ALTIGEN®

Alti-IP 600H Phone™

Administration Manual

05/2005 Version #3 4290-0010-5.0A

WARNING!

Toll fraud is committed when individuals unlawfully gain access to customer telecommunication systems. This is a criminal offense. Currently, we do not know of any telecommunications system that is immune to this type of criminal activity. AltiGen Communications, Inc. will not accept liability for any damages, including long distance charges, which result from unauthorized and/or unlawful use. Although AltiGen Communications, Inc. has designed security features into its products, it is your sole responsibility to use the security features and to establish security practices within your company, including training, security awareness, and call auditing.

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TRADEMARKS

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Contents

Warranty

What The Warranty Covers

AltiGen Communications warrants its hardware products to be free from defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, AltiGen Communications will, at its sole option, repair, refund or replace the product with a like product.

How Long the Warranty Is Effective

All AltiGen Communications products are warranted for one (1) year for all parts from the date of the first end user purchase.

Whom the Warranty Protects

This warranty is valid only for the first end user purchaser.

What the Warranty Does Not Cover

1. Any product on which the serial number has been defaced, modified or removed.
2. Damage, deterioration or malfunction resulting from:
    a) Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
    b) Repair or attempted repair by anyone not authorized by AltiGen Communications.
    c) Any damage of the product due to shipment.
    d) Removal or installation of the product.
    e) Causes external to the product, such as electric power fluctuations or failure.
    f) Use of supplies or parts not meeting AltiGen Communications' specifications.
    g) Normal wear and tear.
    h) Any other cause which does not relate to a product defect.
3. Shipping, installation, set-up and removal service charges.

How to Obtain Service

End user customers should contact your Authorized AltiGen Dealer for service.

Authorized AltiGen Dealers must follow the steps below for service:

1. Take or ship the product (shipment prepaid) to your AltiGen distributor or to AltiGen Communications, Inc.

All materials being returned to AltiGen must have an associated RMA number. RMA numbers are issued by AltiGen Customer Service and can be obtained by calling 1-888-ALTIGEN (258-4436) or faxing an RMA form, available from the AltiGen website at http://www.altigen.com/partner/product.htm, to 510-252-9738, attention to Customer Service. AltiGen reserves the right to refuse return of any material that does not have an RMA number. The RMA number should be clearly marked on the outside of the box in which the material is being returned. For example:

Attn.: RMA # 123
AltiGen Communications, Inc.
4555 Cushing Pkwy.
Fremont, CA 94538

Upon authorization of return, AltiGen will decide whether the malfunctioning product will be repaired or replaced.

2. To obtain warranty service, you will be required to provide:
   a) the date and proof of purchase
   b) serial number of the product
   c) your name and company name
   d) your shipping address
   e) a description of the problem.
3. For additional information contact your AltiGen Dealer or AltiGen Communications, Inc. via e-mail at support@altigen.com.

Effect of State Law

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

Sales Outside the U.S.A.

For AltiGen Communications products sold outside of the U.S.A., contact your AltiGen Communications dealer for warranty information and services.

Preface: About This Manual

This document provides the required steps to get the Alti-IP 600H phone up and running on a Voice over IP (VoIP) network. For complete and detailed information on procedures that you need to perform on AltiGen's AltiWare application or other network devices, refer to the *AltiWare OE System Installation and Administration Manual* or *AltiContact Manager System Administration Manual*.

Another document, the *Alti-IP 600H Quick Reference Card,* covers basic end user phone features and AltiServ functions such as call handling, voice mail, and web interface.

This guide contains the following chapters and appendices:

Chapter 1, An Overview of the Alti-IP 600H, provides an overview and description of the Alti-IP 600H.

Chapter 2, System and Network Requirements describes configuration requirements.

Chapter 3, Installation, describes how to properly install the Alti-IP 600H, how to configure network settings, and operation notes.

Chapter 4, Configuration, describes how to configure phone settings for the Alti-IP 600H.

Chapter 5, Phone Functions, provides on overview of the Alti-IP 600H basic functions.

Appendix A, provides phone specifications, tips for troubleshooting the Alti-IP 600H, LCD message information and user reference information.

Glossary

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Overview

The *Alti-IP 600H Administration Manual* provides information about how to set up, connect cables to, and configure an Alti-IP 600H phone. It also provides information on how to configure the network and IP settings, and how to change the settings and options of the Alti-IP 600H phone. The administrator guide also includes reference information such as IP phone call flows and compliance information.

Related Documentation

- *Alti-IP 600H Quick Reference Card*
- *AltiWare OE/ACC System Installation and Administration Manual* or *AltiContact Manager System Administration Manual*

CHAPTER 1

An Overview of the Alti-IP 600H

The Alti-IP 600H class of AltiGen IP phones is an H.323-compliant, business telephone that provides voice communication over an IP network.

The Alti-IP 600H provides functionality similar to traditional analog phones, including automatic redial, on-hook dialing, hands-free operation, 10 programmable keys, LCD display and headset port support.

The main components of the phone are illustrated below (Figure 1) and defined in the following table.

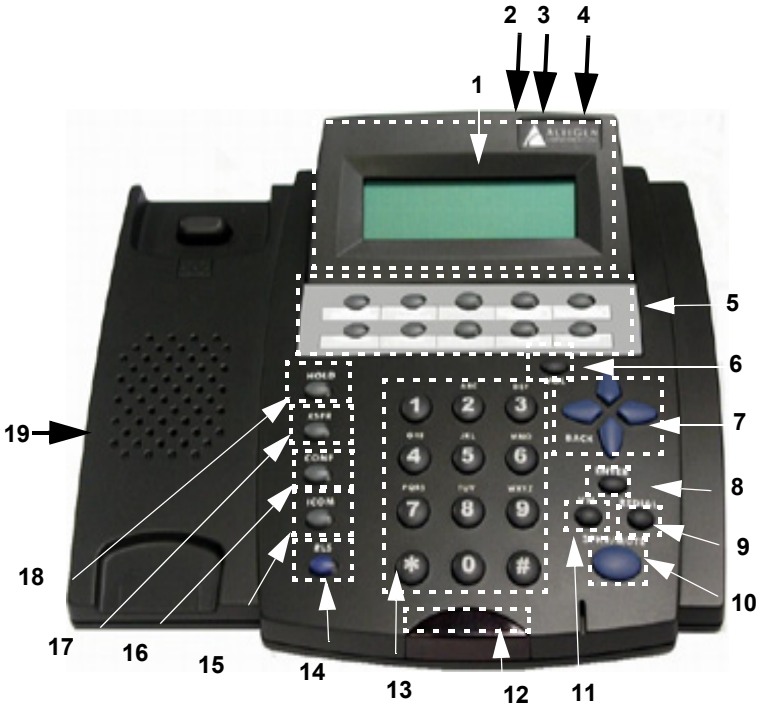


Figure 1. Alti-IP 600H

Figure 2. Alti-IP 600H, Top View

1	LCD Screen	Multi-use: displays features such as time, phone number, caller ID, call waiting, line/call status and call time.
2	PC Access Port	Connects to PC (10/100 PC)
3	Network Port	Connects to network (10/100 SW)
4	AC Adapter Port	Connects to power outlet.

5	Soft Keys 1-10	10 soft keys can be configured as a **BLF (Busy Lamp Field)** key, an AltiServ **feature code**, a **speed dial** key, **Directory** key, **Line Park** key, a **Call Record** key, a phone setting key or **Headset** key, set up by the System Administrator in AltiAdmin/ACM Admin. **Note:** The lower left Soft Key is set up as FLASH by default. This can be re-assigned in AltiAdmin/ACM Admin (AltiGen IP Phone Configuration). The phone setting key, once set up by the system administrator, can be configured as a feature code or speed dial key directly from the user's IP Phone using *** * 6 ENTER**.
6	Volume	Increases/decreases volume of ringer, speaker and handset/headset.
7	Navigation keys	▲/▼ (UP/DOWN keys) allow you to scroll through text and select features displayed on the LCD screen. ▶ (FORWARD key) is for menu selection. ◀ (BACK key) returns to previous configuration menu or deletes the last digit input.
8	ENTER	Finishes input for menu selection.
9	REDIAL	Redials up to last 16 calls and up to 32 digits.
10	SPK/MUTE	Enables speaker or mute.
11	VM	Voice mail access button. **Note:** When a voice mail is deleted, the number of voice mails displayed on the LCD will not be updated until the next call is finished.
12	Main Indicator Light	Slow blink when holding, mute or message waiting; fast blink for ringing; always on when on speaker phone.
13	Dial Pad	Functions exactly as a dial pad on a traditional telephone

14	RELEASE	Releases a call.
15	**ICOM***	Incoming voice path through speaker, indicated by the button's blinking indicator light.
16	**CONF***	Initiates a conference call, indicated by the button's blinking indicator light.
17	**XSFR***	Transfers a call, indicated by the button's blinking indicator light.
18	**HOLD***	Places a call on hold, indicated by the button's blinking indicator light.
19	Receiver Jack	Connects to receiver.

Note: ***** indicates a normal operating mode key feature, which is only available after registering the Alti-IP 600H with the phone server and logged in as an extension.

Hardware Components

The following hardware items are included in this package:

- Alti-IP 600H Set
- Phone receiver
- AC Adapter (Input: 100-240V; Output: DC 5V, 2A)
- Power cord
- Network cable

New in Version Level 12XX

- Configurable BLF ringer
- Distinctive ringing support
- Activity display
- Auto answer mode
- Workgroup queue status display

- Headset port support
- Call Record

CHAPTER 2

System & Network Requirements

System Requirements

- AltiWare OE 4.5A or higher

  Note: A lower version of AltiWare may cause the IP phone to lose several advanced features, resulting in use as a very basic H.323 phone.

- AltiGen OE 4.5A Gatekeeper or higher (to support Plug and Play functionality)

Network Requirements

- Network connection — the IP phone must have TCP/IP connection to the related AltiWare system

Important: Make sure a switch is used, rather than a hub, in the corporate LAN.

- DHCP Server (to get dynamically IP address when necessary)
- TFTP Server (to update the IP phone firmware when necessary)
- GATEKEEPER (for Plug and Play feature)

AltiAdmin/ACM Admin Configuration Requirements

- The Alti-IP 600H requires a virtual extension to be created as an IP extension in AltiAdmin to handle call processing. Refer to the "Setting Up IP Extensions" chapter in the *AltiWare OE/ACC System Installation & Administration Manual* or *ACM System Administration Manual* for detailed instructions on how to set up an IP Extension to manage the IP phone.
- The IP Phone settings must be pre-configured in AltiAdmin/ACM Admin before setting up configuration for the Alti-IP 600H.

AltiGen IP Phone Service

AltiGen IP Phone Service is installed together with AltiServ, runs on the same system as AltiServ, and connects to AltiServ through enhanced AltiLink+ protocol on behalf of Alti-IP 600H phones. This service must be running for the Alti-IP 600H to operate. If IP Phone Service stops while the Alti-IP 600H is on a call, the call will be disconnected.

Plug and Play Feature

The Alti-IP 600H supports a plug and play feature when running AltiWare. When the phone is first booted up, this feature will enable the phone to automatically register itself to AltiServ, instead of having to program the phone manually. Refer to “Configuring Startup Network Settings” on page 14 for requirements and setup.

Note: The Plug and Play feature requires AltiGateKeeper Discovery and a single gatekeeper on the LAN.

Basic Mode

The Alti-IP 600H operates in Basic mode if it fails to register with AltiWare during the startup mode. When in basic mode, the IP Phone’s LCD display shows “`(BASIC) IDLE`”. No AltiWare switching features are available in this operating mode. However, the phone user can enter a destination IP address followed by **#**, and make an outgoing call through the IP network to reach AltiWare or another Alti-IP 600H phone. Also, the IP phone can accept incoming calls originating from AltiWare or another Alti-IP 600H phone.

Normal Operation

In normal operating mode, the Alti-IP 600H should have been registered with the phone server and logged in as an extension. The time and extension appear in the LCD screen and all phone features are enabled.

Note: To make the Alti-IP 600H work in normal operating mode, open the firewall port 10032 for the phone server. Refer to the *AltiWare OE/ACC System Installation & Administration Manual* or *ACM System Administration Manual* for information on other firewall ports for H.323.

Installation

These steps describe procedures for installing and configuring the Alti-IP 600H locally — through manual setup or plug and play. To install and configure the phone remotely, refer to “Remote Installation” on page 18.

Manual Setup

To manually set up the Alti-IP 600H phone, perform the following steps:

1. **Network Setup**

   Find out the settings for the following (this information will be needed later to configure the Alti-IP 600H):

   - **AltiWare Server IP Address**
   - **DHCP** - if DHCP is not used, obtain the Alti-IP 600H phone’s IP address from the System Administrator.
   - **Gatekeeper Auto Discovery** - if gatekeeper auto discover is not used, obtain the AltiWare IP address.
   - **Firewall** - Refer to “Firewall Considerations” on page 40.

2. **AltiAdmin/ACM Admin Setup - AltiGen IP Phone Configuration Window**

   To configure the Alti-IP 600H phone with AltiAdmin/ACM Admin, select **AltiGen IP Phone Configuration** from the **Management** menu.

This opens the **AltiGen IP Phone Configuration** window where, after setting up an IP extension, you can set the following parameters for the IP extension:

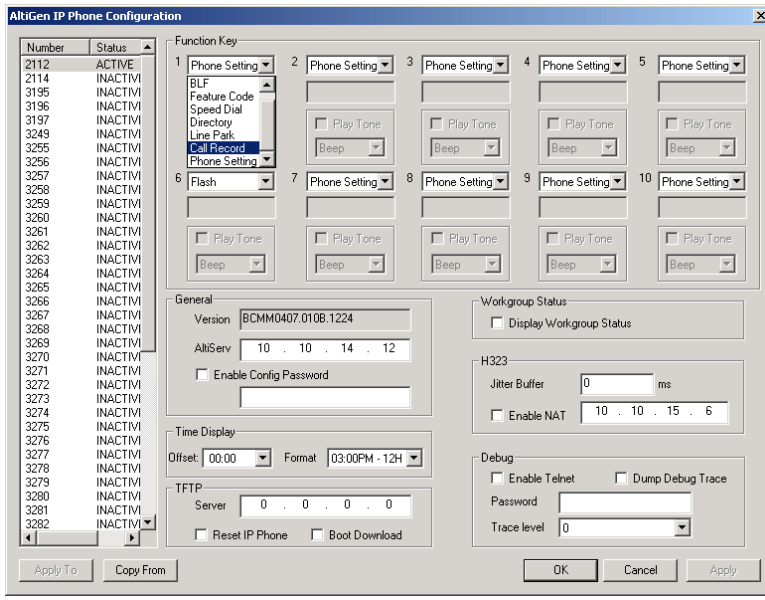


Figure 3. IP Phone Configuration Window

The left side of the IP Phone Configuration window displays all the Alti-IP phone extensions that have been set up in the system.

After creating the IP extensions, you can set the following parameters:

Parameter	Description
Soft Key 1 - 10	Corresponds to the 10 soft keys on the Alti-IP 600. Use the drop down list to assign one of the following functions to the desired keys: • **N/A** - when selected, the corresponding soft key cannot be used. • **BLF** (Busy Lamp Field) - when selected, enter an extension number in the field below; this will be associated with the corresponding soft key to automatically dial this extension number; the button light next to this soft key indicates that the extension number is busy. You can select the **Play Beep Tone** check box to also have the IP phone play an audible beep or one of 6 different ring tones when the extension number is ringing. **Note**: The **BLF** feature can only be assigned to *internal* extension numbers, not outside numbers. • **Feature Code** - when selected, enter an AltiServ feature code in the field below; this will be associated with the corresponding soft key to dial this feature code. • **Speed Dial** - when selected, enter the speed dial code in the field below; this will be associated with the corresponding soft key to dial this speed dial code. • **Directory** - when selected, allows the user to press the function key from the IP phone to access the IP extension's station speed dial directory, using the **UP/DOWN** arrows to scroll through the list, then off-hooking or pressing the **Speaker** button to call the number. The extension's station speed dial can be configured through AltiView/AltiAgent or AltiAdmin/ACM Admin. • **Line Park** - when selected, use the drop-down list to the desired **Line Park** line ID.

Parameter	Description
Soft Key 1 - 10 (cont.)	• **Call Record** - when selected, the IP phone user can start and/or stop voice recording on demand. In the **Extension Configuration** screen on the **General** page, **Record on Demand to Extension VM** must be enabled in the **Personal Call Recording Options** field. Press key to start recording, press the key again to stop recording. There is no pause function. When the call is recording, the light will be on. Recorded conversations can then be played back through voice mail or accessed at a centralized location. **WARNING!** *Listening in to or recording a conversation without the consent of one or both parties may be a violation of local, state and federal privacy laws. It is the responsibility of the users of this feature to assure they are in compliance with all applicable laws.* • **Phone Setting** - when selected, the IP phone user will be able to program the corresponding soft key, as a speed dial or feature code key, directly from the IP phone (using *** * 6**, then **ENTER**). **Note:** Upon initial installation, the lower left soft key is set up as FLASH by default. This key can be re-assigned in AltiAdmin, using the AltiGen IP Phone Configuration window. No other soft keys can be configured to FLASH. All other soft keys are initially defaulted to Phone Setting. • **Headset** - when selected, the IP phone user will be able to activate a third-party headset (certified by AltiGen).
General	Allows you to specify the IP address of the AltiServ system the Alti-IP 600 phone is connected to. The version of software associated with AltiServ is automatically displayed in the **Version** field. To allow the extension user to have password-protected configuration functionality from the phone itself, check the **Enable Config Password** checkbox and assign a numerical password. When the extension user attempts to configure features, the user will need to enter the assigned password to proceed.

Parameter	Description
Display Workgroup Status	When enabled, allows the Alti-IP 600 phone to display workgroup queue status. While the agent is in idle state, the first line of the LCD displays the number of queued calls, the current longest queue time, and the last four digits of the workgroup number; the second line shows the agent state.
H.323	Allows you to set the **Jitter Buffer** in milliseconds, the delay used to buffer voice packets received from the IP network. The Jitter Buffer should be adjusted according to the WAN bandwidth allocated to data traffic. To allow NAT support for the IP extension, check the **Enable NAT** button and enter the public IP address of the NAT router.
Time Display	• **Offset** - a per phone-based configuration, allows the phone to display a different time based on location. • **Format** - a per-phone-based configuration, allows the phone to display 24 hour or 12 hour (AM/PM).
TFTP	Allows you to assign the TFTP Server to which the IP phone can connect to for updating firmware when necessary. Enter the IP address of the TFTP Server in the **Server** field. To update IP phone image, the administrator can check the **Reset IP Phone** and **Boot Download** check box options to reset and download image to update the phone.
Debug	When enabled, allows the Alti-IP 600 phone to connect to Telnet for debugging.

Notes:

- **IMPORTANT!** Please note that the configuration in AltiWare will override the Alti-IP 600H phone's local configuration after the IP Phone is registered. If the IP phone's local configuration is changed while in Basic mode, these changes will be overwritten by AltiAdmin/ACM Admin settings. Also, after the IP Phone is successfully registered with the system, the IP phone will overwrite the AltiWare IP address and network-related settings on the server.

- **IMPORTANT!** When updating the Alti-IP 600H phone's firmware, it is recommended that administrators perform any updates **after** normal business hours or when the IP phone is not in use. If the Alti-IP 600H phone is in use during an update, the call will be disconnected.
- The **Apply To** button works with the following parameters: **General**, **H.323**, **TFTP** (**Server** field only; **Reset IP Phone** and **Boot Download** options cannot be applied to multiple extensions), and **Debug**. This only works when the Alti-IP 600H is operating in basic mode.
- When setting up Alti-IP 600H connections, you must connect the Alti-IP 600H to the network and to a power source before using it.
- When the Alti-IP 600H is booted up without the PC port plugged in, the PC port defaults to 10Mbps.
- If the PC port is to be used, the user should plug in both the LAN port and PC port before the IP phone is booted.
- The user should reboot the Alti-IP 600H under any of the following conditions:
  - — after disconnecting the LAN cable to the phone
  - — after changing the IP address or DHCP setting
  - — after rebooting the PC

To connect the Alti-IP 600H:

a. Connect an Ethernet cable from the IP-PBX to the *network* port on the phone.

b. Connect the handset to the receiver jack.

c. Connect an Ethernet cable from another network device, such as a desktop computer, to the *access* PC port on the phone.

d. Connect the power plug to the AC Adapter port.

3. **Configuring Startup Network Settings**

   If you are using DHCP, you do not need to configure anything. Proceed to Step 5.

   If you are not using DHCP, you must configure these network settings on the Alti-IP 600H after installing the phone on the network:

   - Local IP address

- IP subnet mask
- Default gateway IP address

4. **Configuring the AltiWare IP Settings**

   If you are using Gatekeeper Auto Discovery, you do not need to configure anything. Proceed to Step 6.

   If you are not using Gatekeeper Auto Discovery, you must manually configure the AltiWare IP address setting into the Alti-IP 600H. Refer to "Configuring IP Settings" on page 26.

5. **Activate the IP Extension**

   Once the device is initialized, the user must follow these steps to activate the IP Extension.

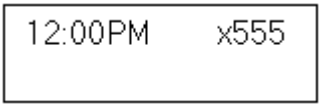
   Note: The user must be running AltiGen's Gatekeeper service for full functionality.

   a. With the handset onhook, press **# 27**, then the **ENTER** button.

   b. Enter your extension number and password when prompted.

   c. The phone will attempt to register as shown in the LCD screen.

   If the phone successfully passes through these stages, the phone shows the time and extension in the LCD screen and is now in normal operating mode.



   Otherwise, refer to "Troubleshooting" on page 40.

Plug and Play Setup

The steps for plug and play setup will vary depending on whether or not the Alti-IP 600H Phone has been started. When the Alti-IP 600H is started for the first time, it can support plug and play to enable the phone to automatically register itself to AltiServ. If the Alti-IP 600H has already been started, follow the instructions "Plug and Play Setup After IP Phone is Started" on page 17.

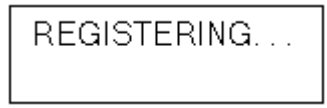
Important Notes:

- To use the Plug and Play feature, the user's IP Phone must be on the local LAN with AltiServ
- There can only be one (1) AltiServ on the LAN.
- Gatekeeper auto discovery uses broadcast UDP packets which work in the LAN or VPN environment, but not through the public IP network.

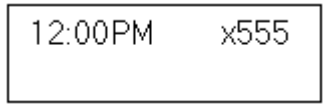
Plug and Play Setup *Before* IP Phone is Started

To set up your IP Phone to properly execute the Plug and Play feature, perform the following steps BEFORE YOU START THE PHONE:

1. Ensure the AltiGen GateKeeper is running and configured to point to the AltiWare system.
2. Ensure DHCP server is up and running.
3. Ensure that there are enough IP addresses.
4. Ensure that there is an available virtual extension with the IP extension feature enabled and dynamic IP address is selected.
5. Power up the IP Phone.
6. Enter the extension number and password.
7. The phone will attempt to register as shown in the LCD screen.



If the phone successfully passes through these stages, the phone shows the time and extension in the LCD screen and is now in normal operating mode.



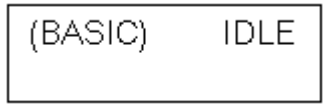
Otherwise, refer to "Troubleshooting" on page 40.

8. If you wish to change soft keys, you can set up IP Phone properties in AltiWare as described in **Step 2 -** "AltiAdmin/ACM Admin Setup - AltiGen IP Phone Configuration Window" on page 9.

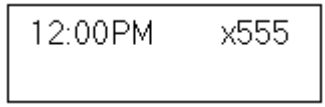
Plug and Play Setup *After* IP Phone is Started

If you have already started your phone, and wish to execute the Plug and Play feature, perform the following steps:

1. Power up the IP phone (the phone should be in basic mode).



2. Press *** * 7** + **ENTER** to go to the IP phone configuration menu.
3. Press *** * 2** + **ENTER** to restore default settings.
4. Reboot the phone (by unplugging the power and replugging OR pressing ◂ (BACK key) until in Basic mode. The IP phone will automatically go to normal operating mode after reboot.
5. Enter extension number and password.
6. The time and extension is displayed in the LCD screen after the phone has been successfully logged on to AltiServ.



7. Set up IP Phone properties in AltiWare as described in **Step 2 -** "AltiAdmin/ACM Admin Setup - AltiGen IP Phone Configuration Window" on page 9.
8. Setup is complete. For further configuration of settings for the Alti-IP 600H/600PH, refer to "Configuring Phone Settings" on page 23.

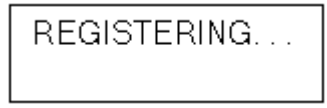
Remote Installation

To install the Alti-IP 600H at a remote location, using a DSL connection with or without a router hub:

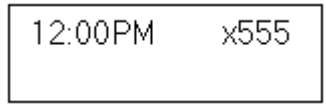
1. Check the firewall settings at the corporate network to open TCP/UDP ports required by the Alti-IP 600H. (For more information on firewall settings, refer to “Firewall Considerations” on page 40.)
2. Check the AltiWare server’s IP extension settings (make sure the IP extension is enabled, enough IP licenses are available, etc.)
3. Press *** * 7 ENTER** on the Alti-IP 600H phone to configure the phone’s local IP address and Gateway IP address. (Depending on the DSL provider’s recommendations, you may or may not want to use DHCP.)
4. Configure the Alti-IP 600H phone’s AltiWare address.
5. If NAT server is used, access `NETWORK` settings in the configuration menu. Change `ENABLE NAT` setting to YES and assign the NAT server’s public IP address in the `NAT Address` setting.
6. If configuring with an H.323 NAT router, the NAT router can forward IP traffic to a specified private IP address based on the destination port in the TCP/IP or UDP packets. When an H.323 endpoint is behind the H.323 NAT, you should set up the forwarding to a private IP address of this H.323 endpoint.

   If this H.323 endpoint is AltiWare, the NAT router must be configured to forward to following ports to the H.323 endpoints private IP address:

   - TCP port 10032 (for phone service)
   - TCP port 1720 (for H.225)
   - TCP/UDP 49152 ~ N (for H.245 and RTP/RTCP); where N = 49152 + (62 * number of VoIP boards) - 1.
7. Use **#27** + **ENTER** to initiate logging onto AltiServ.
8. The phone will attempt to register as shown in the LCD screen.



If the phone successfully passes through these stages, the phone shows the time and extension in the LCD screen and is now in normal operating mode.



Note: The Alti-IP 600H AltiWare IP address, TFTP (IP) address and other network related configuration parameters will override the AltiAdmin's settings when the phone registers with AltiServ. Other parameters will still be overridden by the AltiAdmin settings as before.

Otherwise, refer to "Troubleshooting" on page 40.

9. Set up IP Phone properties in AltiWare as described in **Step 2 -** "AltiAdmin/ACM Admin Setup - AltiGen IP Phone Configuration Window" on page 9.

Verifying the Phone Startup Process

After the Alti-IP 600H has power connected to it, the phone begins its automatic booting process by cycling through these steps:

1. All LED lights will be on.
2. The LCD screen displays [ATGN BOOT] on the first line.
3. On the second line of the LCD screen, the following messages are displayed in succession:
   - CHECK MEMORY (RAM checking state)
   - CHECK FW (Firmware checking state)
   - BOOTING NOW (Initialization of hardware - LCD, network, DSP, etc.)
   - INITIALIZING

Resolving Errors Upon Startup

If an error occurs during booting, the LED light of Soft Keys 1 through 4 will remain on to indicate an error status. These errors represent hardware failures within the IP Phone.

- LED 1 light on = memory check failed

- LED 2 light on = network failed
- LED 3 light on = DHCP failed
- LED 4 light on = attached IP address failed

If the phone successfully passes through these stages, it has started up properly. Otherwise, refer to “Troubleshooting” on page 40.

Active Logon While Another Handset is Already Logged On To the Same Extension

If another analog phone or IP phone is already logged on to the same extension, rebooting the Alti-IP 600H will not register the phone successfully. The user must press **#26** on the associated physical phone/IP phone, then on the IP phone, use **#27** + **ENTER** to actively log onto AltiServ. Once the extension is logged on and activated, the calls will then be redirected to this IP Phone.

Important: Also, the user should not use the VM option to logon the Alti-IP 600H.

Restoring Default Settings

To automatically restore the original default settings for the Alti-IP 600H:

1. Press *** * 7**, then press the **ENTER** button
2. Press *** * 2**, then press the **ENTER** button.

Rebooting the Alti-IP 600H

To reboot the Alti-IP 600H, press *** *** 3, then press the ENTER button.

Note: When the Alti-IP 600H is rebooted, the AltiWare IP address setting is set back to the original configuration.

Configuring “Phone Setting” Soft Keys

When the soft key is set to “Phone Setting” (in the IP Phone Configuration window of AltiAdmin), the IP Phone user can configure the soft key to store a speed dial number or feature code.

To configure a soft key with phone setting enabled:

1. Press *** * 6**, then the **ENTER** button.
2. Scroll to the program key to configure.
3. Enter the appropriate digits for the speed dial number or feature code.

The digits will be automatically dialed when this function key is pressed.

Dialing an IP Number Directly from the Alti-IP 600H

To dial an IP number directly from the Alti-IP 600H phone set, enter the IP address using the ***** key to enter periods followed by the **#** key.

Notes:

- This only works when the Alti-IP 600H is operating in basic mode.
- If the Alti-IP 600H is configured for a public IP address, you can call other public IP address devices.

If the Alti-IP 600H is configured for a private IP address, you can call other private IP address devices that you can "see" or that are on your subnet.

Headset Port Support

Important: Contact AltiGen for the most current list of certified headsets.

A headset port is added to the back of the phone chassis. When enabled by the administrator, the IP phone user will be able to activate a third-party headset. The pin outlet for headset support is specified below:

Pin 1 (Tx-), Pin 2 (Rx1), Pin 3 (Rx2), Pin 4 (Tx+)

The port has a separate volume control and voice stream switching among speaker, handset, and headset. The 10th programmable key is assigned as the headset offhook/onhook switch through the **IP Phone Configuration** page in AltiWare Administrator.

To use the headset, the user can go offhook or onhook by pressing the headset button.

Note: For the Alti-IP 600H, if using Plantronics H91N or H101N headsets, in order to plug in these headsets to the headset port, a separate Plantronics cable should be used (and must be ordered separately: part # 27190-01).

Operation Notes

- When using #26 and #27 to log out/in, the Alti-IP 600H must be onhook. Using the speaker button to use #26 or #27 will not work.
- Two dial tones are always heard when going offhook on the Alti-IP 600H.
- If two calls ring into the Alti-IP 600H at the same time and the user attempts to answer the second call, the IP phone will automatically connect the user to the first call.
- The user should reboot the Alti-IP 600H after disconnecting the LAN cable to the phone.
- The user should reboot the Alti-IP 600H after changing the IP address or DHCP setting.
- If the Alti-IP 600H is configured for a public IP address, you can call other public IP address devices.
- If the Alti-IP 600H is configured for a private IP address, you can call other private IP address devices that you can “see” or that are on your subnet.
- The daisy chaining of Alti-IP 600H phones is not supported.

Configuring Phone Settings

A set of phone related parameters — system settings and network settings — can be configured through the IP phone's setup menu by pressing "*** * 7**," then the **ENTER** button.

▲/▼ (UP/DOWN keys) selects YES or NO in the LCD display.

▶ (FORWARD key) selects menu.

◀ (BACK key) returns to previous menu.

The following tables describe each setting and corresponding the menu path.

Important: Please note that the configuration in AltiAdmin will override the Alti-IP 600H phone's local configuration after the IP Phone is registered. If the IP Phone's local configuration is changed while in Basic mode, these changes will be overwritten by AltiAdmin settings. Also, after the IP Phone is successfully registered with AltiServ, the IP Phone will overwrite the AltiWare IP address and network-related settings on the server.

Note: Several of these settings can be configured through AltiAdmin by the System Administrator.

System Settings

Setting	Menu Path {*Sub Menu*}	Description
Extension Number	`System>Ext Number` {Set IP Extension Number}	Sets the IP phone's extension number
Extension Password	`System>Ext Password` {Set IP Extension Password}	Sets the IP phone's extension password
AltiWare Server	`System>AW Server` {AltiWare IP Address}	Sets the AltiWare server's IP address

Current AltiWare	`System>Current AW`	Displays the current AltiWare server's IP address assigned to the phone
Hour Offset	`System>Hour Offset`	Sets the time offset from the AltiWare server's time.
TFTP Server	`System>TFTP Server` {Save TFTP Server IP Address}	Sets the TFTP server IP address for updating firmware.
Boot Download	`System>Boot Download`	After firmware image upgrade, submenu changes to {No}. Used mainly for upgrading or troubleshooting. On the next boot, the phone will download the new firmware from the TFTP server, if set to [YES]. **Note:** Make sure to launch TFTP32.exe. When downloading, the phone key pad is disabled.
Emergency Number	`System>Emergency Num`	Sets the IP phone's emergency number
Emergency Gateway	`System>Emergency GW`	Sets the IP phone's emergency gateway IP address
Version Information	`System>Version Info` {Read only, version information}	Indicates the version number of the IP Phone.

Network Settings

Setting	Menu Path {Sub Menu}	Description
Enable DHCP	`Network>Enable DHCP`	Set YES or NO to indicate whether Dynamic Host Configuration Protocol (DHCP) is being used by the IP phone to retrieve new IP address upon boot up.

Local Address	`Network>Local Address`	Sets the IP phone's local address; only shows if DHCP is disabled.
Network Mask	`Network>Network Mask`	Sets the IP phone's network mask; only shows if DHCP is disabled.
Gateway	`Network>Gateway`	Sets the Gateway IP address.
Enable Gatekeeper	`Network>Enable/ Disable GateKeeper`	Set whether GateKeeper is enabled or disabled.
GateKeeper Discovery	`Network>GK Discovery`	Set to YES or NO to indicate whether GateKeeper discovery is enabled. IP Phone will automatically find GateKeeper.
Enable NAT	`Network>Enable/ Disable NAT`	Set whether NAT is enabled or disabled.
NAT Address	`Network>NAT Address`	Sets the NAT server's public IP address.

Modifying DHCP Settings

Dynamic Host Configuration Protocol (DHCP) automatically assigns IP addresses to devices when they are connected to the network.

Enabling DHCP

The Alti-IP 600H automatically enables DHCP by default, but you can reset the protocol if it becomes disabled using the following steps:

1. Press *** * 7** + **ENTER** button.
2. Use ▲/▼ to select **Network**, then press the **Enter** key.
3. Scroll to **Enable DHCP**.

   If DHCP is disabled, the option displays as `DHCP Enabled NO`.
4. Press ▼ (DOWN key) to enable DHCP.

Disabling DHCP

If you do not use DHCP in your network, you can disable DHCP before manually assigning an IP address to the Alti-IP 600H. To disable DHCP, use the following steps:.

Note: Procedures involving configuring IP settings cannot be completed when DHCP is enabled in your network.

1. Press *** * 7** + **ENTER** button.
2. Use ▲/▼ to select **Network**, then press the **Enter** key.
3. Scroll to **Enable DHCP**.

   If DHCP is enabled, the option displays as `DHCP Enabled YES`.
4. Press ▼ (DOWN key) to disable DHCP.

Configuring IP Settings

Use these guidelines when manually configuring the IP settings:

- Ensure the default gateway IP address in on the same subnet as the host IP address.
- When inputting IP addresses into the Alti-IP 600H, use the ***** key to enter periods. For example, “209.120.12.8” would be inputted as “209*120*12*8”.

Assigning a Local IP Address

The IP address is the unique logical address identifying each host computer on a TCP/IP network. An IP address is a 32-bit number expresses as four decimal numbers from 0 to 255 separated by periods.

To assign an IP address, use the following steps:

1. Press *** * 7** + **ENTER** button.
2. Use ▲/▼ to select **Network**, then press the **ENTER** button.
3. Scroll to **Local Address**.
4. Press the **ENTER** button or ▶ (FORWARD key).
5. Use the buttons on the dial pad to enter a new IP address, using the ***** key to enter periods. Use the ◀ (BACK key) to correct any mistakes.
6. Press the **ENTER** button.

Assigning a TFTP Server

The default TFTP Server is set to 0.0.0.0.

To assign the TFTP server, use the following steps:

1. Press *** * 7**.
2. Use ▲/▼ to select **System**, then press the **ENTER** button.
3. Scroll to **TFTP Server**.
4. Press **ENTER** button or ▶ (FORWARD key).
5. Use the buttons on the dial pad to enter the new TFTP server address, using the * key to enter periods. Use the ◀ (BACK key) to correct any mistakes.
6. Press the **ENTER** button.

Updating Phone Firmware

Note: If using TFTP Server Application, TFTPD32, included in the CD-ROM, copy the following files — `tftpd32.exe` and `<hlp>` files —to your local directory; once copied, you can launch the TFTP Server application from the executable file.

Obtain `app_mid.bin` and `dsp.bin` files from the AltiGen website and copy to your local directory.

Important: When updating the Alti-IP 600H phone's firmware, it is recommended that administrators perform any updates **after** normal business hours or when the IP phone is not in use. If the Alti-IP 600H phone is in use during an update, the call will be disconnected.

You must have a TFTP server to have the Alti-IP 600H to connect to in order update the firmware.

If the Alti-IP 600H phone is registered with AltiServ, to update the phone firmware from AltiAdmin:

1. Launch IP Phone Configuration in AltiAdmin Main Menu.
2. Set TFTP Server address.
3. Select **Boot Download** and **Reset IP Phone** check boxes, then click Apply.
4. The Alti-IP 600H/600PH should reboot and download image from the specified TFTP server.

To update the phone firmware directly from the Alti-IP 600H Phone:

1. Press *** * 7**, then press the **ENTER** button to access the Configuration Menu.
2. Use ▲/▼ to scroll to `System>TFTP Server.`
3. Enter TFTP server address.
4. The Alti-IP 600H will download the firmware from the TFTP on the next reboot.
5. Once the IP Phone is rebooted, all LED lights will be on.
6. The LCD screen displays [ATGN BOOT] on the first line.
7. On the second line of the LCD screen, the following messages are displayed in succession:
   - CHECK MEMORY (RAM checking state)
   - CHECK FW (Firmware checking state)
   - BOOTING NOW (Initialization of hardware - LCD, network, DSP, etc.)
   - INITIALIZING
   - `update APP(S1-S5)`
8. You may verify the new version of firmware in the phone's configuration menu (*** * 7 ENTER**, then scroll to `System>Version Info`).

Resolving Errors Upon Startup

If an error occurs during rebooting, the LED light of Soft Keys 1 through 4 will remain on to indicate an error status. These errors represent hardware failures within the Alti-IP 600H.

- LED 1 light on = memory check failed
- LED 2 light on = network failed
- LED 3 light on = DHCP failed
- LED 4 light on = attached IP address failed

If the phone successfully passes through these stages, it has started up properly. Otherwise, refer to "Troubleshooting" on page 40.

Configuring NAT

NAT (Network Address Translation) is the translation of an IP address used within one network to a different IP address known within another network. One network is designated as the inside network, the other is the outside. The Alti-IP 600H can be enabled to support H.323 behind NAT. The Alti-IP 600H will be able to work behind a regular NAT router without any special implementation for H.323.

For more detailed information regarding NAT configuration guidelines and implementation, refer to the *AltiWare OE/ACC* or *ACM System Administration Manual*.

Note: If more than one Alti-IP 600H phone sits behind NAT, a VPN tunnel is required to connect between the NAT router and the corporate router.

Assigning NAT

By default, NAT is not enabled. If you connect the Alti-IP 600H behind a NAT router, you may manually assign the NAT router's public IP address to this field.

To assign the NAT address, use the following steps:

1. Press *** * 7** + **ENTER** button.
2. Use ▲/▼ to select **Network**, then press the **ENTER** button.
3. Scroll to **Enable NAT**.
4. Press ▼ (DOWN key) to select **YES**.
5. Press the **ENTER** button.
6. Use ◀ (BACK key) to return to the Network menu, then select **NAT Address**.

   Use the buttons on the dial pad to enter the new NAT address, using the ***** key to enter periods. Use ◀ (BACK key) to correct any mistakes.
7. Press the **ENTER** button.

Setting Ring Tones

The Alti-IP 600H Phone has three (3) ringing tones available. To set the ring tone:

1. Press *** * 6 ENTER**.
2. Scroll to `SELECT RING` and press **ENTER** or ▸ (FORWARD key).
3. Scroll to desired ring tone (0-2), or press **0**, **1** or **2** on the dialing pad, then press **ENTER**.

Distinctive Ringing Support

If the **Distinctive Ring** options are enabled by the System Administrator in AltiAdmin/ACM Admin (**General** page of **System Configuration**), you may have three different ring cadences that distinguish the types of calls:

- Internal call = 1 ring
- External call = 2 ring
- Operator call = 3 rings

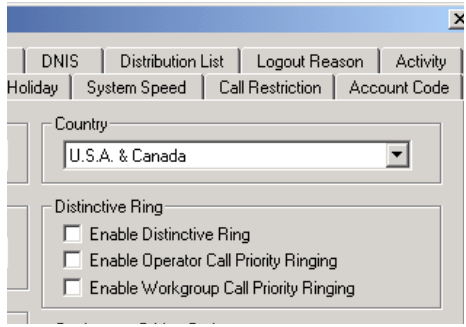


Figure 4. Distinctive Ring Options, General Page, System Configuration

Workgroup Status Display

The AltiGen IP phone can be enabled to display workgroup status.

While the agent is in idle state, the first line in the LCD displays:

- **QL** = number of workgroup queued calls (up to 99)
- **QT** = current longest queue time (in minutes)
- **WG** = last four digits of the workgroup number

The second line in the LCD displays one of the following agent states:

- **LOUT** - logout
- **NRDY** - not ready
- **DND** - do not disturb

- **FWD** - forwarding

Note: The area is blank if the agent is in any other state.

Figure 5. Alti-IP 600H Workgroup Display example

In the workgroup display example, ***QL5*** indicates there are *five calls in the queue*, ***QT12*** indicates the *one of the calls has been queued for 12 minutes*, ***WG2000*** indicates *Workgroup 2000*, *NRDY* indicates the agent is *not ready*.

When a call rings the agent or the when the agent is making an outgoing call, the second line of the LCD is changed to Caller ID or dialed digits display, and the first line stays the same. However, when more than one call is outstanding, the first line shows the **Call n/n** display.

If the agent is a member of multiple workgroups, you can use ▲/▼ to view the queue status of all workgroups the agent belongs to.

This feature can be enabled or disabled through the **Display Workgroup Status** check box in the AltiGen IP Phone Configuration Page in AltiAdmin/ACM Admin.

Activity Display

When the Alti-IP 600H user calls an extension in the system which has Activity codes set up, if the call goes into RNA handling or the destination user has DND enabled, the Activity code is displayed on the IP phone.

Note: This feature is not available in Basic Mode. Also, the activity displayed on the IP phone may truncate the caller ID/caller name.

Phone Functions

The Alti-IP 600H provides a broad range of call handling and dialing features directly on the phone and through the AltiWare system. The following section lists the supported telephony features, a brief description and additional configuration notes where applicable.

Feature	Description	Configuration Notes
Auto Answer	When a call comes in, the IP phone will ring for a specified number of seconds, connect the call, and automatically answer through the speaker or headset.	• Press *** * 6 ENTER**, scroll to enable/disable Auto Answer Mode, set number of seconds to ring before answering (1 - 20), and select from speaker or headset as the Auto Answer device. • During ringing, the user can manually pick up the call from headset, handset or speaker.
Busy Lamp Field (BLF)	Associates Soft Key with an extension that can be automatically dialed when selected; the corresponding button light indicates that the extension is busy and blinks when ringing. The BLF ring tone is only played when the phone is idle state. It is stopped when the destination phone stops ringing or the local phone exits idle state. When multiple BLF extensions ring simultaneously, the IP phone will play the first BLF extension ringer and beep tones and ignore other BLF extensions.	• From AltiAdmin/ACM Admin, go to **AltiGen IP Phone Configuration** on the Management Menu, go to the desired extension, and set the appropriate function key to **BLF** and enter the extension in the field below. The extension will be associated with the corresponding soft key to automatically dial this extension number. Select the **Play Beep Tone** checkbox to have the IP Phone play an audible beep or one of six different ring tones when the extension is ringing. • The BLF Feature can only be assigned to *internal* extension number, not outside numbers. • The feature is not available in Basic Mode.

Call Record	Allows this key to be used for on-demand recording.	• From AltiAdmin/ACM Admin, go to **AltiGen IP Phone Configuration** on the Management Menu, go to the desired extension, and set the appropriate function key to **Call Record.** • In the **Extension Configuration** screen on the **General** page, select **Record on Demand to Extension VM** in the **Personal Call Recording Options** field. • Press key to start recording, press the key again to stop recording. There is no pause function. When the call is recording, the light will be on. • Recorded conversations can then be played back through voice mail or accessed at a centralized location.
Conference (CONF)	Initiates a conference and adds in other parties one at a time.	• Single Call Waiting, Multiple Call Waiting or Live Call Waiting must be enabled in AltiAdmin/ACM Admin in order to conference incoming calls. • The user who first initiates the conference call can select another conference member's call and drop it from the conference simply by disconnecting the call. If the conference initiator hangs up, this feature becomes unavailable to all other conference members.
Display Workgroup Status	Displays the workgroup status of the user in the LCD	• From AltiAdmin/ACM Admin, go to **AltiGen IP Phone Configuration** on the Management Menu, go to the desired extension, and select the **Display Workgroup Status** check box.

Flash	Signals PBX that special instructions will follow.	• By default, the lower left Soft Key is set up as FLASH. This can be re-assigned in AltiAdmin through the **AltiGen IP Phone Configuration** window. Only this key can be configured as FLASH.
Headset	When selected, the user will be able to activate a third-party headset (certified by AltiGen)	• By default, the lower right Soft key is set up as **Headset**. From AltiAdmin/ACM Admin, go to **AltiGen IP Phone Configuration** on the Management Menu, go to the desired extension, and set the lower right soft key (#10) to **Headset**.
Hold	Places an active call on hold.	• When multiple Call Waiting Feature is enable at the extension, the use can put multiple incoming calls on hold and retrieve using the phone's ▲ / ▼ (UP/DOWN keys) and **ENTER** button. • Pressing HOLD while onhook will retrieve last hold call. • Supports up to 9 hold calls.
Intercom (ICOM)	Connects you directly to the callee's intercom after exactly one ring.	• Feature does not require special configuration to work.

Line Park	A parked call line appearance can be assigned as a programmable "**Parked Call Line**" button by the administrator. When connected to a caller, the call can be parked by pressing the **Parked Call Line** button. If a call is parked at a Parked Call Line, its LED light is on. The call can be picked up by pressing the **Parked Call Line** button.	• Go to **AltiGen IP Phone Configuration** on the Management Menu, go to the desired extension, and set the appropriate function key to **Line Park**. • When configured by the administrator, the IP phone can play an audible beep or one of 6 different ring tones when a call is parked at the Parked Call Line. • When configured by the administrator, an *alternate* way to pick up a Parked Call Line call is to use **#51** <line number> if the Parked Call Line is not assigned to the phone. • The LED for **Parked Call Line** button will be lit up and turns off when the parked call is picked up, the caller hangs up, or the call is routed to IVR/Auto Attendant.
Mute	While on a call, mutes conversation.	• Feature does not require special configuration to work.
Program Soft Keys	Associates Soft Key with a speed dial number or feature code that can be configured directly on the IP Phone.	• Go to **AltiGen IP Phone Configuration** on the Management Menu, go to the desired extension, and set the appropriate function key to **Phone Setting**. The user will be able to configure this key directly from the IP Phone by pressing *** * 6 ENTER.**
Redial	Redials the last number dialed.	• Feature does not require special configuration to work. • Redials up to last 16 calls. • Redials up to 32 digits.
Release	Releases a call from the connected state.	• Feature does not require special configuration to work.

Ring Tones	Select from one of three ring tones.	• Press *** * 6 ENTER**, scroll to `SELECT RING`, and select from 0 - 2.
Soft Keys 1 - 10	Quickly performs a specified function (Busy Lamp Field, AltiServ Feature Code, Line Park, Phone Setting, Speed Dial Directory, or Headset) previously configured by the System Administrator. (Soft key #6 is configured as FLASH by default. All other soft keys are set to Phone Setting by default.)	• In AltiAdmin, go to **Extension Configuration >Station Speed** and enter the **Speed Dial** entries for the appropriate extension(s). Then, go to **AltiGen IP Phone Configuration** on the Management Menu, go to the desired extension, and set the appropriate soft key to the desired function (BLF, Feature Code, Phone Setting, Speed Dial, Directory).
Speaker	Enables use of speaker phone.	• Feature does not require special configuration to work.
Speed Dial	Quickly dials a specified number that has been previously stored.	• In AltiAdmin, go to **Extension Configuration >Station Speed** and enter the **Speed Dial** entries for the appropriate extension(s). Then, go to **AltiGen IP Phone Configuration** on the the Management Menu, go to the desired extension, and set the appropriate function key to Speed Dial and enter the speed dial code in the field below.
Transfer (XSFR)	Transfers an active call to another number.	• Feature does not require special configuration to work. • You cannot use this button to "flash" after using it to transfer a call. If you want to reconnect to a call after using the XSFR button, you must use the ◂ (BACK key).
Voice Mail (VM)	Enables access to voice messages.	• The VM count that appears in the LCD displays new messages (previously heard messages are not included).

Appendix A

Specifications

Network Protocols	• H.323, RTP, RTCP, TFTP, TCP, UDP, DHCP, DNS, ARP, ICMP, Telnet
Call Control Protocols	• H.323
Audio Standards	• Vocoder: ITU G.711 (PCM), one low bit rate (G.723.1) • Acoustic Echo cancellation supporting high-quality speakerphone
Keypad Features & Handset	• 12 standard dialing keys: 0-9, *, # • 6 Feature keys: Redial, Voicemail, Intercom, Conference, Transfer, Hold. • 10 Function keys: can be set to Busy Lamp Field, AltiServ feature code, speed dial, directory, line park, flash or headset. • Adjustable Speaker/Ring/Handset volume control
LCD	• 2 x 16 Character LCD Display • Provide features such as time, calling party name, calling party number, digits dialed, extension number, number of new voice mails, DND/FWD and system information.
LED	• Hold, Mute, Speaker, Conference, Forward, Intercom, Release. • Message waiting indicator
LAN	• 2 Standard 10/100 Base-T RJ-45 Ports: One for network to phone connection, and one hub port for connection from phone to PC
Memory	• Flash ROM: 4M, stores boot ROM, software imaging and configuration data, DSP images. • DRAM: 8M, stores runtime program and data.
Additional Features	• Headset port
Dimensions	• 210 x 175 x 75 mm
Power	• External power brick, 5VDC, 1.5A

Firewall Considerations

If using a firewall in the AltiWare environment, the following network ports are used:

Client	Server	TCP	UDP
AltiAdmin[a]	AltiWare DCOM	135	135
AltiConsole	AltiLink +	10025	
AltiControl	AltiLink+	10025	
AltiReach	AltiLink	10015	
AltiView/AltiAgent	AltiLink+	10025	
	VM Service	10028	
Supervisor	AltiLink+	10025	
	Internal/External CDR Logger	10027	
CDRSearch	AltiLink+	10025	
	Internal/External CDR Logger	10027	
		10029	
TAPI Client	TAPI Gateway	10026	
Alti-IP 600H	AltiGen IP Phone Service	10032	
	Gatekeeper		1718, 1719
VoIP H.323/H.225	VoIP H.323/H.225	1720	
VoIP Message Waiting	VoIP Message Waiting	49151	
VoIP H.245	VoIP H.245	From 49152 to N[b]	
VoIP RTP	VoIP RTP		
VoIP ATPS	VoIP ATPS	10032	
Web Client	AltiLink+	10025	
	NetMeeting Chat	1720	
	plus VoIP ports described above		

a. It is recommended that this be run only in an **intranet**.
b. N=49152+ (62*number of boards)–1

Troubleshooting

The following table provides the most common problems an end user may encounter. For Alti-IP 600H phone questions or problems not listed here,

contact AltiGen Technical Support.

Problem/Symptom	Solution
AltiWare is unreachable.	• Check to make sure the AltiWare IP address in the IP Phone is set up correctly. • Check the Alti-IP 600H phone's IP address, network mask and default gateway. • Check to make sure you can ping the Alti-IP 600H phone's address from AltiWare. • Check to make sure the IP Phone Services is started in AltiWare. • Check AltiWare IP address in AltiAdmin IP Phone Configuration menu.
Image update failed. If setting `Boot Download` to YES, after the phone reboots and if the setting still says YES, the boot failed.	• Check the Alti-IP 600H phone's IP address, network, default gateway settings. • Check the network connection. • Check the TFTP server IP address and make sure the TFTP server is running. • PING from the TFTP server to the Alti-IP 600H. • Check to make sure **app_mid.bin** and **dsp.bin** files exist in TFTP server directory.
IP Phone registered then goes back to Basic mode	• Check network connectivity by pinging from AltiServ to the IP Phone. • Check if IP Phone Service is running. • Check if there is a duplicate IP address by unplugging the Ethernet cable on the IP Phone, then pinging the Alti-IP 600H phone's IP address. • Check the extension's IP address in AltiAdmin to find out if another user is trying to login using the same extension number. • Use **#27** + **ENTER** to login again and see if problem persists.
No IP Address	• Check if DHCP is enabled. If YES, check network connection. If NO, check DHCP Server setting. • Check if Alti-IP 600H phone's IP address is configured.

One way connection.	• Make sure firewall setting has all the TCP/UDP ports required by AltiWare opened. • If NAT is used, make sure NAT is enabled and NAT address is set up correctly.
Phone does not show anything on LCD display.	Check the power source to be sure the Alti-IP 600H phone is receiving power.
Poor voice quality.	• Make sure a switch is used, rather than a hub, in the corporate LAN. • G.711 provides better voice quality. • If VoIP is set up over WAN, set priority queuing on the WAN router. • Make sure WAN QoS is okay by pinging a few hundred packets from remote site and observe packet loss and network latency. • Adjust jitter buffer to accommodate network latency.
Register failed.	• Check to make sure the extension number and extension password is set up properly and that the IP extension is enabled. • Check to make sure the IP Phone Services is started in AltiWare. • If IP Phone is associated with a physical phone (with the same extension number), use #27 to activate the IP Phone to normal operating mode.

LCD Messages

Local Menu Configuration Messages

The following messages may be displayed in the LCD when accessing Menu Configuration:

Message	Definition
`conf timeout!`	After 2 minutes inside the configuration menu, if no action is taken, LCD will show this message and then quit the menu.
`conf exception!`	During configuration, an unknown exception occurred.
`Saved!`	The changed configuration was saved into memory.
`Write Fail!`	Error occurred when saving the changed options into flash ROM.
`Wrong Ext Number!`	The inputted extension number is invalid.
`Wrong input!`	User inputted an invalid value or string during configuration.
`wrong password!`	User is trying to configure an invalid password from the phone menu.

Alti-IP 600H/600PH Running Messages

The following messages may be displayed in the LCD when running the Alti-IP 600H/600PH:

Message	Definition

AW UNREACHABLE!	Failed to connect to the AltiGen phone server. The user is trying to register the IP phone with an invalid IP phone's IP address or the AltiGen Phone Server's IP address is invalid. Or, the network connection is lost in offhook or connect state. Refer to "AltiWare is unreachable." section of "The following table provides the most common problems an end user may encounter. For Alti-IP 600H phone questions or problems not listed here, contact AltiGen Technical Support." on page 41.
Basic-Idle!	IP phone is operating in Basic Mode. Execute #27 again to reactivate. Check IP Phone Service Verify extension is configured for dynamic.
DHCP FAIL!	Although DHCP was enabled, the Alti-IP 600H was not able to receive the IP address from the DHCP server.
DUPLICATE IP!	Another device configured with the same IP address as the IP phone is detected. The IP Phone cannot function correctly until this is corrected.
INVALID IP! INPUT AGAIN...	The inputted IP address is invalid.
INVALID VAL!	During register of IP extension, an invalid response (return value) returned from phone server.
NO IP ADDR!	Alti-IP 600H cannot attach an IP address due to network failure.
No Network!	Phone has lost Ethernet connection.
REGISTER FAIL!	Cannot register to the AltiGen phone server.
REGISTER OKAY!	IP extension registered successfully.
REGISTERING!	User entered #27 to manually register the IP extension.
REMOVE OLD EXT.	When #27 is entered, the extension/password configuration in the IP Phone is removed.

WRONG PASSWORD!	Registration failed because of invalid extension password.

IP Phone Boot Messages

The following messages may be displayed in the LCD when booting the Alti-IP 600H/600PH:

Message	Definition
CHECK FW	Checking firmware.
CHECK MEMORY	Checking memory.
INIT NETWORK	Initializing network.
LOAD FAILED	Failure to load the image into memory.
NETWORK FAILED.	Network initialization failed.
TFTP FAIL!	Failure downloading TFTP.
UPDATE FAILED.	Firmware update failed.
UPDATE OK	Firmware update successful.
update APP(S1)	Appears when Boot Download is set to TRUE. The Alti-IP 600H/600PH will show this message when it is rebooted.

User Reference

Basic Phone Operation

** indicates a normal operating mode phone feature, which is only available after registering the Alti-IP 600H with the phone server and logged in as an extension.*

FUNCTION	KEY SEQUENCE
Auto Answer	1) Press *** * 6**, then ENTER button. 2) Use the navigation buttons to enable/disable Auto Answer mode, set number or seconds to ring before answering (1-20), and select from speaker or headset as the Auto Answer device.

Conference*	*During a call:* 1) Press CONF button (this automatically selects a new line and places the other party on hold) 2) Enter target telephone number 3) When the call connects, press CONF button again OR ◂ (BACK key) to cancel conference and return to original party. The # of parties allowed in a conference call depends on the AltiServ system. In general, up to 6 parties are allowed. *To conference an incoming call when no conference is in progress:* 1. Connect to a caller. 2. Get incoming call whose Caller ID or Caller Name is displayed on the LCD. Call waiting tone is played. 3. Press the **ENTER** button to answer caller and place original caller on hold. 4. Press ▲/▼ (UP/DOWN keys) to select the original hold call. 5. Press the **CONF** button to create a conference and join both callers. *If a conference is already in progress, to conference an incoming call:* 1. Connect to conference with two or more members. 2. Get incoming call whose Caller ID and Caller Name is displayed on the LCD. Call waiting tone is played. 3. Press the **ENTER** button to answer the incoming call and all other conference members are still in conference. 4. Press ▲/▼ (UP/DOWN keys) and select one of the members in conference (displays "*ConfHold*"), then press the **CONF** button to join the incoming caller to the conference. The user who initiates the conference call can select the other conference member's call and drop it from the conference. *To drop a conference member:* 1. Connect to conference with two or more members. 2. Use ▲/▼ (UP/DOWN keys) to select the member to disconnect. 3. Press the ◂ (**BACK** key) to disconnect this caller. 4. If conference initiator hangs up, feature becomes unavailable to all other conference members. • The number of parties allowed in a conference call depends on the AltiServ system. In general, up to 6 parties are allowed.

Configuration Menu*	1) Press *** * 7**, then **ENTER** button. 2) Use the navigation buttons to select configuration menu. • ▲/▼ (UP/DOWN keys) allows you to scroll through text and select features displayed in LCD screen. • ▶ (**FORWARD** key) is for menu selection. • ◀ (**BACK** key) returns to previous configuration menu or deletes the last digit input. 3) Press **ENTER** button to access selected menu setting
Handset/ Headset/ Speaker	To switch between handset, headset and speaker, the user can go offhook, press the **Speaker** button, or press the Headset button (#10 soft key)
Hold*	*During a call:* 1) Press HOLD button to put current call on hold and make a new call. *To retrieve a single call on hold:* 1) Press HOLD button *To retrieve multiple calls on hold:* 1) Use ▲/▼ to select a hold call to be retrieved. 2) Press ENTER button OR 1) Press HOLD button to retrieve last hold call.
Intercom*	*Incoming Intercom:* Incoming voice path is heard through the speaker, indicated by the button's blinking indicator light *Outgoing Intercom:* 1) Press ICOM button + <EXT>
Line Park	*During a call:* 1) Press **#51** or **Line Park** soft key (if configured) 2) Enter two-digit Line Park line. The LED for Line Park soft key will be lit up and turns off when the parked call is picked up, the caller hangs up, or the call is routed to voice mail.
Mute	*While on a call with Speaker on*: 1) Press SPKR/MUTE button. 2) To disengage mute, press SPKR/MUTE button again.
Program Soft Key	1) Press *** * 6**, then ENTER button; scroll to desired programmable key to configure; enter appropriate digits for the speed dial number or feature code.
Reboot	1) Press *** * 3**, then ENTER button

Redial	*Phone is onhook* 1) Press REDIAL button. 2) Use ▲/▼ to scroll to the desired entry. (▲ scrolls to previous entry, ▼ scrolls to first entry.) 3) Press SPRK/MUTE button or raise handset. • Redial up to 16 last calls • Redial up to 32 digits.
Release	*For a connected call:* 1) Press RELEASE to hang up the call.
Restore Default Settings	1) Press *** * 7**, then ENTER button, *** * 2**, then ENTER button
Ring Tones	1) Press *** * 6**, then ENTER button; scroll to SELECT RING.
Soft Key* • **N/A** • **BLF** • **Feature Code** • **Line Park** • **Call Record** • **Speed Dial** • Phone Setting • Directory • Headset	1) Press SOFT KEY 1-10 to initiate one of the following functions (N/A, Busy Lamp Field, AltiServ feature code, line park, call record, speed dial, Phone Setting, Directory or Headset) pre-assigned by the System Administrator. **Note**: Lower left SOFT KEY is set up as FLASH by default. Only this key can be configured for FLASH. All other SOFT KEYS are set up as Phone Setting by default.
Speaker	*To use the speakerphone:* 1) Press the SPKR button
Transfer*	*During a call:* 1) Press XSFR button, which places the call on hold 2) Dial the number you wish to transfer the call to 3) Hang up if the party answers the call. 4) If the party refuses the call, return to the original call by pressing ◄ (BACK key).

Voice Mail	*Phone is onhook* 1) Press VM button 2) Enter voice mail password 3) Press VM button again or ENTER button. • The main LED light also blinks when a voice mail message is waiting. • The LCD displays the VM count (which includes only unheard messages) when onhook.
Volume	To adjust volume on handset/speakerphone: 1) Take phone offhook by pressing SPKR/MUTE button or lifting the handset. 2) Press VOL button, volume bar appears in LCD 3) Press ▲/▼ to increase/decrease volume, then press VOL again. To adjust ringer volume: 1) Phone on idle 2) Press VOL button, sample ring plays and volume bar appears in LCD 3) Press ▲/▼ to increase/decrease volume, then press VOL again.

* * Feature Codes

*** * 2** . . . . . Restore default settings (when user is in Configuration Menu)
*** * 3** . . . . . Reboot
*** * 6** . . . . . Program Soft Key
*** * 7** . . . . . Configuration Menu

AltiServ Feature Codes

<pwd>. . . . . Log in to voice mail at your own station
<ext> <pwd>. . . . . Log in to voice mail at another station

AltiGen Voice Mail System Quick Features

#11. . . . . Greeting Menu
#28. . . . . Password Menu

Making Calls

#34. . . . . Dial By Name[1]
#35. . . . . Virtual Log In (Station Privilege Override)
#69. . . . . Dial Last Caller
#77. . . . . Station Speed Dial
#88. . . . . System Speed Dial
#99. . . . . Last Number Redial
#93 <ext>. . . . . Intercom Call [2]

Answering Calls

[1] Feature must be enabled by system administrator.
[2] Feature available only on systems with Triton Analog Extension board.

#29 <ext>	Individual Call Pickup (a specific station)
#30	System Call Pickup (any station ringing)
XSFR button #31	Personal Call Park
#31 <ext>	Personal Call Park Pickup
XSFR button #41	System Call Park
#41 <loc. #>	System Call Park Pickup
#51 <line park line>	Line Park Pickup
#81	Hands Free Intercom Mode
#82	Hands Free Manual Answer Mode

Call Management

#26	Station Log Out (Phone must be onhook)
#27	Station Log In (Phone must be onhook)
#32 <acct code>	Enter Account Code (before dialing)
XSFR button #32 <acct code>	Enter Account Code (mid-call)
#33	Do Not Disturb
#36	Call Forwarding
#37	Remote Call Forwarding

Other Features

#22	Feature Status Check
#25	Station Speed Dial Setup
#38	Outside Call Blocking (operator only)
#39	Operator Off-Line (operator only)
#44	Overhead Paging
#45	Overhead Paging by Trunk
#46	Group Paging (for Alti-IP phone users)
#55	List Feature Tips
#73	Silent System Call Park
#90	Ready to receive workgroup calls
#91	Not ready to receive workgroup calls
XSFR button #40	Transfer to AltiGen Voice Mail System
XSFR button # 15 <AA#>	Transfer to Auto Attendant
XSFR button # # <ext>	Transfer to a User's Voice Mail
XSFR button <ext> XSFR button	Consultation

Glossary

A

Alti-IP 600H/600PH - AltiGen's H.323-compliant, business telephone that provides voice communication over an IP network.

ASCII - American Standard Code for Information Interchange.

B

Boot - to cause the computer to start executing instructions.

BPS - Bits Per Second. The number of bits transmitted per second.

C

configure - to determine and assign the equipment cabinet or chassis contents and location of each card, as well as software parameters.

D

DHCP (Dynamic Host Configuration Protocol) - a protocol that lets network administrators manage centrally and automate the assignment of Internet Protocol (IP) addresses in an organization's network.

DNS - Domain name system used to address translation to convert H.323 IDs, URLs, or e-mail IDs to IP addresses. DNS is also used to assist in locating remote gatekeepers and to reverse-map raw IP addresses to host names of administrative domains.

Do Not Disturb (DND) - when this feature is selected, all incoming calls to the user's extension are denied. If the station has system forwarding instructions, the calls will be automatically redirected to another extension, Attendant, or operator.

DTMF - Dual Tone Multi Frequency are the low and high frequency tones that comprise touch tone signals.

DSP - Digital Signal Processor. A microprocessor with an architecture that is particularly optimized to perform mathematical algorithms that manipulate digital signals.

Dynamic IP Address - An IP address that is automatically assigned to a client station in a TCP/IP network, typically by a DHCP server. Network devices that serve multiple uses, such as server and printers, are usually assigned static IP addresses.

Dual Tone Multi Frequency - see DTMF.

E

extension number - an arbitrary number of two to five digits that matches a station to a particular user.

F

Firewall - a set of related programs, located at a network gateway server, that protects the resources of a network from users of other networks.

FLASH - a sudden brief signal. Activated by depressing the flash key on the telephone pad if one has been configured, or by a quick press and release of the receiver button (switch hook).

FXS - Foreign Exchange Subscriber. An analog interface for direct connection of a telephone set to a digital multiplexer.

G

Gateway - allows H.323 terminals to communicate with terminals configured to other protocols by converting protocols. A gateway is the point where a circuit-switched call is encoded and repackaged into IP packets.

GMT - Greenwich Mean Time. Mean solar time of the meridian at Greenwich, England, used as the basis for standard time throughout the world.

H

H.323 - An International Telecommunications Union (ITU-T) standard that describes packet-based video, audio and data conferencing.

http or HTTP - Hypertext Transfer Protocol. The Internet protocol used to manage communications between Web clients (browsers) and servers.

I

IMAP4 - Internet Message Access Protocol - Version 4.

IP Address - a 32-binary digit number that identifies each sender or receiver of information that is sent in packets across the Internet.

ISP - Internet Service Provider.

J

jack - the mate for a plug. Used to connect two pieces of equipment together.

K

keyboard - system interface for communication. A group of numeric keys, alphabetic keys, or function keys used for entering information into a terminal and into the system. Usually patterned after the QWERTY keyboard layout. This term is derived from the sequence of the first six keys in the first row of alphabetic keys.

L

Local address - an address used in a peripheral node or station in place of a network address and transformed to or from a network address for delivery purposes.

Logoff - the procedure by which a user disconnects from a program or session.

Logon - the procedure by which a user begins a program or terminal session and gains access to the AltiServ or Quantum system.

M

MHz - Megahertz.

ms - millisecond.

N

NAT (Network Address Translation) - translation of an Internet Protocol address (IP address) used within one network to a different IP address known within another network. Once network is designated the inside network, the other is the outside.

network - A configuration of data processing and/or telecommunication devices and software connected for information exchange.

network address - An identifier for a node, station, or unit of equipment in a network.

network domain - a set of workstations and servers that share a security account manager database and can be administered as a group. A user with an account in a particular network domain can log onto and access his or her account from any system in the domain.

network mask - also known as the “subnet mask.”

network server - networking software that responds to I/O or computes requests from a client machine. Windows NT network servers can be implemented either as server processes or as drivers.

O

offhook - refers to a telephone set when the receiver is not resting in the base. This usually initiates a dial tone from the receiver.

One Number Access - a feature of AltiWare that allows users to create a list of phone numbers that the system can use to track users and connect them with an incoming call if they are not at their extension desk.

onhook - the term used to describe a telephone in the idle state or with the receiver still resting in the base.

P

physical extension - is associated with a physical port and device. An extension is created, by default, as a physical extension (as opposed to a virtual or workgroup extension) unless there are no more physical ports available.

ping (Packet INternet Groper) - a unit of data routed between an origin and a destination in a network.

port - a communication channel through which a client process communicates with a protected subsystem.

protocol - A set of rules and conventions by which two computers pass messages across a network medium. Networking software generally implements multiple levels of protocols layered one on top of the other.

Q

queue - a collection of calls waiting to be served. Queued calls in AltiWare are handled on a first-in, first-out basis.

R

RAS - Remote Access Service.

RJ-11 - The “common” telephone jack. Usually wired with four wires, the red and green signify the tip and ring circuits.

RJ-45 - The “common” telephone jack. Usually wired with eight wires, the red and green signify the tip and ring circuits.

router - protocol-dependent device that connects subnetworks together.

S

server - any computer whose function in a network is to provide user access to files, printing, communication, and other services.

static IP address - a permanent IP address that is assigned to a node in an IP or TCP/IP network.

subnet mask - the method used for splitting IP networks into a series of subgroups, or subnets. The mask is a binary pattern that is matched up with the IP address to turn part of the host ID address field into a field for subnets.

System Speed Dialing - this feature allows the user to access a system wide directory of commonly called numbers that have been "condensed" into a two- or three-digit code on the telephone dial pad.

T

TCP/IP - Transmission Control Protocol/Internet Protocol. A full set of protocols used on the Internet.

TDM - Time Division Multiplexing.

TFTP (Trivial File Transfer Protocol) - a version of the TCP/IP FTP protocol that has no directory or password capability.

transfer - this feature redirects a call to another extension, the AltiGen Voice Mail System, or operator.

U

UDP (User Datagram Protocol) - a communications protocol that offers a limited amount of service when messages are exchanged between computers in a network that uses the Internet Protocol.

URL (Uniform Resource Locator) - the address that defines the route to a file on the Web or any other Internet facility.

user(s) - the person or persons accessing the features and functions of the AltiWare product.

V

virtual extension - an extension not associated with a physical port that allows for guest access to the AltiGen Voice Mail System features and telephone sharing environments. Users of a virtual extension have to log in before accessing the system features assigned to it.

W

workgroup - telephones arranged in groups within a particular organizational function (for example, marketing, sales, service, etc.). Each workgroup is assigned a pilot number. When the pilot number is dialed, the system scans the list of extensions comprising the workgroup and connects the call to the first available idle extension number. If no extensions are available, the call is placed in that workgroup's queue.

workgroup pilot number - an extension designated to a workgroup that is not associated with a physical port and may consist of up to 64 members. When the pilot number is dialed, the call is distributed to the workgroup members.

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