

Standard

MCS 5100 Release 4.0
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IP Phone 2002 User Guide



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Revision history

March 2009

Standard 01.05. This document is up-issued to support changes in the section Placing a call on hold.

September 2007

Standard 01.04. This document is up-issued to support changes in technical content documented in CR Q01748660.

February 2007

Standard 01.03. This document is up-issued to support Multimedia Communication Server 5100 Release 4.0. It addresses CR Q01354191.

January 2007

Standard 01.01. This document is issued to support Multimedia Communication Server 5100 Release 4.0. This document contains information previously contained in the following legacy document, now retired: *IP Phone 2002 User Guide* (NN10319-113).

November 2005

Standard 3.0. This document is up-issued to support MCS 5100 Release 3.5.

November 2005

Standard 2.0. This document is up-issued to support MCS 5100 Release 3.5.

October 2005

Standard 1.0. This document is up-issued to support MCS 5100 Release 3.5.

New in this release

The following sections describe what is new in this document for Multimedia Communication Server (MCS) 5100 Release 4.0.

Feature changes

The following new features affect this document:

- [“CFW and DND E911 Operator Callback” on page 11](#)
- [“MCP granular service packaging” on page 12](#)
- [“Multiple Login restrictions” on page 12](#)
- [“MCS E911 caller hold” on page 12](#)

The following sections describe how the features affect this release.

CFW and DND E911 Operator Callback

This feature changes the Enhanced 911 (E911) system so that when an emergency operator calls back a caller who dialed 911, the call is not blocked, rerouted, or preempted by other calls. Therefore, the caller who made the 911 call can be contacted directly. The following settings are overridden during an E911 call:

- Do Not Disturb (DND) enabled
- Call Forwarding (CFW) enabled
- Routable Services enabled

This feature also gives the callback priority if the Application Server is in a minor or major overload situation.

MCP granular service packaging

With this feature, you can control the operation of services on a domain or user basis. Features such as Instant Messaging and Web Collaboration can be controlled. Users or domains can be restricted in their use of the service. The ability to send and receive instant messages is controlled, as well as the ability of a user or a group of users to transfer files, transfer a clipboard, send a URL to a user, or to manipulate a whiteboard.

Multiple Login restrictions

With this feature, you can configure a maximum number of times a user can log on to SIP endpoints. The administrator can force a logout from a user's endpoints.

MCS E911 caller hold

This feature adds two enhancements to the Enhanced 911 (E911) system:

- The originator of a 911 call cannot invoke midcall features (such as Hold, Transfer, Call Park, and Conferencing), cannot make an additional call, and cannot receive incoming requests outside the emergency call.
- The originator of a 911 call cannot disconnect the call. The public safety answering point (PSAP) must disconnect the call.

Other changes

This document was renumbered from NN10319-113 to NN42020-126.

This document includes safety information about the use of connecting cables, power cords, and AC adaptors that ship with the equipment or that Nortel specifies.

Regulatory and safety information

This chapter contains regulatory and safety information.

Safety Information



Warning

Please be careful of the following while installing the equipment:

- Please only use the Connecting cables, power cord, AC adaptors shipped with the equipment or specified by Nortel to be used with the equipment. If you use any other equipment, it may cause “failures, malfunctioning or fire”.
- Power cords shipped with this equipment must not be used with any other equipment. In case the above guidelines are not followed, it may lead to death or severe injury



警告

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Introduction

This guide describes how to install, configure and use your Nortel IP Phone 2002.

The topics in this chapter include:

- [“How this guide is organized” on page 15](#)
- [“Audience” on page 16](#)
- [“Text conventions” on page 16](#)
- [“Acronyms” on page 17](#)
- [“Related publications” on page 17](#)
- [“How to get help” on page 18](#)

How this guide is organized

This guide is organized as follows:

- [“IP Phone 2004 overview” on page 19](#)
- [“Installation and initialization” on page 33](#)
- [“Configuration” on page 41](#)
- [“Make and receive calls” on page 53](#)
- [“Call management” on page 71](#)
- [“Advanced features and services” on page 83](#)
- [“Troubleshooting” on page 95](#)

For a brief overview of how to use the SIP Multimedia PC Client to control your IP Phone 2002 (a configuration called the SIP Multimedia PC Client Set), see [“Appendix A: Multimedia PC Client and the IP Phone 2002” on page 99](#).

For a brief overview of how to use the SIP Multimedia Office Client to control your IP Phone 2002 (a configuration called the SIP Multimedia Office Client Set), see [“Appendix B: Multimedia Office Client and the IP Phone 2002” on page 101](#).

For a brief overview of how to use the Multimedia PC Client for IBM Lotus Notes to control your IP Phone 2002 (a configuration called the Multimedia PC Client IBM Lotus Notes Set), see [“Appendix C: Multimedia PC Client for IBM Lotus Notes and the IP Phone 2002” on page 103](#).

For information about setting up telephones that are not already configured, see [“Appendix D: DHCP parameter configuration” on page 105](#).

For a list of telephone parts numbers and where to go for help, see [“Appendix E: Customer support” on page 115](#).

Audience

This guide is intended for IP Phone 2002 users.

Text conventions

This guide uses the following text conventions:

bold text	Indicates the IP Phone 2002 soft key you must press. Example: Press the Ok soft key.
<i>italic text</i>	Indicates new terms, document titles Example: See IP Phone 2002 <i>User Guide</i> (NN42020-126).

Acronyms

This guide uses the following acronyms:

DHCP	Dynamic Host Configuration Protocol
DND	Do Not Disturb
DTMF	Dual Tone Multi Frequency
ISDN	Integrated Services Digital Network
IM	Instant Message
IP	Internet Protocol
IPCM	Internet Protocol Client Manager
LAN	Local Area Network
LCD	Liquid Crystal Display
LED	Light Emitting Diode
MAC	Media Access Control
QoS	Quality of Service
SIP	Session Initiation Protocol
VoIP	Voice over IP
WAN	Wide Area Network

Related publications

For more information, see the following publications:

- IP Phone 2002 *Quick Reference* (NN42020-119)
- IP Phone 2004 *Quick Reference* (NN42020-122)
- IP Phone 2004 *User Guide* (NN42020-103)
- IP Phone 2007 *User Guide* (NN42020-104)
- *Multimedia Office Client User Guide* (NN42020-139)
- *Multimedia PC Client User Guide* (NN42020-102)
- *Personal Agent User Guide* (NN42020-100)

How to get help

For service issues, contact your local support or Information Services team.

IP Phone 2004 overview

This chapter describes the features and services on your IP Phone 2002 and some basic functions.

The topics in this chapter include:

- [“Features and services” on page 19](#)
- [“Useful terms” on page 21](#)
- [“Getting to know the IP Phone 2002” on page 23](#)

Features and services

Your IP Phone 2002 functions as your traditional telephone does, but includes functions that are available by using your internet connection. Here are some of the features and services:

- hardware features
 - integrated 3-port switch (LAN, PC, and internal port for voice)
 - high-quality Voice over IP (VoIP) sound
 - integrated headset jack
 - local generation of call alerting, call progress, and dial tones (as well as support for out-of-band DTMF signaling) to conserve valuable LAN/WAN bandwidth
 - dedicated hold, release, handsfree, headset, and mute buttons
 - user-selectable ringer, speaker, handset, and headset volume
 - multifield display for calling party number and for subject display (between SIP clients)
 - high fidelity, full-duplex speakerphone
 - hearing-aid compatible

- Software features
 - Call Forward, Ignore, Decline, and Transfer
 - speed dial from an inbox, outbox, or address book
 - conference, call waiting, do not disturb, and call hold
 - automatic registration on activation of the device
 - multiple user log on
 - inbox
 - outbox
 - address book
 - list of friends
 - search on a global address book
 - program keys to speed dial a specific number, send IM, Do not Disturb, call forward, presence, stock query
 - call park
 - message waiting indicator (telephone lamp lights red)
 - Meet Me audio conferencing (For configuration information, see *Personal Agent User Guide* (NN42020-100) and for user information, see *Meet Me Audio Conferencing Quick Reference* (NN42020-113). This system feature is optional.)
 - roaming between domains in the same system (This feature depends on system provisioning, contact your system administrator for details.)

Your IP Phone 2002 also provides features that are not available on traditional phone systems including:

- instant messages: Send, receive, and reply to instant messages on your IP Phone 2002.
- stock query: Obtain stock quotes directly on your IP Phone 2002 display.



Note: To determine whether this feature is activated for your system, contact your system administrator for more information.

- bulletins: Receive messages from your service provider, such as news of an upcoming system upgrade, on the display screen of your IP Phone 2002.

- QoS: View and change the quality of service information for the media stream of the call on your IP Phone 2002. Your service provider can use this information to analyze network performance.

Useful terms

The following sections describe some useful terms that you should be familiar with when using your IP Phone 2002.

Multiple user login

Your IP Phone 2002 can support up to four lines. Therefore, four people can log on to a single IP Phone 2002 to receive and place calls.

The first person who logs on to the telephone has the primary line. You can be logged on to several IP Phones at the same time. The maximum number of devices or clients that you can log on to depends on your service package. Your administrator can force a log out from your devices or clients.

Use the menu options to configure or view parameters that are specific to a line. If several users are logged on to the telephone, then the system prompts you to select your line button. When several users are logged on, their individual line icon blinks to indicate when there is a voice mail message or when a feature is activated.

Address

When you enter an address to call someone, you enter a SIP address or a telephone number.

A SIP address is a unique identifier of users on the IP network. It has the same format as an e-mail address, for example, `jdoe@lab1.org`, but it is not an e-mail address. The characters before the at sign (`@`) represent the user name, in our example, `jdoe`. The characters after the at sign represent the domain name of the server, in our example, `lab1.org`. If you are in the same domain as the user you are calling, you do not need to enter the domain name section of their SIP address (for example, `@lab1.org`).

The network can track where you are and route your calls when you log on to any IP Phone 2002 by using your SIP address. Use SIP addresses to take advantage of other features such as presence.

To make it easier to place calls, you can store addresses (SIP addresses or telephone numbers) in a personal address book.

Address book

Your personal network-based address book is a tool for managing addresses. You can save your addresses for quick call access, as well as organize addresses into groups. If you enter a nickname for an entry in your address book, that nickname appears on your display when the person calls you.

Inbox



Your IP Phone 2002 makes a record of the calls you receive. You can view the calls you received by pressing the inbox button. By using the soft keys, you can view a list of the people who called you or a list of the calls you have missed. You can dial entries in your inbox by pressing a soft key.

Outbox



Your IP Phone 2002 keeps track of all the calls you have made. You can view the calls you have made by pressing the outbox button. You can redial entries from your outbox by pressing a soft key.

Friends

You can designate entries in your network-based address book as friends. If you have entered the SIP address of the person, you can see their online presence status.

Presence

You can use the Presence feature to see the online status of other users on the network and to alert others to your status. Use the **View** menu to change your presence status to let other users know if you are online or away from your desk. Use the **View** menu to check the presence of the users you have designated as friends.

Meet Me audio conferencing

Use this feature to host audio conferences by providing a dial-in number and access code to participants. The chairperson activates the conference with their own password. The Meet Me audio conference window displays who has joined the conference.

Users who have access to the Personal Agent can change their chairperson password and select the option of whether the conference ends automatically when they disconnect. For more information about Meet Me audio conference preferences, see *Personal Agent User Guide* (NN42020-100). For information about Meet Me audio conferencing on your system, see your system administrator.

Getting to know the IP Phone 2002

Look over your IP Phone to familiarize yourself with its features.

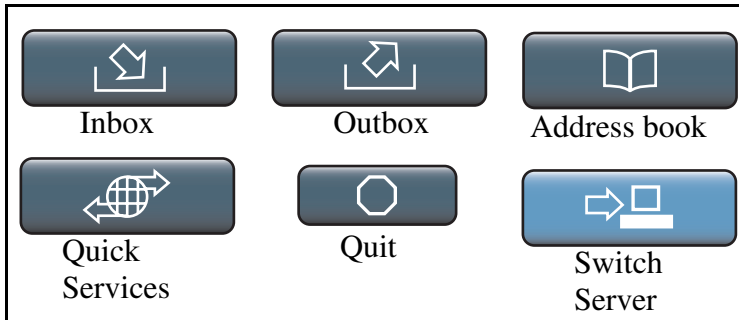
IP Phone 2002 buttons

Your IP Phone 2002 includes buttons that provide instant access to features of the telephone. [Figure 1 “IP Phone 2002” on page 24](#) shows the layout and buttons on your IP Phone 2002.

Figure 1 IP Phone 2002

Using the IP Phone 2002 quick buttons

The IP Phone 2002 quick buttons provide access to preprogrammed services. The quick buttons are located under the navigation buttons on your IP Phone 2002.

Figure 2 Quick buttons

During certain operations (such as receiving an incoming call), the quick buttons are disabled. In some situations (such as programming a Forward to Destination), you can use the address book, inbox and outbox quick buttons to select or switch between the lists as applicable. [Table 1 “IP Phone 2002 quick buttons” on page 26](#) lists the IP Phone 2002 quick buttons and functions. [Figure 3 “IP Phone 2002 display” on page 28](#) shows the display layout.

Table 1 IP Phone 2002 quick buttons




Press this quick button	To activates this function and soft key
Address book 	Access to a network-based address book. Press <ul style="list-style-type: none"> • Call to place a call to the entry that appears on the display • Add to add an entry to the list • Modify to edit or delete the entry • Ok to return to the idle display If several users are logged on to the phone, the system displays a list of address books and the following soft keys <ul style="list-style-type: none"> • Select to display the address book • Cancel to return to the idle display For more information, see “Address book” on page 79 .
Inbox 	Displays a log of received calls. Press <ul style="list-style-type: none"> • Call to place a call to the entry that appears on the display • All/Missed toggles between the list of all calls and the list of missed calls • Delete to remove the entry from the list • Ok to return to the previous screen (list of inboxes or the idle display) If several users are logged on to the phone, a list of inboxes and the following soft keys appear: <ul style="list-style-type: none"> • Select to display the missed calls for the inbox • Cancel to return to the idle display For more information, see “Inbox” on page 76 .
Outbox 	Displays a log of the calls you made most recently. Press <ul style="list-style-type: none"> • Call to dial the entry • Delete to remove an entry • Ok to return to the previous menu If several users are logged on to the phone, a list of outboxes and the following soft keys appear: <ul style="list-style-type: none"> • Select to display the missed calls for the outbox • Cancel to return to the idle display For more information, see “Outbox” on page 80 .

Table 1 IP Phone 2002 quick buttons


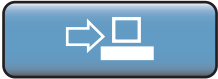

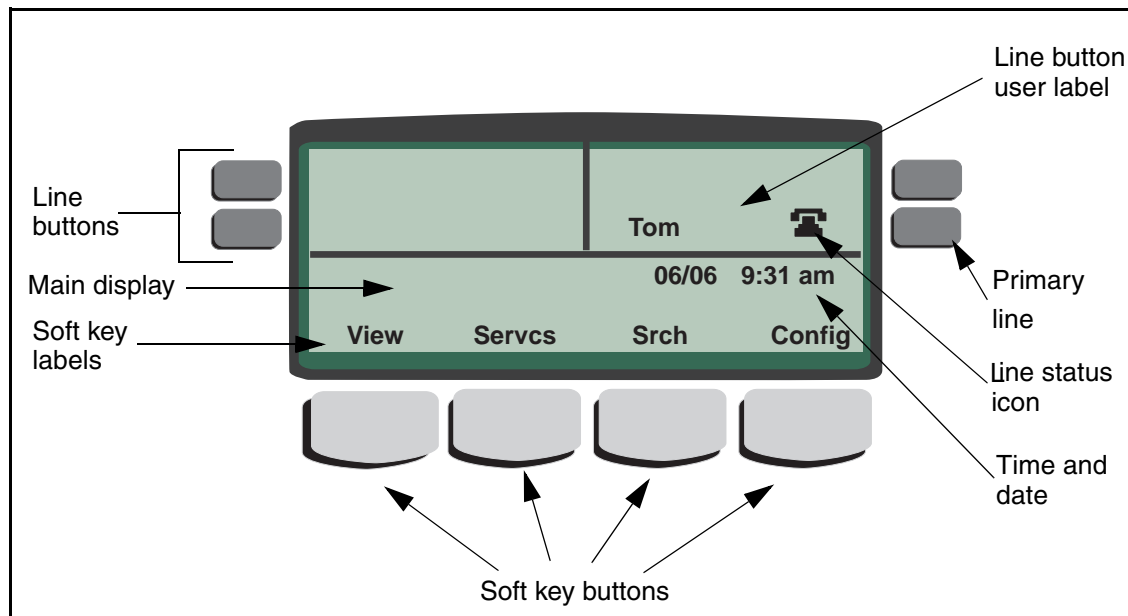
Press this quick button	To activates this function and soft key
<p>Quick Services</p> 	<p>Access to the Presence, Global Search, Stock Query, Send IM, Do Not Disturb, and Retrieve Parked Call features. Press</p> <ul style="list-style-type: none">• Select to select the entry• Cancel to return to the idle display <p>For more information about these features see “Advanced features and services” on page 83.</p>
<p>Switch Server</p> 	<p>Use to select an alternate server. The screen displays Use Alternate Server?" and displays the IP address and Port of the alternate server. Press</p> <ul style="list-style-type: none">• Ok to have your IP Phone 2002 try to connect to the alternate server• Cancel to return to the idle display
<p>Quit</p> 	<p>Cancel a feature or function.</p>

Figure 3 IP Phone 2002 display

The main display shows the date, time, and any bulletins that were sent by your service provider. The display changes to show call activity (such as, who is calling), feature activation, and menu options.

The line information area of the display shows

- who is logged on to the telephone and is assigned to them. The primary line is assigned to the first person to log on.
- line status icons that change according to call activity. For more information about icons see [“Recognizing common IP Phone 2002 icons” on page 32.](#)
- **v** if there is more information to display use the navigation buttons to view the information.

The soft key area of the display shows the labels for the corresponding telephone buttons below the label. The soft key labels change depending on the telephone activity. From the idle display, you can access the View, Services, and Config menus, as well as activate the Srch (Global Search) feature.

Entering alphanumeric characters

You can make a call by dialing a telephone number or by dialing a person's alphanumeric address (for example, jdoe2@domain.com). Alphanumeric dialing refers to spelling names or words by dialing the alphabetic characters that are on keys with the numbers on the numeric dialpad of your IP Phone 2002.

For example, the 6 button on your telephone dialpad represents the letters m, n, and o. You can cycle through the letters (and then the number) by pressing the number button repeatedly. Names or words that have two adjacent letters that require the same button, such as in the name nortel, are entered by entering the first character, briefly pausing, and entering the next letter.

To practice using alphanumeric dialing, follow the steps in [Table 2 “Alphanumeric dialing” on page 29](#) to spell the word nortel.

Table 2 Alphanumeric dialing

Step	Action	Result
1.	Go off-hook, press the Alpha soft key, and press the 6 (MNO) button twice on the dialpad.	The first time the 6 button is pressed, m appears on the display. The second time the 6 button is pressed the letter n appears on the display.
2.	Pause for 1 second and press the 6 button three times.	The letter o appears on the display.
3.	Press the 7 button three times.	The letter r appears on the display.
4.	Press the 8 button.	The letter t appears on the display.
5.	Press the 3 button twice.	The letter e appears on the display.
6.	Press the 5 button three times.	The letter l appears on the display.



Note: Your IP Phone 2002 can already use alphanumeric dialing by default. If you see the **NoAlpha** soft key, then the phone is already in alphanumeric dialing mode.



Tip: To enter an uppercase letter, press the letter, then press the up navigation button. To change to lowercase, press the letter, then press the down navigation button. The back navigation button erases the last character. To enter a space, press the right navigation button.

In alphanumeric dialing, the 1 dialpad button represents the following characters.

Table 3 Characters

Character	Name
@	at sign
*	star (used as a wildcard symbol in global searches)
.	period
-	dash
_	underscore
&	ampersand
'	apostrophe
^	carat
?	question mark
!	exclamation point
(left parenthesis
)	right parenthesis
,	comma
1	numeral 1



Note: To enable or disable the alphanumeric dialing option, [see “Preferences” on page 45.](#)

Search for addresses

You can search through the addresses in your inbox, outbox and personal address book. Configure the search method in your preferences (see [“Configuring the search method” on page 46](#)).

Figure 4 Search methods

Index	Enter the number associated with the entry.
1st Character Search	Enter the first character of the entry.
Name Search	Enter all of the characters of an entry name.



Note: For information about searching the global address book, see [“Searching the global address book” on page 91](#).

The default search method for the IP Phone 2002 is 1st Character Search.

Searching for addresses

- 1 Press a quick button to access your inbox, outbox, or address book.
- 2 Press the dialpad button for the first letter (or character) in the address you are looking for.

For example, to search for jdoe in your address book, you press the 5 dialpad button once for the letter j.

Use the down navigation button to scroll all of the entries that begin with the letter j.

- 3 Press **Call** to call this entry.
- 4 Press **Add** to add a new entry.
- 5 Press **Del** to delete an entry.
- 6 Press **Modify** to modify the entry.
- 7 Press **Ok** to return to the idle display.

Helpful hints








When you use the IP Phone 2002 menus or enter text, remember the following tips:

- In a numbered menu list, press the dialpad number that corresponds to the item on the list to select it.
- Use the navigation buttons to scroll vertically and horizontally through display information.

- Use the star (*) dialpad button to return to the beginning of a list and the pound (#) button to go to the end of a list.
- To capitalize a letter, enter the letter using the dialpad and then press the up navigation button to apply capitalization.

Recognizing common IP Phone 2002 icons

The IP Phone 2002 displays icons to indicate call and feature status. The following table presents some of the common icons that appear on the display.

Icon	Meaning
	The telephone line is idle.
	Shows when a call feature is activated (for example, call forward and DND). The display text changes periodically to alert you that a feature is active (DND Active or FWD Active). when blinking, indicates a problem with the network Try to log on again or contact your network administrator.
	There is a ringing call.
	If this icon appears beside a line button, the telephone is off-hook. If this icon displays in the inbox then it indicates a call that you answered.
	There is another active call.
	The active call is put on hold.
	The line button is programmed for a feature such as Speed Dial, Send IM, Do Not Disturb, Call Forward, Stock Query, and Change Presence Status.

Installation and initialization

This chapter describes how to install and initialize your IP Phone 2002.

The topics in this chapter include:

- [“Before you begin” on page 33](#)
- [“Installing your IP Phone 2002” on page 34](#)
- [“Initializing your IP Phone 2002” on page 35](#)
- [“Resetting your IP Phone 2002” on page 39](#)
- [“Upgrading firmware” on page 39](#)



Note: Contact your system administrator to ensure that your network is prepared for you to setup and initialize your IP Phone 2002.

Before you begin

Before you begin to install your telephone, check that you have the following components:

- IP Phone 2002 telephone
 - telephone handset
 - telephone handset cord
 - IP Phone 2002 base
- AC adapter
- Ethernet cable
- active LAN connection



Note: You can install optional keycaps for the buttons on your IP Phone 2002. For more information, see the installation manual that is included with the keycaps.

Installing your IP Phone 2002



Warning: Severe damage occurs if your IP Phone 2002 is plugged into an ISDN connection. Contact your administrator to ensure that you plug the telephone into a 10/100BaseT Ethernet jack.

- 1 Connect one end of the handset cord to the handset jack (identified with a handset icon) on the telephone base and connect the other end of the handset cord to the handset.
- 2 Choose one of the following connections:
 - a For a telephone that does not share a LAN access with a PC:

Connect one end of the Ethernet cable to the Ethernet plug (identified with a network icon) on the telephone and the other end to your 10/100BaseT Ethernet jack.
 - b For a telephone that shares a LAN access with a PC:

Complete step a and connect one end of a second Ethernet cable to the PC Ethernet port (identified with a PC icon) on the back of the telephone and the other end to the computer's Ethernet port.
- 3 Plug the AC adapter into the base of the telephone.
- 4 Plug the AC adapter into the nearest electrical outlet.
- 5 Ensure that your power cable and handset cable are properly fitted into the provided slots.
- 6 Fit the base and hinge it into the plastic slots at the front of the telephone and press down firmly until the base snaps into place.

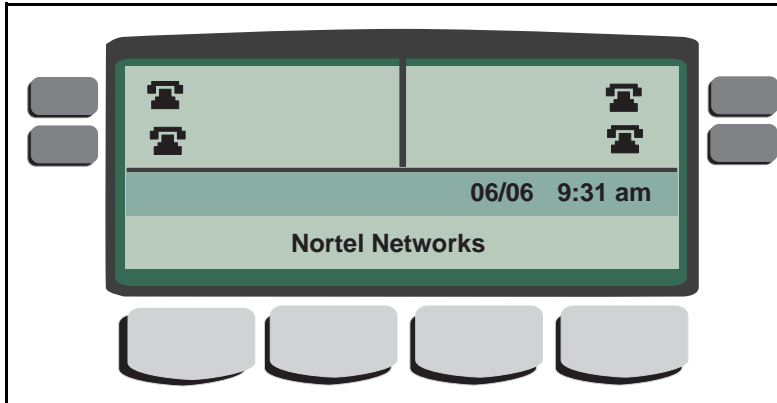


Tip: If you have trouble locking the base, or if the phone is not level on your desktop, ensure the cables to the telephone are not obstructing the base.

Initializing your IP Phone 2002

When you power on the IP Phone 2002 for the first time, you see the introduction screen with a flashing Nortel Networks display as shown in [Figure 5 “Introduction screen” on page 35](#).

Figure 5 Introduction screen



Tip: Your IP Phone 2002 can be preconfigured or can require a partial or total initialization. See [Table 4 “Initialization” on page 35](#).

Table 4 Initialization

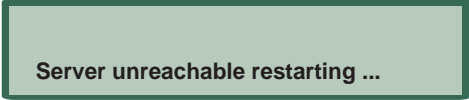
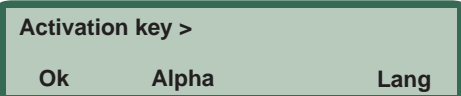
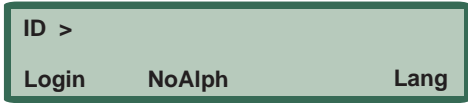

If this occurs when you power up your IP Phone 2002	Do this
<p>The display shows that the server is unreachable and continuously resets.</p> 	<p>Follow the instructions in “Appendix D: DHCP parameter configuration” on page 105.</p>
<p>The telephone connects to the server and the display prompts you to enter an activation key.</p> 	<p>Go to “Enter an activation key” on page 36.</p>

Table 4 Initialization

If this occurs when you power up your IP Phone 2002	Do this
<p>The telephone connects to the server and the display prompts you for your log on ID.</p> 	<p>The IP Phone 2002 was provisioned but a user has not been assigned. Go to “Log on to your IP Phone 2002” on page 37.</p>
<p>The telephone connects to the server and the location prompt appears</p> 	<p>The telephone is ready to use. Go to “Choosing your location” on page 38.</p>



Tip: You can contact your system administrator to determine the correct information to use during the initialization procedure.

Enter an activation key

When the IP Phone 2002 connects to the server, the Activation key screen appears.



Note: Your activation key is provided by your system administrator.



Tip: If your IP Phone 2002 cannot locate the server, it automatically tries to connect every two minutes. After several attempts, if your telephone does not locate the server, contact your system administrator for assistance.

Enter the activation key and press the **Ok** soft key.

After the IP Phone 2002 is provisioned, the telephone displays an idle display that indicates you are ready to use the phone, or you receive a prompt to log on.

Log on to your IP Phone 2002

The device is ready for you to log on, and the idle screen appears.

At the prompt, enter your user name and password that were supplied by your system administrator. For instructions about entering alphanumeric information see [“Entering alphanumeric characters” on page 29](#).



Tip: When you enter your user name, do not include the @domain portion.

[Figure 6 “Password entry” on page 37](#) shows the user tom entered his password: guest. After you enter each character, the previous character is replaced with an asterisk. To enter characters that are not letters or numbers, press the NoAlpha soft key first.

Figure 6 Password entry



Tip: To change your password, see *Personal Agent User Guide* (NN42020-100).

After entering your password you are prompted to choose your location.

Choosing your location

After you enter your password you are prompted to choose your location if the IP Phone 2002 was provisioned into the database and a user was assigned.

Your system can serve different locations. For your safety, you must specify your location so that emergency services can be routed to you if they are needed.

- 1 Scroll through the list of locations using the up and down navigation buttons.
- 2 Highlight your location choice and press **Select**.
- 3 If you selected **Other** in step 2, a warning message appears "Warning: A location was selected that can affect your emergency services. Display this warning in the future?" Select **Yes** or **No**. If you select Yes, then this warning appears each time you log on or when your telephone or server resets. If you select No, you do not see this warning again.



Note: If you move your location, you can reset your location by using the Config menu. For information about resetting your location, see [“Specifying location” on page 48](#).

Specifying log on time

After you choose your location you can specify how long you want to stay logged on.

- 1 To enter the amount of time you want to be logged on, press the third soft key and change **Days** to **Hours**, as desired.
- 2 Press the **Timed** soft key to log on for the specified amount of time. The system automatically logs you off after the specified time has elapsed.

To log on permanently, press the **Login** soft key to use the network provisioned values.

After you log on, the idle display appears. The system automatically registers you again and you remain logged on until you manually log off.

Resetting your IP Phone 2002

To reset your Phone, use the Reset Phone option in the Config menu (see [“Resetting your IP Phone 2002” on page 51](#)) or unplug your telephone.

Upgrading firmware



Tip: Ensure your IP Phone 2002 has the most recent firmware. If there is a new firmware load available, you need to upgrade your phone.

When the display prompts you to upgrade your firmware, if you want to upgrade your firmware immediately, press the **Now** soft key.

OR

If you want to wait to upgrade your firmware, press the **Later** soft key. You can manually start the update at a later time through the Configuration menu (see [“Displaying IP Phone 2002 information” on page 50](#)).



Note: If you press the **Later** soft key, the system periodically prompts you to upgrade.

Configuration

This chapter describes the settings that you can customize on your IP Phone 2002.

The topics in this chapter include:

- [“Configuration menu” on page 41](#)
- [“Adjusting volume settings” on page 42](#)
- [“Adjusting the contrast settings” on page 45](#)
- [“Preferences” on page 45](#)
- [“Specifying location” on page 48](#)
- [“Configuring language preferences” on page 48](#)
- [“Configuring time preferences” on page 49](#)
- [“Displaying IP Phone 2002 information” on page 50](#)
- [“Resetting your IP Phone 2002” on page 51](#)
- [“Switching server control” on page 51](#)

Configuration menu

The Configuration menu of the IP Phone 2002 includes the following options:

#	Config menu option
1	Volume setting
2	Contrast Setting
3	Preferences
4	Location
5	Language Preference
6	Time Preferences
7	Display Version

Config menu option

- 8 Reset Phone
- 9 Switch Controller



Tip: For quick selection, press the number on the dialpad that corresponds to the menu item. Use the up and down navigation buttons to scroll through the Configuration menu list. To reach the beginning of the list, press the start (*). To reach the end of the list, press the pound (#) button.



Note: Parameters that are specific to a line can be configured or viewed using menu options. If several users are logged on to the telephone, then the system prompts you to select your line button.

Adjusting volume settings

The volume settings submenu includes the following options:

- 1 Ring Pattern
- 2 Handset Volume
- 3 Headset Volume
- 4 Handsfree Volume
- 5 Alerting Volume



Tip: You can adjust the handset, headset, handsfree, and alerting volume when a call is ringing or while you are on an active call by using the volume control bar located below the dialpad. The new volume setting becomes the default for the telephone.



Note: If you configure a new volume setting using the volume submenu, you must press the **Save** soft key in order to apply your new volume setting.

Adjust the ring pattern

The IP Phone 2002 has several ring patterns. You can select a ring pattern to distinguish when your telephone rings.

- 1 Press the **Config** soft key.
- 2 Choose the **Volume Setting** option and press the **Select** soft key.
- 3 Choose the **Ring Pattern** option and press the **Select** soft key.
- 4 Use the up and down navigation buttons to scroll through the different ring pattern options.

The speaker plays the ring pattern.

- 5 Press **Ok** at the ring pattern of your choice.
- 6 Select another volume setting to change.
- 7 Press **Save** to apply the change you have just made.
- 8 Press **Cancel** to return to the idle display and not save your changes.

Adjusting handset volume

- 1 Press the **Config** soft key.
- 2 Choose the **Volume Setting** option and press the **Select** soft key.
- 3 Choose the **Handset Volume** option and press the **Select** soft key.
- 4 Use the right and left navigation buttons to increase and decrease the volume. A shaded bar graph indicates the volume level.
- 5 Press **Ok**.
- 6 Select another volume setting to change
- 7 Press **Save** to apply the change you have just made.
- 8 Press **Cancel** to return to the idle display and not save your changes.

Adjusting headset volume

- 1 Press the **Config** soft key.
- 2 Choose the **Volume Setting** option and press the **Select** soft key.

- 3 Choose the **Headset Volume** option and press the **Select** soft key.
- 4 Use the right and left navigation buttons to increase and decrease the volume. A shaded bar graph indicates the volume level.
- 5 Press **Ok**.
- 6 Select another volume setting to change.
- 7 Press **Save** to apply the change you have just made.
- 8 Press **Cancel** to return to the idle display and not save your changes.

Adjusting handsfree volume

- 1 Press the **Config** soft key.
- 2 Choose the **Volume Setting** option and press the **Select** soft key.
- 3 Choose the **Handsfree Volume** option and press the **Select** soft key.
- 4 Use the right and left navigation buttons to increase and decrease the volume. A shaded bar graph indicates the volume level.
- 5 Press **Ok**.
- 6 Select another volume setting to change.
- 7 Press **Save** to apply the change you have just made.
- 8 Press **Cancel** to return to the idle display and not save your changes.

Adjusting alerting volume

- 1 Press the **Config** soft key.
- 2 Choose the **Volume Setting** option and press the **Select**.
- 3 Choose the **Alerting Volume** option and press the **Select** soft key.
- 4 Use the right and left navigation buttons to increase and decrease the volume. The speaker plays the ring volume that corresponds to the setting you choose.
- 5 Press **Ok**.
- 6 Select another volume setting to change.
- 7 Press **Save** to apply the change you have just made.
- 8 Press **Cancel** to return to the idle display and not save your changes.

Adjusting the contrast settings

- 1 Press the **Config** soft key.
- 2 Choose the **Contrast Setting** option and press the **Select** soft key.
- 3 Use the left and right navigation buttons to make the display lighter or darker.
- 4 Press the **Ok** soft key when you are satisfied with the contrast.
- 5 Press the **Cancel** soft key to cancel any changes to the display.

Preferences

The preferences submenu includes the following options:

- Alpha Dialing—configure the default dialing mode
- IM Display—block instant messages from appearing on the display
- Search Method—select the search method: by index, by first character, or by name
- Ignore Action—choose a setting for the Ignore soft key
- Dialpad—select the character set for your language

Configuring alphanumeric dialing

You can configure the telephone dialpad for alphanumeric dialing or to dial only numbers.

- 1 Press the **Config** soft key.
- 2 Choose the **Preferences** option and press the **Select** soft key.
- 3 Choose the **Alpha Dialing** option and press the **Change** soft key.
- 4 Press the **Ok** soft key to change the Alphanumeric dialing option.
- 5 Press the **Cancel** soft key to exit without saving your changes.



Note: For more information about using alphanumeric dialing, [see “Entering alphanumeric characters” on page 29.](#)

Configuring the IM display

You can choose to block incoming instant messages so that the text does not appear on the telephone display. Instant messages are not blocked by default.

- 1 Press the **Config** soft key.
- 2 Choose the **Preferences** option and press the **Select** soft key.
- 3 Choose the **IM Display** option and press the **Change** soft key.
- 4 Press the **Ok** soft key to change the IM Display option.
- 5 Press the **Cancel** soft key to exit.

Configuring the search method

You can select the method to search for entries in your address book, inbox and, outbox. The choices are listed in [Table 5 “Search methods” on page 46](#).

Table 5 Search methods

Index Search	Enter the number associated with the entry.
1st Character Search	Enter the first character of the entry.
Name Search	Enter all of the characters of an entry name.

- 1 Press the **Config** soft key.
- 2 Choose the **Preferences** option and press the **Select** soft key.
- 3 Choose the **Search Method** option and press the **Change** soft key.
- 4 Select a search method from the list.
- 5 Press the **Ok** soft key to change the search option.
- 6 Press the **Cancel** soft key to exit.



Tip: For information about using the search function, see [“Search for addresses” on page 57](#).

Configuring the ignore action

You can configure the actions of the **Ignore** soft key. The **Local** setting stops an incoming call from ringing on your IP Phone 2002. Any other devices defined in your ring list continue to ring for the duration of the ring list before advancing to the next ring list. The **Network** setting stops the incoming call from ringing on all the devices that are defined in your ring list and forwards the call to the next ring list if one was defined. For example, you can configure your ring list sequence to go to your voice mail account.



Tip: For more information about creating a ring list, see *Personal Agent User Guide* (NN42020-100).

- 1 Press the **Config** soft key.
- 2 Choose the **Preferences** option and press the **Select** soft key.
- 3 Choose the **Ignore Action** option and press the **Change** soft key.
- 4 Press the **Ok** soft key to change the Ignore Action option.
- 5 Press the **Cancel** soft key to exit.

Configuring the dialpad characters

You can change the dialpad character setting to the alphanumeric character set for your language.

- 1 Press the **Config** soft key.
- 2 Choose the **Preferences** option and press the **Select** soft key.
- 3 Choose the **Dialpad** option and press the **Change** soft key.
- 4 Use the up and down navigation buttons to scroll through the options.
- 5 Choose your dialpad character set and press the **Ok** soft key.
- 6 Press the **Cancel** soft key to exit.

Specifying location

You can access the system from different locations. For example, you can move to another building or temporarily log on to another IP Phone. When you log on, the system prompts you to select your location (from a predefined list). The location is needed to correctly route emergency services. You can also change your location by using the Config menu.

- 1 Press the **Config** soft key.
- 2 Use the up and down navigation buttons to choose the **Location** option and press the **Select** soft key.

If you select **Other** as your location, a warning message appears "Warning: A location was selected that can affect your emergency services. Display this warning in the future?"

- 3 If you selected **Other** in step 3, select **Yes** or **No**.

If you select **Yes**, you are prompted each time you log on or when your telephone or server resets. If you select **No**, you do not see this warning again.



Note: If you choose Other as your location and you must dial an emergency number, there can be a delay in locating you.

- 4 Press the **Ok** soft key or press **Cancel** to return to the idle display.
- 5 If you receive a prompt to select a sublocation, follow the prompts to continue.

The Back soft key returns you to the previous display.

Configuring language preferences

- 1 Press the **Config** soft key.
- 2 Choose the **Language Preferences** option and press the **Select** soft key.
- 3 Press **Change** and use the up and down navigation buttons to scroll through the language options.
- 4 Choose your language option and press the **Select** soft key.

- 5 Press **Cancel** to return to the idle display.

Configuring time preferences

You can choose how the date and time displays on your telephone screen and configure your time zone.



Tip: Use the left and right navigation buttons to scroll the text horizontally.

Changing date format

You can choose whether the date format displays as month/day or day/month.

- 1 Press the **Config** soft key.
- 2 Choose the **Time Preferences** option and press the **Select** soft key.
- 3 Press the **Date** soft key.
- 4 Use the up and down navigation buttons to scroll through the list.
- 5 Choose the date format you prefer and press the **Select** soft key.
- 6 Press **Ok** to exit or choose another Time Preferences option.

Changing time zone

- 1 Press the **Config** soft key.
- 2 Choose the **Time Preferences** option and press the **Select** soft key.
- 3 Press the **TZone** soft key.
- 4 Use the up and down navigation buttons to scroll through the list of time zones.
- 5 Choose the time zone format you want and press the **Select** soft key.

- 6 Press **Ok** to exit or choose another Time Preferences option.



Tip: Use the left and right navigation buttons to scroll the time zone descriptions horizontally.

Changing time format

- 1 Press the **Config** soft key.
- 2 Choose the **Time Preferences** option and press the **Select** soft key.
- 3 Press the **Time** soft key. A list of time format choices appears.
- 4 Use the up and down navigation buttons to scroll through the list of time formats.
- 5 Choose the time format you want and press the **Select** soft key.
- 6 Press **Ok** to exit or choose another Time Preferences option.

Displaying IP Phone 2002 information

You can view technical information about the telephone and system.

- 1 Press the **Config** soft key.
- 2 Choose the **Display Version** option and press the **Select** soft key.

The screen displays the system release, build and date, IPCM IP address and port, firmware version, MAC address, IP address of the IP Phone 2002, and terminal ID, domain, and location.
- 3 Use the navigation buttons to scroll through the information on the screen.
- 4 Press the **FirmW** soft key for a prompt to upgrade the firmware or press **Cancel** to return to the idle display.

Resetting your IP Phone 2002

- 1 Press the **Config** soft key.
- 2 Choose the **Reset Phone** option and press the **Select** soft key.
- 3 Press the **Ok** soft key to confirm the reset or press **Cancel** to return to the idle display.

Switching server control

If you lost the connection to your server, your IP Phone 2002 automatically switches to the secondary server. You can also manually switch to the secondary server.

- 1 Press the **Config** soft key.
- 2 Choose the **Switch Controller** option and press the **Select** soft key.
- 3 At the display prompt, confirm the IP address and port number of the alternate server.
- 4 Press the **Ok** soft key.



Tip: As a shortcut, you can use the servers.



quick button to change

Make and receive calls

This chapter describes the ways that you can place and receive calls on your IP Phone 2002.


The topics in this chapter include:

- [“Basic functions” on page 54](#)
- [“Placing a call” on page 55](#)
- [“Answering a call” on page 59](#)
- [“Receiving a second call” on page 60](#)
- [“Ending a call” on page 62](#)
- [“Conference calls” on page 62](#)
- [“Placing a call on hold” on page 63](#)
- [“Call Park” on page 64](#)
- [“Transfer a call” on page 65](#)
- [“Incoming-call options” on page 67](#)
- [“Sending and receiving instant messages” on page 69](#)

Basic functions

Table 6 “Common functions” on page 54 lists the steps for some of the functions you use everyday.

Table 6 Common functions

To	Do this
Place a call	<ol style="list-style-type: none"> 1. Pick up your handset or press the Handsfree button to go off-hook on the primary line (the green line button). 2. Dial a phone number or enter an alphanumeric address. See “Enter an address” on page 56. 3. Wait briefly for the phone to place the call automatically, or press the Send soft key. 4. Hang up the handset or press the button to disconnect the call.  <p>To place a call to an entry in your inbox, outbox, address book or list of friends, see Chapter , “Call management,” on page 71.</p>
Place a conference call	<ol style="list-style-type: none"> 1. After you make or receive a call, press the Call soft key to invite an additional party to the conversation. 2. Dial a phone number or enter an address. The second number rings. 3. Wait for an answer, then press the Join soft key. 4. Hang up the handset or press the Goodbye soft key to disconnect from the conference.
Check a stock quote	<ol style="list-style-type: none"> 1. Select the Servcs soft key. 2. Use the navigation buttons to select the Stock Query feature from the display area. 3. Use the dialpad to enter the symbol of the stock you want to query. If you make a mistake, reenter the symbol and the previous entry is deleted. 4. Select the Query soft key to start your query. After the query is complete, the quote appears on the display.

Soft key dialing options

When you go off-hook to make a call the idle display changes and includes the following soft keys:

Table 7 Soft key dialing options

Press	To
VMail	Dial your voice mailbox.
Rdial	Dial the last number you called.
Alpha/NoAlph	Activate alphanumeric dialpad characters.
Sbjet	To select a call subject to add to your call.




Note: The **Rdial** soft key appears on the display after you have made your first call.

Placing a call

You can make calls with your IP Phone 2002 in any of the ways shown in [Table 8 “Calling methods” on page 55](#).

Table 8 Calling methods

To make a call with the	Do this
Handsfree button	Press the Handsfree button to go off-hook on the primary line (the green line button) and produce a dial tone.
Line button	Press any available line button to produce a dial tone. An available line has a user name label next to it.
Handset	Pick up the handset.
Headset button 	Press this button to go off-hook on the primary line (the green line button) and produce a dial tone.



Tip: Press  to disconnect from the call at any time.

Enter an address

To make a call, you can dial a number (numeric address such as, 555-1212) or an alphanumeric SIP address (jdoe2@domain.com).

Using the dialpad

- 1 Use the dialpad to dial the number.
The left navigation button acts as a backspace button.
- 2 Press the **Send** soft key to place the call or wait for the phone to automatically place the call.

Using alphanumeric dialing

- 1 Take the handset off-hook and press the Alpha soft key.
- 2 Enter the name or word.
- 3 Press the **Send** soft key to place the call or wait for the phone to automatically place the call.



Note: For more information about alphanumeric dialing, see [“Entering alphanumeric characters” on page 29](#) and [“Preferences” on page 45](#). If the **NoAlpha** soft key appears on your display, alphanumeric dialing is already enabled.

Search for addresses

To make a call, you can choose an entry from your address book, inbox, or outbox. To quickly locate the entry you are looking for, you can do a search. The method you use to search for entries depends on what is configured in your preferences. See [“Configuring the search method” on page 46](#). The three search methods are listed in the following table.

Table 9 Search methods

Search method	Do this
Index Search	Enter the number of the entry item just as you would to select a menu option.
1st Character Search	Enter the first character of the entry name. For example, press 4 on the dialpad to search for entries that begin with the letter G. Press 4 twice to search for entries that begin with the letter H.
Name Search	Enter all of the characters in a name.

Searching the global address book

- 1 Press the **Srch** soft key on the idle display of your IP Phone 2002.
- 2 Highlight the field that you want to search.
- 3 Press **Select**.
- 4 Enter your search parameter.

Use the dialpad and the Alph/NoAlph soft key to enter alpha and numeric characters.



Tip: To enter a wildcard symbol, press the start (*) button on the dialpad.

- 5 Press **Ok**.

Your search results appear on the display.

- 6 Press **Call** to initiate a call or press **Save** to add this entry to your personal address book.



Tip: You can also access the search capability through the Services menu. For more details, see [“Searching the global address book” on page 91](#).

Adding a subject to a call

You can send a line of text to explain the subject of the call. The subject text appears on the display on the phone that receives the call.

This procedure assumes that you have defined a list of call subjects. For information about creating or changing subject text, see [“Adding call subjects” on page 75](#).

- 1 While making a call, press the **Sbjet** soft key and use the navigation buttons to choose a subject.
- 2 Press the **Select** soft key.



Tip: If you have access to the Personal Agent, you can customize your list of subjects. For more information, see *Personal Agent User Guide* (NN42020-100).

Adding a subject to a call from your Personal Address Book, Inbox or Outbox

To add a subject to a call from your Personal Address Book, Inbox or Outbox.

- 1 Go off hook.
- 2 Press **Sbjet**.
- 3 Press **Select** to choose a pre-defined subject.
- 4 Press the **Addressbook**, **Inbox** or **Outbox** key.
- 5 Highlight the entry you wish to call.

6 Press **Select**.

**Note:**

You cannot use the Subject with the Global Address Book Search function.

Answering a call

After your IP Phone rings to announce an incoming call, the following options are available.

Table 10 Incoming call-handling options

Press	To
Answer	Answer the call with handsfree or to pick up the handset.
Redrct	Send the call to another destination.
Dcline	Stop the call from ringing (cancel).
Ignre	Stop the call from ringing and process it through a ring list.

See [“Incoming-call options” on page 67](#) for more information.



Note: For information about setting up ring lists, see *Personal Agent User Guide* (NN42020-100).

Active call actions

After you answer a call, the following options are available.

Table 11 Call in-progress options

Press	To
Trnsfr	Transfer the call to another party.
Audio	Display details about the current codec setting and change your codec. See “Changing audio settings while on a call” on page 97 for more information.
Call	Initiate a new outgoing call.
Park	Place the call on hold on the system so that another person can retrieve it. See “Call Park” on page 64 for more information.

Receiving a second call

If you are on an active call and a second call comes in on the same line, the IP Phone 2002 alerts you with an audible beep and by displaying the ringing call information.



Note: You cannot receive a second call while you are on an emergency services call.

The following list shows an example of what happens when a second call is received:

- While mjane and jdoe are talking, jdoe receives a call from csmith.
- An audible beep alerts jdoe of the call from csmith.
- The information about the call with mjane no longer appears on the screen.
- The caller ID for csmith displays and a ringing icon appears.
- The soft keys along the bottom of the screen also change. The soft keys apply to csmith’s call.

- Jdoe can use the soft keys to **Answer**, **Redirect**, **Decline**, or **Ignore** the call from csmith while continuing to talk to mjane.
- To answer the incoming call with csmith, jdoe presses the line button next to jdoe's name, or presses the **Answer** soft key, while csmith's caller ID information appears on the display.
- The first call (between mjane and jdoe) is placed on hold.



Tip: When the phone rings to announce a second call, the soft keys indicate the options for the second call, until the ringing stops or the call receives treatment.

- The new call between csmith and jdoe becomes active.
- After the second call is answered, the display changes to show these new states. The display icons indicate the state of the calls. Use the navigation buttons to move between the active call and the call on hold. The soft keys change and apply to the call that appears on the display, which is now csmith.

Switching between active calls on the same line

- 1 Use the navigation buttons to display the inactive call.
- 2 Press the line button associated with the call or press the **Switch** soft key to switch calls.

The following example describes how to switch between calls on the same line:

- Jdoe uses the navigation buttons to display the inactive call with mjane.
- Jdoe presses the **Switch** soft key or the line button next to jdoe's name on the screen. The call between csmith and jdoe is placed on hold.
- Again, the call between mjane and jdoe becomes active, and mjane's line information remains on the display.
- Choose csmith's call and press the **Switch** soft key to place mjane on hold and switch the call back to csmith.



Tip: Switching between calls works for both incoming and outgoing calls.

Ending a call

To end an active call, press the **Goodbye** button or place the handset on the receiver.



Note: You cannot end an emergency services call. Only emergency services personnel can end an emergency services call.

In the following example, jdoe is conversing with mjane. mjane's caller ID appears on the display. To end this active call:

- Jdoe presses the **Goodbye** button or places the handset on the receiver. The call is released between jdoe and mjane. The call between jdoe and csmith is left on hold. The information about the call between jdoe and csmith still displays.
- Jdoe presses the **Hold** soft key to resume the conversation with csmith.

Conference calls

Use the IP Phone 2002 to connect calls to form a conference.

While you are on a call, you can initiate a conference call to connect new parties to the call.



Note: You cannot initiate a conference call while you are on an emergency services call.

Placing a conference call

- 1 When you are on a call, press the **Call** soft key.
Your current call is automatically placed on hold.
- 2 Enter the new address.
- 3 Press the **Send** soft key.

The new address rings. When the new party answers the call, the display changes. You can speak to the new party while the original party is still on hold.

- 4 Press the **Join** soft key to connect the calls.

Placing a conference call to an entry in your inbox, outbox or address book

- 1 While you are on a call, press the **Call** soft key.

Your current call is placed on hold.

- 2 Press an inbox, outbox, or address book quick button.
- 3 Choose an entry.
- 4 Press the **Select** soft key.

The new address rings. When the new party answers the call, the display changes. You can speak to the new party while the original party is still on hold.

- 5 To complete the conference call, press the **Join** soft key.



Tip: Any party, including the originator of the conference call, can hang up and the remaining callers on a conference call remains connected.


Placing a call on hold

Use the Hold feature when you are talking on one line and another call arrives on a second line. Retain the original call by placing it on hold, and then answer the second call.



Note: You cannot place an emergency services call on hold.

- 1 Press the **Hold** button to place the other party on hold.

The  icon beside the line button flashes.

- 2 Press the line button associated with the call on hold to resume the conversation.

Call Park

You can park an active call so that another user can retrieve it. A call can be parked and assigned a call ID for general retrieval or it can be parked for a specific user. For information about entering a call ID to retrieve a parked call, see [“Retrieving a parked call” on page 90](#). If a call is parked for you specifically, then a message appears on your telephone with soft keys to retrieve, ignore, or make a new call.



Tip: This feature must be enabled in your service package. Contact your system administrator for more details.



Note: You cannot park an emergency services call.

Parking an active call for general retrieval

- 1 Press the **Park** soft key.
- 2 Press the **Park** soft key again.
The display shows the parked call and the call ID number to retrieve it.
- 3 Communicate the call ID number to the person that needs to retrieve the call.
If the call is not retrieved, the system routes the call back to your telephone.



Tip: Use the Personal Agent to configure the length of time a call is parked before it returns to your phone. For more information, see *Personal Agent User Guide* (NN42020-100).

Parking a call for a specific user

- 1 Press the **Park** soft key.
- 2 Press the **User** soft key.
- 3 Enter the name or address of the person who must retrieve this call and press the **Ok** soft key.

The user receives a message on their display. If the call is not retrieved then it is returned to your telephone.



Tip: If you want to take a call from another device, or move to another location, you can park a call against yourself. The parked call does not your phone if you do not retrieve it within the specified time.

Transfer a call

You can transfer a call without speaking to the recipient (blind transfer), or you can speak to the recipient before you make the transfer (consult transfer).



Note: You cannot transfer an emergency services call.

Making a blind transfer

While you are on a call, you can transfer a call to another party without waiting for that party to answer. The originating or terminating party can initiate the transfer, but is not included in the call after the transfer.

- 1 Press the **Trnsfr** soft key.
- 2 Enter the address where you want to transfer this call, or press the quick buttons to access and select an entry from the inbox, outbox, or address book.
- 3 Press the **Trnsfr** soft key.

The display prompts you to select whether you want to consult with the called party.

- 4 Press the **No** soft key to complete the transfer without consulting with the party you are calling.

The original called party is placed on hold. The display confirms if the transfer is complete or fails.

- 5 Press the **Ok** soft key to return to an idle display or if the transfer failed, press the line key to reconnect the call.

Making a consult transfer

While you are on a call, you can call another address, speak with the recipient, and transfer the original call to the new address.

- 1 Press the **Trnsfr** soft key.
- 2 Enter the address where you want to transfer this call, or press the quick buttons to access and select an entry from the inbox, outbox or address book.
- 3 Press the **Trnsfr** soft key.

The display prompts you to select whether you want to consult with the called party.

- 4 Press the **Yes** soft key to consult with the party you are calling.

The original called party is placed on hold. The phone at the new address rings.

- 5 Consult with the party you want to transfer the first call to.
- 6 Press the **Trnsfr** soft key to complete the transfer, or press **Cancel** to disconnect and return to the original call. The display confirms if the transfer is complete or fails.
- 7 Press the **Ok** soft key to return to an idle display or if the transfer failed, press the line key to reconnect the original call.

Incoming-call options

The following soft key options are available for incoming-ringing calls.

Table 12 Soft key options for incoming ringing calls

Press	To
Answer	Answer the call.
Redrct	Redirect the call to another address.
Dclne	Stop the call from ringing. The call does not advance to the next ring list. The call is cancelled and a message is sent to the caller. Note: Decline stops a call from ringing on all devices defined in your ring list.
Ignre	Stop the call from ringing on your IP Phone 2002 (call handling depends on the feature settings). The call is then handled by your ring list. For more information about Ignore feature settings see “Configuring the ignore action” on page 47 .

Redirecting a call

You can redirect an incoming call to another location without answering the call.

- 1 Press the **Redrct** soft key.
- 2 Enter the new address by using the dialpad.
- 3 Press the **Redrct** soft key.



Note: You cannot redirect a call to a caller who has already redirected the call to you. For example, if Caller A calls Caller B, Caller B can redirect the call to Caller C and return to available status. Although Caller B is available, Caller C cannot redirect the call to Caller B because the system treats this route as already attempted without success. This treatment prevents redirect loops. If Caller C attempts to redirect the call to Caller B, the call ends and Caller A receives a temporarily unavailable message.

Redirecting incoming call by using the outbox or address book

- 1 Press the **Redrct** soft key.
- 2 Press an outbox or address book quick button.
- 3 Choose the entry and press the **Select** soft key.
- 4 Press the **Redrct** soft key.

Decline calls

When you decline an incoming call, your telephone stops ringing. The caller receives a decline message and a busy signal. You can also decline a call and specify a reason, if you have configured reject reasons through the View menu.

Declining a call without a reason

- 1 Press the **Dclne** soft key.
- 2 Press the **Ok** soft key to decline the call.
The calling party receives a busy signal.
- 3 Press the **Cancel** soft key to cancel the decline. The original ringing display appears.

Declining a call with a reason:

- 1 Press the **Dclne** soft key.
- 2 Press the **Reason** soft key.



Note: The Reason soft key only appears if reject reasons are defined.

- 3 Choose a reason and press the **Select** soft key.
- 4 Press the **Ok** soft key to decline the call.

The calling party receives a busy signal and the reject reason appears on their display.

-
- 5 Press the **Cancel** soft key to cancel the decline.



Tip: For information about creating or changing a list of Reject Reasons see [“Adding reject reasons” on page 75](#). For information about setting the IP Phone 2002 to automatically decline all calls see [“Do Not Disturb” on page 88](#).

Ignoring a call

You can stop an incoming call from making the phone ring and have your ring list route your call. See [“Configuring the ignore action” on page 47](#) for an explanation of the options.

- 1 Press the **Ignore** soft key.
- 2 Press the **Ok** soft key to pass the call.

The call is handled by your ring list. When the ring list is exhausted, the caller receives a busy signal.

- 3 Press the **Cancel** soft key to cancel the ignore process.



Tip: For more information about creating a ring list, see *Personal Agent User Guide* (NN42020-100).

Sending and receiving instant messages

Your IP Phone 2002 sends a beep to alert you when you receive an instant message (IM) and shows the message on the display.

To send an instant message, press the **Send IM** option.



quick button and select the



Tip: For more information about instant messaging see [“Instant messaging”](#) on page 85.

Call management

This chapter describes how to manage your calls efficiently by using both the IP Phone 2002 quick buttons and advanced features in the View menu.

The topics in this chapter include:

- [“View menu” on page 71](#)
- [“Accessing the list of friends” on page 72](#)
- [“Changing your presence status” on page 73](#)
- [“Adding call subjects” on page 75](#)
- [“Adding reject reasons” on page 75](#)
- [“Viewing line information” on page 76](#)
- [“Inbox” on page 76](#)
- [“Address book” on page 79](#)
- [“Outbox” on page 80](#)

View menu

The View menu includes the following options:

#	View menu option
1	Friends
2	Presence
3	Call Subject
4	Reject Reason
5	Line Information
6	Inbox
7	Address Book
8	Outbox



Tip: For quick selection, press the number on the dialpad that corresponds to the menu item. Use the up and down navigation buttons to scroll through the Configuration menu list. To reach the beginning of the list, press the start (*). To reach the end of the list, press the pound (#) button.



Note: Parameters that are specific to a line can be configured or viewed using menu options. If several users are logged on to the telephone, then the system prompts you to select your line button.

Some of these items can also be accessed using the quick buttons.

Figure 7 Quick buttons



Accessing the list of friends

You can maintain a list of users that you frequently contact by using the Personal Agent. Use the View menu on your IP Phone 2002 to see who, in your list of friends, is connected or unavailable.

- 1 Press the **View** soft key.
- 2 Choose the **Friends** option and press the **Select** soft key to access your list of friends.

Your personalized list of friends appears on the display.

- 3 Use the up and down navigation buttons to scroll through the list. Use the right navigation button to view the presence details for this entry.

You can IM, or call the entry you highlight.



Tip: For more information about creating a list of friends, see *Personal Agent User Guide* (NN42020-100).

Changing your presence status

Use the presence option to display your status. Users that have you in their friends list can see if you are connected or unavailable. You can also customize your own presence option (see [page 73](#)).



Tip: If your presence status is Unavailable and you log off (or the system resets), the system prompts you to change your status when you log on again.

- 1 Press the **View** soft key.
- 2 Choose the **Presence** option and press the **Select** soft key.
- 3 Press the **Change** soft key.
- 4 Use the up and down navigation buttons to choose either the **Connected** or **Unavailable** option.



Tip: If you select **Unavailable - Busy** as your status, your telephone does not ring when a call arrives. The calls are either handled by the Make Subscriber Busy (MSB) route (through the Personal Agent, if applicable) or they are treated the same way as the Ignore feature. This feature depends on your service package.

- 5 Press the **Select** soft key.
- 6 Choose a presence option and press the **Select** soft key.
- 7 Press the **Ok** soft key to confirm.

Customizing presence options

You can add up to four customized presence options to either the Connected or Unavailable options list. The text for a customized presence option can be up to 32 characters in length.

- 1 Press the **View** soft key.
- 2 Choose the **Presence** option and press the **Select** soft key.
- 3 Press the **Change** soft key.
- 4 Use the up and down navigation buttons to choose either the **Connected** or **Unavailable** option.
- 5 Press the **Select** soft key.
- 6 Use the up and down navigation buttons to scroll through the current list.
- 7 Press the **Add** soft key.
- 8 Enter a text label for your presence option by using the dialpad.
(for example, in a conference)
- 9 Press the **Ok** soft key.

The display prompts you select this new presence option as the current default.
- 10 Press the **Ok** soft key to confirm or press **Cancel** to return to the View menu.

(If you press **Cancel**, the new menu option still appears in the list although you did not choose it as your default.)



Tip: For more information about how to automatically change your presence status by using a key, see [“Line buttons” on page 92](#).

Adding call subjects

You can create a list of call subjects to let the person you are calling know the reason for your call. The subject text can be up to 100 characters in length, however recipients sometimes need to scroll to see long messages.

- 1 Press the **View** soft key.
- 2 Choose the **Call Subject** option and press the **Select** soft key.
- 3 Press the **Add** soft key.

If this is your first call subject, you can enter the text immediately without pressing Add.

- 4 Enter the subject text.
- 5 Press the **Ok** soft key.



Tip: You can choose an existing Subject entry and press the **Modify** soft key to edit the text, or use the **Del** soft key to remove an entry from the list.



Note: For information about using this feature, see [“Adding a subject to a call” on page 58](#).

Adding reject reasons

When you cannot answer a call, you can send a message that tells the caller why you cannot answer. The reject reason text can be up to 40 characters in length. Recipients must scroll to see messages longer than 24 characters.

- 1 Press the **View** soft key.
- 2 Choose the **Reject Reasons** option and press the **Select** soft key.
- 3 Press the **Add** soft key and enter the text.

- 4 Press the **Ok** soft key.



Tip: You can choose an existing reject reason entry and press the **Modify** soft key to edit the text, or use the **Del** soft key to remove an entry from the list.



Note: For information about using this feature see [“Decline calls” on page 68](#).

Viewing line information

You can see the user name, domain, presence, IM active, redial option, and feature activation information for each user logged on to the telephone.

- 1 From the idle display screen, press the **View** soft key.
If there is more than one user logged on to the telephone, the system prompts you to press the Line button for the user information you want to query.
- 2 Select the **Line Information** option and press the **Select** soft key.
The information about the user assigned to that line appears on the display. Use the up and down navigation buttons to scroll through the information.
- 3 Press the **Ok** soft key to return to the View menu.

Inbox

Your IP Phone 2002 maintains an inbox list of calls that you returned. You can access this list using the **View** soft key or by pressing the inbox quick button



When your telephone is idle and you access the inbox, the following soft key options appear.

Table 13 Inbox soft key options—idle phone

Press	To
Call	Dial the inbox entry
All/Missed	Toggle between the inbox lists of all calls or missed calls
Del	Delete an entry from the inbox
Ok	Return to the idle display

When you are on a call and you access the inbox, the following soft key options appear.


Table 14 Inbox soft key options—call in progress

Press	To
Select	Dial the inbox entry
Cancel	Return to the active call display




Tip: Use the right navigation button to access the details information to the right of the screen. Use the left navigation button to scroll back to the previous screen.

Calling an inbox entry

- 1 Press  .
- 2 Use the navigation buttons to choose a particular user, and press the **Select** soft key to access that inbox.
- 3 Choose an entry or enter the number associated with the entry.
- 4 Press the **Call** soft key to dial the entry and return the call.

Calling an inbox entry while you are on a call

- 1 Press  .
- 2 Choose an entry or enter the number associated with the entry.
- 3 Press **Select**.

The active call is placed on hold and the new call rings.

Saving an inbox entry to the address book

- 1 Choose the entry and press the right navigation button to access entry details.
- 2 Press the **Save** soft key.

The system displays the message “Save as >”. You can change the entry text. Use the left navigation button to erase the existing text if you need to add new text.

- 3 Press the **Save** soft key again.

The system displays the message "Add to Friends?".

- 4 Press the **Yes** or **No** soft key.




Note: You cannot save an inbox entry to the address book while you are on an active call.



Tip: If you enter a nickname for an entry in your address book, then that name appears on your display when the person calls you.

Deleting an inbox entry

- 1 Press  .
- 2 Choose an entry or enter the number associated with the entry.
- 3 Press the **Del** soft key.
- 4 Press **Ok**.
- 5 To delete all the entries from a particular caller, press the **AllUsr** soft key.

- 6 To delete all of the inbox entries, press the **All** soft key.

Address book

Use IP Phone 2002 to keep a list of addresses.



Tip: Use the right navigation button to access details, including presence status. Use the left navigation button to scroll back to the previous screen.

Accessing your address book

- 1 Press  .

OR

Press the **View** soft key, choose the address book option and press the **Select** soft key.

- 2 Use the navigation buttons to choose an entry.
- 3 Press the **Call** soft key to place a call.

Adding an entry to the address book

- 1 From the address book screen, press the **Add** soft key.
- 2 Enter the name and press the **Ok** soft key.
- 3 Enter an address and press the **Ok** soft key.
The display prompts you "Add to Friends?".
- 4 Press the **Yes** or **No** soft key.

Removing an entry from the address book

- 1 From the address book screen, choose the entry in the address book.
- 2 Press the **Modify** soft key and then the **Del** soft key.
- 3 Press the **Ok** soft key to delete the entry or press **Cancel** to cancel the deletion.

Editing an entry in the address book

- 1 From the address book screen, choose the entry in the address book.
- 2 Press the **Modify** soft key.
- 3 Edit the name and press the **Ok** soft key.



Tip: The **Delete** soft key permanently removes this entry from the address book.

- 4 Edit the address and press the **Ok** soft key.



Tip: You can press the **Back** soft key to return to the edit name display.

If the entry is a friend, the display prompts you "Remove from Friends?" If the entry is not in the list of friends, then the display prompts "Add to Friends?"

- 5 Press the **Yes** or **No** soft key.

Outbox

The IP Phone 2002 keeps a list of all your outgoing calls in the outbox.

Accessing your outbox

- 1 Press  .

OR

Press the **View** soft key, choose the **Outbox** option and press the **Select** soft key.


- 2 Use the navigation buttons to choose an entry or enter the number associated with the entry.

- 3 Press the **Call** soft key to dial the entry.



Tip: Use the right navigation button to access the information to the right of the screen. Use the left navigation button to scroll back to the previous screen.

Deleting an outbox entry

- 1 Press  .
- 2 Use the navigation buttons to choose an entry or enter the number associated with the entry.
- 3 Press the **Del** soft key.
- 4 To delete the single entry press **Ok**.
- 5 To delete all the entries from a particular caller press the **AllUsr** soft key.
- 6 To delete all the outbox entries press the **All** soft key.

Saving an outbox entry to the address book

- 1 Choose an outbox entry and press the right navigation button to access entry details.
- 2 Press the **Save** soft key.
The display prompts, "Save as >". You can change the entry text.
- 3 Press the **Save** soft key again.
The display prompts "Add to Friends?".
- 4 Press the **Yes** or **No** soft key.

Advanced features and services

This chapter describes the many advanced features of your IP Phone 2002.

The topics in this chapter include:

- [“Services menu” on page 83](#)
- [“Stock query” on page 84](#)
- [“Instant messaging” on page 85](#)
- [“Call Forward” on page 87](#)
- [“Do Not Disturb” on page 88](#)
- [“Logging on” on page 89](#)
- [“Logging off” on page 90](#)
- [“Retrieving a parked call” on page 90](#)
- [“Searching the global address book” on page 91](#)
- [“Line buttons” on page 92](#)

Services menu

The Services menu gives you access to advanced IP Phone 2002 features:

- | | |
|---|----------------------|
| 1 | Stock Query |
| 2 | Send IM |
| 3 | Call Forward |
| 4 | Do Not Disturb |
| 5 | User Login |
| 6 | User Logout |
| 7 | Retrieve Parked Call |
| 8 | Global Search |
| 9 | Program key |



Tip: For quick selection, press the number on the dialpad that corresponds to the menu item. Use the up and down navigation buttons to scroll through the Configuration menu list. To reach the beginning of the list, press the start (*). To reach the end of the list, press the pound (#) button.



Note: Parameters that are specific to a line can be configured or viewed using menu options. If several users are logged on to the telephone, then the system prompts you to select your line button.

Stock query

You can configure your IP Phone 2002 to display stock quotes.



Note: To determine whether this feature is activated for your system, contact your system administrator.

Configuring stock query

- 1 From the idle display screen, select the **Servcs** soft key.
- 2 Choose the **Stock Query** option and press the **Select** soft key.
- 3 Enter the symbol of the stock that you want to query.

The default mode for entering a stock symbol is alphanumeric. Use the left navigation button to delete individual characters. The **Clr** soft key deletes the entire line.

- 4 Press the **Query** button.

The display can change briefly to show that the query is in progress. When the query is complete, the result appears.

- 5 Press the **Save** soft key.
- 6 Press the **Add** soft key to add this stock query to a bulletin that displays on your screen.

- 7 You can also query for another stock or press the **Cancel** soft key to return to the idle display.

Removing a stock query entry

- 1 From the idle display screen, select the **Servcs** soft key.
- 2 Choose the **Stock Query** option and press the **Select** soft key.
- 3 Enter the symbol of the stock that you want to delete from your Stock Query Bulletin list.

The default mode for entering a stock symbol is alphanumeric.

- 4 Press the **Query** button.

The display can change briefly to show that the query is in progress. When the query is complete, the result appears.

- 5 Press the **Save** soft key.

The display prompts you to remove the stock.

- 6 Press the **Remove** soft key to delete this entry.

Instant messaging

You can send an instant message that appears on the telephone display of another user on the system.



Note: The ability to send or receive instant messages depends on your service package.

Sending an instant message

- 1 From the idle display screen, select the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Send IM** option and press the **Select** soft key.
- 3 Enter the recipient's address (for example, jdoe2@domain.com).
- 4 Press the **Next** soft key.

5 Enter your message text.

6 Press the **Send** soft key.

You can press the **Next** soft key enter another text message and, press the **Send** soft key to continue sending IMs to this same address.



Tip: For a shortcut to the Send IM option, press the button and use the navigation buttons to scroll through the options.



Sending an IM to an entry in your inbox, outbox, or address book

1 Select the **Servcs** soft key.

2 Press the down navigation button to choose the **Send IM** feature and press the **Select** soft key.

3 Press an **Inbox**, **Outbox**, or **Address Book** quick button.

4 Choose an entry and press the **Select** soft key.

5 Enter your message text.

6 Press the **Send** soft key.

Handling incoming instant messages

1 When you receive an instant message, use the navigation buttons to scroll through the IM text.

2 Use the **Detail** soft key to view details about the IM.

a Press **Call** to call the sender of the IM.

b Press the **Reply** soft key to reply to an IM.

c Enter a text message and, select the **Send** soft key, or **Cancel** to return to the idle display.

3 Use the **Prev** and **Next** soft keys if you have more than one IM to view.

- 4 Press the **Cancel** soft key to clear all IM messages.



Note: The IP Phone 2002 can only display 10 instant messages at a time. The system deletes any additional instant messages. It is important to clear your instant messages.

Call Forward

You can forward your calls to other locations by using your IP Phone 2002 Call Forward feature. This feature overrides routing rules you have configured through the Personal Agent.



Tip: If you are logged on to several IP Phones, Call Forward applies to all lines assigned to you.



Note: The Call Forward feature is bypassed when you place an emergency services call. Calls returned by emergency services personnel ring at the location where the call originated.

Forwarding a call

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Call Forward** option and press the **Select** soft key.
See the note below if there is more than one user logged on.
- 3 Enter the destination address, or press an **inbox**, **outbox**, or **address book** quick button and select an entry from the list.
- 4 Press the **Frwrdd** soft key.

The display beside the line button periodically changes to indicate that calls are now forwarded and the telephone icon appears hollow.



Note: If several users are logged on to the IP Phone 2002, you must press the line button next to the line you want to forward or press the **Ok** soft key to forward the primary line.



Tip: You can place outgoing calls, even though your line is forwarded to another location.

Cancelling call forward



Tip: If you are logged on to several IP Phones, every line associated with you has call forwarding canceled.

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Call Forwarding** option and press the **Select** soft key.
- 3 Press the **Ok** soft key to cancel forwarding for the primary line.

If several users are logged on, the system prompts you to press the line button next to the line that was forwarded. When you press the forwarded line button, call forwarding is canceled immediately.

Do Not Disturb

The Do Not Disturb (DND) feature blocks all calls on a line. Your IP Phone 2002 does not ring when a call arrives.

If your IP Phone 2002 is the only device defined in your active ring list, incoming calls are sent to the next ring list. If you have several contacts in your ring list the other devices ring for the defined number of rings before the call moves to the next ring list.



Tip: For more information about creating a ring list, see *Personal Agent User Guide* (NN42020-100).



Note: You cannot enable the Do Not Disturb feature during an emergency services call.

Enabling DND

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Do Not Disturb** option and press the **Select** soft key.
- 3 Press the **Ok** soft key to enable Do Not Disturb.

The display beside the line button periodically changes to indicate that DND is active and the telephone icon appears hollow.

Cancelling DND

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Do Not Disturb** option and press the **Select** soft key.
- 3 Press the **Ok** soft key to disable Do not Disturb.

Logging on

- 1 From the idle display screen, press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **User Login** option and press the **Select** soft key.

- 3 Enter your user ID and press **Login**.
- 4 Enter your password and press **Login**.
- 5 Choose your location and press **Select**.
- 6 Enter an amount of time (press the **Days/Hours** soft key to toggle between the day field and hour field) and press **Timed**, or press the **Login** soft key to use the network provisioned values.

Logging off

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **User Logout** option and press the **Select** soft key.

The system prompts you to indicate your line (if there is more than one user logged on) and then for your password. If you press the **Ok** soft key then the primary line key user is automatically selected.

- 3 Enter your password.
- 4 Press the **Logout** soft key.

Retrieving a parked call

You can retrieve a call that is parked on the system if you have the call ID.

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Retrieve Parked Call** option and press the **Select** soft key.
- 3 Enter the call ID and press **Ok**.



Tip: If a call is parked for you, when you access the Retrieve Parked Call option, the system prompts you. You can choose to retrieve your parked call or enter another call ID.

Searching the global address book

You can search through the global address book of all users on your system to make a call or to add entries to your personal address book.



Tip: Use the star (*) character to indicate a wild card in the search string. Enter the star character by pressing the star (*) button on the keypad or by using the special characters that are available in alphanumeric dialing. See [“Entering alphanumeric characters” on page 29](#).

- 1 Press the **Servcs** soft key and go to step 2 or press the **Srch** soft key on the idle display and go to step 3.
- 2 Press the down navigation button to choose the **Global Search** option and press the **Select** soft key.

The system prompts you to choose the method of search. Options include **User Name**, **Name**, **Last Name**, **First Name**, and **Phone Number**. Use the up and down navigation buttons to scroll through the options.

- 3 Highlight an option and press **Select**.
- 4 Enter the characters (letters or numbers) for the search and press the **Ok** soft key.

The entries, up to a maximum of 100, that match your search parameter appear on the display.



Tip: Use the right navigation button to view the presence details of the entry you have highlighted. Press the **Call** soft key to place a call to this entry. Press the **Save** soft key to save this entry to your personal address book.

- 5 Press the **Srch** soft key to continue searching the global address book.
- 6 You can call the entry or save it to your personal address book.
- 7 Press the **Cancel** soft key to return to the idle display.

Global address book restrictions

The Administrator can restrict access to the global address book.

When the Global Address Book Enabled parameter is configured to false, the Srch soft key is not displayed on the idle screen of the Nortel IP Phone 2002.

When the Global Address Book Enabled parameter is configured to false and a user selects Global Search from the Quick Servcs or Services menu, the system displays the following error messages.

- The global address book is disabled by the network administrator.
- Search not available.

When several users are logged on to a telephone, the Srch soft key is removed only if all the users are in a domain that has the Global Address Book Enabled configured to false.

When the user selects the search function by using the Srch soft key or by using the service menus, and several users are logged on, the system prompts the user to select the person that they want to search for. The user sees only those people whose domains have the global address book enabled. If no one has the global address book available, the user sees an error message.

Line buttons

The unused line buttons on your IP Phone 2002 can be programmed to:

- speed dial an address or number
- send an IM to a specific person
- activate Do not Disturb
- forward your calls
- change your presence status
- make a stock query

When several users share a phone, the following rules apply:

- When several users are logged on, the primary line users' programmed line buttons occupy the unused line buttons. When the primary line user logs off, the programmed line buttons for the second user appear.
- The users who log on after the primary line user occupy the line buttons sequentially and override any programming.
- When a user logs off, the previous programming for the line button returns.
- Several users can program any unoccupied line buttons.
- When the primary line user logs off, the programming for the second line button user appears on unoccupied line buttons.



Note: The primary line key (1) is not available for programming.

Programming line buttons

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Program Key** option and press the **Select** soft key.

The display lists the unused line keys that are available to program. Use the up and down navigation buttons to scroll through this list.

- 3 Locate the line key you want to program and press the **Set** soft key.

The display lists the feature options that are available. Use the up and down navigation buttons to scroll through this list.

- 4 Scroll to the feature you want to program and press the **Set** soft key.

The display prompts you to enter a text label for this key. The text label appears beside the line key at the top of your telephone.

- 5 Follow the prompts to enter the information to program this key.

Removing features from a line button

- 1 Press the **Servcs** soft key.
- 2 Press the down navigation button to choose the **Program Key** option and press the **Select** soft key.

The display lists the line keys that are available to program. Use the up and down navigation buttons to scroll through this list.

- 3** Highlight the key you want to remove programming from and press the **Remove** soft key.
- 4** The text label for the key is deleted.

The key is now available as a line key or for programming.

Troubleshooting

This chapter includes instructions for solving some common problems that can occur on the IP Phone 2002.

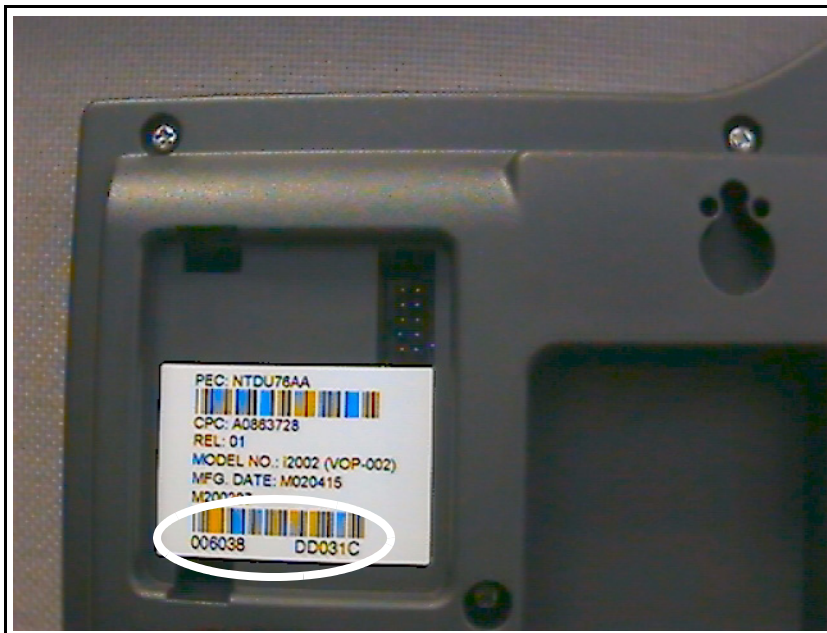
The topics in this chapter include:

- [“Locate the MAC address” on page 95](#)
- [“Restarting your Nortel IP Phone 2002” on page 96](#)
- [“Call does not connect” on page 96](#)
- [“Call is connected but there is no audio” on page 97](#)
- [“Changing audio settings while on a call” on page 97](#)
- [“Quality of service information” on page 98](#)

Locate the MAC address

Examine your IP Phone 2002. The white label on the left of the telephone lists a series of numbers. The last number is the MAC address (similar to 00 60 38 XX XX XX). Record this address for future use. See [Figure 8 “MAC address location” on page 96](#).

Figure 8 MAC address location



Restarting your Nortel IP Phone 2002

There are two ways to manually restart your IP Phone 2002.

To manually restart your phone:

Power cycle (unplug and replug) your phone.

OR

Press the **Config** soft key and select the **Reset Phone** option.

Call does not connect

Before reporting a network problem, ensure that you are using the correct SIP address to call someone.

Use SIP addresses

Rather than dialing an IP address (for example, ron@12.134.47.78), remember to use the SIP address (for example, ron3@acme.com). The proxy server that routes the call can serve several domains, and not know the domain where a user IP address resides.

Domain name

You must enter the domain (for example, @acme.com) if the person you are calling is not in your domain.



Note: The domain name in a user address need not be an Internet domain.

Call is connected but there is no audio

If you are using the handset, check that the headset button is not activated. The red LED beside the headset button indicates when the headset option is active. When the headset option is active, and even if there is no headset plugged in, you cannot receive or transmit audio through the handset.

Changing audio settings while on a call

While on a call, you can change speech codec settings to achieve better audio quality. The term codec is an acronym that stands for "Compression/Decompression." The codec setting controls how speech compresses and decompresses into digital packets for transmission over the network. However, it also means that the speech delay is increased on the call.



Note: The changed setting applies only to the current active call. The settings return to default for the next call.

- 1 During an active call, press the **Audio** soft key.

- 2 Select the **Change audio setting** option and press **Ok**.
- 3 Use the navigation buttons to highlight the required quality setting and press **Select**.



Tip: Your system administrator sets the default codec and framesize for all your calls.

A general rule for selecting the codec and framesize is as follows.

Table 15 Codec and framesize

High quality	Medium quality	Low quality
PCMU 20 ms	PCMU 30 ms	G729A 30 ms
PCMA 20 ms	PCMA 30 ms	
G729A 20 ms		

Quality of service information

To improve your service or to determine a solution to a quality issue, your service provider can ask you to record quality of service information for your calls.

Viewing quality of service information for an active call

- 1 Press the **Audio** soft key.
- 2 Select the **Monitor audio quality** option.
- 3 Record the information displayed for this call.

Appendix A: Multimedia PC Client and the IP Phone 2002

You can use your IP Phone 2002 to provide premium-quality voice communication while your PC, with the Multimedia PC Client, provides advanced IP and multimedia services. This configuration is called the Multimedia Client Set. For more information about this Multimedia Client Set, see *Multimedia PC Client User Guide* (NN42020-102).



Note: The ability to use your Multimedia PC Client to control your IP Phone 2002 depends on your service package.



Note: You must be logged on to both the IP Phone 2002 and the Multimedia PC Client for the Multimedia Client Set to work.

Configuring your Multimedia PC Client to control your IP Phone 2002

- 1 Select **Tools > Preferences** and then select the **i200x Internet Telephone** list item.
- 2 Select the **Use the i200x telephone for voice instead of PC** check box.
- 3 Enter the port number (and optionally the MAC address) for the IP Phone 2002.



Tip: The Multimedia PC Client can automatically detect and fill the MAC address field with information it obtains from the first IP Phone that contacts it on the port specified in step 4.

- 4 Select the **Network controls the i200x telephone when PC Client exits** check box if you want the network to take over control of the IP Phone 2002 when the Multimedia PC Client exits.

This feature is selected by default.

- 5 Select the **PC Client routes voice to/from i200x (for private IP addresses)** check box if you want the Multimedia PC Client to route voice to/from the telephone for private IP addresses.

This option can be required if you use a private LAN in a home office. This option is not usually required for work office use. This feature is not selected by default.

- 6 Click **Ok** to save your changes or click **Cancel** to exit without saving.

IP Phone 2002 indicator

The Multimedia PC Client main window has a status area with a telephone icon. This icon is lit when the Multimedia PC Client controls the IP Phone 2002 for voice telephony.

Appendix B: Multimedia Office Client and the IP Phone 2002

You can use your IP Phone 2002 to provide premium-quality voice communication while your PC, with the Multimedia Office Client, provides advanced IP and multimedia services. This configuration is called the Multimedia Client Set. For more information about this Multimedia Client Set, see *Multimedia Office Client User Guide* (NN42020-139).



Note: You must be logged on to both the IP Phone 2002 and the Multimedia Office Client for the Multimedia Client Set to work.



Note: The ability to use your Multimedia Office Client to control your IP Phone 2002 depends on your service package.

Configuring your Multimedia Office Client to control your IP Phone 2002

- 1 In the Microsoft Outlook, select **Multimedia > Preferences** and then select the **200x** list item.
- 2 Select the **Use the i200x telephone for voice instead of PC** check box to indicate that you want the IP Phone to provide voice while the PC provides advanced IP and multimedia services.
- 3 Enter the port number (and optionally the MAC address) for the IP Phone.



Tip: The Multimedia Office Client can automatically detect and fill the MAC address field with information it obtains from the first IP Phone that contacts it on the port specified in step 3.

- 4** Select the **Network controls the 200x telephone when Multimedia Office Client exits** check box if you want the network to take over control of the IP Phone when the Multimedia Office Client exits.

By default, this check box is selected.

- 5** Check whether the Multimedia Office Client routes voice to and from the telephone for private IP addresses.

This option can be required if you use a private LAN in a home office. It is not usually required for work office use. By default, this check box is not selected.

- 6** Click **OK** to save your changes or click **Cancel** to exit without saving.

IP Phone 2002 indicator

The Multimedia Office Client main window has a tool bar with a 200x toggle button. This button is highlighted when the Multimedia Office Client controls the IP Phone 2002 for voice telephony.

Appendix C: Multimedia PC Client for IBM Lotus Notes and the IP Phone 2002

You can use your IP Phone 2002 to provide premium-quality voice communication while your PC, with the Multimedia PC Client for IBM Lotus Notes, provides advanced IP and multimedia services. This configuration is called the Multimedia Client Set. For more information about this Multimedia Client Set, see *Multimedia PC Client for IBM Lotus Notes User Guide* (NN42020-148).



Note: You must be logged on to both the IP Phone 2002 and the Multimedia PC Client for IBM Lotus Notes for the Multimedia Client Set to work.



Note: The ability to use your Multimedia PC Client for IBM Lotus Notes to control your IP Phone 2002 depends on your service package.

Configuring your Multimedia PC Client for IBM Lotus Notes to control your IP Phone 2002:

- 1 In the Multimedia PC Client for IBM Lotus Notes client, select **Multimedia > Preferences** and then select the **200x** list item.
- 2 Select the **Use the i200x telephone for voice instead of PC** check box to indicate that you want the IP Phone to provide voice while the PC provides advanced IP and multimedia services.

- 3 Enter the port number (and optionally the MAC address) for the IP Phone.



Tip: The Multimedia PC Client for IBM Lotus Notes can automatically detect and fill the MAC address field with information it obtains from the first IP Phone that contacts it on the port specified in step 3.

- 4 Select the **Network controls the 200x telephone when Multimedia PC Client for IBM Lotus Notes exits** check box if you want the network to take over control of the IP Phone when the Multimedia PC Client for IBM Lotus Notes exits.

By default, this check box is selected.

- 5 Check whether the Multimedia PC Client for IBM Lotus Notes routes voice to and from the telephone for private IP addresses.

This option can be required if you use a private LAN in a home office. It is not usually required for work office use. By default, this check box is not selected.

- 6 Click **OK** to save your changes or click **Cancel** to exit without saving.

IP Phone 2002 indicator

The Multimedia PC Client for IBM Lotus Notes main window has a tool bar with a 200x toggle button. This button is highlighted when the Multimedia PC Client for IBM Lotus Notes controls the IP Phone 2002 for voice telephony.

Appendix D: DHCP parameter configuration

After you power up your IP Phone 2002, if the display indicates that the server is unreachable and the phone continuously resets, you must configure some parameters.

Considerations for parameter configuration

When configuring parameters, consider the following items:

- To enter requested information in the menu fields, press the number keys on the dialpad. Press the star (*) key to enter a period (.) when you enter an IP address.
- To record the entry and advance the initialization to the next parameter, press **Ok**.
- To abandon the manual configuration process and restart the power-up, press **Cancel**.
- If you enter parameters manually, use the **BKSpace** or **Clear** soft keys to edit the default entry. Press the **BKSpace** soft key to delete a single character. Press the **Clear** soft key to delete the entire entry.
- If you try to move to the next parameter without entering text in the current field, an audible beep notifies you. Each parameter must have a corresponding entry.

Begin the initialization process

To begin the initialization process, at the flashing Nortel Networks screen, quickly press each of the four soft keys (located at the bottom of the display screen) once, pressing from left to right.



Tip: If you miss the flashing introduction screen, unplug and plug in your IP Phone 2002 to reach the configuration screen where you can press the soft keys.

If your network supports DHCP go to [“If your network supports DHCP” on page 106](#). If your network does not support DHCP go to [“If your network does not support DHCP” on page 109](#).

If your network supports DHCP

At the prompt in the display area of your phone, enter the configuration parameters listed in [Table 16 “DHCP configuration parameters” on page 106](#).



Tip: Your system administrator can tell you whether your network supports DHCP.



Warning: The VLAN parameter must not be selected unless the underlying network switches are configured to filter on VLAN IDs. Otherwise, the IP Phone 2002 can fail to work properly.

Table 16 DHCP configuration parameters

Parameter	Value	Definition
DHCP (enable)	1	Yes
DHCP (full or partial)	1	Partial
Cached IP?	0-No, 1-Yes	Select Yes if the cached IP address for this telephone is to be used if the DHCP server fails.

Table 16 DHCP configuration parameters

Parameter	Value	Definition
S1 IP	<valid Server IP address>	Primary server (IP Client Manager or Multimedia PC Client) IP address
S1 PORT	5000	Primary server port
S1 ACTION	1	Primary action code (must be configured to 1)
S1 RETRY Count	1	Primary retry count
S2 IP	<valid Server IP address>	Secondary server (IP Client Manager or Multimedia PC Client) IP address Note: If you do not know the secondary IP address, use the primary IP address for the secondary address.
S2 Port	5000	Secondary server port Note: If you do not know the secondary port, use the primary port.
S2 ACTION	1	Secondary action code (must be configured to 1)
S2 RETRY COUNT	1	Secondary retry count
VLAN (0=No, 1=Yes)	0	QoS 802.1q VLAN Tag Service
EAP(enable)	1-Yes	Select Yes if the network infrastructure supports 802.1x port-based network access control.
Data VLAN	0-N, 1-Yes	Default 0 (for No) Note: You are not prompted for Data VLAN if PC port is set to 0 for Off.

Table 16 DHCP configuration parameters

Parameter	Value	Definition
Data VLAN Cfg	0-Auto, 1-Man	Default 1 (for Man) Note: You are not prompted for Data VLAN Cfg if LLDP or Data VLAN are not enabled and PC Port is set to 0 for Off. If you select 0 (for Auto), VLAN ID is automatically configured to the value received in the VLAN NAME TLV.
Data VLAN ID	0-Auto	You are not prompted for Data VLAN ID if Data VLAN is set to 0 for Auto.
VLANFILTER	0-No, 1-Yes	Default 0 (for No)
GARP Ignore	0-No, 1-Yes	Default 0 (for No)
Speed	0-A, 1-10, 2-100	Network interface port speed Default 0(for Auto) 0 = Auto 1 = 10 BT 2 = 100 BT Note: You are not prompted for speed if PC Port is set to 0 for Off.
Duplex	0-A, 1-F, 2-H	Default 1 (for Auto) 0 = Auto 1 = Full 2 = Half Note: You are not prompted for Duplex if PC Port is set to 0 for Off or if Speed is set to 0 for Auto.
PC Port	0-Off, 1-On	Default 1 (for On)
Cfg XAS	0-No, 1-Yes	Default 0 (for No) If no External Application Server (XAS) is present, enter 0 (for No). You are not prompted to enter the XAS IP address.

Table 16 DHCP configuration parameters

Parameter	Value	Definition
Voice VLAN	0-No, 1-Yes	Default 0 (for No) Note: You are not prompted for Voice VLAN if 802.1Q is not enabled.
PCUntagAll	0-No, 1-Yes	Default 0 (for No)

After you press the **Ok** soft key for the last configuration parameter, the system displays the message "Locating Server".

If your network does not support DHCP

Use the following procedure if your network does not support DHCP.

Configuring parameters

- 1 At the prompt in the display area of your phone, enter 0 by using the dialpad, to indicate that DHCP is not supported.
- 2 At the prompt in the display area of your phone, enter the configuration parameters listed in [Table 17 “Configuration parameters” on page 109](#).



Warning: The VLAN parameter must not be selected unless the underlying network switches are configured to filter on VLAN IDs. Otherwise, the IP Phone 2002 can fail to work properly.

Table 17 Configuration parameters

Parameter	Value	Definition
SET IP	<valid IP address>	IP address of your IP Phone 2002 provided by your system administrator
NETMSK	<valid subnet mask>	Subnet Mask provided by your system administrator
DEF GW	<valid Default Gateway>	Default gateway IP network address provided by your system administrator

Table 17 Configuration parameters

Parameter	Value	Definition
S1 IP	<valid Server IP address>	Primary server (IP Client Manager or Multimedia PC Client) IP address
S1 PORT	5000	Primary server port
S1 ACTION	1	Primary action code (enter 1 for UNISim)
S1 RETRY Count	1	Primary retry count
S2 IP	<valid Server IP address>	Secondary server (IP Client Manager or Multimedia PC Client) IP address Note: If you do not know the secondary IP address, use the primary IP address for the secondary address.
S2 Port	5000	Secondary server port Note: If you do not know the secondary port, use the primary port.
S2 ACTION	1	Secondary action code (enter 1 for UNISim)
S2 RETRY COUNT	1	Secondary retry count
VLAN (0=No, 1=Yes)	0	QoS 802.1a VLAN Tag Service
EAP(enable)	1-Yes	Select Yes if the network infrastructure supports 802.1x port-based network access control.
Data VLAN	0-No, 1-Yes	Default 0 (for No) Note: You are not prompted for Data VLAN if PC Port is set to 0 for Off.
VLANFILTER	0-No, 1-Yes	Default 0 (for No)
GARP Ignore	0-No, 1-Yes	Default 0 (for No)
PC Port	0-Off, 1-On	Default 1 (for On)

Table 17 Configuration parameters

Parameter	Value	Definition
Speed	0-A, 1-10, 2-100	Default 0 (for Auto). 0 = Auto 1 = 10 BT 2 = 100 BT Note: You are not prompted for Speed if PC Port is set to 0 for Off.
Duplex	0-A, 1-F, 2-H	Default 1 (for Auto). 0 = Auto 1 = Full 2 = Half Note: You are not prompted for Duplex if PC Port is set to 0 for Off and if Speed is set to 0 for Auto.
Cfg XAS	0-No, 1-Yes	Default 0 (for No)
Voice VLAN	0-No, 1-Yes	Default 0 (for No) Note: You are not prompted for Voice VLAN if 802.1Q is not enabled.
PCUntagAll	0-No, 1-Yes	Default 0 (for No)

After pressing the **Ok** soft key on the last configuration parameter, you see a message "Locating Server".

Automatic VOICE VLAN ID configuration

As part of the 802.1Q feature, there is an option to automatically discover the VOICE VLAN ID using DHCP. This process reduces the configuration steps since entering the data manually (the VOICE VLAN ID) is not required.

The IP Phone is configured when the Automatic VOICE VLAN Discovery using DHCP approach. The following steps are automatically taken to obtain the VOICE VLAN ID.

- 1** The IP Phones perform an initial DHCP Discovery Request in the default VLAN.
- 2** The DHCP server returns a DHCP Ack message with an IP address in the data VLAN and one or more voice VLAN IDs in the vendor-specific field.
- 3** The IP Phone reads and saves the VOICE VLAN IDs.
- 4** The IP Phone accepts the DHCP offer but immediately gives up the lease.
- 5** The IP Phone reboots and sends a DHCP Discovery Request with the first VLAN ID from the saved list. This step is repeated for each VLAN ID in the list until a response is received.

The VOICE VLAN ID is obtained because the Layer 2 switch discards every DHCP Discovery Request that is received from the IP Phone if the VLAN ID does not match the VLAN IDs configured on the port. When the IP Phone sends a DHCP Discovery Request with the port configured VLAN ID, the packet passes the network and the DHCP server Ack message is passed back.

When a DHCP Ack message is received, the IP Phone accepts the offer and saves the IP address and the Node IP address.

Gratuitous Address Resolution Protocol Protection

Gratuitous Address resolution Protocol (GARP) Protection prevents the IP Phone 2001 from GARP Spoof attacks on the network. In a GARP Spoof attack, a malicious device on the network takes over an IP address (usually the default gateway) by sending unsolicited (or Gratuitous) ARP messages, thus manipulating the ARP table of the victim machine. The malicious device launches a variety of attacks on the network, that results in undesired traffic routing. For example, a GARP attack can convince the victim machine that the malicious device is the default gateway. In this scenario, all the traffic from the victim machine flows through the malicious device.

Extensible Authentication Protocol

Extensible Authentication Protocol (EAP) supports multiple authentication methods, such as MD5, PEAP, TLS, and TTLS. EAP represents a technology framework that facilitates the adoption of Authentication, Authorization, and Accounting (AAA) schemes, such as Remote Authentication Dial In User Service (RADIUS). Radius is defined in RFC 2865.

What to do next

After the IP Phone 2002 locates the server, follow the instructions in [Table 18 “What to do next” on page 113](#).

Table 18 What to do next

If	Then
The telephone connects to the server and the display prompts you to enter an activation key.	Go to “Enter an activation key” on page 36 .
The telephone connects to the server and the location prompt appears.	Your telephone is ready to use. Go to “Choosing your location” on page 38 .

Appendix E: Customer support

You can order the following parts and supplies for your IP Phone 2002 from your authorized distributor.

Table 19 Parts and supplies

Description	Part number
Power supply—North America	A0619627
Power supply—Europe	A0619635
Power supply—Australia, New Zealand	A0647042
Power supply—Japan	A0828858
Power supply—Ireland	A0656598
Ethernet cat 5 cable (7 foot)	A0648375
Footstand assembly - (charcoal color used for both ethergray and charcoal models)	A0891619
Handset (ethergray)	A0788874
Handset (charcoal)	A0758634
Handset cord (ethergray)	A0987725
Handset cord (charcoal)	A0792037
Headset	A0779338
Number card	P0744243
Number card lens	P0744242

For help finding an authorized distributor call, 1(800) 4NORTEL or 1 (800) 466-7835.

Multimedia Communication Portfolio

Multimedia Communication Server 5100

IP Phone 2002 User Guide

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