

AudioCodes

400HD Series of High Definition IP Phones

HD VoIP

420HD IP Phone

## User's Manual

420HD IP Phone with Microsoft® Lync™

Version 2.0.1





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## Notice

This document shows how to use the AudioCodes 420HD IP Phone with Microsoft Lync.

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Each abbreviation, unless widely used, is spelled out in full when first used.

## Documentation Feedback

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## Related Documentation

Document Name
400HD IP Phone with Microsoft Lync Release Notes
420HD IP Phone with Microsoft Lync Administrator's Manual
420HD IP Phone with Microsoft Lync Quick Guide



# 1 Introducing AudioCodes' 420HD IP Phone

AudioCodes 420HD IP Phone is based on AudioCodes High Definition voice technology, providing clarity and a rich audio experience in Voice-over-IP (VoIP) calls. The 420HD is a 2-line, 2 concurrent calls per line premium model which includes a large monochrome multi-language graphic liquid crystal display (LCD).

The 420HD IP Phone is a fully-featured telephone that provides voice communication over an IP network, allowing you to place and receive phone calls, put calls on hold, transfer calls, make conference calls, etc.

Read this User's Manual carefully to learn how to operate this product and take advantage of its multiple features.

## 1.1 About AudioCodes' Series of High Definition IP Phones

AudioCodes Series of High Definition IP Phones offers a new dimension of voice call quality and clarity for the IP Telephony market. This new series of IP Phones further expands AudioCodes' VoIP product offering for the service providers' hosted services, Enterprise IP telephony and Enterprise contact centers markets. As a natural addition to the AudioCodes Mobile Clients, Media Gateway, Media Server & Multi-Service Business Gateway products, the AudioCodes Series of High Definition IP Phones enable Systems Integrators and end-customers to build end-to-end solutions that rely on AudioCodes' technological advantage and proven track record in providing state-of-the-art products. The AudioCodes Series of High Definition IP Phones meet a growing demand for High Definition VoIP solutions in end-user phones and terminals, improving the productivity and efficiency of business communications with new quality standards set by the High Definition voice technology.

## 1.2 Cutting Edge Voice Quality & HD VoIP

Based on AudioCodes' advanced, robust and field-proven VoIPerfectHD™ software, AudioCodes' IP Phones are designed to utilize wideband coders such as Microsoft Real Time Audio (RTA)<sup>1</sup>. The phones feature enhanced proprietary capabilities such as packet loss concealment, high quality wideband acoustic echo canceler, and low-delay adaptive jitter buffers to enrich the HDVoIP experience.

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<sup>1</sup> Please contact AudioCodes to obtain the latest software version with RTA support.

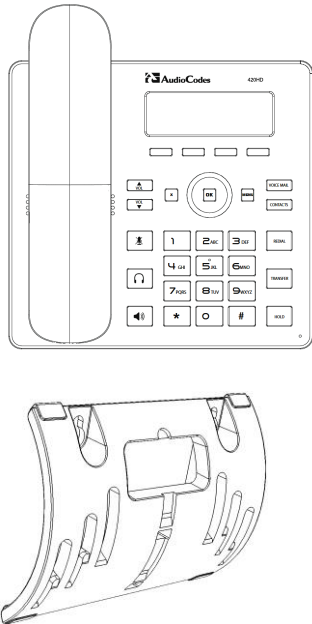
## Reader's Notes

## 2 Setting up the Phone

### 2.1 Unpacking

When unpacking, ensure that the following items are present and undamaged:

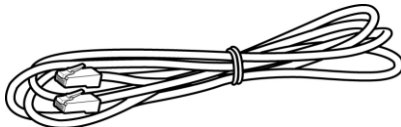
#### 420HD IP Phone / Stand



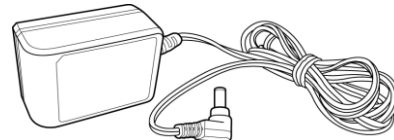
#### Handset / Cord



#### Cat 5e Ethernet Cable



#### AC Power Adapter (Optional)



If anything appears to be missing or broken, contact the distributor from whom you purchased the phone for assistance.

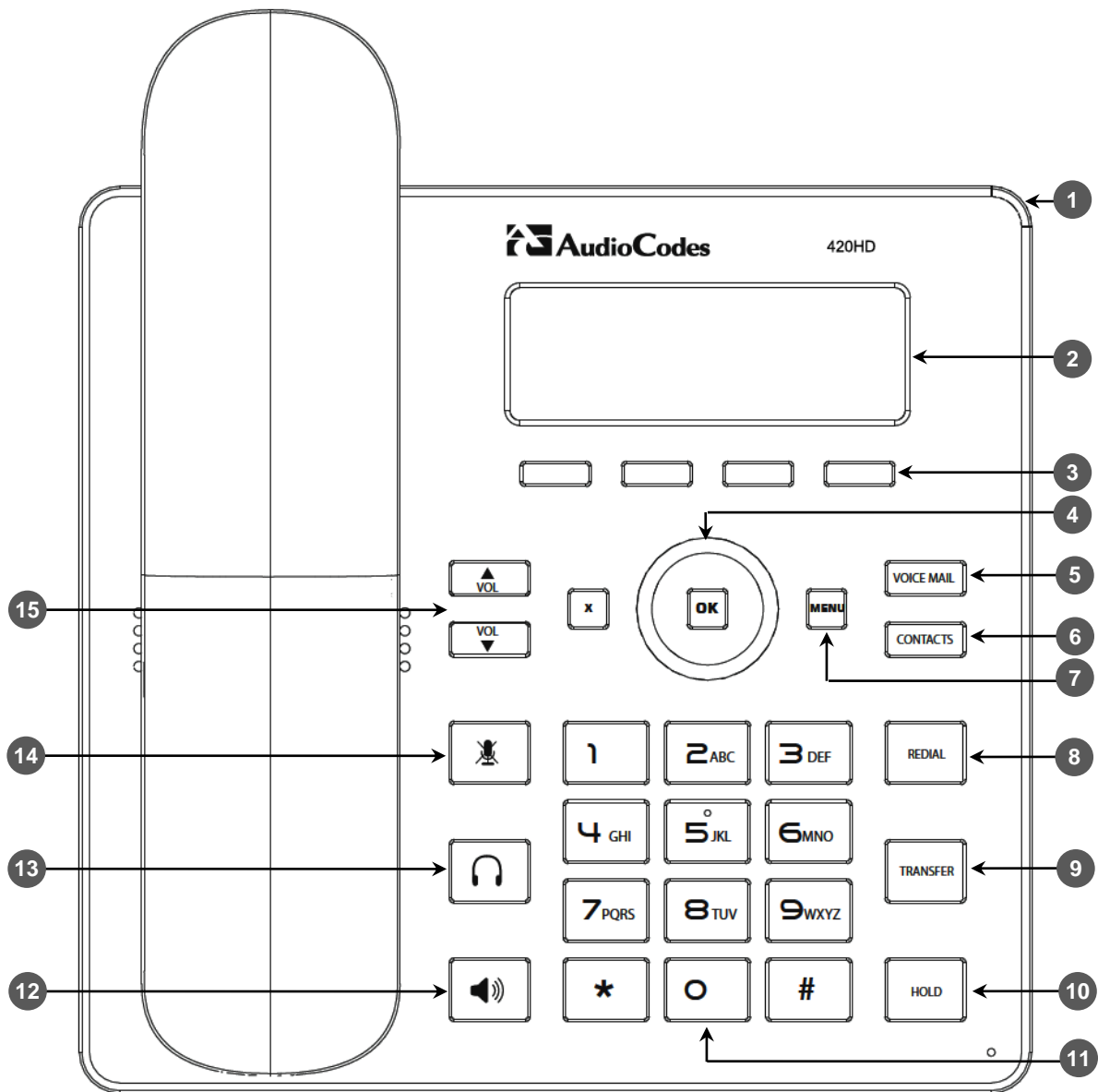
### 2.2 Device Description

Use the graphics below to identify and familiarize yourself with the device's hardware functions.

#### 2.2.1 Front View

The front view of the phone is shown in [Figure 2-1](#) and described in [Table 2-1](#).

**Figure 2-1: Front View**



**Table 2-1: Font View Description**

Item #	Label/Name	Description
1	<b>Ring LED</b>	Flashing blue light visually indicates an incoming call.
2	<b>LCD</b>	Interactive screen displaying calling information, enabling you to set up phone features.
3	<b>Softkeys</b>	See Section 3.2 on page 18 for details on the four softkeys and the available functions they offer.
4	<b>Navigation Control / OK</b>	Press the upper rim to scroll up menus/items. Press its lower rim to scroll down. Press its left or right rim to move the cursor left or right (when editing a contact number for example). Press the <b>OK</b> button to select a menu/item/option.
5	<b>VOICE MAIL</b>	Retrieves voice mail messages.
6	<b>CONTACTS</b>	Press to directly access the Personal directory.

Item #	Label/Name	Description
7	<b>MENU</b>	Accesses menus (1) Call Log (2) Directory (3) Speed Dial (4) Settings (5) Status (6) Administration.
8	<b>REDIAL</b>	Accesses a list of recently dialed numbers; one can be selected to redial.
9	<b>TRANSFER</b>	Transfers a call.
10	<b>HOLD</b>	Places an active call on hold.
11	<b>Alphanumerical Keypad</b>	Keys for entering numbers, alphabetical letters and symbols (e.g., colons)
12	<b>SPEAKER</b>	Activates the speakerphone, allowing a hands-free conversation.
13	<b>HEADSET</b>	Activates a call using an external headset.
14	<b>MUTE</b>	Mutes a call.
15	▲ <b>VOL</b>	Increases or decreases the volume of the handset, headset, speakerphone, ring tone and call progress tones.
	<b>VOL</b> ▼	

### 2.2.2 Rear View

The rear view of the phone is shown in the figure below and described in the table below.

Figure 2-2: Rear View

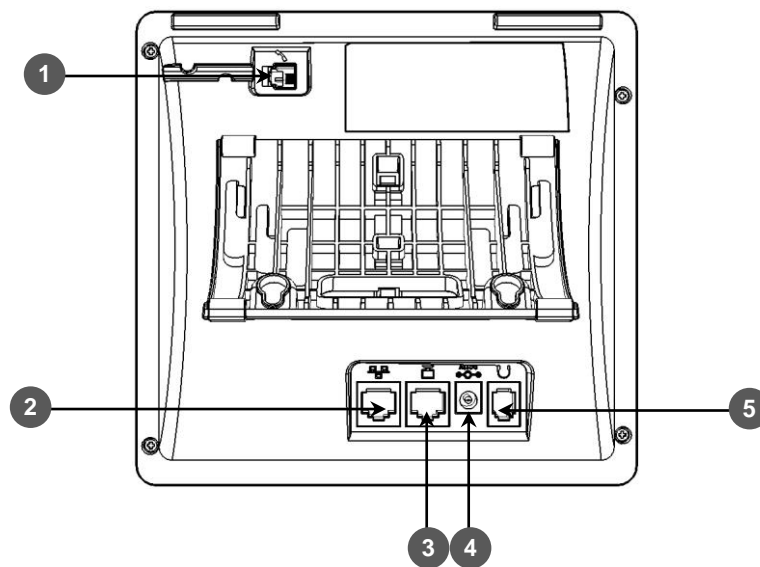







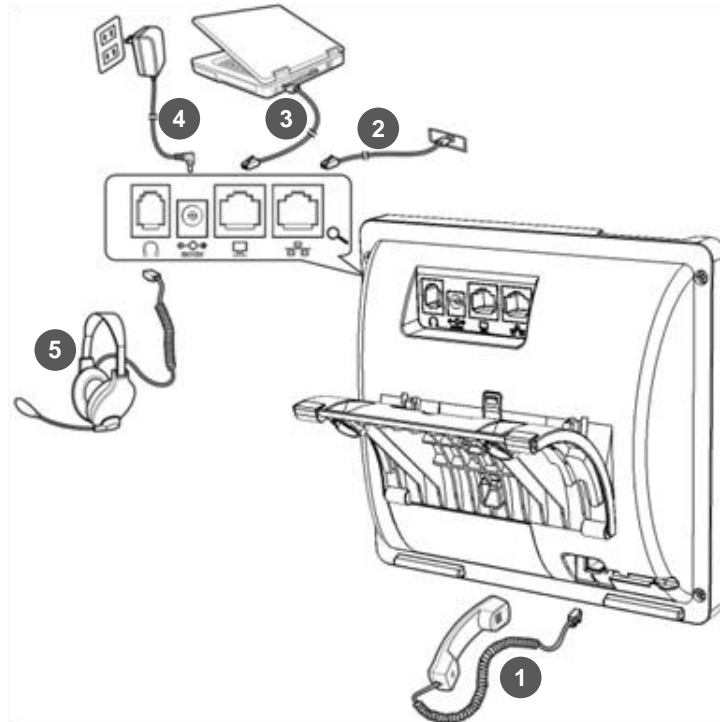
Table 2-2: Rear View Description

#	Label	Description
1		Handset jack, i.e., RJ-9 port, to connect the handset.
2		RJ-45 port to connect to the Ethernet LAN cable for the LAN connection (uplink - 10/100 Mbps). If you're using Power over Ethernet (PoE), power to the phone is supplied from the Ethernet cable (draws power from either a spare line or signal line).
3		RJ-45 port for connecting the phone to a PC (10/100 Mbps downlink).
4	 DC12V	12V DC power jack that connects to the AC power adapter.
5		Headset jack, i.e., RJ-9 port that connects to an external headset.

## 2.3 Cabling

This section shows how to cable your phone.

Figure 2-3: Cabling



Action	Description
1	Connect the <i>short, straight end of the cord</i> to the handset. Connect the <i>longer, straight end</i> to the jack (RJ-9 port, for the handset) on the phone.
2	Connect the RJ-45 LAN port to your LAN network (LAN port or LAN switch/router), using a CAT 5 / 5e Ethernet cable
3	Connect the RJ-45 PC port to a computer, using a CAT 5 / 5e straight-through Ethernet cable
4	Connect the connector tip of the AC power adapter to the phone's power socket (labeled DC 12V). Connect the two-prong AC adapter directly to the electrical wall outlet. When the phone powers up, all the LEDs momentarily light up
5	Connect the RJ-9 headset jack to a headset (optional)



**Note:** If the LAN to which the phone is connected supports Power over Ethernet (PoE), no AC adapter is required; the phone receives power from the Ethernet network.



Prior to connecting power, refer to the Compliancy and Regulatory Information at [www.audiocodes.com/library](http://www.audiocodes.com/library).

## 2.4 Mounting the Phone

The phone can be mounted on a:

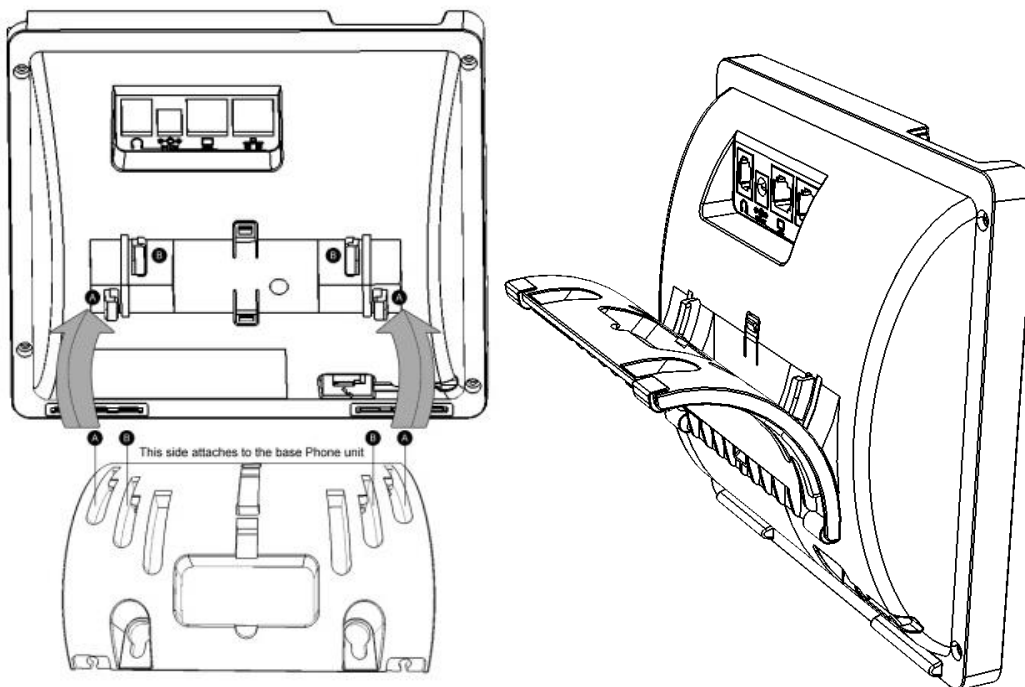
- Desk (see Section 2.4.1 below)
- Wall (see Section 2.4.2 on page 16)

### 2.4.1 Desktop Mounting

This section shows how to place the phone on a desk or flat surface.

➤ **To mount the phone on a desk or flat surface:**

1. Off-hook the handset (if on-hook) and place the phone upside down, i.e., base-up, on your desktop.
2. On the phone's base, identify outer rails.
3. On the phone's stand, identify outer notches.
4. Invert the stand and align its outer notches with the base's outer rails.
5. Insert the stand's outer notches into the base's outer rails and slide the notches along the rails until the stand click-locks into the base.
6. Revert the phone and stand it on the desktop.



#### 2.4.1.1 Routing the Handset Cable

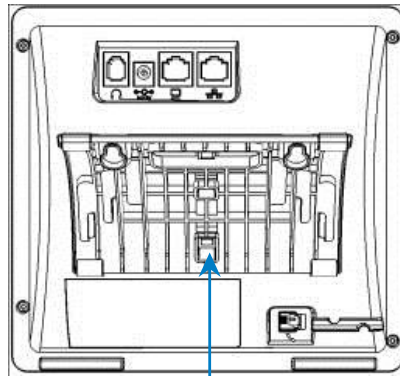
The phone features a groove for routing the handset cable.

## 2.4.2 Wall Mounting

This section shows you how to mount the phone on a wall or wall plate.

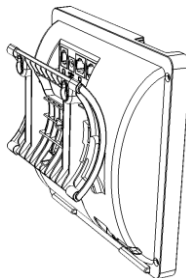
➤ **To mount the phone on a wall:**

1. Attach the stand of the phone for the purpose of a wall mounting:
  - a. Detach the base.



To detach the phone's stand, push this button

- b. Attach it again as you did for a desktop mounting (see Section 2.4.1 on page 15) only now make sure that it's flatly aligned to lie flush against the wall, i.e., slide the *middle rails* of the phone stand onto the phone base's inner notches.



2. Connect the AC power adapter, LAN and PC cords.
3. In the wall, drill two horizontal holes at a distance of 3 15/16 inches (100 mm) from one another, in line with the template.
4. Insert two masonry anchors into the holes if necessary.
5. Thread two screws (not supplied) into the two masonry anchors; ensure that the heads extend sufficiently (about 3/16 inch or 5 mm from the wall) for the phone stand's keyhole slots to hang on.
6. Hang the phone stand's keyhole slots on these screws.



## 3 Getting Started

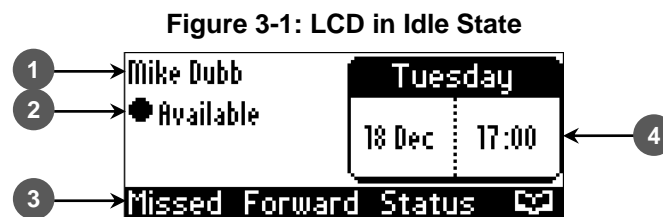
This section gets you started with the 420HD IP Phone. The phone features an LCD, providing an intuitive, menu-driven user interface for configuring the device and viewing call information.

This section shows how to use the phone's LCD but before using the LCD, you must sign in.

### 3.1 Getting Acquainted with the LCD

This section gets you acquainted with the LCD.

The figure below shows the phone's LCD in idle state.



Use this table as reference:



**Table 3-1: LCD in Idle State**

Reference	Description
1	Displayed Name (configured by your system administrator using the Web interface); see the <i>Administrator's Manual</i> .
2	Shows presence status (Available, Busy, Do not disturb, Away, or Be right back). See Section 4.13 on page 43 for details.
3	Softkeys; to activate, press the key on the device, below the LCD, corresponding to the softkey. See Table 3-2 for softkey descriptions.
4	Day, Date and Time (automatically retrieved over the Internet from the Network Time Protocol (NTP) server, enabled by your system administrator).

## 3.2 Softkeys

The table below describes softkeys displayed in the LCD according to *menu level* currently accessed. To use a softkey, press the key located on the device directly below it.

**Table 3-2: Softkeys**

Softkey	Description
<b>Missed</b>	Displays missed calls.
<b>Forward</b>	Defines and activates call forwarding.
<b>Status</b>	Displayed in idle state. Activates presence status (Available, Busy, Do not disturb, Away, Be right back, Reset).
<b>Sign in /Sign out</b>	The 'Sign in' softkey is only displayed in the idle screen if you haven't signed in yet. The 'Sign out' softkey is only displayed after pressing the 'Status' softkey after signing in.
	Displayed in idle state. Also displayed (for example) after lifting the handset and after selecting <b>New Call</b> , <b>Conf</b> or <b>Trans</b> (see below). Opens the phone's Directory (enables selecting a contact in the <b>Corporate directory</b> or <b>Personal directory</b> ).
<b>Select</b>	Selects a menu or menu option. Identical to the <b>OK</b> key (either can be used).
<b>A/a/1</b>	Enables entering letters or digits.
<b>Save</b>	Saves settings.
<b>Cancel</b>	Cancels the currently initiated call or configuration.
<b>Dial</b>	Displayed after a number is keyed, a directory contact is selected, or a logged call is selected. Dials the phone number / directory contact / logged call.
<b>Clear</b>	Displayed (for example) after entering a digit of a phone number. Deletes from right to left.
<b>New Call</b>	Displayed after a number is dialed and the call is answered on the other side. Also shown after a call is answered. Enables keying a number or URL and calling them.
<b>Conf</b>	Displayed after a number is dialed and the call is answered on the other side. Also shown after a call is answered. Enables keying a number or URL to include in the current call.
<b>Transf.</b>	Displayed after a number is dialed and the call is answered on the other side. Also shown after a call is answered. Enables keying a number or URL to transfer the call to.
<b>URL</b>	Displayed after lifting the handset, after selecting <b>New Call</b> , <b>Conf</b> or <b>Trans</b> , and after keying the  key. Enables calling a URL.
<b>Call Log</b>	Displayed after lifting the handset. Also displayed after <b>New Call</b> , <b>Conf</b> or <b>Trans</b> is selected. Presents menu items <b>All Calls</b> , <b>Missed Calls</b> , <b>Received Calls</b> , <b>Dialed Calls</b> .
<b>Detail</b>	Displayed (for example) after selecting a <b>Call Log</b> submenu: <b>All Calls</b> , <b>Missed Calls</b> , <b>Received Calls</b> or <b>Dialed Calls</b> . Displays the submenu's settings.
<b>End</b>	Displayed for example after pressing the <b>Dial</b> softkey and when the called party lifts the handset/accepts the call. Also displayed after accepting an incoming call or lifting the handset to answer. Ends the call.
<b>Back</b>	Displayed for example after pressing the MENU key as well as after selecting any of the submenu's under it. Returns you to the previous screen state or menu level.
<b>Start</b>	Displayed after pressing <b>Forward</b> > selecting an extension line > selecting when to forward. Activates call forwarding.
<b>Edit</b>	Displayed after a menu/submenu item to be edited is selected. Enables editing the selected item.
<b>Delete</b>	Displayed after pressing the MENU key > selecting <b>Call Log</b> softkey > selecting submenu <b>All Calls</b> , <b>Missed Calls</b> , <b>Received Calls</b> or <b>Dialed Calls</b> ). Before deleting the submenu, a warning prompt is displayed.

### 3.3 Navigating to Menu Items

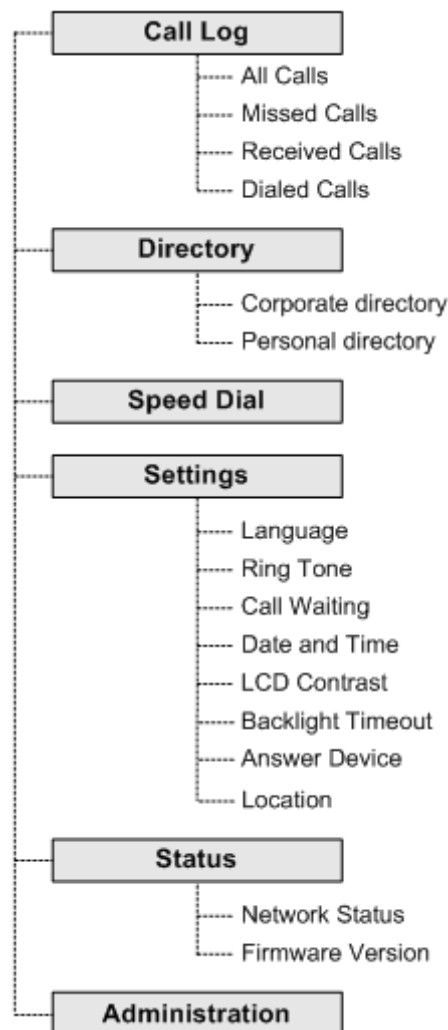
Menus are used to access information and to configure the phone.

For example, select the:

- **Personal directory** item under the **Directory** menu to add contacts
- **Missed Calls** item under the **Call Log** menu to view missed calls and to reply to them
- **Network Status** item under the **Status** menu to view the phone's IP address.

The figure below shows the phone's menus and submenus.

**Figure 3-2: Menus**



**Note:** The **Administration** menu is intended for system administrators only. It is password protected. For information regarding this menu, refer to the *420HD IP Phone Administrator's Manual*.

➤ **To access the menus:**

- Press the MENU key located on the device.

➤ **To navigate to menu items:**

- Press the navigation control's lower rim -OR- press the menu item's number, e.g., press 3 to navigate to Speed Dial.

➤ **To select a menu or menu item:**

- Press the **Select** softkey or press the navigation control's **OK** button.

➤ **To cancel and move to a previous menu level:**

- Press the **Back** softkey.

## 3.4 Entering Numbers, Alphabetical Letters and Symbols

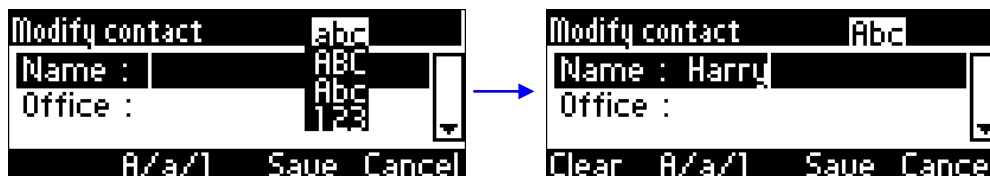
The phone's alphanumeric keypad allows you to enter letters of the alphabet, numbers and symbols.

To define a contact name, alphabet mode is needed. To define an IP address, you'll need to revert from number mode to symbol mode and back to number mode, etc. To dial a number to make a new call, you can press its key on the keypad when the LCD is in idle state.

➤ **To select an alphanumeric mode:**

1. (In the 'Modify contact' screen, for example) Press successively the **A/a/1** softkey or the # key on the keyboard:

Figure 3-3: Alphanumeric Selection



2. Select either:

- **abc** = lower case letters
- **ABC** = upper-case letters
- **Abc** = first-letter upper case, the rest lower case
- **123** = numerical mode (i.e., numbers)

After selecting, the LCD displays your selection.

➤ **To enter a letter:**

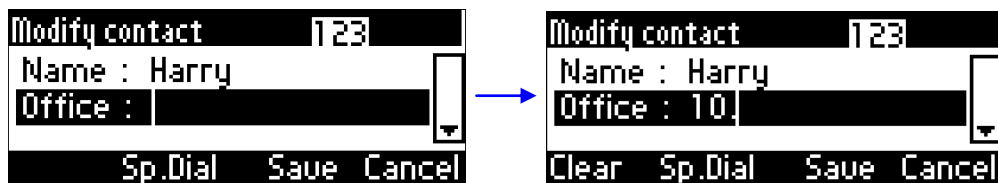
- Press the letter's key on the keypad. Successively pressing the same key moves you to that key's next letter. Pressing another key enters the first letter indicated on it.

➤ **To enter a symbol (e.g., period /full stop):**

1. First select alphabet mode lower case letters, i.e., **abc**, as described above (mandatory).
2. Press the 1 key on the keypad; a semi-colon is entered. Immediately press it again; a colon is entered. Pressing successively produces:
  - ; (semi-colon)
  - : (colon)
  - . (period)
  - @ (at)
  - # (pound)
  - \$ (dollar)
  - % (percentage)
  - ^ (caret)
  - & (ampersand)
  - + (plus)
  - - (minus)
  - \_ (underscore)

Note that the asterisk (\*) symbol is entered directly using the star key.

**Figure 3-4: Entering a Symbol (e.g., a period)**



### 3.5 Signing In

This section shows how to sign in.

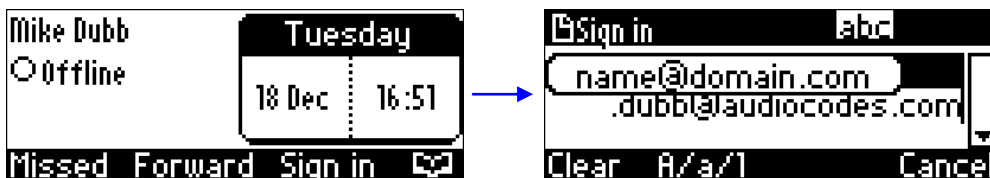
- To sign in with your user password (default sign-in method):



**Note:**

- You can sign in with your user password (default sign-in method) or with your PIN code provided by your IT administrator.
- If you select the PIN code method and then sign out, PIN code will be presented the next time you sign in, in which case you can switch back to the password method if you need to.

1. In the idle screen, press the **Sign in** softkey on the device; the LCD displays the Sign in screen:



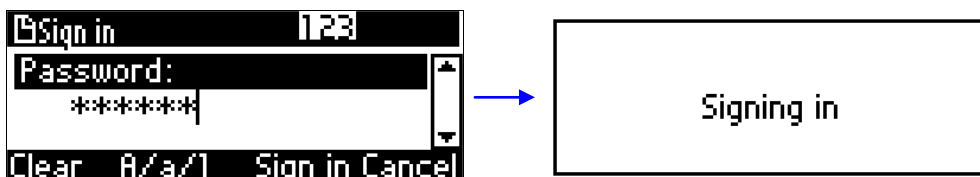
2. Enter your email address. To switch from lower case alphabetical letters to numbers and symbols, see Section 3.4 on page 20.
3. Navigate to the User name screen and enter your domain name, backslash, and User Name:



4. Navigate down to the Password screen:



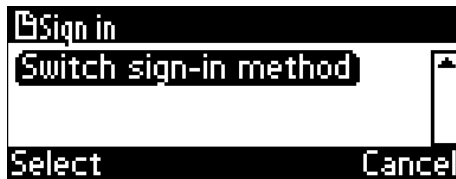
5. Enter your Password (the same password you use to access your PC) and press the **Sign in** softkey that's displayed after entering the first character of the password.



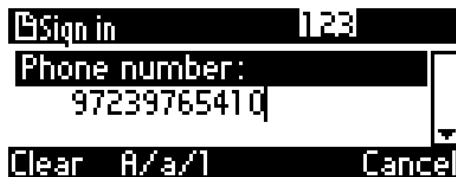
You're now signed in.

➤ **To sign in with your PIN code:**

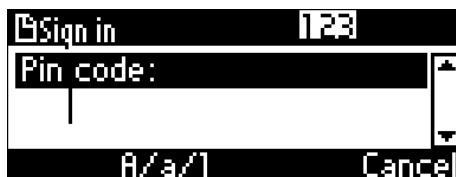
1. In step 4 of the previous method, instead of entering your Password, navigate down to the Switch sign-in method screen:



2. Press the **Select** softkey; the sign in method switches to signing in via PIN code. Navigate to the Phone number screen and enter the phone number:



3. Navigate to the PIN code screen:



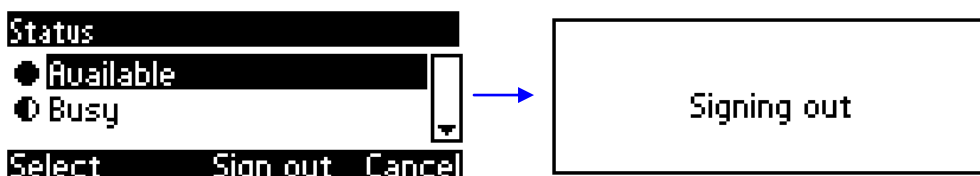
4. Enter the PIN and press the **Sign in** softkey that's enabled after entering the first character of the PIN; you'll then be signed in:

## 3.6 Signing Out

This section shows how to sign out.

➤ **To sign out:**

1. Press the **Status** softkey in the idle screen
2. In the Status screen press the **Sign out** softkey.



## 3.7 Displayed Messages

Messages indicating processes in progress, displayed in the LCD, include:

**Table 3-3: Displayed Messages Indicating Processes In Progress**

Message	Description
Initializing	Initializing
Discovering LLDP	Discovering VLAN using Link Layer Discovery Protocol (LLDP)
Discovering CDP	Discovering VLAN using Cisco Discovery Protocol (CDP) )
Acquiring IP	Acquiring an IP address from a DHCP server
Initializing Network	Initializing the network
Signing in	Signing in to the Lync server
Signing in...Contacting time server	Get the time from the NTP server
Discovering Lync server	Auto discovering the Lync server on the network
Registering	Registering to a SIP proxy server (after booting up the phone)
Registration in Progress	SIP registration in progress
Registration Failure	SIP registration failure
Downloading Firmware File	Downloading a firmware file
Upgrading Firmware	Upgrading the phone's firmware
Signing out	Signing out of the Lync server



## 4 Customizing Your Phone

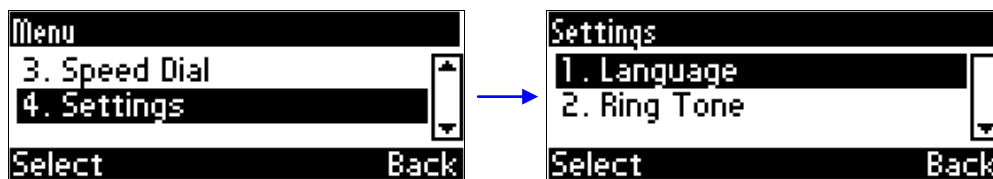
This section shows you how to customize your phone for enhanced usability.

### 4.1 Changing the LCD Language

The LCD supports multiple languages. English is the default but you can change it to another.

➤ **To change the default:**

1. Access the **Languages** screen (MENU key > **Settings** menu > **Language** submenu).



2. Navigate to the language you require.



3. Press the **Select** softkey to select it.
4. Press the **Save** softkey to save the setting.

## 4.2 Selecting Ring Tone

The phone provides a selection of ring tones that you can choose from to indicate incoming calls. If line extensions are defined on your phone, you can assign a ring tone per line extension.



➤ **To select a ring tone:**

1. Access the **Ring Tone** screen (MENU key > **Settings** menu > **Ring Tone** submenu).



2. Navigate to and select a ring tone. A sample of each ring tone is played as you navigate through the list.



3. Set ring tone volume by pressing the VOL  or VOL  key:



A few seconds after adjusting the volume level the Ringer Volume indication is hidden.

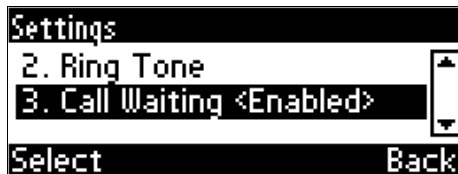
4. Press the **Select** softkey to apply your settings.
5. Press the **Save** softkey to save your settings.

## 4.3 Enabling Call Waiting

You can enable or disable the call waiting feature.

➤ **To enable or disable call waiting:**

1. Access the **Call Waiting** screen (MENU key > **Settings** menu > **Call Waiting** submenu).



2. Navigate to and select:
  - **Disable** (disables call waiting)  
-OR-
  - **Enable** (enables call waiting)



3. Press the **Select** softkey to apply your settings.
4. Press the **Save** softkey to save your settings.

## 4.4 Setting Date and Time

Date and time is automatically retrieved over the Internet from the deployed Network Time Protocol (NTP) server, enabled by your administrator.

Attempting to set date and time results in this prompt:



**Note:** To configure the NTP server, see the *420HD IP Phone Administrator's Manual*.

## 4.5 Changing LCD Contrast Level

The LCD supports 30 different contrast levels.

➤ **To define the LCD's contrast level:**

1. Access the **LCD Contrast** submenu (MENU key > **Settings** menu > **LCD Contrast** submenu).



2. Navigate to the contrast level that suits you best (0 to 30) (press the navigation control's left or right rim).
3. Press the **Save** softkey to apply your settings.

## 4.6 Defining LCD Backlight Timeout

You can define how long the phone's backlight will stay on when the phone is idle. When this duration times out, the backlight switches off. For the backlight to never time out, you can select the **Always on** option.

➤ **To define LCD backlight timeout:**

1. Access the **Backlight Timeout** screen (MENU key > **Settings** menu > **Backlight Timeout** submenu).



2. Navigate to and select **Always on** or **10 seconds** or **60 seconds**).



3. Press the **Select** softkey to apply your settings.
4. Press the **Save** softkey to save your settings.

## 4.7 Selecting an Answering Device

You can select which audio device (speaker or headset) is activated when you answer calls (by pressing the **Accept** softkey or lifting the handset) or when you dial calls (by pressing the number keys on the keypad and then pressing the **Dial** softkey).

The default device is the speaker.

➤ **To select the answering device:**

1. Access the **Answer Device** screen (MENU key > **Settings** menu > **Answer Device** submenu).



2. Navigate to and select the device (Speaker or Headset) and press the **Select** softkey.



3. Press the **Save** softkey.

## 4.8 Defining Location

You can define location.

➤ **To define location:**

- Access the **Location** screen (MENU key > **Settings** menu > **Location** submenu).





## 4.9 Adjusting Volume

You can adjust the volume of the phone's:

- Ring
- Tones (e.g., dial tone)
- Handset
- Speakerphone
- Headset

### 4.9.1 Adjusting Ring Volume

You can adjust the volume of the ring indicating an incoming call.

➤ **To adjust ring volume:**

1. When the phone is in idle state (i.e., not in use), press the VOL ▲ or VOL ▼ key; the Ringer Volume bar is displayed on the screen:



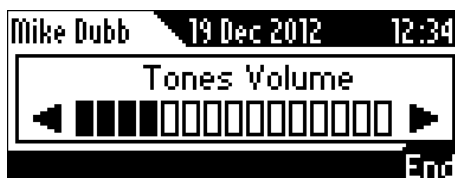
2. Press the VOL ▲ or VOL ▼ key on the keypad to adjust the volume. After adjusting, the Ringer Volume level disappears from the screen.

### 4.9.2 Adjusting Tones Volume

You can adjust the phone tones, including dial tone, ring-back tone and all other call progress tones.

➤ **To adjust tones volume:**

1. Off-hook the phone (using handset, speaker or headset).
2. Press the VOL ▲ or VOL ▼ keyboard key; the Tones Volume bar displays on the screen:





3. Press the VOL ▲ or VOL ▼ key to adjust the volume. After adjusting, the Tones Volume bar disappears from the screen.



### 4.9.3 Adjusting Handset Volume

The volume of the handset can be adjusted during a call or when making a call. After changing the volume, the newly adjusted level applies to all subsequent handset use.

➤ **To adjust handset volume:**

1. During a call or when making a call ensure that the handset is off the cradle.
2. Press the VOL  or VOL  key; the Handset Volume bar is displayed on the screen.





3. Press the VOL  or VOL  key on the keyboard. After adjusting, the Handset Volume bar disappears from the screen.

### 4.9.4 Adjusting Speaker Volume

The volume of the speakerphone can only be adjusted during a call. After changing the volume, it applies to all subsequent speakerphone use.

➤ **To adjust the speakerphone volume:**

1. During a call, press the SPEAKER key.
2. Press the VOL  or VOL  key; the Speaker Volume bar is displayed on the screen.



3. Adjust the volume using the VOL  or VOL  key. After you have completed adjusting the volume, the Speaker Volume bar disappears from the screen.

## 4.9.5 Adjusting Headset Volume

The volume of the headset can only be adjusted during a call. Once you have changed the volume level, the volume applies to all subsequent headset use.

➤ **To adjust the headset volume:**

1. During a call, press the HEADSET key.
2. Press the VOL ▲ or VOL ▼ key; the Headset Volume bar is displayed on the screen.



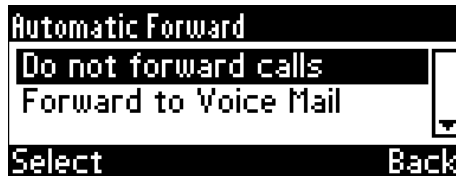
3. Adjust the volume using the VOL ▲ or VOL ▼ key. After adjusting the volume, the Headset Volume bar disappears from the screen.

## 4.10 Defining Call Forwarding

This feature enables you to automatically redirect an incoming call to another phone number if a user-defined condition is met, e.g., if the line is busy.

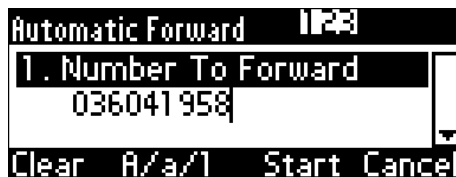
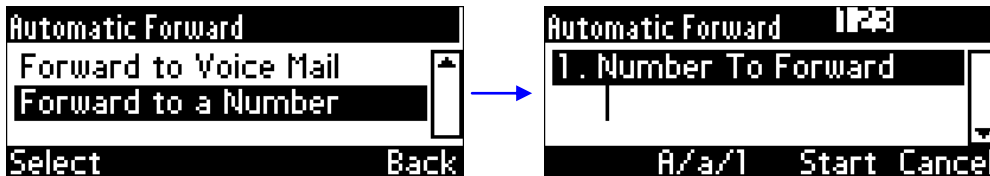
➤ **To define call forwarding:**

1. Press the **Forward** softkey when the LCD is in idle state:



2. To forward to voice mail: In the Automatic Forward screen, navigate to **Forward to Voice Mail** and press the **Select** softkey; you're returned to the idle screen; calls will be automatically forwarded to your Voice Mail.

3. To forward to a number: In the Automatic Forward screen, navigate to **Forward to a Number** and press the **Select** softkey:



4. Enter the number and press the **Start** softkey; you're returned to the idle screen; calls will be automatically forwarded to the number.

➤ **To deactivate call forwarding:**

When the LCD is in idle state press the **Forward** softkey and in the Automatic Forward screen, select **Do not forward calls**.

## 4.11 Managing Your Personal Directory

You can add contacts to the Personal Directory and edit and delete them if necessary. After adding a contact, you can call the contact directly from the directory (see Section 6.3 on page 54). If you receive an incoming call from a contact listed in the directory, the LCD displays the name listed. If you assign a speed dial key to the contact, you can press it to call them.




### Note:

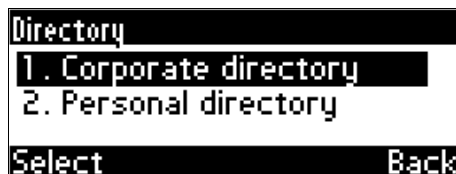
- You can add a maximum of 1,000 contacts to your Personal Directory.
- Your phone also features a Corporate Directory, set up by your system administrator by loading a file or using the LDAP (Lightweight Directory Access Protocol) server (see the *420HD IP Phone Administrator's Manual*).
- Corporate Directory contacts in your phone cannot be edited or deleted.

### 4.11.1 Accessing the Directory

Accessing the directory is necessary to perform the management operations subsequently described.

#### ➤ To access:

1. Press the CONTACTS key -or- when the LCD is in idle state press the  softkey -or- press the MENU key and select **Directory**.



2. Navigate to **Personal directory** and press the **Select** softkey:



3. Add a contact, search for a contact, dial a contact, edit contact information or delete a contact (see below).

### 4.11.2 Adding Contacts to the Personal Directory

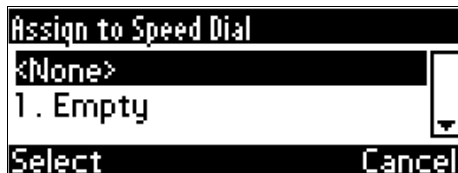
This section shows how to add a contact to the Personal Directory. You can enter the contact's home number, office number and/or mobile number. You can also assign a speed dial key to a contact (you can assign keys 1 to 9 to up to 9 contacts).

➤ **To add a contact to the phone directory:**

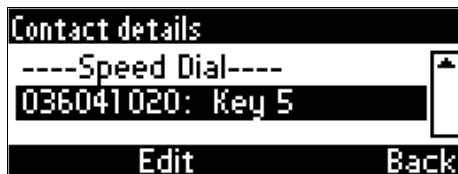
1. Access the **Personal directory**.
2. Select **+ New contact** (press the **Select** softkey):



3. In the Modify contact screen, key in the 'Name' of the new contact (see Section 3.4 on page 20 for detailed instructions).
4. Navigate down and key in the new contact's office phone number (see Section 3.4 on page 20 for detailed instructions). Optionally, navigate down and key in the new contact's home and mobile numbers as well.
5. Press the **Sp. Dial** softkey to assign a speed dial key if required:



6. Navigate to the first Empty speed dial and press the **Select** softkey, a speed dial key is assigned to the contact.
7. Press the **Save** softkey; 'Contact Saved' is displayed.
8. To view the assigned speed dial, navigate down to the contact's name and press 'Detail'; navigate down to this screen:



### 4.11.3 Editing Contact Information

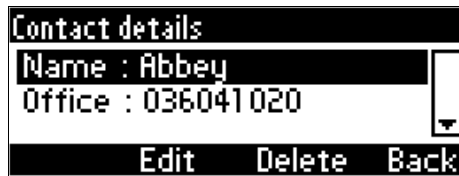
This section shows how to edit contact information.

➤ **To edit:**

1. Access the **Personal directory** and navigate to the name of the contact to edit:



2. Press the **Detail** softkey:



3. Press the **Edit** softkey:



4. Modify the contact's details and press the **Save** softkey.



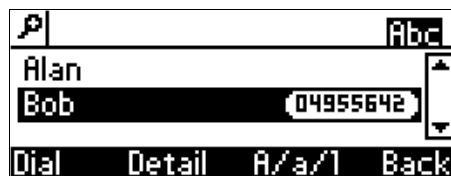
**Note:** You cannot modify **Corporate directory** contacts.

#### 4.11.4 Deleting a Contact

This section shows how to delete a contact from the directory.

- **To delete a contact:**

1. Access the **Personal directory** and navigate to the contact to delete:



2. Press the **Detail** softkey; the contact details are shown.
3. Press the **Delete** softkey; a 'Delete current contact?' warning message appears:



4. Press the **Yes** softkey to remove the contact from the phone directory or **No** if you want to keep the contact in the directory; the contact is removed from the directory.



**Note:** **Corporate directory** contacts cannot be deleted.

## 4.11.5 Searching for a Contact

The search feature enables you to quickly and easily locate a contact in the directory. The feature is especially useful if you have a long list of contacts.

➤ **To search for a contact:**

1. Access the phone directory.
2. Search for a contact:
  - Navigate to the contact in the list  
-OR-
  - Key the first letter in the contact's name using the keypad. As you press the key, the directory locates contacts whose names begin with that letter. For example, to search for the contact John, as you press the 'j' key the directory locates contacts whose names begin with "j". As you key in the next letter, i.e., 'o', contacts whose names begin with 'jo' appear, etc.



## 4.12 Defining a Speed Dial Key

This section shows how you can set up quickly calling someone by pressing a (speed dial) key to which you assigned their phone number. You can assign a maximum of 9 phone numbers to 9 keys. In addition to assigning a phone number to a key, you can assign a directory contact.

### 4.12.1 Assigning a Phone Number to a Key

This section shows how to assign a phone number to a (speed dial) key. The section shows how a speed dial key is *typically* defined, i.e., MENU key > **Speed Dial** menu.



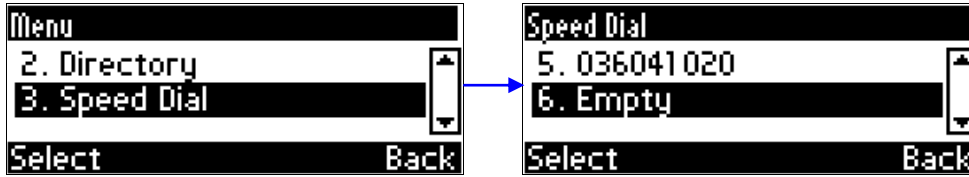
**Note:** Two alternative ways to assign a speed dial key are:

1. Press protractedly on an as yet unassigned keypad key > the Speed Dial # screen opens
2. Access the phone directory > 'Modify contact' screen > **Sp. Dial** softkey

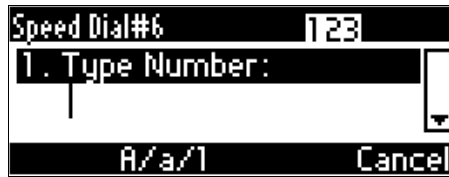


➤ **To assign a phone number to a key:**

1. Access the **Speed Dial** screen (MENU key > **Speed Dial** menu).



2. Navigate to an **Empty** speed dial key (unassigned) and press the **Select** softkey; the selected speed dial key, **#6** in the example below, is displayed:



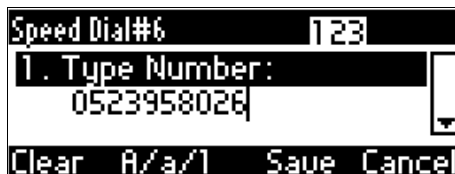
**Notes:**

- Speed Dial #1 = topmost speed dial key on your phone  
Speed Dial #9 = lowermost speed dial key on your phone

3. Assign a phone number to the key:

- **Define the phone number:**

- a. In the 'Type Number' field, enter the phone number that you want to assign to the speed dial key:



- b. Press the **Save** softkey to save your settings.

- **-OR- assign a contact from the phone directory:**

- a. Navigate to 'Select from directory' and press the **Select** softkey; the phone directory is displayed listing all contacts:



- b. Navigate to the contact to assign to the key and press the **Select** softkey to select the number.

- c. Press the **Save** softkey to save your settings.

## 4.12.2 Editing a Speed Dial Assignment

You can edit a speed dial assignment.

➤ **To edit:**

1. Access the **Speed Dial** screen (MENU key > **Speed Dial** submenu).
2. Navigate down to the speed dial key to edit and press the **Select** softkey.
3. Modify the fields as required.
4. Press the **Save** softkey to save your settings.

## 4.12.3 Deleting Speed Dials

You can delete a speed dial assignment.

➤ **To delete a speed dial:**

1. Access the **Speed Dial** screen (MENU key > **Speed Dial** submenu).
2. Navigate to the speed dial assignment that you want to delete and press the **Select** softkey.
3. In the 'Type Number' field, delete the entire number, using the **Clear** softkey.
4. Press the **Save** softkey; the Speed Dial is listed as 'Empty':



## 4.13 Changing your Presence Status

You can assign a presence status to control whether you want people to contact you and, if so, how. By default, your status is based on your Lync client.

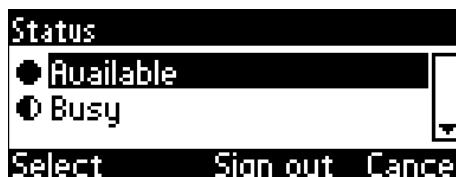


**Note:**

- Presence status can be changed by your Lync client running on your computer. This status is reflected on the phone's LCD.
- After  $n$  minutes (configured in the Lync server by your administrator), presence status automatically changes to 'Inactive'.
- $n$  minutes after this (also configured in the Lync server by your administrator), presence status automatically changes to 'Away'; all calls are then automatically forwarded to the RGS (Response Group Service) if it is configured.

➤ **To set/change presence status:**

1. In the idle screen, press the **Status** softkey:



2. Navigate to a presence status:

**Table 4-1: Presence Statuses**

Presence Status	Description
<b>Available</b>	You're online and available for other contacts to call.
<b>Busy</b>	You're busy and don't want to be interrupted.
<b>Do not disturb</b>	You don't want to be disturbed. Stops the phone from ringing when others call you. If DnD is activated, callers hear a tone indicating that your phone is busy; the call is blocked and your LCD's idle screen indicates 'Missed Calls'.
<b>Away</b>	You want to hide your status and appear to others you're currently away.
<b>Be right back</b>	You' are away briefly and will return shortly.
<b>Reset</b>	Automatically updates your status received from the Lync 2010 server.

3. Press the **Select** softkey; the status you selected is displayed in the idle screen:



4. To reset your presence status, navigate to **Reset** in the Status screen and press the **Select** softkey; your status is received from the Lync 2010 server and automatically updated.

**Reader's Notes**

## 5 Performing Basic Operations

This section shows basic phone operations.

### 5.1 Using Audio Devices

You can use one of the following audio devices on the phone for speaking and listening:


- **Handset:** To make a call or answer a call, lift the handset off the cradle.
- **Speaker** (hands-free mode). To activate it, press the speaker key during a call or when making a call. To deactivate it, press the speaker key again.
- **Headset** (hands-free mode). When talking on the phone, you can relay audio to a connected headset. To enable it, press the headset key. To disable it, press it again.

You can easily change audio device during a call.

- **To change from speaker/headset to handset:** Activate speaker/headset and pick up the handset; the speaker/headset is automatically disabled.
- **To change from handset to speaker/headset:** Off-hook the handset and press the speaker/headset key to activate the speaker/headset. Return the handset to the cradle; the speaker/headset remains activated.

### 5.2 Making Calls

The phone offers multiple ways of making a call. After dialing a number:

- LCD displays  and the called party's phone number or contact name if it's listed in the phone directory
- LCD displays the line extension number on which the called party is dialed
- The phone plays a ring-back tone

LCD indications:



- **To end dialing a call before it's answered:**
  - Press the **End** softkey or the speaker key.



**Note:** For advanced dialing using the phone directory, see Section 4.11 on page 37. For defining a speed dial key, see Section 4.12 on page 40.

## 5.2.1 Dialing

This section shows how to dial. To dial, either (1) key-in the number on the keypad (2) press the speaker key and enter the number (3) press the speaker key or lift the handset and enter a URL address (e.g., host and domain name, or IP address) or alphabetical letters (e.g., tvservice).

➤ **To dial a regular-digits phone number:**

1. On the keypad, key the first digit of a regular phone number; the LCD displays the digit in the NEW CALL field; key in the remaining digits. To delete (from right to left) entered digits, press the **Clear** softkey. To cancel the call, press the **Cancel** softkey.



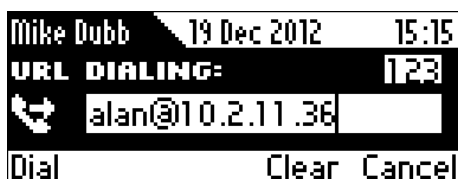
2. Press the **Dial** softkey (if you don't, dialling is automatically performed after a few seconds) or press the # (pound) key.

➤ **To dial a URL:**

1. Press the speaker key or lift the handset; the LCD displays the NEW CALL field and the **URL** softkey:



2. Press the **URL** softkey and enter a URL address (see Section 3.4 on page 20 for how to switch between letters, numerals and symbols). To delete (from right to left) entered letters/numerals/symbols, press the **Clear** softkey. To cancel the call, press the **Cancel** softkey.



3. Press the **Dial** softkey.

## 5.2.2 Redialing

You can redial a number previously dialed.

➤ **To redial:**

1. Press the REDIAL key; the Dialed Calls screen is displayed, listing in chronological order, recently dialed numbers:



2. Navigate to and select the number to redial.
3. Press the **Dial** softkey or press the **OK** key.

### 5.2.3 Dialing a Missed Call

The phone logs all missed calls. The LCD in idle state displays the number of missed calls (if any):



#### ➤ To dial a missed call:


1. Press the **Missed** softkey; the Missed Calls screen is displayed:



2. Navigate to the missed call to dial.
3. Press the **Dial** softkey or press the **OK** key.

## 5.3 Answering Calls


The phone indicates an incoming call as follows:

- LCD displays  together with the caller's phone number (or contact name if listed in the phone directory):



- Phone rings.
  - Ring LED flashes blue.
- **To answer:**
- Pick up the handset -or-

- Press the headset key (ensure that the headset is connected to the phone) -or-
- Press the speaker key -or-
- Press the **Accept** softkey (the speaker is automatically activated)

When you answer, the LCD displays the  icon and the caller's details and call duration:



**Note:** HD in the LCD indicates a high-definition call (using a wideband voice coder).

## 5.4 Rejecting Incoming Calls

You can reject an incoming call; the caller hears a busy tone from your phone if you do.

➤ **To reject an incoming call:**

- Press the **Reject** softkey.



## 5.5 Silencing Incoming Calls

You can silence an incoming call's ringing. When you do, the caller hears normal ringing but no answer.

➤ **To silence the ringing of an incoming call:**

- Press the **Silent** softkey.



Answer a silenced call by pressing the **Accept** softkey or picking up the handset.



## 5.6 Ending an Established Call

You can end an established call.

➤ **To end an established call:**

- Return the handset to the phone cradle if it was used to take the call -or-
- Press the headset key -or-
- Press the speaker key -or-
- Press the **End** softkey

## 5.7 Viewing Missed, Received and Dialed Calls

Your phone logs missed, received and dialed calls. In idle state, the LCD displays 'Missed' and the number of missed calls (if any).



➤ **To view missed calls:**

- Press the **Missed** softkey.



**Note:** After viewing, the indication disappears from the screen. The next time a call is missed, the indication will reappear.

➤ **To view call history:**

1. Access the **Call Log** screen (MENU key > **Call Log** menu).



2. In the Call Log screen, navigate to and select the call log you require.



- **All Calls** = calls that were missed, received and dialed
  - **Missed Calls** = calls that were not answered
  - **Received Calls** = the most recently answered numbers
  - **Dialed Calls** = the most recently dialed numbers
3. Navigate to the option you want and press the **Select** softkey; a list of the logged calls is displayed, for example, Missed Calls:



4. Press the softkey you need:
  - **Dial** = dials the number of the selected logged entry.

- **Save** = saves the related information about the call entry in the personal directory (for adding a contact in the directory, see Section 4.11 on page 37).
- **Detail** = accesses the Call Details screen, which displays details of the call entry:



The Call Details screen displays the following logged call information:

- **Number** = phone number logged
- **Time** = the time the call was logged
- **Date** = the date on which the call was logged
- **Duration** = the duration of the call



**Notes:**

- The call history lists are stored from the newest to oldest entries. The maximum number of entries for each call history type is 200. Once this maximum is attained, the oldest entry is deleted and replaced with the new entry.
- The call history lists are saved on a daily basis. In the case of a power outage, some of the received information may be lost.
- If you view missed calls by pressing the **Missed** softkey, the missed calls notification no longer appears on the screen and reappears the next missed call.

**Reader's Notes**

## 6 Performing Advanced Operations

This section shows how to perform advanced operations.

### 6.1 Answering Waiting Calls


You can accept a call on an extension on which there already is an active call.

➤ **To answer a waiting call:**

a. **A call with Brad is in progress**



b. **A call comes in from Ido**

 = call waiting



➤ **To answer Ido:**

1. Press the **Accept** softkey; the waiting call from Ido is answered; the previous call from Brad is put on hold:



2. To toggle between calls, press the navigation control's upper or lower rim.



**Note:** To enable / disable the call waiting feature, see Section 4.3 on page 27.

## 6.2 Placing Calls On Hold

You can place a call on hold, to answer a second incoming call (see Section 6.1 on page 53) or to make another call.

➤ **To place a call on hold:**

- Press the HOLD key on the keyboard; the call is put on hold:



➤ **To retrieve a call on hold:**

- Press the HOLD key again -OR- press the **Resume** softkey.

## 6.3 Calling a Contact Listed in the Directory

This section shows how to call a contact listed in your directory.

➤ **To call:**

1. Press the CONTACTS key on the keyboard, navigate to **Personal directory**, and press the **Select** softkey to access it.
2. Navigate to a contact to call (see also Section 4.11.5 on page 40).



3. Press the **Dial** softkey or the **OK** key.

## 6.4 Using a Speed Dial Key to Make a Call

A speed dial key can be used to quickly dial a phone number assigned to it. To assign a phone number to a speed dial key, see Section 4.12 on page 40.

➤ **To use a speed dial key:**

- Press a speed dial key (1-9) to which a phone number was assigned; the phone automatically dials and calls the number.



**Note:** If you press key 8, for example, and a phone number wasn't assigned to it, the LCD displays a Speed Dial #8 screen enabling you to assign.

## 6.5 Transferring Calls

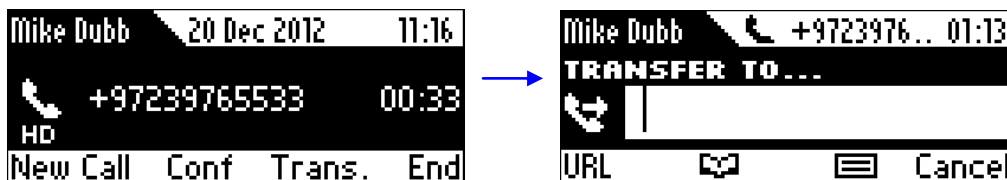
You can transfer a call to another party by pressing the **Trans** softkey. You can perform an attended transfer OR a semi-attended transfer.

Transfer Method	When
Attended Transfer	During an established call with Phone 2 you understand that they need to talk to Phone 3 so you press the <b>New Call</b> softkey and establish a call with Phone 3; Phone 2 is put on hold. <i>Only after Phone 3 answers and you speak with them,</i> you press the <b>Trans</b> softkey; Phone 2 is transferred to Phone 3.
Semi-Attended Transfer	Same as Attended Transfer except that you transfer Phone 2 to Phone 3 <i>before they answer.</i>

### 6.5.1 Attended Transfer

➤ **To do an attended transfer:**

1. During a call with Brad he asks you (Mike) to transfer him to Ido. Press the **New Call** softkey; the New Call screen is displayed:



2. Enter Ido's number and press **Dial**; Ido's phone rings and Ido answers:



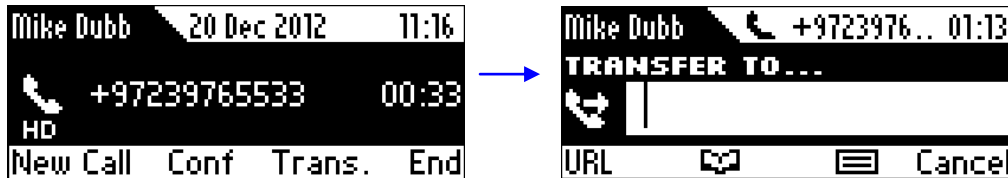
3. Speak to Ido and press the **Trans** softkey; Brad is transferred to Ido:



## 6.5.2 Semi-Attended Transfer

➤ **To do a semi-attended transfer:**

1. During a call with Brad, he asks you (Mike) to transfer him to Ido, press the **Trans** softkey:



2. Enter Ido's number and then press the **Trans** softkey; your phone (Mike's) disconnects and Brad is transferred to Ido:



This is a semi-attended transfer.

## 6.6 Hosting 3-Way Conference Calls

You can make a 3-way conference call with two other parties.

➤ **To make a 3-way conference call:**

1. Call the first participant (Brad) and press the **Conf** softkey:



2. Enter the number of a second participant (Ido) and press the **Dial** softkey that's enabled after entering the first digit:



3. When Ido answers, press the **Conf** softkey; a 3-way conference call is established and the numbers (or names) of all participants are displayed on the screen:




4. To end the conference call, hang up the phone or press the **End** softkey.



## 6.7 Muting Calls

You can mute the microphone of the handset, headset, or speakerphone during a call so that the other party cannot hear you. While the call is muted you can still hear the other party. Muting calls can also be used during conference calls.

➤ **To mute/unmute:**

1. During a call, press the mute key: 
2. To unmute, press the mute key again and resume the conversation.

## 6.8 Retrieving Voice Mail Messages

When you have at least **one new message** in your voice mail box, you can listen to it.

➤ **To listen:**

- Press the VOICE MAIL key; the phone dials your voice mail box. Follow the instructions of your voice mail provider as required.



**Note:** If the voice mail box phone number has not been configured by your system administrator, then after pressing the VOICE MAIL key, enter the mail box phone number and then press the **Save** softkey. Press the VOICE MAIL key again to listen to voice messages.

**Reader's Notes**

## 7 Troubleshooting

Use this section if a problem with your phone occurs. If this section does not facilitate resolving the issue, contact your system administrator.

**Table 7-1: Troubleshooting**

Symptom	Problem	Corrective Procedure
Phone is off (no LCD displays and LEDs)	Phone is not receiving power	<ul style="list-style-type: none"> <li>▪ Verify that the AC/DC power adapter is attached firmly to the DC input on the rear of the phone.</li> <li>▪ Verify that the AC/DC power adapter is plugged into the electrical outlet.</li> <li>▪ Verify that the electrical outlet is functional.</li> <li>▪ If using Power over Ethernet (PoE), contact your system administrator to check that the switch is supplying power to the phone.</li> </ul>
'LAN Link Failure' message displayed on LCD screen	No LAN connection	<ul style="list-style-type: none"> <li>▪ Verify that the LAN cable is connected securely to the LAN port on the rear of the phone.</li> <li>▪ Verify that the other end of the LAN cable is connected to the network (switch). If it's not, inform your system administrator.</li> </ul>
Phone is not ringing	Ring volume is set too low	<ul style="list-style-type: none"> <li>▪ Increase the volume (see Section 4.9.1)</li> </ul>
'Registration...' message displayed in LCD and calls cannot be made or received	Line not registered to network	If your phone has multiple lines and an 'X' is displayed in the LCD for a line, this indicates that the line has not been successfully registered. For assistance, contact your system administrator.
LCD display is poor	LCD settings	<ul style="list-style-type: none"> <li>▪ Adjust the phone's screen contrast level (see Section 4.5)</li> <li>▪ Adjust the screen's backlight timeout (see Section 4.6)</li> </ul>
Headset has no audio	Headset not connected properly	<ul style="list-style-type: none"> <li>▪ Verify that your headset is securely plugged into the headset port located on the side of the phone.</li> <li>▪ Verify that the headset volume level is adjusted adequately (see Section 4.9.5).</li> </ul>

# **User's Manual**

**420HD IP Phone with Microsoft Lync**

**Version 2.0.1**



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