



## **Installation Guide for Cisco Unified Videoconferencing 5100 MCU Release 7.0.1**

October 2009

### **Americas Headquarters**

Cisco Systems, Inc.  
170 West Tasman Drive  
San Jose, CA 95134-1706  
USA  
<http://www.cisco.com>  
Tel: 408 526-4000  
800 553-NETS (6387)  
Fax: 408 527-0883

Text Part Number: OL-20999-01

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

CCDE, CCENT, CCSI, Cisco Eos, Cisco HealthPresence, Cisco Ironport, the Cisco logo, Cisco Lumin, Cisco Nexus, Cisco Nurse Connect, Cisco Stackpower, Cisco StadiumVision, Cisco TelePresence, Cisco Unified Computing System, Cisco WebEx, DCE, Flip Channels, Flip for Good, Flip Mino, Flip Video, Flip Video (Design), Flipshare (Design), Flip Ultra, and Welcome to the Human Network are trademarks; Changing the Way We Work, Live, Play, and Learn, Cisco Store, and Flip Gift Card are service marks; and Access Registrar, Aironet, AsyncOS, Bringing the Meeting To You, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, CCVP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Collaboration Without Limitation, EtherFast, EtherSwitch, Event Center, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, iQuick Study, IronPort, the IronPort logo, LightStream, Linksys, MediaTone, MeetingPlace, MeetingPlace Chime Sound, MGX, Networkers, Networking Academy, Network Registrar, PCNow, PIX, PowerPanels, ProConnect, ScriptShare, SenderBase, SMARTnet, Spectrum Expert, StackWise, The Fastest Way to Increase Your Internet Quotient, TransPath, WebEx, and the WebEx logo are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0907R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

*Installation Guide for Cisco Unified Videoconferencing 5100 MCU Release 7.0.1*  
© 2009 Cisco Systems, Inc. All rights reserved.



## CONTENTS

---

### CHAPTER 1

<b>Cisco Unified Videoconferencing 5100 MCU Functionality</b>	<b>1-1</b>
About the Cisco Unified Videoconferencing 5100 MCU	1-1
Main Features	1-1
Call Capacity	1-4
About Cisco Unified Videoconferencing 5100 MCU Architecture	1-4
About Cisco Unified Videoconferencing 5100 MCU Topologies	1-5
Centralized Topology	1-5
Cascaded Conferences	1-6

---

### CHAPTER 2

<b>Installing the Cisco Unified Videoconferencing 5100 MCU</b>	<b>2-1</b>
Cisco Unified Videoconferencing 5100 Chassis Main Features	2-1
Cisco Unified Videoconferencing 5100 Front and Back Panel Display	2-2
How to Perform Initial Cisco Unified Videoconferencing 5100 MCU Configuration	2-3
Setting Ethernet Speed and Duplex Parameters	2-3
Setting the IP Address	2-4
Initial Configuration and Boot Phases	2-5
Changing the Global User Name and Password	2-5
Accessing the MCU Interface	2-6

---

### CHAPTER 3

<b>Cable Connections and Pin-outs</b>	<b>3-1</b>
9-Pin Serial Port Terminal Cable	3-1
RJ-45 8-Pin IP Network Port	3-1
100 Mbps Ethernet	3-1
1 Gbps Ethernet	3-2

---

### CHAPTER 4

<b>Compliance and Certifications</b>	<b>4-1</b>
Safety Compliance	4-1
EMC	4-1
FCC Part 15 Notice	4-2
Environmental Compliance	4-2

---

### INDEX





# CHAPTER 1

## Cisco Unified Videoconferencing 5100 MCU Functionality

---

- [About the Cisco Unified Videoconferencing 5100 MCU, page 1-1](#)
- [Main Features, page 1-1](#)
- [Call Capacity, page 1-4](#)
- [About Cisco Unified Videoconferencing 5100 MCU Architecture, page 1-4](#)
- [About Cisco Unified Videoconferencing 5100 MCU Topologies, page 1-5](#)

### About the Cisco Unified Videoconferencing 5100 MCU

The Cisco Unified Videoconferencing 5100 MCU enables multimedia, multiparty collaboration in applications such as group conferencing, distance learning, training and video telephony. The MCU supports multimedia, multiparty communications in the board room, at the desktop, in the home, or on the road over wireless.

The MCU provides core IP-centric functionality, a wide range of layouts, powerful audio and video transcoding, support of web-initiated data collaboration, and software upgradeable technology. The system can be fully customized according to the needs of the administrator.


### Main Features

[Table 1-1](#) lists the main features provided by the Cisco Unified Videoconferencing 5100 MCU for effective audio and videoconferencing and a satisfying user experience.

**Table 1-1 Summary of Cisco Unified Videoconferencing 5100 MCU Features**

<b>Feature</b>	<b>Description</b>
Superior video processing	Video and audio processing is carried out per user rather than per conference. Each user connects using unique, optimized audio and video settings to enjoy the best audio and video quality supported by their endpoint and network.
Seamless interoperability	<p>The MCU is built on the strong foundation of the Cisco H.323 and SIP software, ensuring full compliance and unmatched interoperability with IP and ISDN networks.</p> <p>The MCU enables H.323, SIP and SCCP devices to participate in the same conference session.</p> <p>When used with the Cisco Unified Videoconferencing 3545 Gateway, the MCU also enables ISDN and V.35 wireless devices to participate in the same conference session.</p>
Intuitive web-based management and control	Both the Cisco Unified Videoconferencing 5100 MCU system and the actual conference sessions are managed, configured, and dynamically modified through an intuitive, web-based interface that offers easy, high-level conference control and administrative flexibility for an enhanced user experience.
Unlimited number of conferences	The number of supported conferences is limited only by the number of ports provided by your license.
In-meeting indicators	A range of messages and icons are displayed on the endpoint monitor during conferences when certain operations occur, including when a participant joins or leaves a conference, an audio-only participant speaks, and a participant's personal video layout changes.
Personal layouts per participant	Fully customizable personal video layouts for each conference participant.
Single LAN connection	Only a single Ethernet connection is required for the entire Cisco Unified Videoconferencing 5100 MCU system.
Snapshot files for Customer Support	One-click creation of a file of bundled logs and configuration files which you can send to Cisco Customer Support for debugging.

**Table 1-1** Summary of Cisco Unified Videoconferencing 5100 MCU Features (continued)

Feature	Description
Supported protocols	<ul style="list-style-type: none"> <li>• H.323 version 4</li> <li>• SIP RFC 3261 for the Session Initiation Protocol</li> <li>• SCCP</li> <li>• H.243 for conference control</li> <li>• RFC 2833 for in-band DTMF with SIP</li> <li>• H.281 for far end camera control (FECC)</li> <li>• H.235 for IP-based media encryption</li> <li>• H.239 for standard simultaneous transmission of live video and presentation sharing feeds.</li> <li>• SDP (RFC 3264, 2327)</li> <li>• H.320 (when using a Gateway)</li> </ul> <p> <b>Note</b> The MCU supports calls from H.323 and SIP endpoints in the same conference. Call signaling is handled on all ports regardless of the protocol type.</p>
Audio transcoding codecs	<ul style="list-style-type: none"> <li>• G.711 A/μ Law</li> <li>• G.722</li> <li>• G.722.1</li> <li>• Siren 14/G.722.1 C</li> <li>• G.729 A and B</li> </ul>
Unmatched video quality	<p>The MCU delivers exceptionally high quality video and audio processing, using latest industry standards and upgradeable DSP chip software.</p> <p>The MCU achieves the best video quality by supporting the following video capabilities:</p> <ul style="list-style-type: none"> <li>• High definition and standard definition participants in the same conference.</li> <li>• H.263 and H.264 in the same conference</li> <li>• A choice of 16 layouts</li> <li>• Up to 6 Mbps on each stream without affecting capacity</li> <li>• Resolutions from CIF to 720p in the same conference</li> <li>• VGA, SVGA, XGA (supported for presentation channel only)</li> </ul>

**Table 1-1 Summary of Cisco Unified Videoconferencing 5100 MCU Features (continued)**

Feature	Description
Security and privacy	<ul style="list-style-type: none"> <li>• Administrator and operator password protection for accessing the MCU web interface.</li> <li>• Optional PIN protection for joining a conference and web access.</li> <li>• Additional PIN protection for conference Moderator Control.</li> <li>• The MCU uses H.235-based encryption to achieve secure communication with endpoints that support this standard.</li> </ul>
In-conference control using DTMF or H.243	During a conference, participants may use their endpoint remote control or keypad to perform actions such as mute, volume control, changing video layouts and inviting participants. Users interact with the MCU through DTMF signaling or the on-screen GUI of H.243-compliant endpoints.
Optional no self see	The administrator can configure the MCU service to remove the self-view for each conference participant. This feature enables more effective use of the video screen.
Interactive Voice Response (IVR) messages	The MCU includes pre-recorded greetings to conference participants and announcements as each new participant joins the conference. You can record messages to provide custom greetings and announcements.

## Call Capacity

The MCU provides a flat capacity of 10 ports (for the 5110 unit) and 15 ports (for the 5115 unit). This capacity is regardless of the call bit rate or resolution. Each video call consumes a single port.

High Definition calls can connect at up to 720p at 30fps.

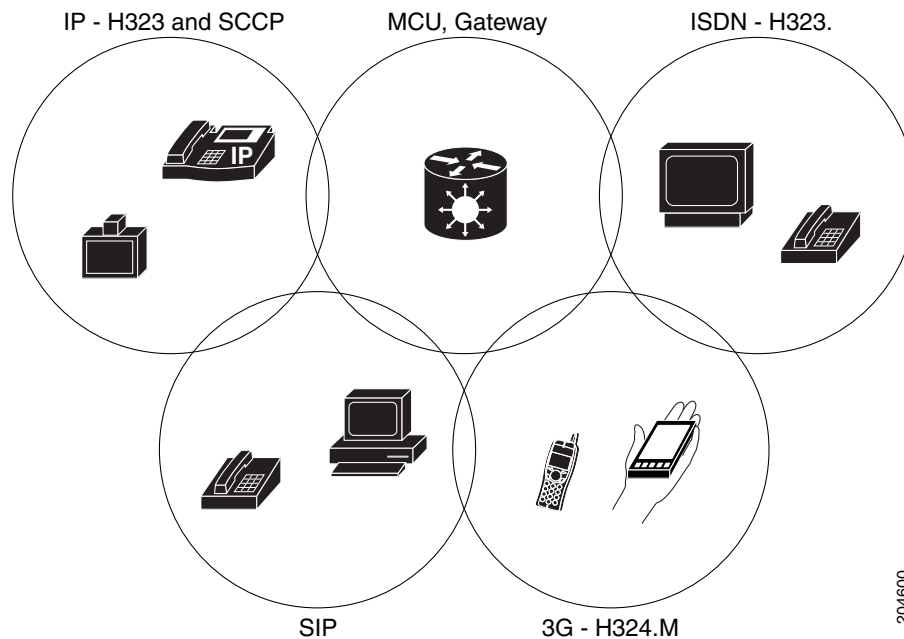
Enhanced Definition calls can connect at up to 4CIF/352p at 30fps.

In some cases, the frame rate of calls using 4CIF might drop but not to less than 15fps.

## About Cisco Unified Videoconferencing 5100 MCU Architecture

The Cisco Unified Videoconferencing 5100 MCU enables both voice-only and video conference calls for H.323, SIP, H.320, SCCP and regular PSTN network phones. H.323 and SIP devices can connect to a conference directly through the Cisco Unified Videoconferencing 5100 MCU. Other devices such as phones and video conferencing terminals (H.320) can connect to a conference through a gateway, such as the Cisco Unified Videoconferencing 3545 Gateway.



**Figure 1-1 Supported Devices and Protocols**

The MCU supports devices that can send and receive video streams, as well as those that cannot send but only receive video streams. This means that terminals without a video camera or video capturing capabilities can participate in a conference as voice-only participants while benefiting from seeing the other participants.

## About Cisco Unified Videoconferencing 5100 MCU Topologies

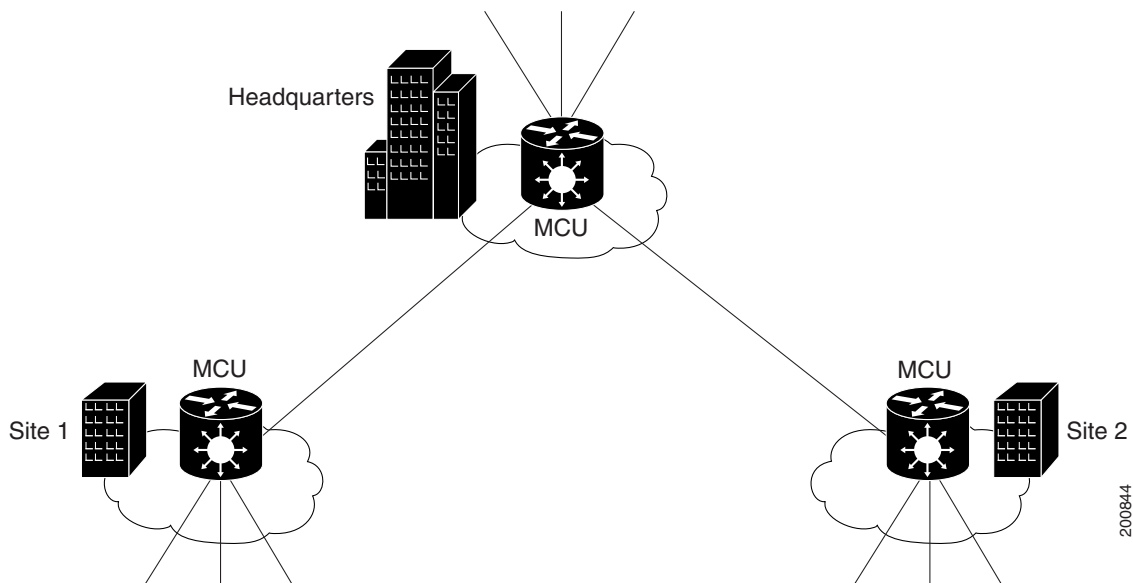
The Cisco Unified Videoconferencing 5100 MCU can work in a centralized or cascaded topology. This section describes these two options.

- [Centralized Topology, page 1-5](#)
- [Cascaded Conferences, page 1-6](#)

### Centralized Topology

In a centralized topology, the MCU performs media processing for all connected terminals, regardless of their location. The MCU can handle multiple conferences simultaneously.

Figure 1-2 Centralized Topology



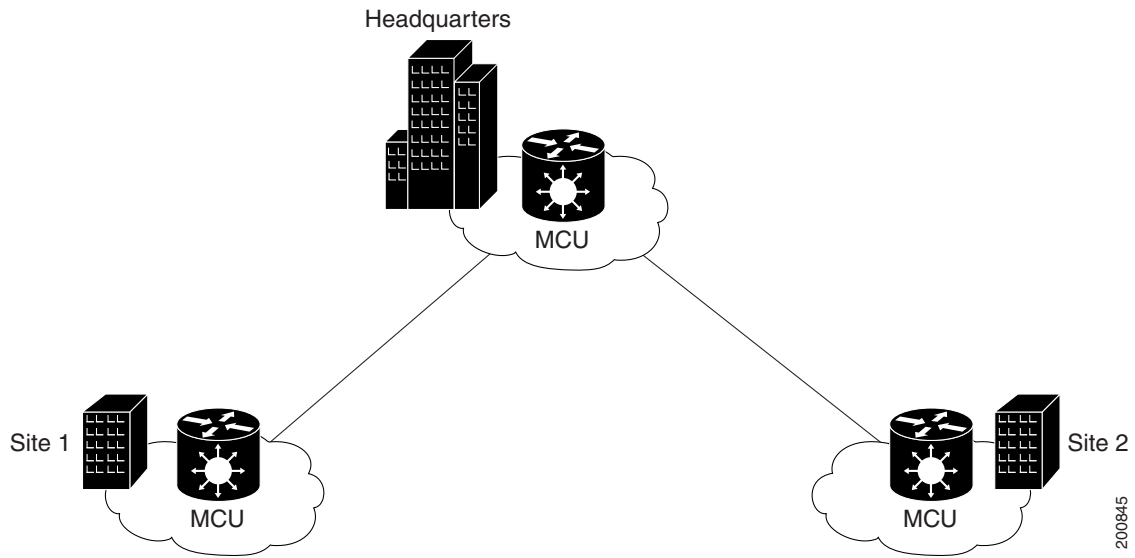
## Cascaded Conferences

The MCU allows you to combine two or more conferences resulting in a larger conference with many more participants. This is called cascading. Cascading creates a distributed environment that helps reduce the drain on network resources. In addition, the processing resources required by the MCU are distributed between participating MCUs. Costly phone or ISDN line usage can be further reduced with the mediation of a gateway.

Cascading occurs when one conference with “x” number of participants invites another conference with “y” number of participants. The two conferences effectively become one large conference. The bandwidth required across a cascaded conference link is only that of one audio/video stream between the two conferences. This is significantly less than the accumulated bandwidth of all the participants. Each separate MCU participating in a conference retains control of its individual conference resources and participants.

The cascaded conference in [Figure 1-3 on page 1-7](#) minimizes the use of network bandwidth while distributing processing among the participating MCUs.

Figure 1-3 Cascaded Conference







## CHAPTER 2

# Installing the Cisco Unified Videoconferencing 5100 MCU

- [Cisco Unified Videoconferencing 5100 Chassis Main Features, page 2-1](#)
- [Cisco Unified Videoconferencing 5100 Front and Back Panel Display, page 2-2](#)
- [How to Perform Initial Cisco Unified Videoconferencing 5100 MCU Configuration, page 2-3](#)
- [Accessing the MCU Interface, page 2-6](#)

## Cisco Unified Videoconferencing 5100 Chassis Main Features

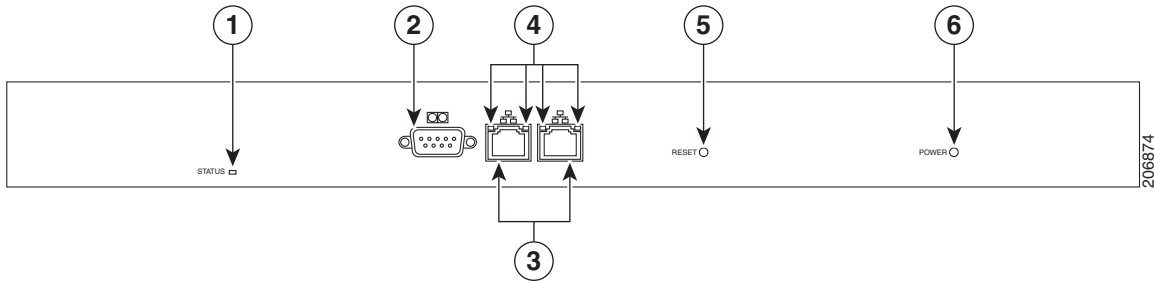
The Cisco Unified Videoconferencing 5100 chassis is a 1U chassis that contains one Cisco Unified Videoconferencing 5100 MCU.

**Table 2-1**      *Main Features of the Cisco Unified Videoconferencing 5100 Chassis*

Grounding and electrostatic discharge	<ul style="list-style-type: none"><li>• The chassis includes an external GND 4mm stud as per the TUV requirement).</li><li>• The chassis includes 4mm banana jacks for a 4.5mm plug or a standard 0.166" plug, as per the PICMG 3.0 specification.</li></ul>
Cooling	The chassis supports a single failed fan in the fan tray.
Power supply	<ul style="list-style-type: none"><li>• Default AC power supply as the default choice.</li><li>• Universal 90-264 VAC power ports.AC power entry includes regular IEC320-C14 filtered AC inlet and double pole switch located in the rear.</li><li>• Thermal shutdown if the unit heats up beyond its limits.</li></ul>

# Cisco Unified Videoconferencing 5100 Front and Back Panel Display

**Figure 2-1 Chassis Front Panel**



**Table 2-2 Cisco Unified Videoconferencing 5100 Panel Features**

Component	Description
1 STATUS LED	Lights green to indicate normal operation. Lights red to indicate that an error has occurred and that the Media Blade requires resetting.
2 Serial connector	A DB-9 connector that allows you to connect a PC terminal for local configuration, maintenance and debugging.
3 100/1000 BASE-T Ethernet connectors	RJ-45 connectors that provide the primary LAN connection for the IP network port.
4 Ethernet connector Link/Activity LEDs	The top part of each Ethernet connector contains two LED indicators. The right LED lights green when the local IP network link is active. The left LED lights green if the connection speed reaches 1000 Mbps, and lights orange if the connection speed reaches 100 Mbps.
5 Reset Button	Enables you to reset the MCU manually.
6 Power LED	Lights green to indicate that the power is turned on.

**Figure 2-2 Chassis Rear Panel**



# How to Perform Initial Cisco Unified Videoconferencing 5100 MCU Configuration

- [Setting Ethernet Speed and Duplex Parameters, page 2-3](#)
- [Setting the IP Address, page 2-4](#)
- [Initial Configuration and Boot Phases, page 2-5](#)
- [Changing the Global User Name and Password, page 2-5](#)

## Setting Ethernet Speed and Duplex Parameters

Use the serial port to set the Ethernet speed and duplex parameters that you want the MCU to use.

### Procedure

---

**Step 1** Access the MCU through the serial port and start the terminal emulator session.



---

**Note** If the MCU is already running, you need to reboot or restart the device.

---

**Step 2** When the message “Press any key to start configuration” appears on the screen, press any key within 10 seconds.

The network configuration Main menu appears.

**Step 3** Enter **A** at the prompt to display the Advanced Configuration menu, and press **Enter**.

The Advanced Configuration menu appears.

**Step 4** Enter **3** at the prompt to select “Change LAN port Settings”, and press **Enter**.

**Step 5** Enter the appropriate number or letter at the prompt for one of these options:

- 1 - 100Mbps Half Duplex
- 2 - 100Mbps Full Duplex
- 3 - Auto Negotiation
- Other - Quit



---

**Note** We recommend that you select “3 - Auto Negotiation”.

---

**Step 6** Press **Enter**.

The network configuration Main menu appears.

**Step 7** Do one of the following:

- Enter the letter for the set of parameters that you want to configure.
  - Enter **Q** to save your changes and allow the device to complete the boot process.
-

## Setting the IP Address

You use the serial port on the MCU front panel to assign a new IP address to your MCU. You must assign the IP address before you connect the MCU to the network.

### Before You Begin

Gather these items to assign an IP address to the MCU:

- Dedicated IP address for the MCU
- Dedicated subnet mask for the MCU
- IP address of the default router the MCU uses to communicate over the network
- PC with available serial port and terminal emulator software installed
- Serial cable

### Procedure

- 
- Step 1** Connect the serial cable from the PC terminal to the serial port on the front panel of the MCU.
- Step 2** Connect the power cable.
- Step 3** Start the terminal emulation application on the PC.
- Step 4** Set the communication settings in the terminal emulation application on the PC as follows:
- Baud rate: 9600
  - Data bits: 8
  - Parity: None
  - Stop bits: 1
  - Flow control: None
- Step 5** Turn on the power to the MCU.
- A log of the auto-boot events scrolls across the computer monitor.
- Step 6** When the message “Please press **Enter** to activate this console” appears, press **Enter**—within a **minute**. Afterwards, you are prompted with the amount of time that should elapse till the configuration menu starts. (about a minute).
- The network configuration Main menu appears:
- ```
Main menu
N: Configure default network port values
P: Change the configuration software password
S: Configure network security level
T: Configure TFTP servers list
A: Advanced configuration menu
Q: Quit
```
- Step 7** Enter N at the prompt to configure default network port values and press **Enter**.
- Step 8** Enter 2 to change the network configuration.
- Step 9** Enter the IP address you want to assign to the MCU at the Enter IP address for default interface prompt and press **Enter**.





---

**Note** Do not use leading zeros in the IP address.

---

- Step 10** Enter the IP address of the router associated with the segment in which the unit will be installed at the Enter Default Router IP Address prompt and press **Enter**.



---

**Note** Do not use leading zeros in the IP address.

---

- Step 11** Enter the subnet mask without leading zeros at the Enter IP Mask for default device prompt and then press **Enter**.

To use the default mask of 255.255.0.0, press **Enter**.

- Step 12** Press **Enter** in the next prompts.

- Step 13** Press Y to save the new configuration.

- Step 14** Press Q to quit the configuration menu.

- Step 15** Allow the unit to complete the reboot process. A new emulator session begins.

- Step 16** Close the terminal emulator session.
- 

## Initial Configuration and Boot Phases

Initial monitoring and administration of the MCU are performed from a remote PC through a serial connection using a terminal emulation application, such as HyperTerminal. This allows you to access the boot configuration menu of the MCU. At power-up, the MCU goes through a boot phase in which the embedded operating system initializes and displays basic information. The **first** time you install the MCU, you assign an IP address to the MCU using a terminal cable connection to access the boot configuration menu.



---

**Note** You can perform serial port configuration of the MCU only at startup, if you choose to enter the configuration menu—within a minute—when indicated.

Once the boot phase is complete, the only way you can access the configuration menu is by restarting the MCU.

You use the serial port on the MCU front panel to assign a new IP address to your MCU. You must assign the IP address before you can connect the MCU to the network.

---

## Changing the Global User Name and Password

You can change the global user name and password that the MCU uses. You use this user name and password to access the configuration web page for the MCU. The user name and password are required for these tasks:

- Starting a Telnet session to monitor the MCU
- Upgrading the MCU software

- Uploading Interactive Voice Response (IVR) messages to MCU configuration memory

The default global user name is *admin*. The default password is *password*.

#### Procedure

- 
- Step 1** Start a terminal emulator session as described in the [Setting the IP Address, page 2-4](#).
- Step 2** Enter **P** at the prompt.
- Step 3** Enter the name that you want to use as the global user name at the Enter User name prompt, and press **Enter**.
- Step 4** Enter the password that you want to use at the Password prompt, and press **Enter**.  
The network configuration Main menu appears.
- Step 5** Do one of the following:
- Enter the letter for the set of parameters that you want to configure.
  - Enter **Q** to save your changes and allow the device to complete the boot process.
- 

## Accessing the MCU Interface

#### Procedure

- 
- Step 1** Launch your browser and enter the IP address or the name of the MCU followed.
- Step 2** Enter the Administrator user name and password in the appropriate fields and select **Go**.  
The default global user name is *admin*. The default password is *password*.



**Note** If you try to sign in as an Administrator and another Administrator is currently signed in, the MCU signs you in as a Read only user. The words “Read Only” appear at the top of the window and a pop-up displays the IP address of the Administrator already signed in. Read only users cannot edit MCU settings.

---



# CHAPTER 3

## Cable Connections and Pin-outs

---

- [9-Pin Serial Port Terminal Cable, page 3-1](#)
- [RJ-45 8-Pin IP Network Port, page 3-1](#)

### 9-Pin Serial Port Terminal Cable

[Table 3-1](#) describes the pin-to-pin configuration of the RS-232 terminal cable provided with the Cisco Unified Videoconferencing 5100.

**Table 3-1** *RS-232 9-pin D-Type Serial Port Pin-out*

| Pin | Function | I/O    |
|-----|----------|--------|
| 1   | NC       |        |
| 2   | RXD      | Input  |
| 3   | TXD      | Output |
| 4   | NC       |        |
| 5   | GND      |        |
| 6   | NC       |        |
| 7   | NC       |        |
| 8   | NC       |        |
| 9   | NC       |        |

### RJ-45 8-Pin IP Network Port

- [100 Mbps Ethernet, page 3-1](#)
- [1 Gbps Ethernet, page 3-2](#)

### 100 Mbps Ethernet

[Table 3-2](#) describes the pin-out configuration of the 100 Mbps RJ-45 Ethernet connector.

**Table 3-2** Pin-out Configuration of the 100 Mbps RJ-45 IP Ethernet Connector

| Pin | Function | I/O    |
|-----|----------|--------|
| 1   | TXD+     | Output |
| 2   | TXD+     | Output |
| 3   | RXD+     | Input  |
| 4   | NC       |        |
| 5   | NC       |        |
| 6   | RXD-     | Input  |
| 7   | NC       |        |
| 8   | NC       |        |

## 1 Gbps Ethernet

Table 3-3 describes the pin-out configuration of the 1 Gbps RJ-45 Ethernet connector.

**Table 3-3** Pin-out Configuration of the 1 Gbps RJ-45 IP Ethernet Connector

| Pin | Name   | Function                | I/O |
|-----|--------|-------------------------|-----|
| 1   | BI_DA+ | Bi-directional pair A + | I/O |
| 2   | BI_DA- | Bi-directional pair A - | I/O |
| 3   | BI_DB+ | Bi-directional pair B + | I/O |
| 4   | BI_DC+ | Bi-directional pair C + | I/O |
| 5   | BI_DC- | Bi-directional pair C - | I/O |
| 6   | BI_DB- | Bi-directional pair B - | I/O |
| 7   | BI_DD+ | Bi-directional pair D + | I/O |
| 8   | BI_DD- | Bi-directional pair D - | I/O |



## CHAPTER 4

# Compliance and Certifications

---

This section provides certifications that have been approved for the Cisco Unified Videoconferencing 5100 platform.

- [Safety Compliance, page 4-1](#)
- [EMC, page 4-1](#)
- [Environmental Compliance, page 4-2](#)

## Safety Compliance

This section lists the safety standards supported by the Cisco Unified Videoconferencing 5100 platform.

- IEC 60950-1 2nd Edition
- UL 60950-1 2nd Edition
- CAN/CSA C22.2 No. 60950-1 2nd Edition
- EN 60950-1 2nd Edition
- AS/NZS 60950-1 2nd Edition

## EMC

This section lists the EMC compliance for the Cisco Unified Videoconferencing 5100 platform.

- FCC Part 15, Subpart B, Class A
- ICES-003
- EN 55022, Class A
- EN 55024
- EN 61000-3-2
- EN 61000-3-3
- AS/NZS 3548, Class A
- VCCI, Class A
- CISPR22, Class A

**Note**

---

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

---

## FCC Part 15 Notice

This section provides RF interference information for the user.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at one's own expense.

**Note**

---

Changes or modifications to the device that are not approved by the party responsible for compliance could void the user's authority to operate the equipment.

---

## Environmental Compliance

Cisco complies with the following EU Directives:

- Restrictions on the Use of Hazardous Substances (RoHS) Directive 2002/95/EC
- Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC



## INDEX

---

### A

audio  
    codecs [1-3](#)

---

### B

boot configuration menu [2-5](#)

---

### C

cables  
    RS-232 9-pin serial port [3-1](#)  
cascaded conferences [1-6](#)  
codecs  
    audio transcoding [1-3](#)

---

### D

DTMF [1-4](#)

---

### E

encryption [1-4](#)

---

### H

H.235 [1-3](#)  
H.239 [1-3](#)  
H.243 [1-4](#)

---

### I

initial configuration [2-3, 2-5](#)  
interoperability [1-2](#)  
IVR [1-4](#)

---

### O

optional no self see [1-4](#)

---

### P

pin-out configuration  
    RJ-45 IP network port [3-1, 3-2](#)  
    RS-232 9-pin D-type serial port [3-1](#)  
ports  
    RJ-45 IP [3-1, 3-2](#)  
    RS-232 9-pin serial [3-1](#)  
privacy [1-4](#)  
protocols [1-3](#)

---

### R

remote control [1-4](#)

---

### S

security [1-4](#)  
self-view [1-4](#)

---

### T

transcoding [1-3](#)

---

## V

video

formats [1-3](#)

video quality [1-2, 1-3](#)

---

## W

web-based management and control [1-2](#)