

IP Phone™

Version 1.34



User's Guide

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IP Phone User's Guide
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1 Welcome

Congratulations on your purchase of the IP Phone! The IP Phone is a revolutionary telecommunications device that enables you to talk to other people using the Internet. If you frequently make international or long distance calls, you will now be able to bypass your POTS (Plain Old Telephone System) and the long distance carriers and save dramatically on long distance phone bills.

Your IP Phone is different from previous PC Internet telephones because its sound quality is not compromised by a computer's sound card, microphone, and speakers.

- **Placing calls:** You can use the IP Phone to place calls to ordinary home and business telephones worldwide via Net2Phone's global, proprietary Internet telephony network. You can also use it to call other IP Phones and other devices that use the Net2Phone VoIP service platform.
- **Receiving calls:** The IP Phone can receive incoming calls from other IP Phones and devices that use the Net2Phone VoIP service platform.

IP Phone Package Contents

Your IP Phone package contains:

- IP Phone
- Handset cord
- Ethernet (RJ-45) patch cable (1)
- Power adapter (9 or 12V AC at 1000mA)
- This User's Guide

Product Description

The IP Phone is a stand-alone Internet telephone that connects directly to any local area network (LAN) or broadband router with a dedicated connection to the Internet and to an AC outlet.

It can be used to place calls to ordinary home and business telephones worldwide, to other IP Phones, and to many other devices that use Net2Phone's service platform.

It can receive incoming calls from other IP Phones and from devices that use the Net2Phone VoIP service platform.

As soon as your IP Phone is set up and configured, you will be able to use your Internet Service Provider (ISP) to place local, long distance, and international phone calls at substantial savings over conventional calling methods.

This manual provides simple, step-by-step instructions for connecting your IP Phone to LANs using either static or dynamic (DHCP) IP addresses.



Important Notes:

1. The IP Phone should be considered a secondary telephone line. It does not connect to the traditional Plain Old Telephone System (POTS) lines, which means you **cannot** use the IP Phone to call 911 or directory assistance. You must use your conventional telephone service to access these services.
2. You need to have a Net2Phone account to place and receive calls over the Internet. Your distributor usually activates your account when you purchase your IP Phone.

Product Features

The IP Phone provides the following features:

- Direct connection to any 10Base-T LAN
- Convenient Ethernet OUT port permits “daisy chaining” of other devices
- DHCP client or static IP addressing
- “Plug & Play” operation with DHCP systems
- Easy configuration through the LCD-driven menu prompts
- Integrated dial pad
- Local and remote volume control
- Instant access to Net2Phone’s global Internet telephony network
- Last number redial
- Call hold
- Adjustable ringer volume (Hi-Low-Off)
- Hands-free dialing (**Note:** This feature is not a speakerphone. It allows you to dial a number without using the handset. Once the party you are calling picks up, you must use the handset to talk.)
- 9 memory dialing locations

New Features Included with Firmware Version 1.34

The IP Phone Firmware, version 1.34, now has the following new features. If your phone has an earlier version, you can upgrade remotely. Refer to the *Upgrading the Firmware* section on page 25 after setting up the IP Phone.

- **Improved Call Quality** — Calls can now travel over Nuera, Cisco and Crystal Net2phone Gateways for improved call quality.
- **PPPOE Login Support**—The IP Phone can now authenticate directly into DSL/cable/broadband connections that require PPPOE security login with user name and password.

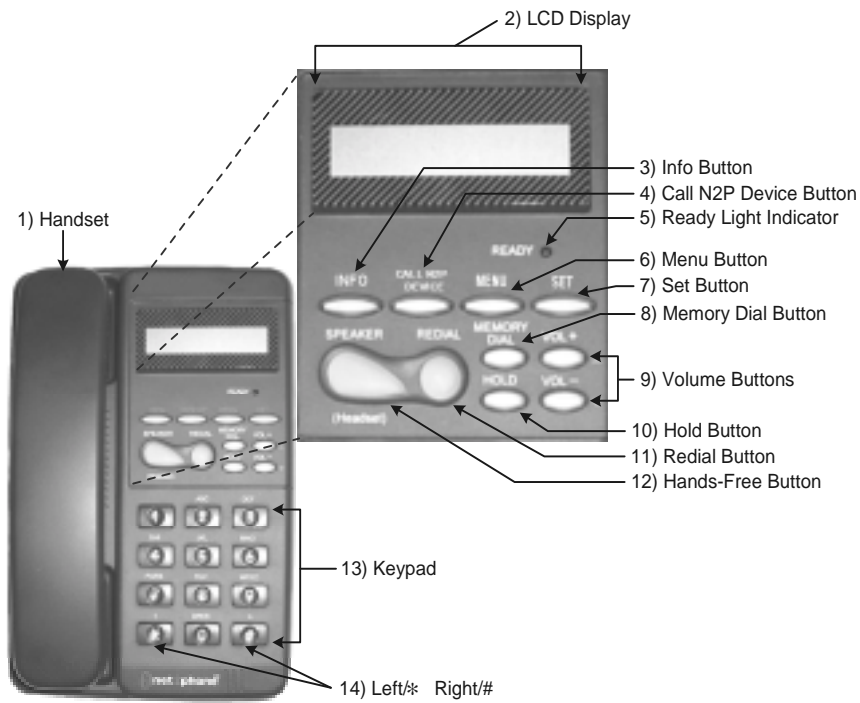
- **Dropped Call Prevention**—The IP Phone is more reliable at keeping calls in progress by re-establishing connections to call controllers if an IP stream is lost.
- **Frames per Packet (FPP) Setting**—If users encounter poor call quality because of bandwidth issues, the FPP setting can be changed to 1, 2, or 3. The default setting is 1, which provides the best call quality in ideal situations.
- **Setting Default Configuration Value**— Users can now reset the default values of the device from the LCD menu. Additionally, the default values are automatically set when upgrading the device firmware.
- **DHCP Server Time-outs**—When the IP Phone attempts to connect to a DHCP server and it is slow to respond, the IP Phone will time out after eight tries rather than four, and the time frame of the re-sent DHCP packet has been adjusted from six seconds to ten seconds.
- **TCP/UDP Port Assignment** — Users can change the TCP/UDP ports on the firewall that the IP Phone utilizes and then specify those ports to be used on the IP Phone. (Default: TCP=5000, UDP=6000)
- **Doorman IP Addresses** — In the event that the default doorman server IP addresses are blocked, the IP Phone can be directed to an alternate server address. Note that only IP addresses can be entered, not DNS names. Contact Net2Phone to obtain an alternate server. (Default: call1.net2phone.com and call2.net2phone.com)
- **Configurable Doorman Ports**— In the event that the default doorman port becomes blocked (between the IP Phone and Net2Phone network), the IP Phone can be directed to a different port. Contact your distributor's technical support for an alternate port. (Default: 6801)
- **Serial Port Upgrade Method** — Users who have difficulty upgrading the IP Phone firmware via the automatic TFTP method can now upgrade via direct serial cable from a PC. Additional information on this process can be obtained at the IP Phone Web page at: <http://web.net2phone.com/partnerships/distributors/product/broadband/ipphone.asp>.

System Requirements

To use the IP Phone you must have:

- A router or LAN (Local Area Network) with a dedicated broadband Internet connection that **must not** have proxy server caching.
- A local power outlet.
- A Net2Phone account (usually activated by the distributor when you purchase your IP Phone).

Indicators & Dial Pad Functions

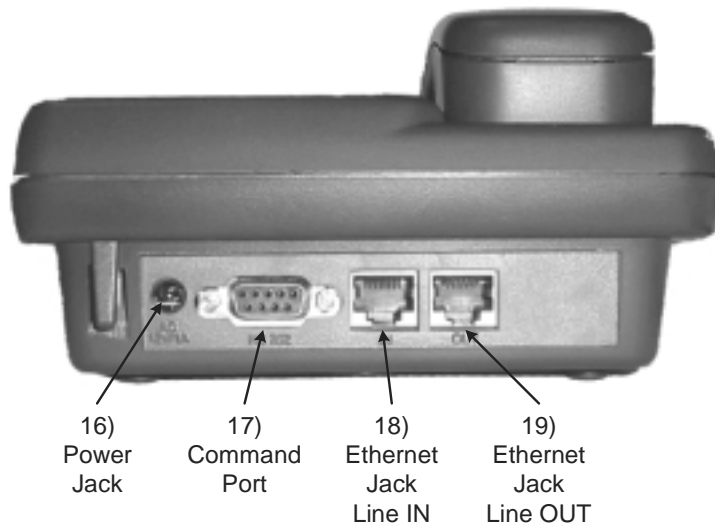


Function		Description
1	Handset	Contains earphone and microphone.
2	LCD Display	Displays online messages and configuration settings.
3	Info	Displays IP Phone and account information on the LCD screen.
4	Call N2P Device	For placing calls to other IP Phones and devices that use the Net2Phone service platform.
5	Ready Light	Is On when calls can be made. Blinks when registering with the local network and the IP Phone server.



15) Ringer Volume

Function		Description
6	MENU	Displays account setup menu options and IP Phone settings on the LCD screen.
7	SET	Stores (or "saves") changes when programming the IP phone.
8	Memory Dial	Speed dials the telephone number stored in the selected memory location. To speed dial a number, press Memory Dial and then the number of the memory location (1-9 on the keypad).
9	Volume Up/Down	Used to increase or decrease the listening volume during a call and to navigate the configuration menu system.
10	Hold	Places the other party on hold.
11	Redial	Redials the last number called.
12	Speaker (Hands-Free Dialing)	Allows for hands-free dialing. Note: This feature does not function as a speakerphone. It simply allows you to dial a number without using the handset. Once the call is connected, you must use the handset to talk.
13	Keypad	0,1,2,3,4,5,6,7,8,9,*, #.
14	Left & Right	Moves the cursor ← left or right → during configuration.
15	Ringer Volume	Adjusts the volume of the ring on incoming calls (low, med, hi).



Function		Description
16	Power Jack	Power supply receptacle.
17	CMD Port	For factory use only.
18	Ethernet In	Connects to 10Base-T LAN with “always on” ISP Internet connection.
19	Ethernet Out	10Base-T port to connect or “daisy chain” a PC, hub, or other Ethernet device. *

* If your LAN uses static IP addresses, each device concurrently connected to it must be programmed with its own unique IP address.

See the *Configuring Static IP Addresses* section on page 21.

Installing the IP Phone

Before you install your IP Phone, it is useful to know what kind of IP addressing your LAN or router is using.

About IP Addresses

Most networks, including the Internet, use identification codes called **IP** (Internet Protocol) **addresses** to identify and locate the devices that share their services. There are two systems for assigning these addresses:

- **DHCP Addressing:** With this system, your LAN or router automatically assigns all the required IP parameters to any device connected to it when the device logs on. (Some ISPs who use DHCP require a host name, which must be entered manually. See the *Configuring the HostName* section on page 20 for details.



Note: Your IP Phone is shipped from the factory with **DHCP ON** (enabled). Therefore, if your LAN or router is configured to use DHCP addressing, your IP Phone's LAN parameters will automatically be configured as soon as it is connected to the LAN or router and powered up.

- **Static Addressing:** If your LAN does not use DHCP addressing, each device concurrently connected to it must be assigned its own unique IP address. In this case, your LAN's configuration information must be entered manually into the IP Phone. You will need to know the following parameters:
 - IP address
 - Subnet mask
 - Gateway address
 - Primary DNS address
 - Secondary DNS address (required by some systems)
 - Host name (required by some systems)

If your system uses static addressing, this is a good time to make sure you know these parameters, since you will need

them to configure your IP Phone. If you don't know them, contact your network administrator or Broadband Service Provider to obtain the necessary information.

Whether you are using DHCP or static addressing, refer to the *Configuration Flow Process* chart on page 16 in Section 2 for the steps you need to follow to configure your IP Phone.

Connecting the Cables

Connect the LAN and power cables to the IP Phone as follows:

1. Connect the handset to the base using the handset cord.
2. Plug the RJ-45 Ethernet cable into the **Ethernet IN Jack**.
3. Plug the other end of the RJ-45 cable into an appropriate LAN or DSL/Cable or broadband router port.
4. Plug the power cord adapter into the **Power Jack**.
5. Plug the power adapter into the appropriate wall outlet.

If your LAN or router is using DHCP, the LCD should display a series of messages ending with *Ready for Call* within about 50 seconds, and the **READY** light should stay on.

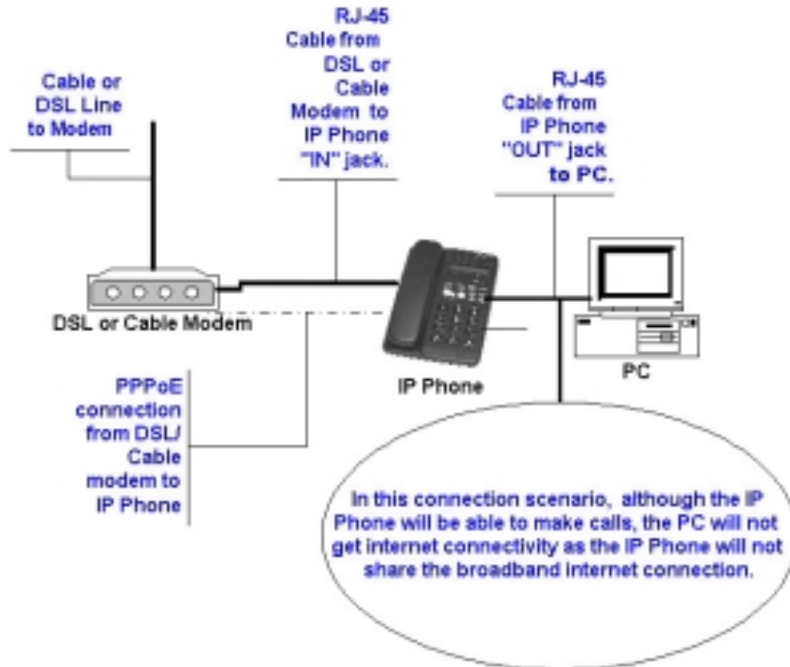
If you do not have DHCP, or if the IP Phone cannot find the DHCP service, the **READY** light will blink continuously and **Wait DHCP Search** will be displayed on the LCD display.

If you are unsure whether DHCP service should be present, try the following:

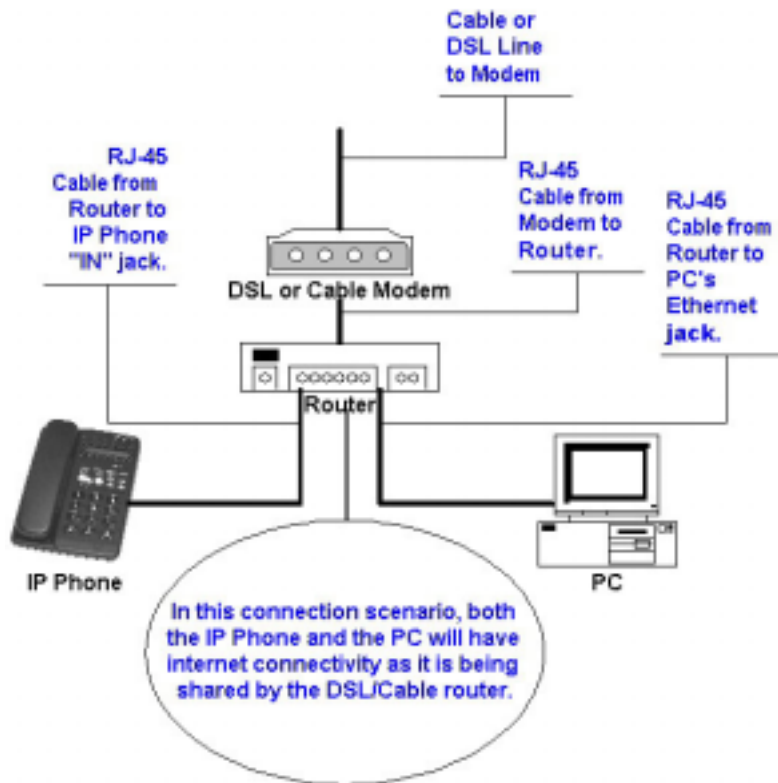
- a. If you have a LAN, check with your network administrator to find out if the system uses DHCP,
or
- b. If you are using a router, check to see whether it is configured to provide DHCP addressing.

If your router or LAN uses static addressing, the **READY** light will continue blinking until you enter the IP Phone's network settings. Step-by-step instructions for configuring your IP Phone are provided in Section 2 of this manual.

A note on connectivity: When you connect your IP Phone directly to your DSL or cable modem via Point-to-Point Protocol over Ethernet (PPPoE), the IP address assigned to the IP Phone does not get shared with your PC, even though you may connect your PC to the IP Phone via an RJ-45 cable.



The only way to share connectivity for the IP Phone and your PC is to have the DSL or cable modem connected to a DSL or cable router. The router allows the IP connection to be shared over multiple devices as shown in the figure below.



2 Configuring the IP Phone

Overview

Before you can make a call with the IP Phone, you must configure the parameters that pertain to your particular system. This section explains how to identify and enter the necessary parameters.

Using the Setup Menu

To configure your IP Phone, press the **MENU** button, which displays the Setup Menu on the LCD screen. The Setup Menu provides access to up to twenty-four data entry screens. To access a particular parameter, press the **MENU** button the number of times indicated until the desired field is displayed.

Setup Menu Flowchart

The following flowchart displays the menu items or parameters in their order of appearance:





Note: When PPPoE is **ON**, there are two additional submenus that appear within the PPPoE menu. (To view those menus, please refer to *Configuring PPPoE Settings* on page 18.) Therefore, if PPPoE is **ON**, the sequential order of the menus that follow PPPoE will be higher by two. For example, if you have PPPoE **ON** and you wish to reference menu 12, **Upgrade IP**, it will now be menu number 14.



Note: When DHCP is **ON**, the **HostName** screen (#8 in the flowchart above) appears. If DHCP is set to **OFF**, the **HostName** menu no longer appears, and the sequential order of the menus that follow will be lower by one. In the example in the Note above, the **Upgrade IP** menu will be # 13 when PPPoE is **ON** and #15 when PPPoE is **OFF**.

Using the Dial Pad for Parameter Entry

All entries in the Setup Menu are done via the IP Phone's dial pad keys.

To enter parameter information:


1. Press the **MENU** button until you reach the appropriate parameter.
2. When the cursor is blinking, press the appropriate dial pad keys to enter the desired information.



Note: Before entering each character, wait for the cursor to blink. If you enter a character incorrectly, press the * key to backspace and correct the mistake.

To enter a number between zero and nine (0-9), press the desired number key. To enter alphabetic characters (a-z, A-Z), press the key corresponding to the desired letter repeatedly until the letter is displayed. The key will first display its number, then for each of its letters (most keys have three letters; the 9 key has four), it will display the upper case letter and then the lower case letter.

Key	Character
1	1 / ~ ! # \$ % ^ & * () _ + { } : " < > ? ' - = ;
2	2 A a B b C c
3	3 D d E e F f
4	4 G g H h I i
5	5 J j K k L l
6	6 M m N n O o
7	7 P p Q q R r S s
8	8 T t U u V v
9	9 W w X x Y y Z z
0	0 space . , @



For example, when entering a host name in the **HostName** screen, if you want to enter the name "Alex," press the 2 key twice (to enter the capital "A"), the 5 key seven times (to enter the lower case "l"), the 3 key five times (to enter the lower case "e"), and the 9 key five times (to enter the lower case "x").



Note: When the 1 key is used to select the "~" character, it will be displayed as → on the LCD display.

Configuration Flow Process

The IP Phone is set at the factory for DHCP IP addressing. If your LAN or router uses DHCP addressing, or if your cable or DSL modem uses PPPoE, follow the DHCP or PPPoE procedure in the flowchart below. If your system uses static IP addresses, follow the Static IP address procedure.



Configuring Your IP Phone Account

Entering Your IP Phone Account Number

When you purchased your IP Phone, your distributor created a 10- to 14-digit account number and a PIN for you. If you do not have these numbers, please contact the distributor.

Before you can use the IP Phone, you need to enter your account number and PIN.

1. From the Setup Menu, go to the Account Number menu screen by pressing the **MENU** button once.
2. Using the dial pad, enter your account number.



Note: If you enter a character incorrectly, press the * key to backspace and correct the mistake.

3. After entering all of the account number digits, press the **SET** button to store the input.
4. Press the **MENU** button to enter the PIN for your account number.

Entering Your Personal Identification Number (PIN)

1. Using the dial pad, enter the PIN associated with your account number.
2. Once the PIN has been entered correctly, press the **SET** button to save the information.
3. Your device will reboot once the information is entered.

Configuring PPPoE Settings

Turning PPPoE On and Off

Contact your Broadband Service Provider to find out if they utilize PPPoE. If they do and you are connecting the IP Phone directly to a cable or DSL modem as indicated by the flowchart on page 16, you will need to enable PPPoE on the IP Phone.

However, if your Broadband Service Provider uses PPPoE but you are using a broadband router, such as the Linksys router that is already PPPoE enabled, you do not need to change this parameter.

To Turn PPPoE ON or OFF:

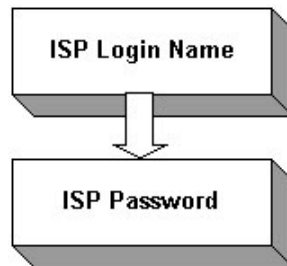
1. Press the **MENU** button three times to display the PPPoE screen.
2. Use the **Vol +** button to toggle between **PPPoE ON** and **PPPoE OFF**.
3. Press the **SET** button.

After a few seconds, the screen will display Checking System and return to Ready for Call.



Important Note: Once PPPoE is enabled and all the parameters are set up, the DHCP menu selection will be set to **OFF**. Do NOT change this parameter to **ON**, as all your network configurations are now satisfied via the PPPoE settings. If DHCP is turned back **ON**, it will negate your PPPoE settings, thus requiring you to re-establish the PPPoE network information.

Once PPPoE is **ON** (see *Turning PPPoE On and Off* above for the steps required), two more menu selections will appear on the phone, as shown below:



Setting up A PPPoE Account on the IP Phone

If your Broadband Service Provider uses PPPoE, you will need to enter login information.

To enter your PPPoE information:

1. Press the menu button until you access the **PPPoE ON/OFF** screen.
2. Use the **Vol +** button to enable the feature.
3. Press the **SET** button to save the change.
The display reads Checking System, followed by Wait PPPoE Ready. PPPoE is now enabled.
4. Press the menu button until you access the **ISP Login Name** screen.

The **ISP Login Name** function allows you to enter the login name associated with your Broadband Service Provider's network, to enable the IP Phone to utilize the PPPoE functionality. If you do not know your ISP login name, please contact your Broadband Service Provider.

5. Enter your login name following the instructions in the *Using the Dial Pad for Parameter Entry* section on page 14.
6. Press the **SET** button.
7. Press the **MENU** button until you access the **ISP Password** screen.

The **ISP Password** function allows you to enter the password associated with your Broadband Service Provider's network, to enable the IP Phone to utilize the PPPoE functionality. If you do not know your ISP password, please contact your Broadband Service Provider.

8. Enter your ISP password using the instructions in the *Using the Dial Pad for Parameter Entry* section on page 14.
9. Press the **SET** button.
Your device will reboot once the information is entered.

If your Broadband Service Provider uses PPPoE, once both of these parameters have been set up on your IP Phone, along with your account number and PIN, your configuration is complete.

Configuring the HostName

Entering a host name (if required for DHCP)



Note: Most Internet Service Providers do not require a host name. If you are on a LAN using DHCP and are unsure if you need a host name, ask the network administrator whether the LAN's ISP (Internet Service Provider) requires one.

1. Press the **MENU** button until the **HostName** screen appears.
2. Use the dial pad to enter the name.
3. Press the **SET** button to save the information.
Your device will reboot once the information is entered.

Configuring Static IP Addresses

This section explains how to configure your LAN settings for static IP addresses.

Disabling DHCP on the IP Phone

Before you can assign a static IP address, the IP Phone's DHCP setting must first be turned off.

To turn DHCP OFF:

1. Press the **MENU** button until you access the **DHCP ON/OFF** screen.
2. Use the **Vol +** button to change the setting to **DHCP OFF***.
3. Press the **SET** button to save the new setting.



Note: If you turn **DHCP OFF**, the **HostName** screen will NOT appear in your menu. **HostName** is a specific function for DHCP users only.

You must now enter your LAN parameters individually as follows:

Entering Your LAN Parameters

If you have turned off DHCP on your IP Phone and you know your LAN parameters, you are ready to begin entering the information. The parameters you will enter are:

1. IP address
2. Subnet mask
3. Gateway address
4. Primary DNS address
5. Secondary DNS address (if required)

You may wish to review *Using the Dial Pad for Parameter Entry* on page 14 before beginning.

1. Enter the IP address

- a. Press the **MENU** button until you access the **IP Address** screen.
- b. Use the dial pad to enter the IP address.

For example: 192.168.0.1



Note: To enter a period on the LCD panel, press the zero (0) key three times.

- c. Press the **SET** button to store the new parameter.

2. Enter the subnet mask

- a. Press the **MENU** button until you access the **Subnet Mask** screen.
- b. Use the dial pad to enter the parameter.
For example: 255.255.255.0
- c. Press the **SET** button to save the new parameter.

3. Enter the gateway address

- a. Press the **MENU** button until you access the **Gateway Address** screen.
- b. Use the dial pad to enter the parameter.
- c. Press the **SET** button to save the new parameter.



Note: If you turn DHCP **OFF**, the **HostName** screen will NOT appear in your menu. **HostName** is a specific function for DHCP users only.

4. Enter a primary DNS address

- a. Press the **MENU** button until you access the **Primary DNS** screen.
- b. Use the dial pad to enter the parameter.
- c. Press the **SET** button to save the new parameter.

5. Enter a secondary DNS address (required by some systems)



Note: If a secondary DNS address is not required on your system, leave the default value 0.0.0.0 in place.

- a. Press the **MENU** button until you access the **Secondary DNS** screen.
- b. Use the dial pad to enter the parameter.
- c. Press the **SET** button to save the new parameter.
Your device will reboot once the information is entered.

Other Menu Options

Setting the Remote Volume

To set the remote volume of the handset speaker:

1. Press the **MENU** button until you access the **Remote Volume** screen.
2. Use the **Vol +** and **Vol -** keys to raise or lower the volume level of your voice as heard by the person with whom you are speaking (a setting of six or below is recommended).
3. Press the **SET** button to save the change.
4. Press the **MENU** button until the IP Phone display reads *Ready for Call*.
Your device will reboot once the information is entered.

Setting the Frames Per Packet

The Frames Per Packet function allows you to adjust the number of frames that the IP Phone sends with each data packet.

This setting should only be adjusted in the case of excessive Internet congestion, to improve the call quality.



Note: If you are calling a device that supports auto-frames per packet matching (a feature where, if you have your frames per packet set to 1, and the device you are calling has frames per packet set to 3, both devices will sync up to 1 frame per packet), you will not have to reset your frames per packet setting to initiate a device-to-device call.

However, if you are making a device-to-device call to a device that does not support auto-frames per packet, and your call has no audio or very poor audio quality, try choosing a different setting for frames per packet and try the call again.

To set the Frames per Packet on the IP Phone:

1. Press the **MENU** button until you access the **Frame Packet** screen.
2. Use the **Vol +** and **Vol –** keys to change the frames per packet between 1, 2, and 3.
3. Press the **SET** button to save the changes.
4. Press the **MENU** button until the IP Phone display reads *Ready for Call*.
Your device will reboot once the information is entered.

Changing the Upgrade Server's IP

The **Upgrade IP** function on the IP Phone specifies the IP address of the upgrade server to which the phone will connect to upgrade its firmware.



CAUTION: You should NOT change this IP address unless instructed to by your distributor. If you change this IP setting without instruction, you will NOT be able to connect to the upgrade server in the future. If you have inadvertently changed the IP address in this function, you can reset the default values by utilizing the Set Default Values function. See the *Setting Default Values* section on page 28 for more information.

1. Press the **MENU** button until you access the **Upgrade IP** screen.
2. Delete the current IP address using the <- and -> keys (the * and # keys on the IP Phone's dial pad).
3. Enter the new IP address in the fields provided by using the numeric keypad. Remember, to enter a period (.), press the zero (0) key three times.
4. Press the **SET** button.
Your device will reboot once the information is entered.

Upgrading the Firmware

Upgrading the firmware on the IP Phone will download the newest version of the firmware to your IP Phone (via the IP Address listed in the **Upgrade IP** menu selection).

To upgrade the IP Phone's firmware:

1. Press the **MENU** button until you access the **Upgrade FW** screen.
2. Press the **SET** button to initiate the upgrade. The IP Phone then connects automatically to the upgrade server and upgrades the firmware. The system will indicate when it is complete.
Your device will reboot once the upgrade is complete.

If, for any reason, you cannot upgrade the firmware via your broadband Internet connection, please refer to *Appendix A, Upgrading the IP Phone via a Serial Connection*.

Firewall Settings

TCP Port

Certain firewalls require that a TCP port is opened for the IP Phone and that the port is specified on the IP phone. The default TCP port number on the IP Phone is 5000. You can open any port between 1024 and 65534. Contact your Broadband Service Provider or LAN administrator to open a TCP port, record that TCP Port address, and enter that port number into the TCP port display.

To change the TCP port settings:

1. Press the **MENU** button until you access the **TCP Port** screen.
2. Enter the port number (provided by your Broadband Service Provider or LAN administrator).
3. Press the **SET** button.
Your device will reboot once the information is entered.

UDP Port

Certain firewalls require that a UDP port is opened for the IP Phone and that the port is specified on the IP phone. The default UDP port number on the IP Phone is 5000. You can open any port between 1024 and 65534. Contact your Broadband Service Provider or LAN administrator to open a UDP port, then record that UDP Port address and enter it into the UDP port display.

To change the UDP port settings:

1. Press the **MENU** button until you access the **UDP Port** screen.
2. Enter the port number (provided by your Broadband Service Provider or LAN administrator).
3. Press the **SET** button to save the port setting.
Your device will reboot once the information is entered.

Doorman IP 1 and Doorman IP 2

This function lets you enter a doorman IP address into your phone in the event that the call server IP addresses are blocked.



Important: You can *only* enter an IP address such as: 216.53.3.33. You **cannot** enter a DNS server name: such as *Server1.net2phone.com*.

To change the Doorman IP settings:

1. Press the **MENU** button until you access Doorman IP 1 or Doorman IP 2.
2. Change the **Doorman IP** parameter number via the dial pad.
3. Press the **SET** button.
Your device will reboot once the information is entered.

Doorman Port 1 and Doorman Port 2

In the event that the default doorman port (port 6801) is blocked (between the IP Phone and Net2Phone network), the IP Phone can be directed to a different port. Contact Net2Phone for an alternate port in the event that this becomes necessary.

To change the Doorman settings:

1. Press the **MENU** button until you access Doorman Port 1 or Doorman Port 2.
2. Change the Doorman port parameter number via the dial pad.
3. Press the **SET** button.
Your device will reboot once the information is entered.

Setting Default Values

The Setting Default Values function allows you to reset the IP Phone to its original factory default values.

To return the IP Phone to its default values:

1. Press the **MENU** button until you access the **Set Default Values** screen.
2. Press the **SET** button to initiate the default set.
Your device will reboot and reset all values.

Memory Dialing

This feature stores up to nine phone numbers in the IP Phone's memory locations and retrieves them for Memory Dialing.

To store a number into Memory Dial:

1. Press the **MENU** button until you access the **Memory Dial** screen.
2. Press the **SET** button to enter the Memory Dial phonebook.
3. Once in the phonebook, press the **Vol +** and **Vol -** keys to cycle through the nine memory slots to find an available slot.
4. To enter a phone number, enter 1 + the area code + the phone number.
5. Press the **SET** button to save the number.
6. To return to the *Ready for Call* screen, press the **MENU** button.

To dial a stored number:

1. Lift the handset or press the **Speaker** button to hear the dial tone.
2. Press the **Memory Dial** button followed by the desired memory location (keypad numbers one through nine).

3

Using Your IP Phone

Making a Call to an Ordinary Telephone

To place a call:

1. Lift the handset from the cradle and listen for the dial tone.
Upon lifting the handset, the LCD displays the message Enter Number.
2. Dial the destination phone number and press the # key.
 - When dialing a number in North America, always dial 1 + the area code + the telephone number.
 - When dialing a number outside North America, dial 011 + the country code + the city code + the telephone number.



Note: The call will commence in 4 seconds.

As the IP Phone attempts to connect the call, the LCD displays the message **Connecting...**, as well as the phone number dialed.

If the connection attempt is successful, the **Connecting** message will change to **Talk**.

After displaying the **Talk** message, the phone being called will begin to ring. When the call is answered, begin speaking.

Using the Hands Free Dialing feature

To use hands free dialing, press the green **Hands-Free Dialing** button on the IP Phone console. This button allows you to dial the number without lifting the handset.

Once the call connects, you must pick up the handset to speak to the other party. The IP Phone cannot be used as a traditional speakerphone.

Calling Another Net2Phone Device

To call another Net2Phone device:

1. Pick up the handset or press the **Speaker** button and listen for the Internet dial tone.
2. When you see the **Enter Number** display, press the **Call N2P Device** button.
3. Dial the account number of the IP Phone you wish to call followed by the “#” key. (*72 is automatically added as a prefix to the account number you enter. This tells the system that the call will be routed to another Net2Phone device.)



Note: You must call a device that is not sharing an account number with another device.

Once the call connection has been established and the ring tone has sounded, wait for the other party to answer. When the other party answers, you can begin speaking.



Note If you are calling a device that supports auto-frames per packet matching (a feature where, if you have your frames per packet set to 1, and the device you are calling has frames per packet set to 3, both devices will sync up to 1 frame per packet), you will not have to reset your frames per packet setting to initiate a device-to-device call.

However, if you are making a device-to-device call to a device that does not support auto-frames per packet, and your call has no audio or very poor audio quality, try choosing a different setting for frames per packet and try the call again.

Receiving a Call

The IP Phone can receive incoming calls from other Net2Phone devices that use the Net2Phone VoIP service platform.

The IP Phone works just like an ordinary phone for incoming calls. When it rings, just lift the handset and begin speaking.

Using the Control Buttons

The REDIAL Button

The IP Phone “remembers” the last phone number you dialed. It stores up to 16 digits in memory until another number is dialed.

To dial the same number again:

1. Lift the handset or press the **Speaker** button and listen for the Internet dial tone.
2. Press the **REDIAL** button.

The HOLD Button

The **Hold** button places the current caller on hold.

To place a call on hold:

1. Press the **HOLD** button and replace the receiver on the receiver cradle. The current call is now on hold.
2. To remove the caller from hold, simply pick up the receiver from the cradle and begin talking.

The INFO Button

The **INFO** button allows you to view your:

- **FW (Firm Ware) Version** – To view the current FW version number, simply press the **INFO** button once to display the number (for example, NY-IPX-1.01).
- **Serial Number** – To view the IP Phone serial number, press the **INFO** button twice.
- **Account Number** – To view your account number, press the **INFO** button three times.
- **Account Balance** – To view the dollar amount of your account balance, press the **INFO** button four times.



Note: If you do not get a display when trying to view these functions, check that you have network connectivity.

Call Message Indicators

The following is a list of messages that indicate reasons for a connection error:

- **Call Failed** – This message is displayed when there is heavy Internet traffic or a network server malfunction. Hang up the phone and try the phone call again later. Contact your Internet Service Provider if the problem persists.
- **Bad PIN / Account** – This message implies an error in the programming of the account number and/or PIN. If this message is displayed, review the IP Phone's account number and PIN by pressing either the **MENU** button or the **INFO** button. If the message persists, call your IP Phone distributor.
- **Insufficient Funds** – This message is displayed when the funds in your account have been exhausted. When this occurs, contact your IP Phone distributor to add funds to your account.

- **Account In Use** – This message protects accounts against misuse or theft. When it appears, it means that another device is using the account number assigned to your IP Phone. If this occurs, contact your distributor immediately to report the situation.
- **Busy** – This message means that the IP Phone you are trying to reach is currently in use. If this message is displayed, try the call again at a later time.
- **Duplicate PIN or Account** – This message is displayed if you have entered a PIN or account number that is already in use on another Net2Phone device. You may want to confirm the PIN number to be entered and try again. If the message displays again, call your distributor to report the problem.
- **Cannot Connect to OPAL Server** – This message indicates that the IP Phone cannot login to the OPAL server to register for device-to-device calls. Make sure you are using a unique account number on the IP Phone and are calling a unique account number.

IP Phone Rates and Product Information

For current calling rates and for the latest product information, please contact your IP Phone distributor.

Contacting Customer Support

For all customer service inquiries, please contact your IP Phone distributor.

Appendices

Appendix A – Upgrading the IP Phone Firmware via a Serial Cable

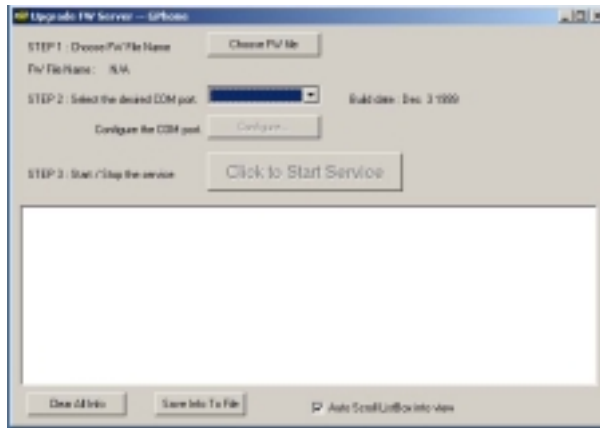
To upgrade the IP Phone via Serial Cable:

1. Connect an **RS232 serial cable** to the IP Phones serial port and your PC's COM port.
2. Open a Web browser and go to the following Web site:
<http://web.net2phone.com/partnersupport/devicesoftware/>.
3. Complete the fields in the form and download the IP Phone serial port upgrade package (**IP Phone Serial Cable Upgrade Package.zip**) to your PC desktop.



Note: The IP Phone upgrade software file contains two pieces of software. The first is the **.exe** file that opens the software that allows you to upgrade the firmware. The second is the **.bin** file, which is the actual firmware file that gets imported into the phone via the software.

4. From your desktop, double-click the **IP Phone Serial Cable Upgrade Package.zip** file and extract the components to your desktop. This includes the:
 - Upgrade IP Phone FW.exe
 - N2P11Mhz.bin
 - Upgrade the IP Phone via Serial Cable.doc
 - IP Phone release notes
5. Double-click the **Upgrade IP Phone FW.exe** icon on the desktop. The software will then open the following screen.



6. Click **Choose FW** file.
7. Double-click the **N2P11Mhz.bin** file (that you stored on your desktop in step 4).
8. Select the **COM** port that is connected to your IP Phone.
9. Click **configure**.
10. Select:
 - **baud rate** - 57600
 - **bits** - 8
 - **parity** - none
 - **Stop Bits** - 1
 - **Flow control** - none
11. Click **OK**.
12. Click the **Auto scroll ListBox** check box to enable Auto scrolling.
13. Click the **Click to Start Service** button. The download will begin in ten seconds. When the download ends, the counter will stop and display the total time. Wait a moment for the IP Phone to restart.
The LCD will display Check System, ...Ready to call.
14. Reboot the device by disconnecting the power cord, waiting three seconds, and reconnecting the power cord. Verify that the upgrade was completed by checking the firmware version number. Press the **INFO** button once to view the current firmware version on the IP Phone.



Important: You will not be able to make calls unless you perform the following steps to set the default values into the IP Phone once the firmware has been upgraded.

15. Press the **MENU** button until you access the **Set Default Values** screen.
16. Press the **SET** button to initiate the default set.
Your device will reboot once the information is entered.

Appendix B – Acronyms

- BSP Broadband Service Provider
- DHCP Dynamic Hosting Configuration Protocol
- DNS Domain Name Server
- DSL Digital Subscriber Line
- IP Internet Protocol
- ISP Internet Service Provider
- MAC Media Access Control
- POTS Plain Old Telephone Service
- PPPoE Point-to-Point Protocol over Ethernet
- PSTN Public Switched Telephone Network
- TCP/IP Transmission Control Protocol / Internet Protocol
- VoIP Voice over Internet Protocol
- WAN Wide Area Network (Internet or Broadband Service Provider)
- WINS Windows Internet Naming Service

Appendix C – FAQs

Q. I connected my cable/DSL modem to the IN port of my IP Phone, authenticated via PPPoE and the connected my computer to the OUT port of the IP Phone. Why can I make calls on the IP Phone but cannot get to the Internet on my computer?

A. In that connection scenario, only the IP Phone will have connectivity. See the *Connecting the Cables* section on page 10 of the *IP Phone, Version 1.34 User's Guide* for more information.

Q. I used to be able to make calls on my IP Phone and no longer can. Nothing has changed on my Internet connection or IP Phone configuration. I suspect that my ISP is blocking the doorman ports. What can I do?

A. You need to change the doorman port settings:

- 1 First, verify that you are using firmware version 1.34 or above by pressing the **Info** button once. If you are not, upgrade the IP Phone firmware. See the *Upgrading the Firmware* section on p. 24 of the *IP Phone Version 1.34 User's Guide* for upgrade procedures.
- 2 If you are using version 1.34 or above, then contact your local distributor for an alternate doorman port.
- 3 Input that value into the doorman port entry of the IP Phone menu. See the *Doorman Port 1 and Doorman Port 2* section on p. 26 of the *IP Phone Version 1.34 User's Guide* for more information.

Q. I have followed the steps in #2 (above) to change my doorman port but am still unable to make calls. My IP Phone is behind a firewall and I suspect it is blocking the TCP or UDP ports that the IP Phone uses to make calls. What can I do?

A. You'll need to open a TCP port on the firewall in the range of 1024-65000 and the same for a UDP port. Then specify the ports that were opened in the appropriate IP Phone menus. See

the *Firewall Settings* section on p. 26 of the *IP Phone Version 1.34 User's Guide* for more information.

Q. My network connection gets congested and my calls are choppy and contain too much echo. Is there anything I can do to improve it?

A. Try changing the Frames per Packet setting to 3. See the *Setting the Frames Per Packet* section on p. 23 of the *IP Phone Version 1.34 User's Guide* for more information). Different frames per packet settings can provide better quality in certain network environments.

Q. I made some changes to my IP Phone settings and now I can't make any calls. Why?

A. The best solution in this case is to reset the settings:

1. First, verify that you are using firmware version 1.34 or above by pressing the **Info** button once. If you are not, upgrade the IP Phone firmware. See the *Upgrading the Firmware* section on p. 24 of the *IP Phone Version 1.34 User's Guide* for upgrade procedures.
2. Press the **MENU** button until you access the **Set Default Values** screen. Press **SET** when the screen displays *Set Default Values*. See the *Setting Default Values* section on p. 27 of the *IP Phone Version 1.34 User's Guide* for more information. Your phone will be returned to the factory defaults.

Q. I have attempted to upgrade the firmware on my phone via the automatic method from the MENU but it fails every time. What should I do?

A. You should try upgrading the phone using the serial port upgrade package:

1. Connect the IP Phone to your PC's serial port using a 9-pin serial cable.
2. Go to:
<http://web.net2phone.com/partnersupport/devicesoftware/>
3. Download the IP Phone serial port upgrade package.
4. Follow the instructions included with the package to upgrade the phone's firmware from your PC via RS232 serial cable. See *Appendix A – Upgrading the IP Phone Firmware via a Serial Cable* on p. 35 of the *IP Phone Version 1.34 User's Guide* for more information.

Q. I want to connect my IP Phone to a cable/DSL modem and authenticate via PPPoE into my service provider, but I don't see a menu option for my PPPoE user name and password. What should I do?

A. The ISP user name and password will appear as menu items once PPPoE is turned on via the **MENU** button. See the *Configuring PPPoE Settings* section on p. 18 of the *IP Phone Version 1.34 User's Guide* for more information).

Q. When I turn on the PPPoE option in the MENU, there is no way to enable DHCP. If I can't enable DHCP, how will the IP Phone get an IP address from my service provider?

A. The IP Phone will get an IP address via the PPPoE protocol. If the PPPoE is being utilized there is no need for DHCP.

Q. When trying to call another Net2Phone device (Max, Net2Phone Pro, Yap Jack Plus, etc) using *72+ accountnumber, why do I get either no audio or one way audio?

A.

1. First ensure that both devices are using the latest version of firmware available for each.
2. Next set both devices to the same frame per packet setting (1,2,or 3). See the *Setting the Frames Per Packet* section on p. 23 of the *IP Phone Version 1.34 User's Guide* for more information.

Q. When trying to call my IP phone from another IP Phone or other Net2Phone device, why do I get a fast busy or the call doesn't go through?

A. In order to receive an incoming call from another IP Phone or Net2Phone device, several things need to occur:

1. The IP Phone must be connected to a valid broadband Internet connection.
2. The account must not be utilized on any other IP Phone or Net2Phone device.

Q. When I pick up the handset on the IP Phone I don't get a dial tone. There is no audio on the handset or speaker, and the IP Phone doesn't ring on an incoming call. Why is this happening?

A. You are using the wrong power supply. The power supply for the IP Phone must be 12 volts AC and 1 amp. Contact your distributor for the correct power supply.

Appendix D – Technical specifications

- **Power Supply:** 9V or 12V AC/1000mA
- **Power consumption:** typically 6W, max. 9W
- **Environment temperature:** 0 - 50^o C
- **Full modular cord**
- **Desk/Wall mountable**
- **Communication interface:** RJ-45 for Ethernet
- **Communications protocol:** TCP/IP
- **Voice compression:** G.723.1 compliant

Appendix E – Approvals and Listings

FCC Declaration of Conformity

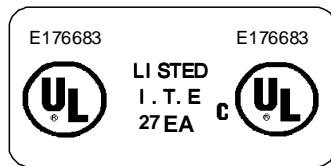
- Product name: **IP Phone**
- FCC Rules: Tested to comply with FCC part 15, Class B
- Operating environment: for home or office use

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

UL Listing

Power Supply listed with Underwriters Laboratories



CE Approval Number: CE168X ART:99663 Z

NOTICE: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. Use with an approved telephone set.