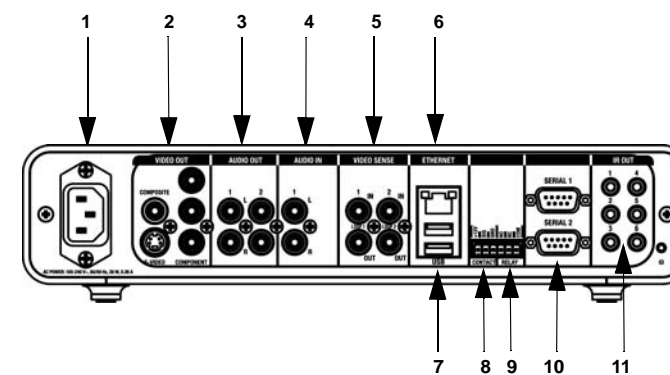
- Composer online help

Front View



1. **WiFi LED**—Indicates Wifi signal strength (red: poor, orange: good, and green: excellent). These LEDs blink when HC300 is booting.
2. **Data LED**—Green LED light indicates data is received.
3. **Link LED**—Green LED light indicates Home Controller has been identified in a Control4 Composer project.
4. **Power LED**—Green LED light indicates AC power is present: Turns on immediately after the power is applied to the device.
5. **IR window / IR Blaster**—For capturing third-party IR codes from handheld devices (such as remote controls) or blasting IR codes.

Back View



1. **Power plug port**—AC power receptacle for an IEC 320 power cord.
2. **Video Out**—Composite RCA, S-VIDEO mini-DIN, or Component RCA jacks.
3. **Audio Out (2 Left-Right pairs)**—RCA jacks for stereo channel line output (line level) for amplifiers or audio switches.
4. **Audio In (1 Left-Right pair)**—RCA jacks for stereo channel input (line level) for 1 stereo analog source.
5. **Video Sense In-Out (2 pairs)**—Composite In-Out RCA jack pairs for monitoring the On/Off status of up to 2 video sources.
6. **Ethernet**—RJ-45 jack for a 10/100 BaseT Ethernet connection.
7. **USB (2 ports)**—For external storage device with USB support (such as FAT32 formatted devices).
8. **Contact (1 set)**—Pluggable terminal block connector for 1 dry contact closure, logic input connection, door contact sensor, or motion sensor.
9. **Relay (1 set)**—Pluggable terminal block connector for 1 normally closed or normally opened switchable connection.
10. **Serial (2 sets, DB9)**—2 serial devices, such as a monitors or TVs.
11. **IR Out (6)**—3.5 mm jacks for up to 6 IR output transmitters.

Install the System

To install this controller:

1. **Ensure that your home network is in place before starting your system setup:** The Home Controller HC300 requires an Ethernet connection in order to use all features as designed. When connected, the Home Controller can access Web-based media databases and can easily access Control4 system updates.
2. **Connect the controller to the network:** If you are using an Ethernet connection to the Home Controller, plug the data cable from the home network connection into the Home Controller RJ-45 port (labeled "Ethernet") and the network port on the wall or at the network switch.

3. **Power up the controller:** Plug the Home Controller power cord (provided) into the Home Controller power plug port and an electrical outlet.
4. **Connect system devices** as described in the "Connect Devices" section that follows.
5. **Set up external storage devices** as described in "Set up External Storage Device" on page 2.


Connect Devices

NOTE: You can use the Interviewer feature in the Composer software to step you through the connection process or you can set up the physical connections and then run Interviewer to tell the Control4 system the applicable connections.

Connect all applicable devices to the Home Controller HC300 using one of the connection options described in the following table.

Table 1. Connection Options

| Connection Options | |
|---|--|
| Power plug port —For C6 power connector. See "Power Up the Home Controller" for more information. | |
| Video Out Options —Composite, Component, or S-Video port for displaying navigation menus on a monitor or TV. The Component jack is for displaying high definition video. When available, use S-Video instead of Composite for a higher quality display. | |
| Audio Out (2 Left-Right pairs) —RCA jacks for stereo channel line output (line level) for amplifiers or audio switches. | |
| Audio In (1 Left-Right pair) —RCA jacks for stereo channel input (line level) for 1 stereo analog source. | |
| Video Sense In-Out (2 pairs) —Composite In-Out port pairs for monitoring up to 2 video In sources, such as DVD players or VCRs, that allow the system to determine the On/Off status of devices. Each Out port allows the signal to loop through the Home Controller and continue to its intended video connection. See "Set up External Storage Device" for more information. | |
| Ethernet —RJ-45 for a 10/100 BaseT Ethernet connection. See "Connect to the Network" for more information. | |
| USB (2 ports) —For external storage device with USB support (such as FAT32 formatted devices). See "Set up External Storage Device" for more information. | |
| Contact (1 set) —Pluggable terminal block connector for 1 dry contact closure, logic input connection, door contact sensor, or motion sensor. See "Connect to the Contact Port" for more information. | |
| Relay (1 set) —Pluggable terminal block connector for 1 normally closed or normally opened switchable connection, such as a blind, a fireplace, or a projector screen. The set contains a connection for Common (COM) and Normally Closed (NC) or Normally Opened (NO). See "Connect to the Relay Port" for more information. | |
| Serial (2 sets) —DB9 connector for a serial device, such as a monitor or DVD changer. See "Connect the Serial Ports" for more information. | |

| Connection Options | |
|--|---|
| IR Out (6) —3.5 mm jacks for up to 6 IR output transmitters. See “Set Up IR Emitters or IR Blaster” for more information. |  |

Use the remaining content in this section to learn more about some of these connection options.

Use Video Sense Loops

Video sensing can enhance the ability to sense the power state of a device, such as whether the device is “on” or “off.” If you need to add video signal sensing capabilities for a video device (such as a TV, VCR, DVD player, etc.), connect one of the device’s composite *Video Out* ports to a Home Controller *Video Sense In* port. Then, use the companion *Video Sense Out* port (where available) for the device’s video out as needed.

For Video Sense only (no loop-through), connect a device’s *Composite Video Out port* to one of the two *Video Sense In ports*.

Use Pluggable Terminal Block Connectors


For the Contact and Relay ports, the Home Controller makes use of a pluggable terminal block connector—a removable plastic part to lock in individual wires. This connector is 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 (refer to Table 1 on page 2).

For example, if you were adding a motion sensor, you would connect its wires to the following **Contact** openings: power input to **+12V** output signal to **SIG**, and ground connector to **GND**. See the sections that follow for instruction on connecting the various protocols.

2. Lower the openings latch until it locks the wire in place.
3. Repeat Steps 1-2 for all wires required for your device.

 **NOTE:** When you connect dry contact closure devices, such as door switches, connect the switch between +12V (Power) and SIG (Signal).

Connect to the Contact Port

The Home Controller provides one contact port as a subset of the pluggable terminal block provided. See the following figures to determine how to connect the device to a contact port.


 **NOTE:** Before using a device in the contact port, attach the ferrite (supplied) to the cable.

Figure 1: Contact Port for Voltage Source (i.e. Motion Sensor)




| | | |
|--|------------|----------------------------------|
|  | 12V | Provides power for small devices |
|  | SIG | Signal input |
|  | GND | Return path |

Figure 2: Contact for Dry Contact (i.e. Door Contact Sensor).






| | | |
|--|------------|----------------------------------|
|  | 12V | Provides power for small devices |
|  | SIG | Signal input |
|  | GND | Return path |

Figure 3: Connect Contact for Self Powered Voltage Source Device

| | | |
|---|------------|--------------|
|  | SIG | Signal input |
|  | GND | Return path |

Connect to the Relay Port

The Home Controller provides one relay port as a subset of the pluggable terminal block provided.

For most applications, you attach one wire to the common terminal and the other to the normally open terminal.

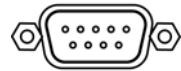
The relay switches closed when the relay is activated.

The Home Controller can support applications that require a normally closed contact.

Connect the Serial Ports

The Home Controller provides two DB9-style serial ports. Connect a device to the Home Controller, like a monitor or TV, by aligning the pins and tightening the screws.

Figure 4: Connect to DB9 Serial Port



Set Up IR Emitters or IR Blaster

Your system may contain third-party products that are controlled with IR commands (usually through remote controls). To provide a way for the Home Controller to control a device that only recognizes IR commands, complete one of the following setups: IR Emitters or IR Blaster.

IR Emitters

1. Plug the 3.5 mm connector end of one of the 6 IR stick-on emitters provided into an IR Out port on the Home Controller.
2. Place the stick-on emitter end over the IR receiver on the media player, TV, or other target device to transmit IR signals from the Home Controller to the target.

IR Blaster

In addition to IR emitters, the Home Controller is also equipped with an IR blaster, which is located just under the front LEDs. To use the blaster instead of an IR emitter:

1. In Composer, connect IR Out #6 of the Home Controller to the IR In of the device you wish to control.
2. Do not physically connect anything to IR Out Port #6.
3. Test and verify that the Home Controller is positioned in such a way that the blaster can reach the device you wish to control.

Set up External Storage Device

You can store and access media from an external storage device, such as a network hard drive or USB memory device. Simply plug the USB drive into one of the USB ports and configure or scan the media from Composer.


Regulatory Compliance

North America

This product complies with standards established by the following regulatory bodies:

- Federal Communications Commission (FCC)
- Industry Canada

- Underwriters Laboratories Inc. (UL)

 **IMPORTANT!** Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate this equipment.

Federal Communications Commission (FCC)

FCC ID: R33C4HC3001

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada

This Class B digital apparatus complies with Canada ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Underwriters Laboratories Inc. (UL)

(pending)

CE Declaration of Conformity



European Contact Information

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Product: **Home Controller HC300**

The undersigned hereby declares, on behalf of Control4 Corporation, that the above-referenced product, to which this declaration relates, is in conformity with the provisions of:

- Council Directive 89/336/EEC (May 3, 1989) on Electromagnetic Compatibility
- Council Directive 1999/5/EC (Mar 9, 1999) on Radio & Telecommunication Terminal Equipment (R&TTE)
- Council Directive 73/23/EEC (Feb. 19, 1973) on Low Voltage Equipment Safety
- Council Directive 93/68/EEC (Jul. 22, 1993) Amending Directives 89/336/EEC and 73/23/EEC

and has been tested to the requirements of, and shown to be in compliance with, the following requisite standards:

- EN 301 489-1 V1.4.1—Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services—Part 1 Common technical requirements.
- EN 301 489-17 V1.2.1—Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2.4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment.
- AS/NZS CISPR 22: 2002—Information Technology Equipment—Radio disturbance characteristics.
- EN 300 328-2 V1.4.1—Wide band transmission systems; data transmission equipment operating in the 2.4GHz ISM band. Harmonised EN covering essential requirements under Article 3(2) of the R&TTE Directive.

- AS/NZS 4771: 2000—Spread Spectrum Equipment using 900MHz, 2.4GHz and 5.8GHz bands.
- IEC 60950-1: 2001 (1st Edition) and/or EN 60950-1: 2001—Information Technology Equipment—Safety with national and group differences in accordance with CB Bulletin No. 109A December 2005: AS/NZS 60950-1: 2003.

The Technical Construction File required by these Directives is maintained at the corporate headquarters of Control4, Salt Lake City, Utah, U.S.A.

Signed,

Paul E. Nagel—Vice President of Engineering, _____, 2007

Recycling



For information on recycling, please go to www.control4.com/recycling

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