IP Phone

User's Guide

Table of Contents

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 its 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

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Product Description

The IP Phone is a stand-alone Internet telephone that connects directly to any 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. You cannot make calls over 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 registered IP Phone account to place and receive calls over the Internet. An account is usually activated by your reseller 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 dialpad
- 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

System Requirements

To use the IP Phone you must have:

- a router or LAN (Local Area Network) with a dedicated broadband connection which **must not** have proxy server caching
- a local power outlet
- an IP Phone account (usually activated by the reseller when you purchase your IP Phone)

Indicators & Dialpad Functions

2) LCD Display
1) Handset
3) Info Button
4) Call N2P Device Button
5) Ready Light Indicator
6) Menu Button
7) Set Button
8) Memory Dial Button
9) Volume Buttons
10) Hold Button
11) Redial Button
12) Hands-Free Button
13) Keypad
14) Left/＊ Right/#
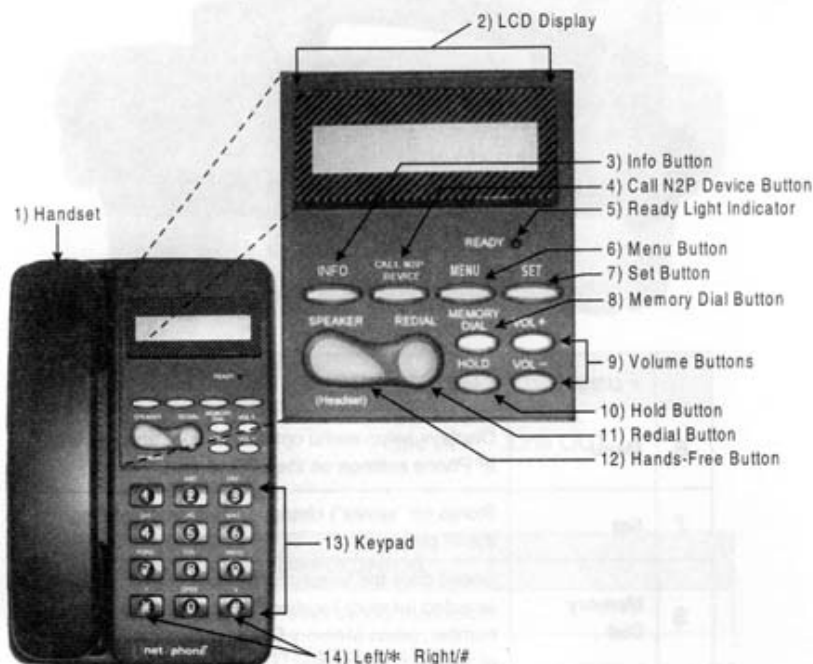
	Function	Description
1	Handset	Contains earphone and microphone.
2	LCD Display	Displays on-line messages and configuration settings.
3	Info	Displays IP Phone and account information on the LCD screen.
4	Call N2P Device	For placing calls to other IP Phones and devices that use the Net2Phone service platform.
5	Ready Light	Is **On** when calls can be made. Blinks when registering with the local network and the IP Phone server.
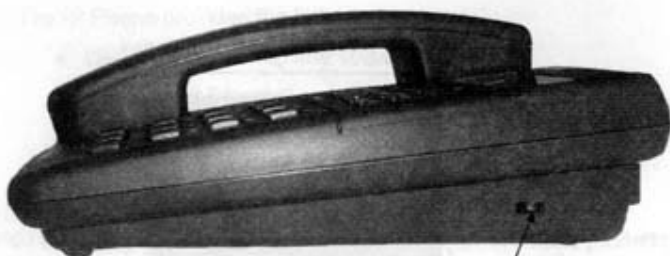
15) Ringer Volume

	Function	Description
6	Menu	Displays setup menu options for your account 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).
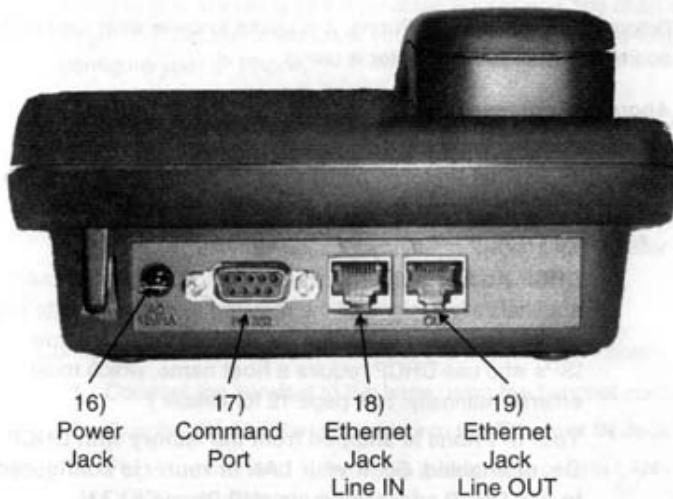
	Function	**Description**
16	Power Jack	Power supply receptacle.
17	CMD Port	For factory use only.
18	Ethernet In	Connects to 10Base-T LAN with "always on" ISP Internet connection.
19	Ethernet Out	10Base-T port to connect or "daisy chain" a PC, hub, or other Ethernet device*

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

See *Static Addressing* on page 7.

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 entered manually. See page 12 for details.)

  Your IP Phone is shipped from the factory with DHCP On, or enabled. So, 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 manually entered 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 to obtain the necessary information.

Whether you are using DHCP or static addressing, the chart on page 11 in Section 2 will show you the steps you need to follow to configure your IP Phone.

STOP **Important Note:** You must have all the necessary information about your LAN's static addresses before you can begin configuring your IP Phone's LAN parameters. If you do not have the required information, contact your network administrator.

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 cable into an appropriate LAN or DSL/Cable 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.

2 Configuring the IP Phone

Overview

Pressing the **Menu** button (page 4, item 6) displays the Setup Menu on the IP Phone's LCD screen. The Setup Menu provides access to 13 data entry screens. Before you can make a call with the IP Phone, you must configure the parameters on the screens that pertain to your particular system. Section 2 will explain how to identify and enter the necessary parameters in those screens.

Using the Setup Menu

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:

1. Account Number	5. Subnet Mask	10. Remote Volume
2. PIN	6. Gateway Address	11. Upgrade IP
3. DHCP ON / OFF	7. Host Name	12. Upgrade FW
4. IP Address	8. Primary DNS	13. Memory Dial
	9. Secondary DNS	
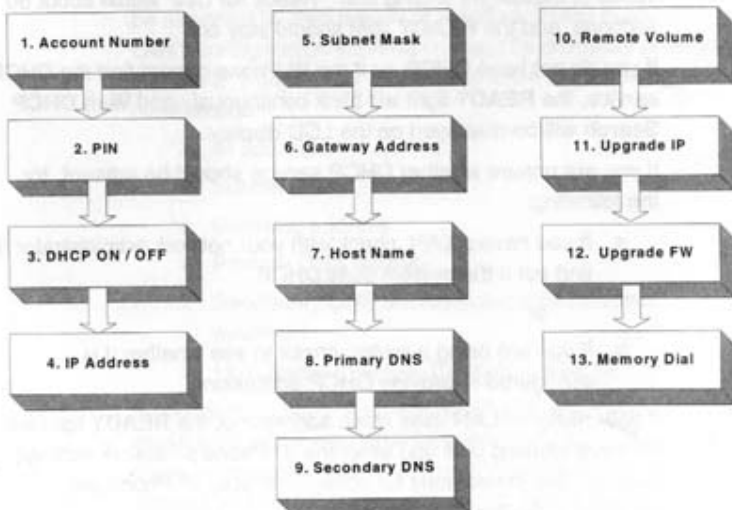
Using the Dialpad for Parameter Entry

All entries in the Setup Menu are done via the IP Phone's dialpad 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 dialpad keys to enter the desired information.

Note: Before entering each character, wait for the cursor to blink. If a character is incorrectly entered, press the * key to back up and correct it.

To enter a number between 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 the upper case letter, and then the lower case letter, of each of its three letters.

Key	Character
1	1 / ~ ! # $ % ^ & * ( ) _ + I { } : " < > ? ' - = ;
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 hostname, if you want to enter the name "Alex", press the 2 key twice, the 5 key seven times, the 3 key five times, and the 9 key five times.

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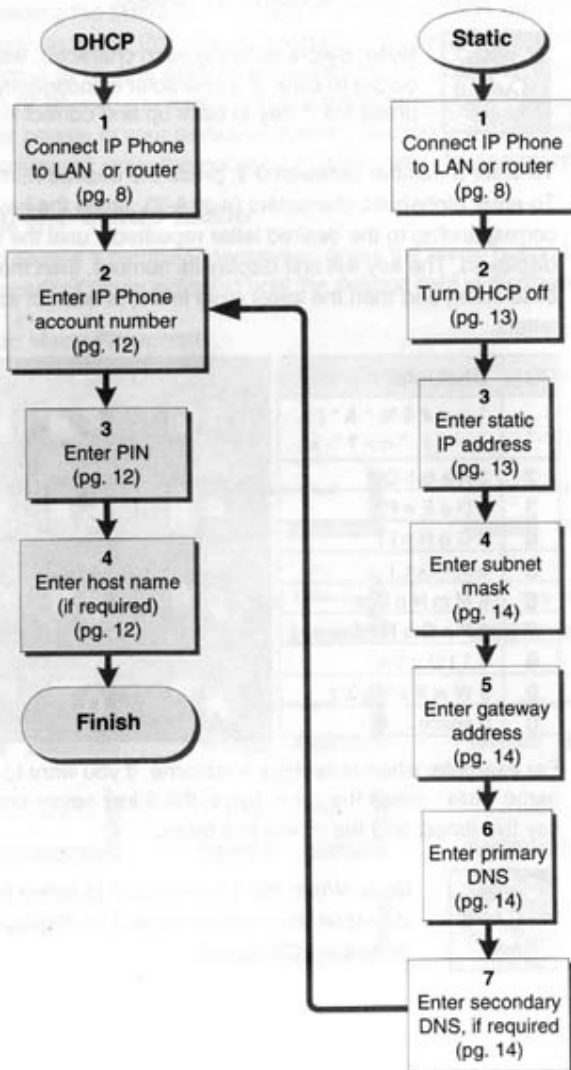
Configuration Flow Process

The IP Phone is set at the factory for DHCP IP addressing. If your LAN or router uses DHCP addressing, follow the DHCP procedure in the flowchart below.

If your system uses static IP addresses, follow the Static IP Address procedure.

```
    ┌─────────┐                          ┌─────────┐
    │  DHCP   │                          │ Static  │
    └────┬────┘                          └────┬────┘
         ▼                                    ▼
 ┌───────────────┐                  ┌───────────────┐
 │       1       │                  │       1       │
 │ Connect IP    │                  │ Connect IP    │
 │ Phone to LAN  │                  │ Phone to LAN  │
 │ or router     │                  │ or router     │
 │   (pg. 8)     │                  │   (pg. 8)     │
 └───────┬───────┘                  └───────┬───────┘
         ▼                                  ▼
 ┌───────────────┐                  ┌───────────────┐
 │       2       │◄──────┐          │       2       │
 │ Enter IP Phone│       │          │ Turn DHCP off │
 │ account number│       │          │   (pg. 13)    │
 │   (pg. 12)    │       │          └───────┬───────┘
 └───────┬───────┘       │                  ▼
         ▼               │          ┌───────────────┐
 ┌───────────────┐       │          │       3       │
 │       3       │       │          │ Enter static  │
 │  Enter PIN    │       │          │  IP address   │
 │   (pg. 12)    │       │          │   (pg. 13)    │
 └───────┬───────┘       │          └───────┬───────┘
         ▼               │                  ▼
 ┌───────────────┐       │          ┌───────────────┐
 │       4       │       │          │       4       │
 │ Enter host    │       │          │ Enter subnet  │
 │ name (if      │       │          │    mask       │
 │ required)     │       │          │   (pg. 14)    │
 │   (pg. 12)    │       │          └───────┬───────┘
 └───────┬───────┘       │                  ▼
         ▼               │          ┌───────────────┐
    ┌─────────┐          │          │       5       │
    │ Finish  │          │          │ Enter gateway │
    └─────────┘          │          │   address     │
                         │          │   (pg. 14)    │
                         │          └───────┬───────┘
                         │                  ▼
                         │          ┌───────────────┐
                         │          │       6       │
                         │          │ Enter primary │
                         │          │     DNS       │
                         │          │   (pg. 14)    │
                         │          └───────┬───────┘
                         │                  ▼
                         │          ┌───────────────┐
                         │          │       7       │
                         └──────────┤ Enter         │
                                    │ secondary     │
                                    │ DNS, if       │
                                    │ required      │
                                    │   (pg. 14)    │
                                    └───────────────┘
```

11

Configuring Your IP Phone Account

Entering Your IP Phone Account Number

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

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

1. On the Setup Menu, go to the Account Number menu screen by pressing the **Menu** button once.

2. Using the dialpad, enter your account number.

Note: If you make a mistake, use the * key to back up 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 PIN (Personal Identification Number)

1. Using the dialpad, enter the PIN associated with your account number.

2. Once the PIN has been entered correctly, press the **Set** key to store the information.

Entering a host name
(if required for DHCP)

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

1. Press the **Menu** button until the **Host Name** screen appears.

2. Use the dialpad to enter the name.

3. Press the **Set** button to store the information.

Configuring Static IP Addresses

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

Disabling DHCP in the IP Phone

Before you can assign a static IP address, the IP Phone's DHCP must first be disabled or turned **Off**.

To turn DHCP off:

1. Press the **Menu** button three times to access the **DHCP** screen.
2. Press the ↑ arrow to change the DHCP setting to **DHCP OFF***.
3. Press the **Set** button to store the new setting.

You must now enter your LAN parameters individually as follows:

Entering Your LAN Parameters

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

1. an IP address
2. a subnet mask
3. a gateway address
4. a primary DNS address
5. a secondary DNS address (if required)

You may wish to review *Using the Dialpad for Parameter Entry* on page 10 before beginning.

1. Enter the IP address

   a. Press the **Menu** button four times to access the **IP Address** screen.

   b. Use the dialpad to enter the IP address.

   For example: 192.168.0.1

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

   c. Press the **Set** button to store the new parameter.

2. **Enter the subnet mask**

   a. Press the **Menu** button five times to access the **Subnet Mask** screen.

   b. Use the dialpad to enter the parameter.

      For example: 255.255.255.0

   c. Press the **Set** button to store the new parameter.

3. **Enter the gateway address**

   a. Press the **Menu** button six times to access the **Gateway Address** screen.

   b. Use the dialpad to enter the parameter.

   c. Press the **Set** button to store the new parameter.

4. **Enter a primary DNS address**

   a. Press the **Menu** button eight times to access the **Primary DNS** screen.

   b. Use the dialpad to enter the parameter.

   c. Press the **Set** button to store the new parameter.

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

   a. Press the **Menu** button eight times to access the **Secondary DNS** screen. (If this item is **not** in menu position 8, DHCP is probably not disabled. You may have forgotten to press **Set** after turning off DHCP. Refer to *Disabling DHCP in the IP Phone*, on the previous page.)

   b. Use the dialpad to enter the parameter.

   c. Press the **Set** button to store the new parameter.

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

Other Menu Options

Setting the Remote Volume

To set the remote volume of the handset speaker:

1. Press the **Menu** button until **Remote Volume** is displayed.

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 6 or below is recommended.)

3. Press the **Set** button to store the change.

4. Press the **Menu** button until the IP Phone displays the "Ready for Call" screen.

Memory Dialing

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

Storing a Number into Memory Dial:

1. Press the **Menu** button until Memory Dial is displayed.

2. Press the **Set** key 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 number.

4. Press the **Set** button to store the number. To return to the **Ready for Call** screen, press the **Menu** button.

Dialing 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 1-9).

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.

Note: 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 number.

   - When dialing a number outside North America, dial 011 + country code + city code + the number.

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 use the handset; the IP Phone cannot be used as a traditional speakerphone.

Calling Another IP Phone

To call another IP Phone:

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. (***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 VoIP device.)

4. 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.

Receiving a Call

The IP Phone can receive incoming calls from other IP Phones and 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. Up to 16 digits are held in memory until another number is dialed.

To dial the same number again:

1. Lift the handset or press the **Speaker** button.
2. Listen for the dial tone, and 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:

- current IP Phone firmware (FW) version
- serial number
- account number
- account balance

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.

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 reseller.

- **Insufficient Funds** – This message is displayed when the funds in your account have been exhausted. When this occurs, contact your IP Phone reseller 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 reseller 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 an account number, which is already in use. You may want to confirm the PIN number to be entered and try again. If the message displays again, call your reseller to report the problem.

IP Phone Rates and Product Information

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

Contacting Customer Support

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

Appendices

Appendix A – 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 B – Technical specifications

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

Appendix C – 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
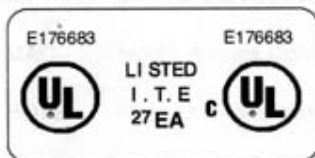
C E **Approval Number:** CE168X ART:99663 Z

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.