CHAPTER 3

Setting Up the Cisco Unified IP Phone

This chapter includes this following topics, which help you install the Cisco Unified IP Phone on an IP telephony network:

Note Before you install a Cisco Unified IP phone, you must decide how to configure the phone in your network. Then you can install the phone and verify its functionality. For more information, see Chapter 2, "Preparing to Install the Cisco Unified IP Phone on Your Network."

Before You Begin

Before installing the Cisco Unified IP Phone, review the requirements in these sections:

Network Requirements

For the Cisco Unified SIP Phone 3911 to successfully operate as a Cisco Unified IP Phone endpoint in your network, your network must meet the following requirements:

- Working Voice over IP (VoIP) Network:
  - VoIP configured on your Cisco routers and gateways
  - Cisco Unified Communications Manager installed in your network and configured to handle call processing
- IP network that supports DHCP or manual assignment of IP address, gateway, and subnet mask

The Cisco Unified IP Phone displays the date and time from Cisco Unified Communications Manager. If the Cisco Unified Communications Manager server is located in a different time zone than the phones, the phones will not display the correct local time.

Cisco Unified Communications Manager Configuration

The Cisco Unified IP Phone requires Cisco Unified Communications Manager to handle call processing. Refer to *Cisco Unified Communications Manager Administration Guide* or context-sensitive help in the Cisco Unified Communications Manager application to ensure that Cisco Unified Communications Manager is set up properly to manage the phone and to properly route and process calls.

If you plan to use auto-registration, verify that it is enabled and properly configured in Cisco Unified Communications Manager before connecting any Cisco Unified IP Phone to the network. See the "Adding Phones to the Cisco Unified Communications Manager Database" section on page 2-9 for details.

You must use Cisco Unified Communications Manager to configure and assign telephony features to the Cisco Unified IP Phones. See the "Telephony Features Available for the Cisco Unified IP Phone" section on page 5-1 for details.

In Cisco Unified Communications Manager, you can add users to the database and associate them with specific phones. See the "Adding Users to Cisco Unified Communications Manager" section on page 5-5 for details.

Safety

Review the following warnings before installing the Cisco Unified IP Phone. To see translations of these warnings, refer to the *Regulatory Compliance and Safety Information for the Cisco Unified IP Phone* document that accompanied this device.

Warning **Read the installation instructions before you connect the system to its power source.**

Warning **Only trained and qualified personnel should be allowed to install, replace, or service this equipment.**

Warning **Ultimate disposal of this product should be handled according to all national laws and regulations.**

Warning **Do not work on the system or connect or disconnect cables during periods of lightning activity.**

Warning **Installation of the equipment must comply with local and national electrical codes**

Warning **The power supply must be placed indoors.**

Warning **To avoid electric shock, do not connect safety extra low voltage (SELV) circuits to telephone network voltage (TNV) circuits. LAN ports contain SELV circuits, and WAN ports contain TNV circuits. Some LAN and WAN ports both use RJ-45 connectors. Use caution when connecting cables.**

Caution Inline power circuits provide current over the cable. Use the Cisco provided cable or a minimum 24 AWG communication cable.

The following warnings apply when you use an external power supply.

Caution Only use the proper Cisco approved external power supply. Reference the installation manual provided with the phone.

Warning **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15 A U.S. (240 VAC, 10 A international) is used on the phase conductors (all current-carrying conductors).**

Warning **The device is designed to work with TN power systems.**

Warning **The plug-socket combination must be accessible at all times because it serves as the main disconnecting device. #331**

Understanding the Cisco Unified IP Phone Components

The Cisco Unified SIP Phone 3911 includes these components on the phone or as accessories for the phone:

- Network Port, page 3-5
- Handset, page 3-5
- Speakerphone, page 3-5
- Installing the Cisco Unified IP Phone, page 3-6

Network Port

The back of the Cisco Unified SIP Phone 3911 has a port that you use to connect to the network.

Handset

The handset is designed especially for use with a Cisco Unified SIP Phone. To connect a handset to the Cisco Unified SIP Phone, plug the cable into the handset and the Handset port on the back of the phone.

Speakerphone

The Cisco Unified IP Phones has a speaker on/off button. To change from speakerphone to handset, lift the handset.

Headset

Although Cisco Systems performs some internal testing of third-party headsets for use with the Cisco Unified IP Phones, Cisco does not certify or support products from headset or handset vendors. Because of the inherent environmental and hardware inconsistencies in the locations where Cisco Unified IP Phones are deployed, there is not a single "best" solution that is optimal for all environments. Cisco recommends that customers test the headsets that work best in their environment before deploying a large number of units in their network.

In some instances, the mechanics or electronics of various headsets can cause remote parties to hear an echo of their own voice when they speak to Cisco Unified IP Phone users.

Cisco Systems recommends the use of good quality external devices, like headsets that are screened against unwanted radio frequency (RF) and audio frequency (AF) signals. Depending on the quality of these devices and their proximity to other devices such as cell phones and two-way radios, some audio noise may still occur.

The primary reason that support of a headset would be inappropriate for an installation is the potential for an audible hum. This hum can either be heard by the remote party or by both the remote party and the Cisco Unified IP Phone user. Some potential humming or buzzing sounds can be caused by a range of outside sources, for example, electric lights, being near electric motors, large PC monitors. In some cases, a hum experienced by a user may be reduced or eliminated by using the Cisco Unified IP Phone Power Cube 3 (CP-PWR-CUBE-3).

Audio Quality Subjective to User

Beyond the physical, mechanical and technical performance, the audio portion of a headset must sound good to the user and the party on the far end. Sound is subjective and Cisco cannot guarantee the performance of any headsets or handsets, but some of the headsets and handsets on the sites listed below have been reported to perform well on Cisco Unified IP Phones.

Nevertheless, it is ultimately still the customer's responsibility to test this equipment in their own environment to determine suitable performance.

Connecting a Headset

To connect a headset to the Cisco Unified SIP Phone 3911, plug it into the RJ-9 Handset port on the back of the phone. Depending on headset manufacturer's recommendations, an external amplifier may be required. Refer to headset manufacturer's product documentation for details.

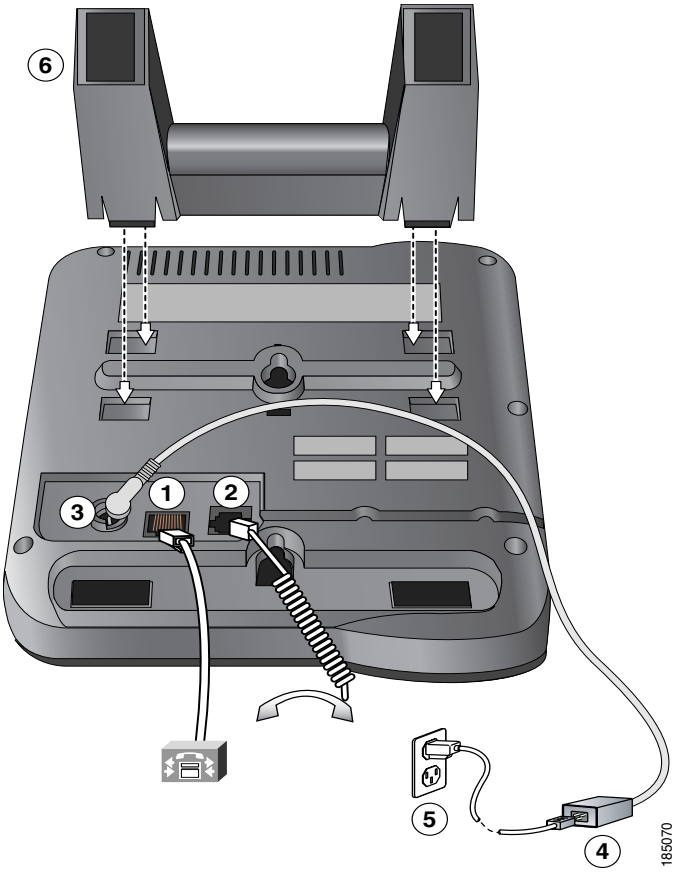
You can use the headset with all of the features on the Cisco Unified IP Phone, including using the Volume button.

Installing the Cisco Unified IP Phone

You must connect the Cisco Unified IP Phone to the network and to a power source before using it. See Figure 3-1 for a graphical representation of the connections.

Task	Notes	Reference
1. Connect the handset to the Handset port.	—	See the"Handset" section on page 3-5 for guidelines.
2. Connect the power supply to the Cisco DC Adapter port.	Optional.	See the "Providing Power to the Cisco Unified IP Phone" section on page 2-3 for guidelines.
3. Connect a Category 3 or 5 straight-through Ethernet cable from the switch to the network port.	—	See the "Network Port" section on page 3-5 for guidelines.

Figure 3-1 Cisco Unified SIP Phone 3911 Cable Connections



1	Network port (10/100 SW) for connecting to the network.	**4**	Power supply with AC plug. (Optional. Required only if power is not supplied through an Ethernet connection.)
2	RJ-9 Handset port for connecting the handset.	**5**	Power cable with wall socket plug for connecting to power.
3	DC adaptor port (DC48V) for phones not provided with inline power.	**6**	Footstand

Related Topics

- Mounting the Phone to the Wall, page 3-9
- Verifying the Phone Startup Process, page 3-10
- Configuring Startup Network Settings, page 3-11

Mounting the Phone to the Wall

You can mount the Cisco Unified IP Phone on the wall by using special brackets available in a Cisco Unified IP Phone wall mount kit. (Wall mount kits must be ordered separately from the phone.) If you attach the Cisco Unified IP Phone to a wall using the standard footstand and not the wall mount kit, you need to supply the following tools and parts:

- Screwdriver
- Screws to secure the Cisco Unified IP phone to the wall

Before You Begin

To ensure that the handset attaches securely to a wall-mounted phone, remove the handset wall hook from the handset rest, rotate the hook 180 degrees, and reinsert the hook. Turning the hook exposes a lip on which the handset catches when the phone is vertical. For an illustrated procedure, refer to *Installing the Wall Mount Kit for the Cisco Unified IP Phone*.

Caution Use care not to damage wires or pipes located inside the wall when securing screws to wall studs.

Procedure

Step 1 Remove the footstand from the phone.

Step 2 Modify the handset rest so that the handset remains on the ear-piece rest when the phone is vertically placed.

a. Remove the handset from the ear-piece rest.

b. Locate the tab (handset wall hook) at the base of the ear-piece rest.

c. Slide this tab out, rotate it 180 degrees (left to right), and reinsert it.

d. Place the handset on the ear-piece rest.

Step 3 Insert two screws into a wall stud, matching them to the two screw holes on the back of the footstand.

The keyholes fit standard phone jack mounts.

Step 4 Hang the phone on the wall.

Verifying the Phone Startup Process

After the Cisco Unified IP Phone has power connected to it, the phone begins its startup process by cycling through these following steps:

1. These buttons lights up:
   - Voice Message Light Indicator
   - Line Light Indicator
   - Conference button
   - MWI button
   - Speaker button
   - Mute button
2. The LCD screen displays the Cisco logo.
3. The LCD screen displays a series of messages that inform you of various activities that the phone performs as it starts up. If the phone upgrades its firmware as part of the startup process, additional messages will inform you about this process.
4. The main LCD screen displays this information:
   - Current date and time
   - Directory number

If the phone successfully passes through these stages, it has started up properly. If the phone does not start up properly, see the "Resolving Startup Problems" section on page 7-1.

Configuring Startup Network Settings

If you are not using DHCP in your network, you must configure these network settings on the Cisco Unified IP Phone after installing the phone on the network:

- IP address
- IP subnet mask
- Default gateway IP address
- Domain name
- DNS server IP address
- TFTP server IP address

Collect this information and see Chapter 4, "Configuring Settings on the Cisco Unified IP Phone."