1810 VoIP Gateway (SIP)

User's Guide

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PARADYNE

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VoIP Gateway settings

LAN port IP: 192.168.1.101

None WAN port PVC:

Phone 1x URI- sip: 801@192.168.1.101

Preface

This manual is designed to provide information to network administrators. It covers the installation, operation and applications of the VOIP Gateway.

⚠ Important Safety Instructions

1. Read and follow all warning notices and instructions marked on the product or included in the manual.

2. Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these slots and openings must not be blocked or covered.

3. Do not allow anything to rest on the power cord and do not locate the product where persons will walk on the power cord.

4. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous high voltage points or other risks. Refer all servicing to qualified service personnel.

5. When installed in the final configuration, the product must comply with the applicable Safety Standards and regulatory requirements of the country in which it is installed. If necessary, consult with the appropriate regulatory agencies and inspection authorities to ensure compliance.

6. A rare phenomenon can create a voltage potential between the earth grounds of two or more buildings. If products installed in separate buildings are **interconnecte**d, the voltage potential may cause a hazardous condition. Consult a qualified electrical consultant to determine whether or not this phenomenon exists and, if necessary, implement corrective action prior to interconnecting the products.

7. Input power to this product must be provided by one of the following: (1) a UL Listed/CSA certified power source with a Class 2 or Limited Power Source (LPS) output for use in North America, or (2) a certified transformer, with a Safety Extra Low Voltage (SELV) output having a maximum of 240 VA available, for use in the country of installation.

8. In addition, since the equipment is to be used with telecommunications circuits, take the following precautions:

   — Never install telephone wiring during a lightning storm.

   — Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

   — Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

   — Use caution when installing or modifying telephone lines.

   — Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.

   — Do not use the telephone to report a gas leak in the vicinity of the leak.

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FCC Part 15 Declaration

An FCC Declaration of Conformity may be downloaded from the Paradyne World Wide Web site at **www.paradyne.co**m. Select *Support -> Technical Manuals -> Declarations of Conformity.*

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.

The authority to operate this equipment is conditioned by the requirement that no modifications will be made to the equipment unless the changes or modifications are expressly approved by the responsible party.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Table of Contents

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Chapter 1 Introduction

This chapter introduces the 1810 VOIP Gateway. It includes a product overview, description of the product's features and applications, and an explanation of the front panel LED indicators.

1.1 Product Overview

The 1810 VoIP Gateway provides predictable, real-time, toll-quality voice over the Internet. The 1810 VoIP Gateway is designed for residential and business users. It connects to an external cable or DSL modem for broadband service.

An ordinary telephone connects to the RJ11 port (telephone jack) on the back of the 1810 VoIP Gateway, allowing calls to be routed to anywhere in the world – significantly reducing or eliminating long distance charges.

1.2 Features

- Supports Voice over IP (VoIP)

- Uses an ordinary telephone to make Internet calls free of charge

- Use just one IP address to access the Internet over your entire network

- Supports Caller ID

- Supports silence suppression

1.3 Applications

Gatekeeper/Proxy Server
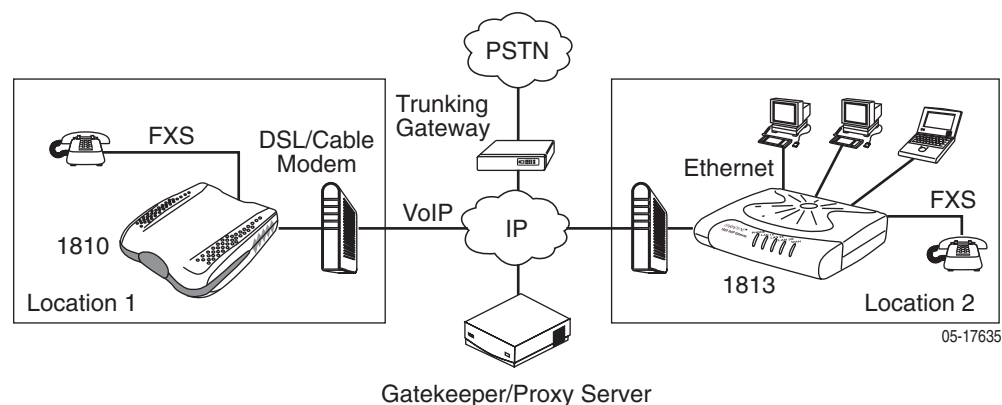
1.4 Front Panel LED Indicators

05-17624
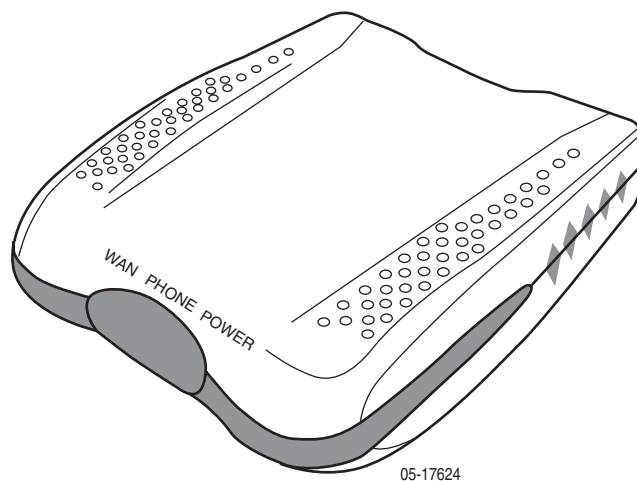
LED Indicator	Color	Mode	Function
POWER	Green	On	A power connection is established.
		Off	No power connection is established.
WAN	Green	On	The WAN link is established.
		Off	The WAN link is not established.
PHONE	Green	On	Phone is off-hook.
		Off	Phone is on-hook.
		Flash	Hardware is initializing.

Note: If the device fails to power on, or it malfunctions, first verify that the power supply is correctly connected, and then power on the device again.

Chapter 2 Hardware Installation

The figure below illustrates the back panel of the gateway.
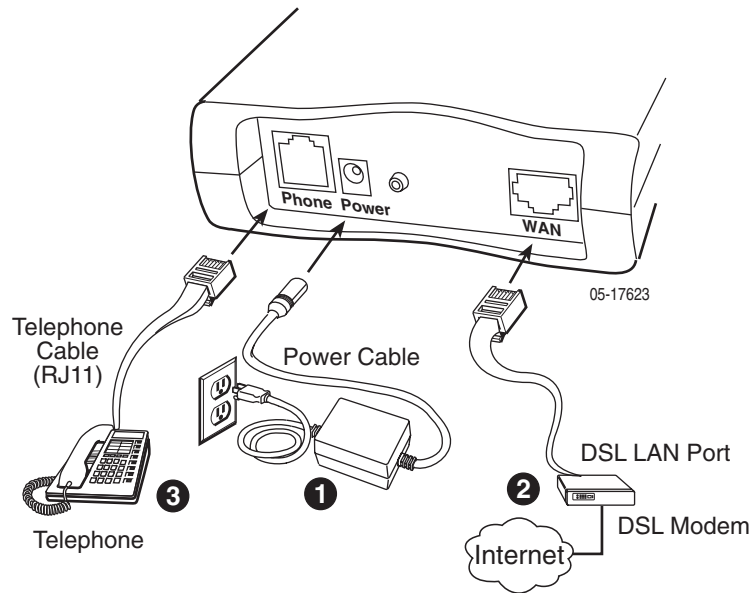
1. Connect the power adapter to the **POWER jack** of the device, and then plug the power adapter into the wall outlet.

2. Connect the **WAN port** to your DSL modem's LAN port using a standard RJ45-to-RJ45 cable.

3. Connect the telephone set to **PHONE** port for VoIP service using a standard RJ11-to-RJ11 cable.

If the device fails to power on, or it malfunctions, first verify that the power supply is correctly connected, and then power it on again.

2.1 Reset Button

In the middle of the rear panel is a reset button. This button is used to reload the factory default settings. Use a small object like a ballpoint pen to press the button and hold it down for over three seconds. The gateway will reset itself and all parameters will return to their factory default settings. You can verify this process by monitoring the PHONE LED, which will turn off and then on again as the gateway restarts.

Chapter 3 Installing and Starting PCTool

You can configure and manage the gateway using the provided PCTool application.

To install and run PCTool:

1. Connect the WAN port of the gateway to the Network Interface Card (NIC) of your PC using the supplied Ethernet cable.

2. Insert the provided CD in the CD drive of your PC.

3. From the Windows Start menu, select Run. Type:

   d:\pctool\setup

   where **d:** is the drive identifier for your CD drive. Click on OK.
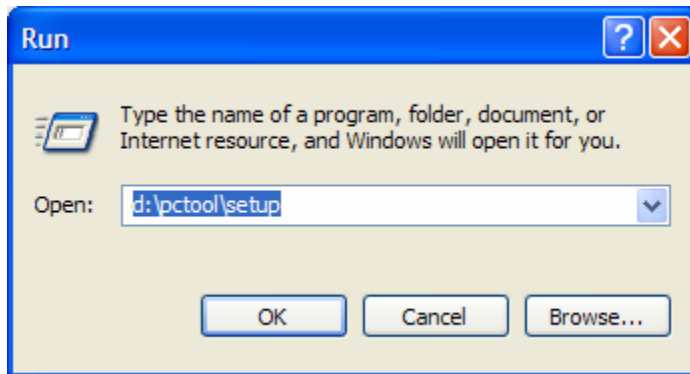
4. The installer will install PCTool in the **c:\Program Files\JetFusion 1810** directory and start it. In the future you can initiate the program by browsing to that directory using Windows Explorer and double-clicking on PCTool.exe. The gateway must be attached to your PC when you use PCTool.

5. When you are done using PCTool, reconnect the LAN port of your DSL modem to the WAN port of the gateway as shown in Hardware Installation, above.

Chapter 4 Status

Upon startup of PCTool the screen below is displayed.

Chapter 5 Configuration

Click on the Connection Mode tab to configure the connection mode.

5.1 Connection Modes

There are three connection modes:
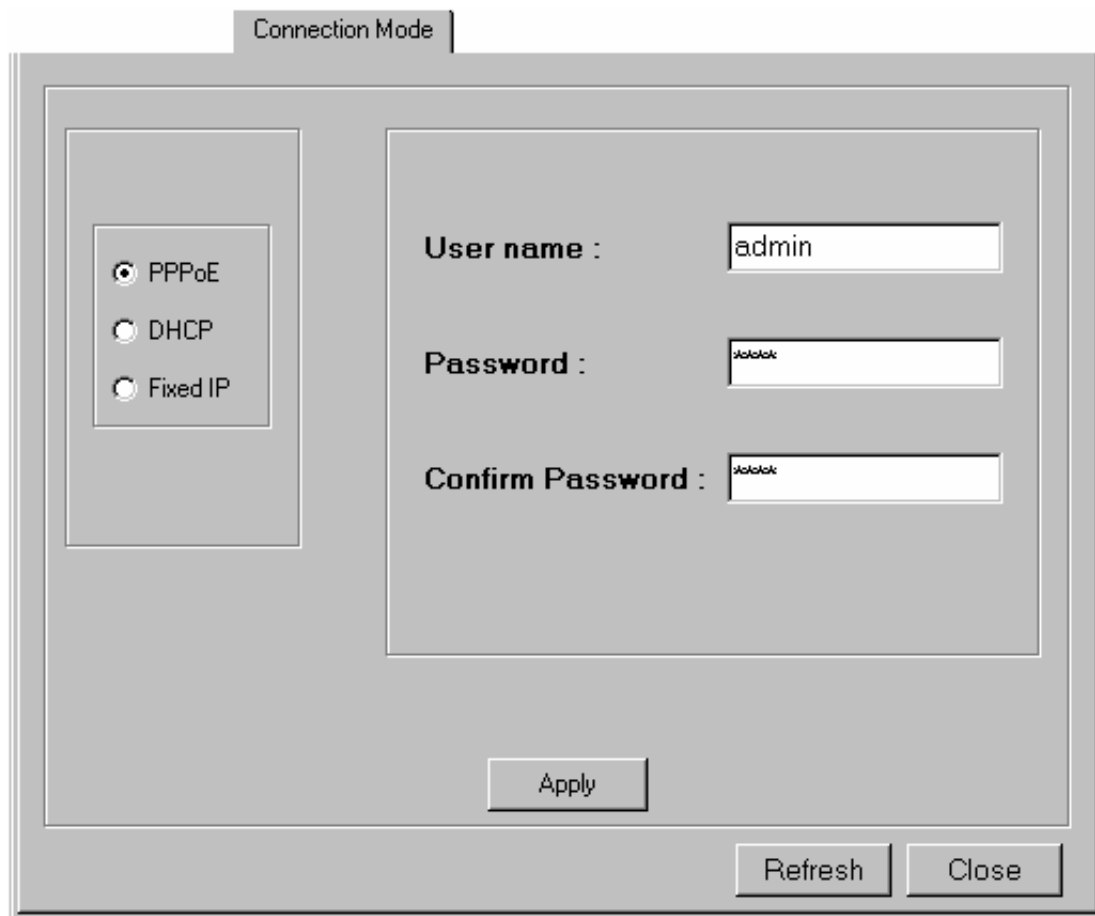
- **PPPoE**
- **DHCP**
- **Fixed IP**

The **Refresh** button refreshes the screen, and the **Close** button closes the application.

5.1.1 PPPoE

To configure PPPoE as the connection mode, select it on the left side of the screen. Then enter the **User name**, **Password** and **Confirm Password** parameters.

User name: Enter the required user name.

Password: Enter your new password (letters are case sensitive) as provided by your Internet service provider.

Confirm Password: Enter the password again for confirmation purposes.

Click on **Apply** to submit the settings. If the connection is successful, the following message is displayed:
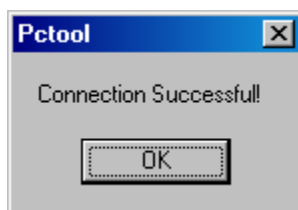
Note: The same message should be displayed for the successful connection of **DCHP** or **Fixed IP**.

5.1.2 DHCP

To configure DHCP as the connection mode, select it on the left side of the screen and click on **Apply** to submit the settings.

5.1.3 Fixed IP

To configure **Fixed IP** as the connection mode, select it on the left side of the screen. Then enter the **IP Address**, **Subnet Mask**, **Default Gateway** and **DNS** (Domain Name Server) **parameters**.

IP Address: Enter your fixed IP address as given to you by your Internet service provider.

Subnet Mask: Enter a subnet mask to identify the subnet portion of your network address.

Default Gateway: Enter the address of the next-hop router.

DNS: Enter the IP address of your primary Domain Name Server (DNS 1), and if available, your secondary DNS (DNS 2).

Chapter 6 SIP

SIP, the Session Initiation Protocol, is a signaling protocol for Internet conferencing, telephony, presence, events notification, and instant messaging. It is the Internet Engineering Task Force's (IETF's) standard for multimedia conferencing over IP. It is designed to address the functions of signaling and session management within a packet telephony network. Signaling allows call information to be carried across network boundaries. Session management provides the ability to control the attributes of an end-to-end call.

Session Initiation Protocol is a peer-to-peer protocol. There are four components in the SIP standard:

- User Agent (UA)
- Proxy Server
- Registrar Server
- Redirect Server

This document is concerned with SIP User Agent and the call establishment between User Agents.

To access SIP, click on the **SIP** tab. The following screen is displayed.
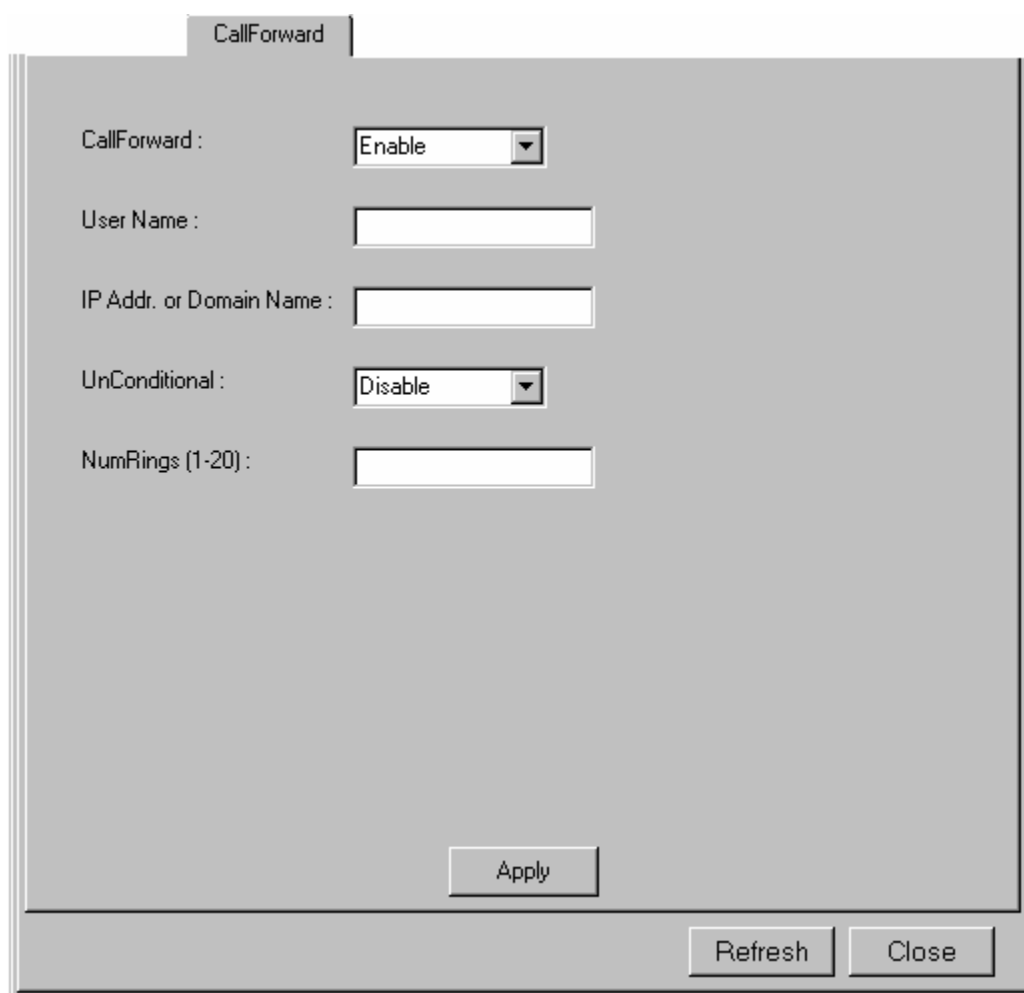
6.1 Local

To configure the local settings, click on the **Local** tab. Then fill in or select the parameters and click on **Apply**.

Parameter	Description
Max Digits(1-14)	Enter the maximum number of digits you will dial.
Port No.	Port number of user agent where it receives the SIP messages. The default port number is 5060, which is a well-known port for SIP protocol.
Max Rings	Specify a number from 1 to 50. This represents the number of times you require the phone to ring for an incoming call.
Use Proxy	Choose **YES** if a Proxy or Registrar server will be used. Also configure the Proxy Info and Registrar. Choose **No** if a Proxy/Registrar server won't be used. With this setting, the proxy and registrar information will be ignored.
User Name	Name of the local SIP host.
Display Name	Displays name of the above user. It is for identification purpose only, and can be used to hide the actual user name
Codec	The preferred Codec of this user. The default is PCMU.
DTMF	Select the Dual Tone Multi-Frequency (DTMF) setting from the drop-down list: In-Band or RFC 2833.
Proxy/ Registrar Info	A proxy is an intermediary program that acts as both a server and a client for the purpose of making requests on behalf of other clients. Requests are serviced internally or transferred to other servers. A proxy interprets and if necessary rewrites a request message before forwarding it. Input IP address of the SIP proxy server, used for VOIP service.
Port No	Port number of user-agent where it receives the SIP messages. The default port number is 5060, which is a well-known port for SIP protocol.
Domain Info	The Registrar saves information about where a party can be found. Input the domain name of the SIP Registrar server.
Auth User Name	The authentication user name for the Registrar/proxy, which is assigned by the service provider.
Auth Password	The authentication password for the Registrar/proxy, which is assigned by the service provider.
Expire	The time period until user would like its registration to be valid with the Registrar/Proxy Server. The default value is 120 seconds.

Parameter	Description
Qvalue	Enter a value between 0 and 1 for registering with the proxy (in case the same username is registered from a different location). Decimals are accepted, such as 0.3.
	In general, a larger number has higher priority for the proxy to connect the call. If the same Qvalue is used, the call connection is up to the call policy of the proxy.

6.2 Call Forward

To configure the call forwarding parameters, input the items and click on Apply.

Parameter	Description
User Name	Sip user name of the forwarding address where the calls will be forwarded.
IP Addr or Domain Name	The IP address or domain name of the SIP user name to which the phone calls will be forwarded.
Port No	Port number of the forwarding address where the calls will be forwarded. The default port number is 5060.
Fwd Call	Choose **YES** if the calls will be forwarded. Choose **NO** if the calls won't be forwarded.
NumRings	Input a number between 1-20. This represents the number of times the phone will ring before the call is forwarded.

6.3 STUN

To configure the STUN (Simple Traversal of UDP through NATs) server parameters, input the items and click on Apply.

Parameter	Description
STUN IP or Domain Name	The IP address or domain name of the STUN server. This could be provided by your service provider, or you could use a free STUN server on Internet.
Port No	Port number of the STUN server where the packets will be forwarded. The default port number is 5060.
STUN type	This column is read-only. The STUN mechanism will determine your NAT type and display on the screen.

Chapter 7 Telephone Book
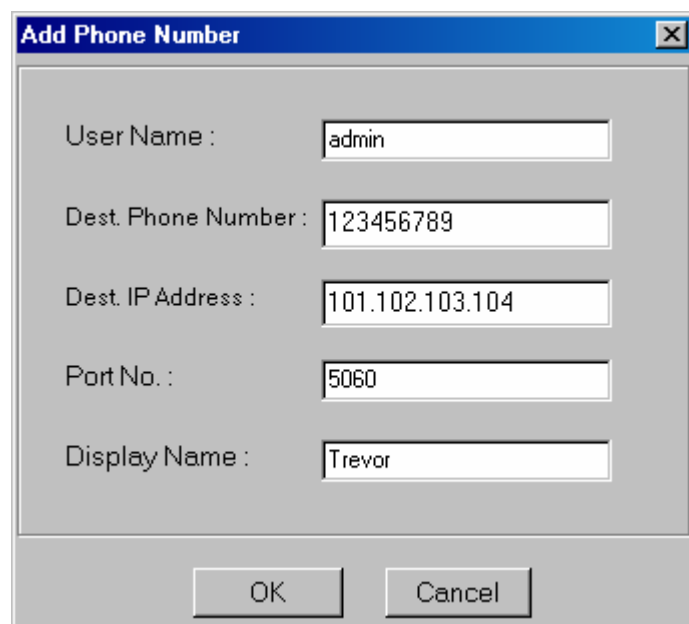
This can be used to store numbers based on Destination IP or Host Name.

7.1 Adding an Entry

To place an entry in the telephone book, click on the **Telephone Book** tab. Then click on **Add.**
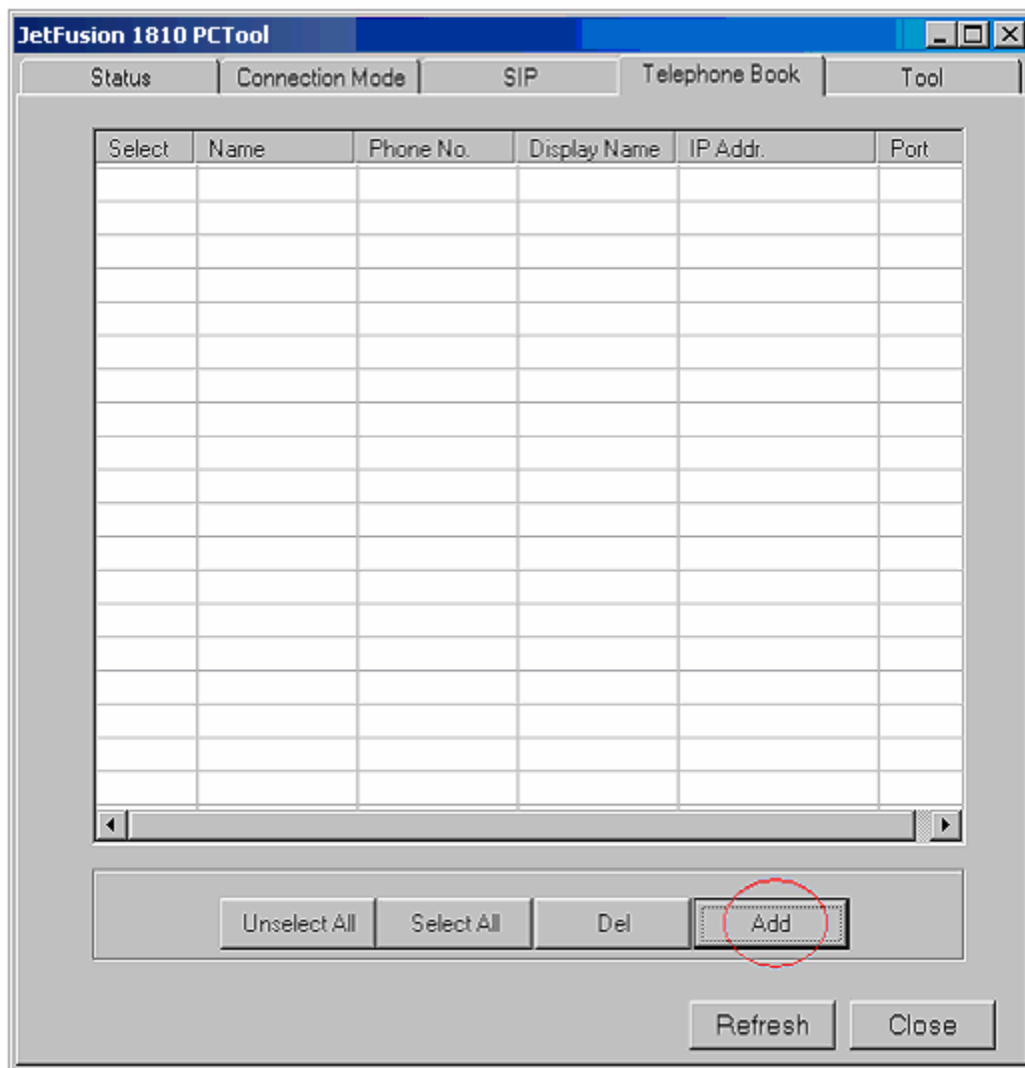
The following screen is displayed.
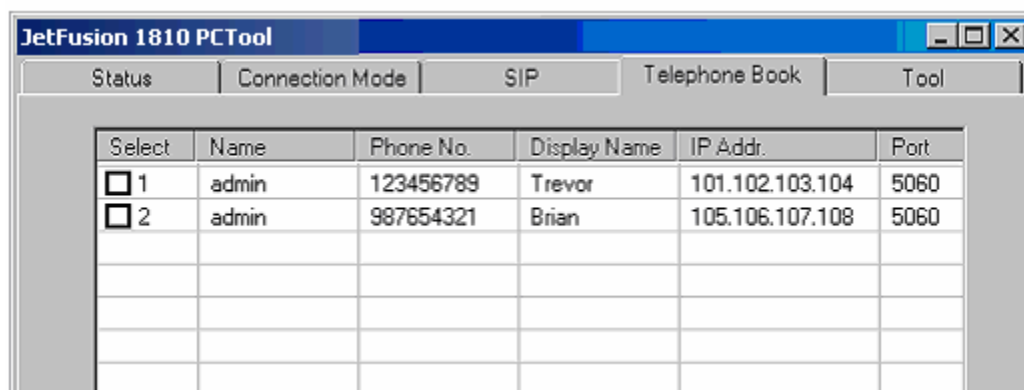
You are required to enter the following:

Parameter	Description
User Name	Input the user name.
Dest. Phone Number	Input the destination phone number, which can have up to fifteen digits. No spaces are permitted between the digits.
Dest. IP Address or Host Name	Input destination Ip address or host name.
Display Name	Input the display name that you want to be displayed at the other end.

Click on OK. The entries are displayed as shown below.

7.2 Deleting an Entry

To delete an entry, select the entry on the left side of the screen as shown below, then click on the Del button.

Chapter 8 Tools

To access this screen, click the **Tool** tab.
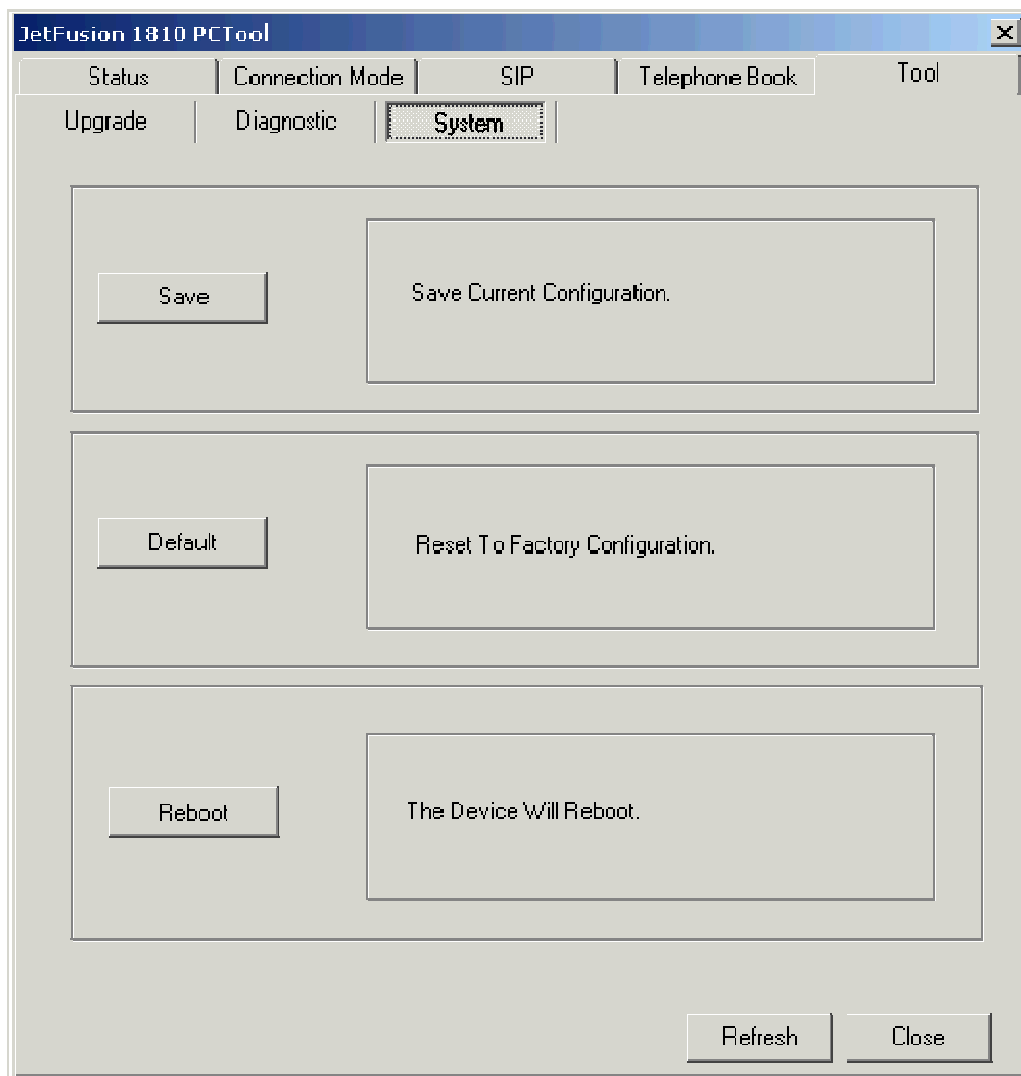
8.1 Upgrade

To enter this screen, first click on **Tool**, then **Upgrade**.

8.2 Diagnostic

To enter this screen, first click on **Tool**, then **Diagnostic**. To **Ping** a host, enter its **IP Address** or **Host Name**. Click on Submit.

8.3 System

To enter this screen, first click on **Tool**, then **System**.

8.3.1 Save Current Configuration

To save the current configuration click **Save**.
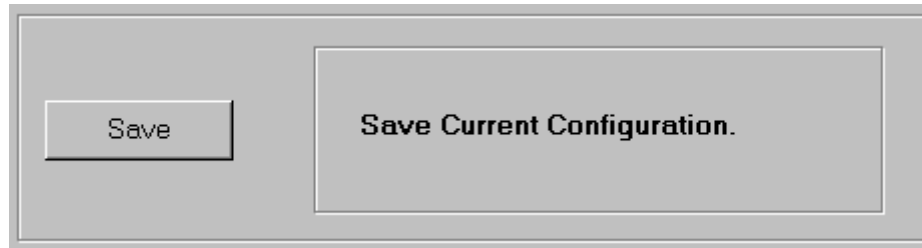
The following confirm prompt is displayed.
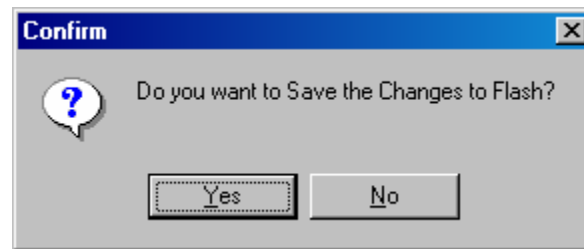
To save the changes to flash memory click **Yes**.

8.3.2 Reset To Factory Configuration

To reset the gateway to its factory configuration (default settings), click on **Default**.

The following warning prompt is displayed.

If you are sure that you want to load the default settings, click on **Yes**. The application will then close and subsequently reboot. The gateway takes about thirty seconds to start up.
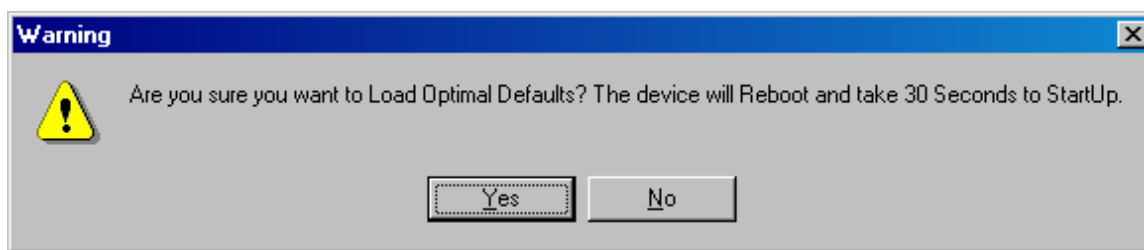
8.3.3 Reboot Device

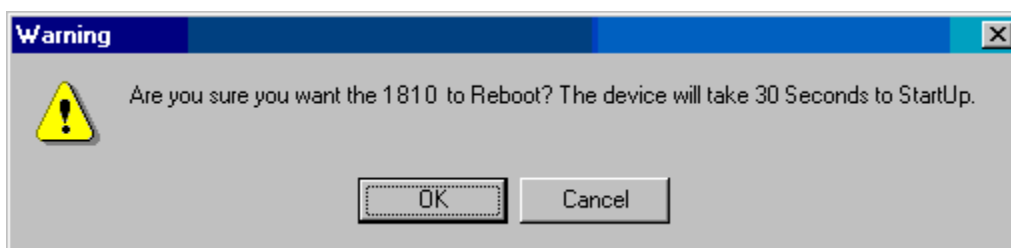To reboot the device, click on **Reboot**.

The following warning prompt is displayed.

If you are sure that you want to reboot the device, click on OK. The application will then close and subsequently reboot. The gateway takes about thirty seconds to start up.

Appendix A: GLOSSARY

Default: The value assigned to a configuration parameter when the gateway is first powered on.

DHCP: Dynamic Host Configuration Protocol. A TCP/IP protocol that lets a network connected to the Internet automatically assign a temporary IP address to a host when the host connects to the network.

Ethernet address: Another name for MAC address.

Ethernet: A standard protocol (IEEE 802.3) for a 10-Mbps baseband local area network (PAT) bus that supports high-speed communication among systems. It operates at the Physical Layer of the OSI Model.

gateway: A communications device that connects two different networks.

IP address: Internet Protocol address. The address assigned to an Internet host.

ISP: Internet Service Provider. An organization that provides access to the Internet.

network address: The network portion of an IP address.

ping: An echo request sent to check the accessibility of a device.

PPPoE: Point-to-Point Protocol over Ethernet. A method for establishing sessions and encapsulating PPP packets over an Ethernet, specified by RFC 2516.

protocol: A set of rules that govern the transmission of data between interconnected devices to maintain or improve communication.

PSTN: Public Switched Telephone Network. The standard telephone network.

remote host: A host connected to, and distinguished from, the local host.

RJ11: A 6-position jack used with dial networks and telephone sets.

RJ45: An 8-position jack used with programmable dial networks.

server: Hardware or software that offers a specific service, such as database management, to a client.

subnet address: The subnet portion of an IP address.

subnet mask: A number that identifies the subnet portion of a network address, so that IP addresses can be shared on a local area network.

subnet: An addressable independent network segment.

xDSL: A generic term for all varieties of DSL.