Cisco Smart+Connected Controller 200 Reference Guide

This document provides information about the available ports, technical specifications and features of the Cisco Smart+Connected Controller 200 (SCH-CONTROL-200).

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Overview

The Cisco Smart+Connected Controller 200 provides intelligent control for the Cisco Smart+Connected Residential Solution, allowing residents to manage lighting, security, temperature, and multimedia, while also providing a portal into the community from the residence. The Cisco Controller 200 integrates a broad range of devices using a variety of protocols (Internet Protocol [IP], ZigBee HA, infrared [IR], serial, and more). By combining wired and wireless technologies, the Cisco Controller 200 provides flexibility in extending the capabilities of the Cisco Smart+Connected Residential Solution to any device located anywhere in the residence. All of these services can be controlled through simple and intuitive touchscreen displays or on-screen TV navigators managed through one of the Cisco Smart+Connected Universal Remotes.

While individual Cisco Controllers can support a single room or small residence, additional Cisco Controllers can be added to provide on-screen TV navigation in other rooms. Cisco Controllers can also be added in groups to provide coordinated control throughout a large residence or building. These compact devices are easy to mount behind a TV or on a wall, so that residents can enjoy the power of on-screen control virtually anywhere.

Figure 1 Cisco Controller 200

Features and Benefits

The Cisco Controller 200 is an entry-level device for one-room residential units where digital high-definition multimedia interface (HDMI) output to the TV is not required. In larger installations, the Cisco Controller 200 can be used as an auxiliary Cisco Controller to support on-screen TV navigation in additional rooms, to offload processing tasks, or to act as a ZigBee Access Point (ZAP).

Package Contents

The following items are included in the Cisco Controller 200 box:

- Cisco Smart+Connected Controller 200
- AC to DC power adapter with power cord
- IR emitters (4)
- Universal Mounting Plate
- Screws (4)

Note This document, and other related documents, are available online at www.cisco.com/go/smartconnectedresidential/docs. See the "Related Documentation" section on page 11 for more information.

Mounting the Cisco Controller 200 on a Wall

The Cisco Controller 200 can be mounted on a wall or placed on a horizontal surface (such as a shelf).

Procedure

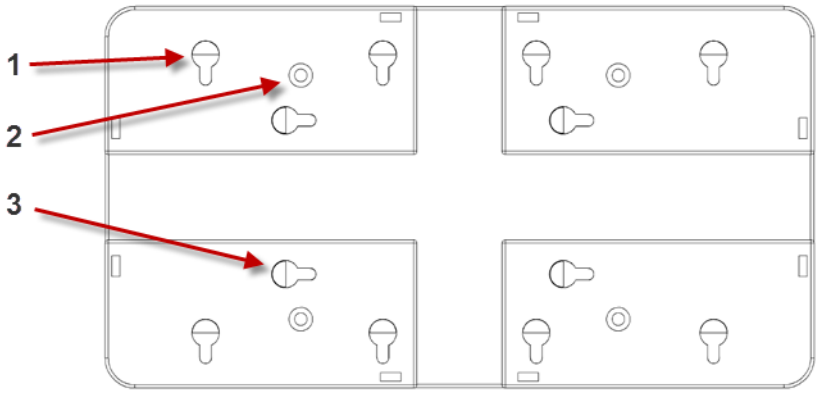
To mount the device on a wall:

Step 1 Select one of the following mounting options:

- Mount the Controller 200 horizontally using one (1) standard single-gang wall box. The wall mounting plate has four (4) horizontal sets of slots. Leave the screws protruding .08" from the wall.
- Mount the Controller 200 horizontally or vertically using one (1) standard double-gang box. Leave the screws protruding .08" from the wall.
- Mount the Cisco Controller 200 horizontally or vertically using four (4) screws (not provided) placed directly into a wall stud or studs.
  - Using the mounting plate as a template, screw four (4) screws into a stud to align with the four (4) center slots for vertical positioning; or into two (2) studs to align with the four (4) corner slots for horizontal positioning.
  - Leave the screws protruding .08" from the wall.

Note To quickly check the fit of the screws, place the wall mounting plate over the screws before attaching it to the bottom of the Controller 200.

Figure 2 Mounting the Cisco Controller 200



1	Slots to horizontally mount the Controller 200
2	Holes for attaching the plate to the Controller 200
3	Slots to vertically mount the Controller 200

Step 2 Use the four (4) screws (provided) to attach the mounting plate to the bottom of the Controller 200. Ensure that the narrow end of the slots will be on top when the device is installed.

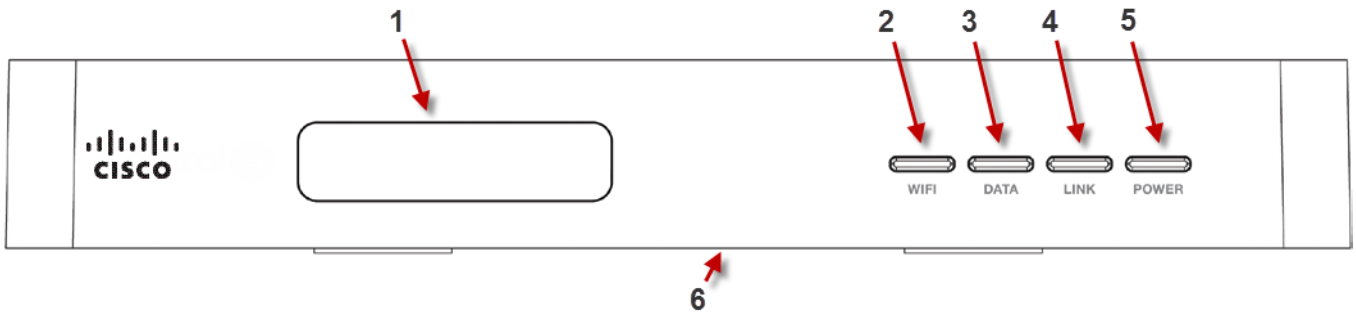
Step 3 Arrange the wires to fit in the wire channels on the mounting plate.

Step 4 Line the slots on the mounting plate up with the screws.

Step 5 Press the device onto the screws and slide down until the screws are in the narrow end of the slots.

Front View (LEDs and Other Features)

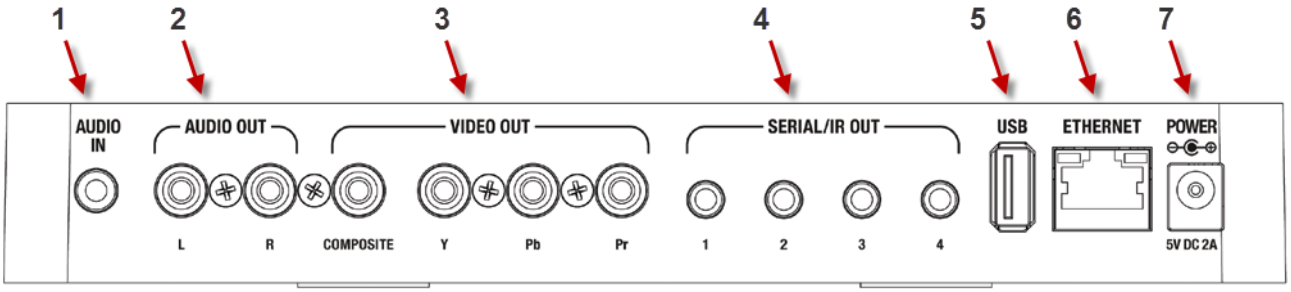
Figure 3 Front View



1	**IR Window / IR Blaster**—For capturing third-party IR codes from hand-held devices (such as remote controls) or blasting IR codes. The Wi-Fi LED blinks red when capturing IR codes.
2	**Wi-Fi LED**—The Wi-Fi LED blinks orange and then blue during the boot process. When the operating system is running, the Wi-Fi driver changes the LED color depending on the signal strength of its connection to its associated access point. Colors and signal strength are: • orange=fair to good • blue=excellent • no light=no connection.
3	**Data LED**—Blue LED indicates streaming audio is received.
4	**Link LED/Identification button**—Blue LED light indicates that the Controller 200 has been identified in a Composer Pro project. Press this button to identify this device in Composer Pro.
5	**Power LED**—Blue LED light indicates AC power is present. This LED turns on immediately after the power is applied to the device.
6	**Factory Restore Button (bottom of device)**—Restores the Controller 200 to the factory default settings. See the "Restoring the Device to the Factory Settings" section on page 9.

Rear View (Input and Output Ports)

Figure 4 Rear View



1	**Audio In (1)**—3.5 mm jacks for stereo channel input (line level) for one stereo analog source.
2	**Audio Out (1 left-right pair)**—RCA jacks for stereo channel line output (line level) for amplifiers or audio switches.
3	**Video Out**—Composite RCA and Component RCA jacks.
4	**Serial Port (up to 2) or IR Out (up to 4)**—3.5 mm jacks for up to 4 IR emitters or for a combination of IR emitters and serial devices (up to 2). Jacks 1 and 2 can be configured independently for serial devices, such as receivers or disc changers (requires serial cable, sold separately.)
5	**USB (1 port)**—For external storage device with USB support (such as FAT32-formatted devices) or Wi-Fi adapter.
6	**Ethernet**—RJ-45 jack for a 10/100 Base T Ethernet connection.
7	**Power plug port**—DC power supply port.

Connecting Devices

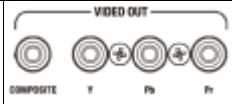
Note Use the Composer Pro software to step through the connection process before or after the physical connections are completed. See the Cisco Smart+Connected Residential Installation and Configuration Guide for more information.

Connect all applicable devices to the Controller 200 using the connection options described in the following table.

Table 1 Connections Options

Port		Description
Audio In (1)		One 3.5 mm jack for stereo channel input (line level) for one stereo analog source.
Audio Out (1 left-right pair)		Two RCA jacks for stereo channel line output (line level) for amplifiers or audio switches.

Table 1 Connections Options

Port		Description
Video Out Options		Composite or component ports for displaying navigation menus on a monitor or TV. Use the component jack to display either standard or high-definition video. Use the composite port to display standard definition video. **Note** The default video output mode is NTSC over composite. In this mode, some bleed-through of the NTSC signal on the component video output connections occurs. However, the video image will not appear correctly in this mode. The Cisco Controller 200 can be configured to output over component using NTSC (standard definition) or 720p (high definition). To configure the video mode to use the component video outputs, make the appropriate bindings for the desired video output mode in Composer Pro.
Serial Port (up to 2) or IR Out (up to 4)		3.5 mm jacks for up to four IR emitters. These ports can also be used for a combination of IR emitters and up to two serial devices. Ports 1 and 2 can be configured independently for serial devices, such as receivers or disc changers. See the "Setting Up IR Emitters or IR Blaster" section on page 8 for more information.
USB (1 port)		Used to connect an external USB storage device (such as FAT32-formatted devices). See the "Setting Up External Storage Device (Optional)" section on page 9 for more information.
Ethernet		A RJ-45 for a 10/100 BaseT Ethernet connection to the dwelling network.
Power Plug		For use with the included DC power supply.

Connecting the IR Ports/Serial Ports (Optional)

The Cisco Controller 200 provides 4 IR ports.

Ports 1 and 2 can be reconfigured for serial communication to connect serial devices such as a receiver or disc changer. A special cable is required (not included). Any jack not used for serial can be used for IR.

Serial ports support many different baud rates. The following table shows the serial communication values.

Table 2 IR/Serial Ports

	Hardware Flow Control	Odd Parity	Even Parity	No Parity	Other
Serial Port 1		X	X	X	
Serial Port 2		X	X	X	
Serial Port 3				X	8 bits/char; 1 stop bit
Serial Port 4				X	8 bits/char; 1 stop bit

Setting Up IR Emitters or IR Blaster

Your system may contain third-party products that are controlled with IR commands (usually through remote controls). To enable the Controller 200 to control a device that only recognizes IR commands, complete one of the following procedures for IR Emitters or IR Blaster.

IR Emitter Procedure

Step 1 Plug the 3.5 mm connector end of one of the 4 IR stick-on emitters provided into an IR Out port on the Controller 200.

Step 2 Place the stick-on emitter end over the IR receiver on the Media Player, TV, or other target device to drive IR signals from the Controller 200 to the target.

IR Blaster Procedure

In addition to IR emitters, the Cisco Controller 200 is also equipped with an IR blaster, which is located just left of the front LEDs. To use the blaster instead of an IR emitter, do the following:

Step 1 In Composer Pro, connect the Front IR Out of the Controller 200 to the IR In of the device you want to control.

Step 2 Test and verify that the Controller 200 is positioned in such a way that the blaster can reach the device you want to control.

Setting Up External Storage Device (Optional)

To store and access media from an external storage device, such as a network hard drive or USB memory device, attach the USB drive to the Cisco Controller USB port and configure or scan the media from Composer Pro.

See the Cisco Smart+Connected Residential Installation and Configuration Guide for more information.

Configuring the Cisco Controller 200

After you install and connect the hardware (such as a touchscreen, TV, lights, etc.), use the Composer Pro software to configure the devices and customize the system.

See the Cisco Smart+Connected Residential Installation and Configuration Guide for more information.

Restoring the Device to the Factory Settings

Complete the following procedure to the Cisco Controller 200 system or the factory default image.

Caution This action deletes the Composer Pro project.

Procedure

Step 1 On the bottom of the device, insert the end of a paper clip into the small hole.

Step 2 Power cycle the device while pressing and holding the *Factory Restore* button for about 5-7 seconds and the Status (Wi-Fi) LED blinks orange. This action starts the recovery process.

Resetting the Device Network Settings

Complete the following procedure to reset the Cisco Controller 200 to the network defaults.

Procedure

Step 1 Power cycle the Cisco Controller and press the Identification button on the front of the device until the Data, Link, and Power LEDs are solid blue; immediately release the button.

Step 2 If during the boot sequence, the Status LED stays Orange, press and hold the Identification button until the LED blinks blue, and then release it.

Tip If the Cisco Controller is connected to a TV, a message will appear indicating when to let go of the button.

Regulatory/Safety Information

To review regulatory information, go to www.cisco.com/go/smartconnectedresidential/docs.

Specifications

Table 3 Cisco Controller 200 Specifications

Basic Specifications	Description
Audio/Video Inputs and Outputs	
HDMI out (Digital audio and on-screen navigator)	N/A
Component video out	1 (720p Only)
Composite video out	1 (480i)
Analog audio out	1 (L/R RCA)
Analog audio input to convert to digital	1 (3.5 mm connector)
Digital audio out: Coax (RCA)	N/A
Total number of audio outputs	1
Network	
Ethernet ports × speed	1 × 10/100
ZigBee Pro	Yes (supports ZigBee Pro HA profile)
ZigBee antenna	Internal
USB 2.0	1
Control	
IR outputs for individual device control (3.5 mm)	4 (includes 4 IR emitters)
IR blaster for multiple device control (front)	Yes
IR Input (Used for IR Learning)	Yes
RS-232 for serial controlled devices	Yes
Environmental	
Normal operating temperature	32°F to 104°F (0°C to 40°C)
Storage temperature	-4° F to 149° F (-20° C to 65° C)
Mounting Options	
Shelf (with A/V gear)	Yes
Wall/TV mount	Yes (included)
Dimensions (H×W×D)	1.44 in. x 8.55 in. x 5 in. (36.5 mm x 217 mm x 127 mm)
Power	
Power supply	External
Power supply	Input: 100–240V, 50–60 Hz

Related Documentation

For more information about the Cisco Smart+Connected Residential products, see the following documents and websites:

Subject / Document Title	Location
General	
Product Information and Home Page	www.cisco.com/go/smartconnectedresidential
Cisco 1-Year Limited Hardware Warranty Terms	www.cisco.com/go/smartconnectedresidential warranty
Regulatory Compliance and Safety Information for Cisco Smart+Connected Residential Products	www.cisco.com/go/smartconnectedresidential/docs
Cisco Support	www.cisco.com/cisco/web/support/
Technical Documentaion	
Installation and Configuration Cisco Smart+Connected Residential Installation and Configuration Guide **Cisco RMS Installation and Administration** Cisco Smart+Connected Remote Management Console Administration Guide Cisco Smart+Connected Remote Management Server Installation Guide **Reference Guides** Cisco Smart+Connected Controller 200 Reference Guide Cisco Smart+Connected Controller 250 Reference Guide Cisco Smart+Connected Controller 800 Reference Guide Cisco Smart+Connected 7” In-wall Display Reference Guide Cisco Smart+Connected Portable Tablet Reference Guide Cisco Smart+Connected I/O Extender Reference Guide Cisco Smart+Connected Universal Remote 150 Reference Guide Cisco Smart+Connected Universal Remote 250 Reference Guide Cisco Smart+Connected Video Door Station Reference Guide	www.cisco.com/go/smartconnectedresidential/docs
Cisco Smart+Connected Residential Licensing Guide	See your Cisco representative or partner for more information.
Smart Device Compatibility and other information: Cisco Smart+Connected Smart Device License for Real Estate Developers	www.cisco.com/go/smartconnectedresidential
Composer Pro User Guide	http://www.control4.com/documentation/Composer_Pro_User_Guide/index.htm

Warranty

A Cisco 1-year warranty applies. Go to the following URL for more information:

www.cisco.com/go/smartconnectedresidentialwarranty

Service and Support

Cisco offers a wide range of support programs to accelerate customer success. These innovative programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. For more information, contact your Cisco sales representative or go to www.cisco.com/cisco/web/support/index.html

This document is to be used in conjunction with the documents listed in the "Related Documentation" section.

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