NSP and *VIP*

Advanced Options Guide

0450-0667
Rev. B

esi

We Make It Easy To Communicate

Contents

About ESI
ESI (Estech Systems, Inc.) is a privately held corporation based in Plano, Texas. Founded in 1987, ESI designs and builds innovative telecommunications products for businesses like yours. Because of their powerful combination of value and features, ESI products are consistently recognized by industry publications and leaders.
*Visit ESI on the Web at **www.esi-estech.com**.*

Introduction

This document provides information for an ESI Reseller in setting up NSP and *VIP* remote options, which include:

- **Remote voice mail notification delivery to an e-mail client** — The ability to set your station options to be notified of new voice messages being left at your station when out of the office.
- **Using *VIP* in a remote office** — The ability to use *VIP* in a permanent location away from the site with the ESI phone system — *e.g.*, a home office or small branch office.
- **Performing remote system maintenance with *Esi-Access*** — The Installer's ability to use *Esi-Access* (one of the five modules of *Esi-Tools*) remotely to make adjustments to a site's phone system.
- **Easier connection to the phone system with *Esi-Admin* via the NSP** — The Administrator's ability to use *Esi-Admin* to program phone system features, such as extension feature authorization, through the NSP.

> **Note:** This document is intended for the ESI Reseller who will install (or assist on an installation) *VIP* remotely for the end user. The remote setup of *VIP* can be confusing for someone with little to no networking background.

There are many benefits to using the NSP and *VIP* remotely.

- The user can easily receive notification of voice messages at home or on the road when setting remote voice mail notification delivery. A great way to stay in touch with the home office without additional software.
- *VIP* can provide a remote user with a depth of tools that include call handling, call records, unified messaging, and missed call information.
- An ESI Reseller can save time by not traveling to a site and becoming more efficient in changing programming by using *Esi-Access* remotely.

> **Note:** There can be only one *VIP* client per remote office.

This document refers to other ESI documentation, which can be found on the Resellers' Web site at *www.esiresellers.com*. It would be helpful to print this documentation now so you don't have to stop:

- *NSP Installation Made Simple*, # 0450-0669
- *Remote IP Feature Phone Installation Manual*, # 0450-0450
- Phone system *Installation Manuals*
  - IVX X-Class, # 0450-0504
  - IVX E-Class, # 0450-0327
  - IP E-Class, # 0450-0368
  - IVX S-Class, # 0450-0457
- *VIP Setup and User's Guide*, # 0450-0513

> **Important:** The Cisco® Linksys® router, described in this manual (model BEFSR41), represents a standard device used in the industry today. Other routers will be programmed in a similar fashion. For additional help with this or any other router, consult the manufacturer's *User's Guide* for that router. (Linksys provides a detailed and helpful user's guide for its products at *www.linksys.com*.)

Remote voice mail notification delivery

Remote voice mail notification is the ability to set your station options so that when you're out of the office you can be notified of **new** voice messages being left at your station. There are two ways you can be remotely notified of voice messages:

• **External voice mail notification** sends a call to your cell phone and/or pager informing you of a voice mail message. To learn how to set this feature, consult the appropriate phone system *User's Guide* at *www.esiusers.com*.

• **Remote voice mail notification** sends e-mail to any e-mail account to inform you of a new voice mail message. The voice mail is not sent in .WAV file form but an e-mail text message that provides Caller ID, date, and time information only. You then call into the phone system to hear the voice mail. There are three different ways to set this feature – from *VIP*, from your ESI phone, or remotely from any phone.

> **Example:** Assume you have a home e-mail account with AOL. You'll be at your home office for the week, but also want to see a list of who's leaving voice messages on your ESI phone at the main office. Set the appropriate options (which will be discussed next) to have notification sent to your AOL account. Voice messages left on your ESI phone will then appear as
> e-mail messages at home using your AOL account. This is not actual voice mail that you can play through the ESI 48-Key Feature Phone but, rather, an e-mailed **notification** that gives you Caller ID information of who left the voice mail message. You must call into the phone system to listen to the voice mail message.

The benefit of viewing your voice mail notification is knowing exactly who is leaving a voice mail message before having to call into the system. If you have 10 voice messages, you don't have to listen to each one on the phone to discover whether the voice mail you've been waiting for is there; the list of voice messages in your e-mail account tells you this right away.
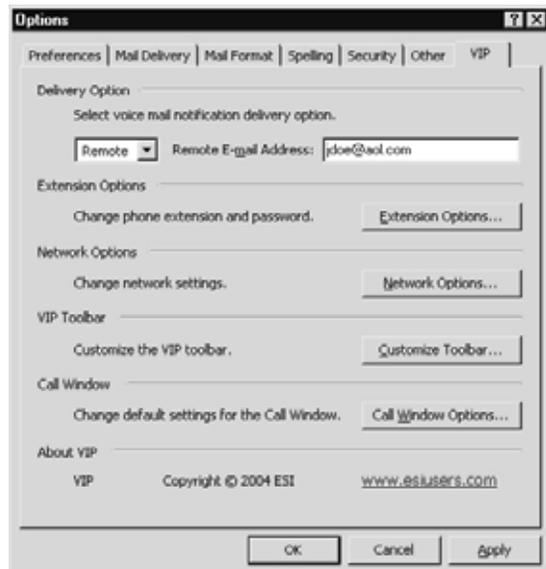
Setting the remote voice mail notification delivery option . . .

. . . From VIP

> **Note:** You don't need *VIP* on the remote PC to use the remote delivery option. *VIP* is simply one of the applications you **can** use to set this feature.

1. In *Outlook*, click **Options** on the *VIP* toolbar. The *Outlook* **Options** window will appear.
2. Click the **VIP** tab *(shown right)*.
3. Under *Delivery Option*, select **Remote**.
4. In the *Remote E-mail Address* box, type in the e-mail address at which you want to receive notification of new voice mail messages.
5. Click **Apply**.

> **Note:** When you're back at the office, you can play voice mail messages directly from *Microsoft Outlook* by changing the delivery option from **Remote** to **Local**. This is called *unified messaging*, and you **must** have *VIP* installed to use this powerful feature. (If you don't have *VIP* installed you can still get your voice mail by using the ESI Feature Phone.)

. . . From your Feature Phone

On your ESI phone, you will enable one of the following:

• **Remote voice mail notification** — Receiving notification of a voice mail message, when you're out of the office, in the form of e-mail to any e-mail account. This is not a .WAV file but, rather, a text e-mail that gives you Caller ID, time, and date information.

• **Local delivery** — Receiving actual voice mail messages in your *Outlook* Inbox, when you're in the office; these messages can be played through the 48-Key Digital Phone. This is called *unified messaging,* and you must have *VIP* installed to use this feature. (If you don't have *VIP* you can still listen to your voice mail from your ESI phone.)
Default: Local delivery.

Tip:	When accessing this programming option on the phone, the phone system will tell you what setting is already enabled and then gives you one choice to change the setting. Therefore if local delivery is enabled (option 1 on the phone), then your only choice is enabling option 2, remote notification (and vice versa).

Enabling remote voice mail notification

1. On your ESI phone, press **PROGRAM 6 5**.

2. Press **0**. (Phone prompt may call this "External e-mail notification")

3. You'll be prompted to enter an e-mail address to which the system should send the notifications. (If the e-mail address is already entered, skip to step 4.)

4. Press **#** to confirm.

5. Enter the forwarding e-mail address by using the phone dial pad as follows:

Keypress	Result
#	@
1	. (dot)
0	- (hyphen)
0	_ (underscore)
▼	Previous character
HOLD	Erases entire address

Example:	To enter the e-mail address *jdoe@aol.com*, you would enter the following . . .											

Address	J	D	O	E	@	A	O	L	.	C	O	M
Label:	5 (#)	3 (#)	6 (#)	3 (#)	**#** (#)	2 (#)	6 (#)	5 (#)	1 (#)	2 (#)	6 (#)	6 (##)

For instance: to get the letter **L**, press the **5** key three times (**J K L**). Once the correct character appears on the display, **press # to confirm** and then proceed to enter the **next** character. As you see, this means you must enter **two** pound signs at the end — one to confirm the last character, and one to confirm the entire address.

Characters **not** listed in the table for step 5 — such as **%** or **$** — can't be entered from the Feature Phone. However, you **can** enter these when setting remote delivery from *VIP* (see page 2).

Enabling local delivery

1. On your ESI Phone, press **PROGRAM 6 5**.

2. Press **1**. (The system prompt calls this "unified messaging.")

3. Press **#** to confirm.

Setting the remote voice mail notification delivery option from a remote location

> **Note:** For remote e-mail notification of voice mail messages, you must set a forwarding e-mail address from either *VIP* options or your ESI Feature Phone. **You cannot enter an e-mail address remotely.** See "Setting the voice mail notification delivery option from your Feature Phone" *(above)* to enter the forwarding e-mail address from an ESI Feature Phone.

1. Call into the ESI phone system.
2. If the auto attendant's main greeting answers, press ✷ and enter your mailbox number.
3. If the operator or another user answers, have the person transfer you by pressing **VOICE MAIL** and ✷, then pressing your station key (or entering your mailbox number) and then hanging up.
4. If required, enter your password.
5. Slowly press **5 6 5**. The phone system may not recognize all the digits if you dial 565 too fast.
6. Now, use the appropriate following procedure to select either (a.) enable remote voice mail notification or (b.) enable local delivery.

Enabling remote voice mail notification

1. Press **0**. (The system prompt may call this "external e-mail notification")
2. Press **#** to confirm.

> **Note:** You will not be prompted to enter an e-mail address because you cannot do that from a remote location. You must enter the e-mail address while you're at the main office or from *VIP*.

Enabling local delivery

1. Press **1**. (The system prompt calls this "unified messaging.")
2. Press **#** to confirm.

Using *VIP* in a remote office

> **Note:** This feature is supported only on E-Class (IVX/IP) Generation II and IVX X-Class phone systems. If you don't know which ESI phone system you have, consult your System Administrator.

A **remote office** is a **permanent** location away from the site with the ESI phone system — *e.g.*, a home office or small branch office. This can also include moving your laptop from office to home (or *vice versa*). The remote office must have an ESI **Remote IP Feature Phone**, which is used to receive and answer calls from the main office and play voice messages.

The remote *VIP* user receives all the benefits a local user does:
• **PC call handling** — Ability to manipulate calls coming in to your Remote Phone by placing calls on hold, transferring, etc.
• **Unified messaging** — Listen to voice messages from within *Outlook* and save them as .WAV files.
• **Call history** — A list of inbound, outbound, and transferred calls to your station.
• **Missed calls** — A list of missed calls[1] to your station.
• **Station programming** — Ability to program your Remote Phone from the PC.

Once the remote office is set up, refer to the *VIP Setup and User's Guide* for detailed information on these and many other features.

> **Notes:** There can only be one *VIP* client per remote office.
>
> ESI doesn't currently support *VIP* in a roaming office environment (*i.e.*, one without an ESI Remote Phone).

The next instructions will have you set up the main office first, then proceed to the remote office setup.

Main-office IP addresses and port numbers

You will need the following information to complete the main office setup. You should already have the numbers for 1 and 2 when setting up the Remote IP Feature Phone. See Appendix I (page 16) for a helpful tip on locating this information.

> **Important:** ESI **strongly** recommends that a **networking professional** perform the configurations needed at the main office.

1. NSP private static IP address _____
The NSP is a board located inside the ESI phone system. The Installer or Network Administrator would have the IP address assigned to this device.

2. Main office router's WAN IP address _____
The router located in the main office that's connected to the phone system has an IP address. Ask the Network Administrator for this number.

3. UDP/TCP port range for the main office router: **59002–59008.**
These ports will be port-forwarded to the NSP private static IP address in the main office router. This will allow *VIP* messages to be received from the remote office to the main office.
Verify that the port prefix has **not** been changed from 59. (If the prefix changed to 56, for example, the port range would be *56002–56008.*)

Now that you have this information, proceed with the main office setup, which will involve adding port forwarding to the router.

---

[1] Meaning, a call that (a.) didn't get answered by your station and (b.) didn't leave a voice message.

Main office setup

Here are three important considerations before we begin the main office setup:

1. We'll build on the router configuration that was done when installing a Remote Phone, so **verify that the Remote Phone is installed and working**. If it's not, refer to the *Remote IP Feature Phone Installation Manual* (# 0450-0450). Proceed to step 2 only **after** you've completed the Remote Phone installation.

2. **An NSP must be installed in the ESI phone system** for *VIP* to work locally or remotely. If the NSP is not installed refer to the *NSP Installation Manual* (# 0450-0439) or *NSP Installation Made Simple* (# 0450-0669). Proceed to Step 3 once the NSP is installed.

3. Remember that **you must** (as described below) **configure the main office NAT router to the TCP and UDP port range of 59002 through 59008, which must be port-forwarded to the NSP private static IP address**. (Remember that the Network Administrator may have changed the prefix of *59*, so verify this information before you proceed.)

Configuring the main office NAT router

1. On a PC, open a Web browser and, in the **Address** field, enter the IP LAN address of the router, which should be provided with the router documentation.[1]

2. The Web browser will load the configuration screen and should ask for your password. Enter the system password, if required.[2]

3. You should now be at the **Setup** menu. To allow the traffic bound for *VIP* through the router, the **Setup** tab needs to know the Internet connection type. This will already be done if the phone system has been configured for a Remote Phone or ESI-Link. However, if not, refer to the router's *User's Guide* for basic configuration instructions.

4. From the **Setup** screen, click on the **Applications & Gaming** tab.

> **Note:** In older Linksys routers, you'll click on the **Advanced** tab and then the **Forwarding** option. The screens are almost identical, regardless of versions.
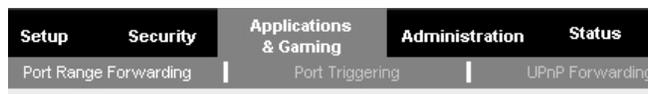
5. Add *VIP* ports 59002 through 59008.

6. Under the **Protocol** column, choose *Both*.

> **Note:** In older Linksys router versions, this may be listed as UDP/TCP. Other router versions may give you a selection of two boxes, **UDP** and **TCP**. If so, choose both boxes. If you are using a router that doesn't give provide a "**Both**" choice, you will have to enter the ports twice — once for UDP and once for TCP.

7. Under the **IP address** column, enter the NSP private static IP address then click **enable**.

8. Click **Save Settings** (or **Apply**).

The main office setup is complete. Proceed to the next section for setting up the remote office.

---

[1]   If you can't find that address, the Linksys router's default IP address is *192.168.1.1*.
[2]   The **default** for **both** the Linksys user name **and** password is *Admin.*

Remote office IP addresses and port numbers

There are specific IP addresses needed for the remote router and PC. Your Internet service provider (ISP) can provide you with the addresses needed for the router. However, the router should already have these addresses from the Remote IP Feature Phone installation.[1]

1. Here are the necessary router addresses.

    a. IP WAN address: _____

    b. Subnet mask: _____

    c. Primary DNS server: _____

    d. Alternate DNS server: _____

    e. Local IP address: _____

Assuming the addresses are already present in the router configuration, they can be easily found on the router software's **Status** tab (with the exception of the local IP address, which is listed under the **Setup** tab). Write down these addresses, because they will be used when configuring the PC. (If the addresses are zeroes, as in the screen shot at *right*, the router is not configured.)

Here's how the router's addresses will be used for the PC:

| Router addresses	How used on PC
Router subnet mask	PC subnet mask
Router local IP address	PC default gateway
Router primary DNS server	PC primary DNS server
Router alternate DNS server	PC alternate DNS server

2. Another important IP address is the **private static IP address for the actual PC**:

_____

Important:	A private static IP address must begin with *192*, *10*, or *172* (*e.g.: 192.168.X.X*; *10.X.X.X*; *172.16.X.X*).

The router in the remote office will have a static IP address of its own, which is where you'll get the PC's IP address. For example: if the router's IP address is *192.168.1.1*, then you can assign your PC's address within the range of *192.168.1.100* to *192.168.1.149* (choosing an IP address within this range is typically safest). You'll notice on the router's **Setup** screen that it gives a range of addresses. It's best to pick an address that has a high suffix, such as *192.168.1.100*.

3. Lastly, set the default range of *VIP* ports for the remote site NAT router: **59090 – 59096.** Again, verify that the prefix *59* hasn't changed. These ports will be forwarded to your PC's IP address.

Now that you have all the necessary IP addresses, proceed with the remote office setup — which will involve adding port forwarding to the router and the PC configuration.

---
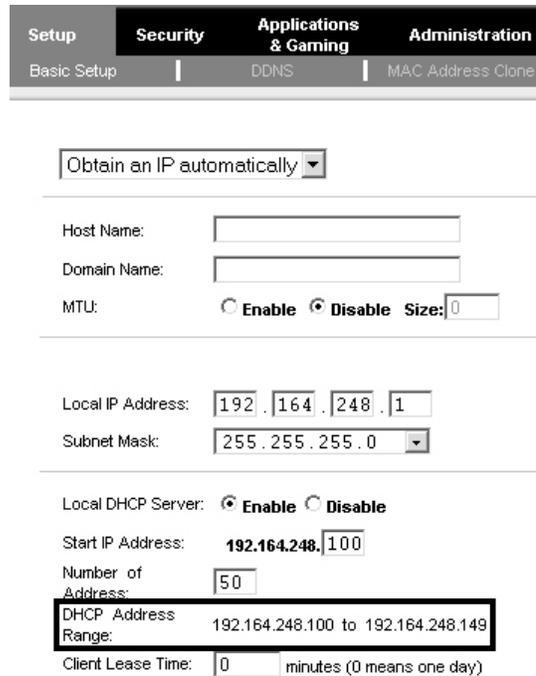
[1] Refer to *NSP Installation Made Simple,* #0450-0669, which explains networking in more depth.

Remote office setup

Configuring the remote office NAT router

The remote office NAT router must be configured with the default range of *VIP* ports, *59090* through *59096*, which must be port-forwarded to the PC's private static IP address.[1]

Configuring the main office NAT router

1. On a PC, open a Web browser and, in the **Address** field, enter the IP LAN address of the router, which should be provided with the router documentation.[2]

2. The Web browser will load the configuration screen and should ask for your password. Enter the system password, if required. (The **default** for both the Linksys user name **and** password is *Admin.*)

3. You should now be at the **Setup** menu. To allow the traffic bound for *VIP* through the router, the **Setup** tab needs to know the Internet connection type. This should already have been done when the Remote IP Feature Phone was installed. Remember that you need to set up the Remote IP Feature Phone first, since this document doesn't cover that installation.

4. From the **Setup** screen, click on the **Applications & Gaming** tab.

> **Note:** In older Linksys routers, you'll click on the **Advanced** tab and then the **Forwarding** option. The screens are almost identical, regardless of versions.

5. The Remote IP Feature Phone UDP port should already be listed.
Add *VIP* ports 59090 through 59096.

6. Under the **Protocol** column, choose *Both*.

> **Note:** In older Linksys router versions, this may be listed as UDP/TCP. Other router versions may give you a selection of two boxes, **UDP** and **TCP**. If so, choose both boxes. If you are using a router that doesn't give provide a "**Both**" choice, you will have to enter the ports twice — once for UDP and once for TCP.

7. Under the **IP address** column, enter the PC's private static IP address then click **Enabled** so that its box is checked.

8. Click **Save Settings** (or **Apply**).

---

[1] Remember that the Network Administrator may have changed the prefix (usually *59*), so verify this information before you proceed.
[2] If you can't find that address, the Linksys router's default IP address is *192.168.1.1.*

The PC's DHCP status

Before you move on to the PC configuration, it will be important to understand the DHCP status of your PC to ensure *VIP* is reliable in a remote location.

DHCP: An introduction

DHCP (Dynamic Host Configuration Protocol) is a TCP/IP protocol that enables PCs and workstations to get temporary or permanent IP addresses (out of a pool) from centrally administered servers. A DHCP server "leases" the IP address to a device for a predetermined period of time, and reclaims the address for reassignment at the expiration of that period. Therefore, DHCP allows a server to dynamically assign IP addresses to workstations on the fly.

Example: Assume you take a laptop from office to home each day. When you plug in the laptop at home, with DHCP enabled, the laptop is assigned an IP address. This IP address is *dynamic*, which means it may change. The address is typically "leased" for three days at a time. After that time, the address is reassigned if no one has used it. So, if you come home each day (or within the three-day period) you will more than likely get the same IP address over and over again.

However, let's say you leave for vacation and come back home five days later. When you plug in the laptop again, you may get a different address because the three-day "lease" time has expired.

Another scenario to consider would be if you have more than one computer in your home. Depending on when which computer was plugged in, you may or may not get the same IP address.


Why you need to know this information

The IP address of your PC is a key bit of information that will be entered in router programming for the remote office. If you have DHCP enabled, the PC's IP address may change constantly. That means that, **every day** that you want to use *VIP*, you'll have to verify the PC's IP address. If it has changed, you'll have to change the router configuration and the *VIP* settings in order to make *VIP* operational. This can easily cause confusion and frustration. If you're comfortable in dealing with the inconveniences that DHCP can cause in *VIP* use, that's fine. However, ESI recommends and supports use of *VIP* on **only** DHCP-**disabled** PCs — which means you'll need a static IP address assigned to your PC.

The next step is to verify the PC's DHCP status and enter the appropriate IP address.

Disabling DHCP status to enter the PC's static IP address

1. On the remote PC, click on the **Start** button, then select **Settings**.

2. Select **Network and Dial-up Connections**. On some *Windows* configurations, you can reach it as shown at *right*. On others, you will first have to select **Control Panel** and then double-click on an icon for **Network and Dial-up Connections**. If you're unsure of the correct procedure for this PC's particular *Windows* configuration, consult *Windows Help* or your System Administrator for assistance.
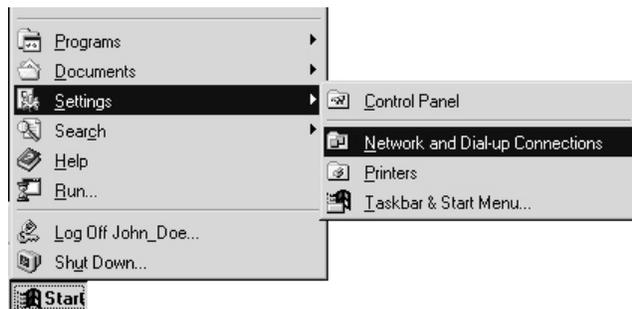
(Continued)

3. In **Network and Dial-Up Connections**, double-click
Local Area Connection *(below)*. You'll see its
**Status** box *(right)*.
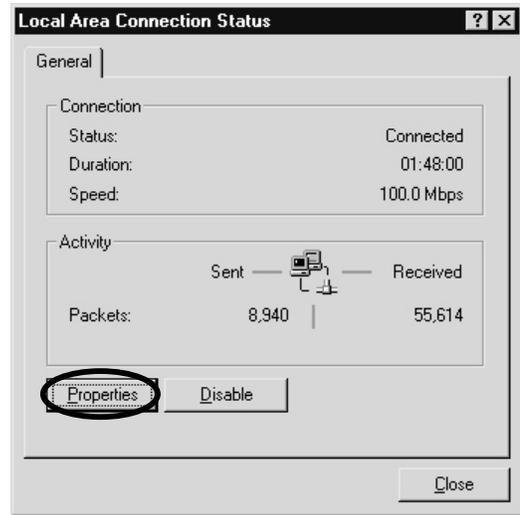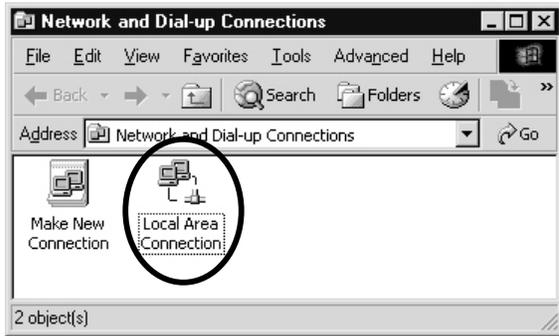
4. In **Local Area Connection Status**, click **Properties**.
This brings up the **Local Area Connection Properties**
box *(right)*, with a scrolling list of "components."

5. Scroll within the list until you see **Internet Protocol
(TCP/IP)** [1] and double-click it (or select it and
click **Properties**). You'll see the **Internet Protocol
(TCP/IP) Properties** box (see next step).

> **Note:** You may see multiple instances of the TCP/IP
> protocol bound to different adapters. If so,
> double-click the TCP/IP that appears for the
> network interface card (NIC) installed in the PC.

(Continued)

---
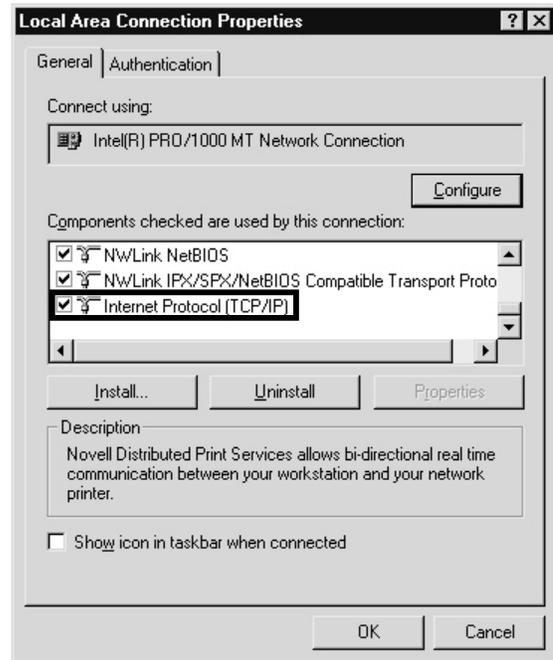
[1] If you don't see **Internet Protocol (TCP/IP)** and this PC is using *Windows 95/98/ME*, please see Appendix II (page 18) for
instructions on adding TCP/IP. However, someone with Administrator rights must add TCP/IP on a PC using *Windows NT/2000/XP*.

6. Select **Use the following IP address** to disable DHCP.
You'll now see five different fields open up. In these fields, enter the information you obtained from the router's **Status** tab. If you are still uncertain of the information you need, consult a network professional.

> **Note:** If this selection is **already** chosen and the DNS server fields contain information, **write down** the information before you move on to the next section, "Remote office router configuration."

Here's how the router's addresses will be used for the PC:

Router addresses	How used on PC
Router subnet mask	PC subnet mask
Router local IP address	PC default gateway
Router primary DNS server	PC primary DNS server
Router alternate DNS server	PC alternate DNS server
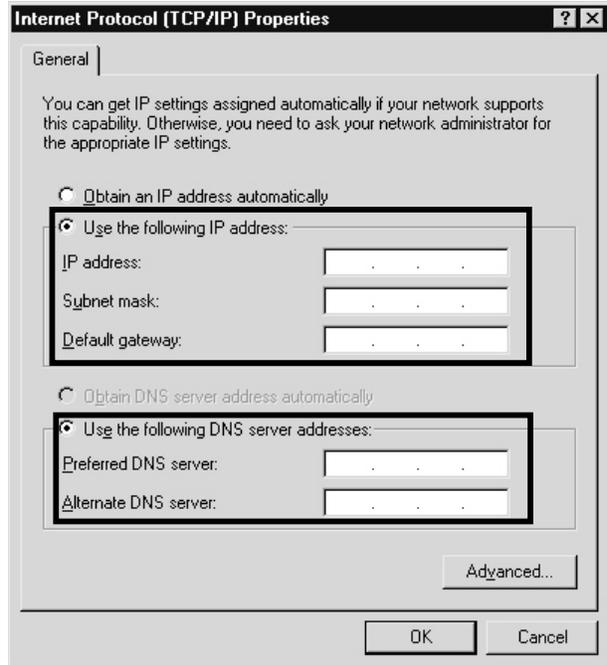
Once you complete this setup, proceed to "Using *PING* to check the NSP connection" (page 12).

> **Important:** If, at some point, anyone changes the Internet Protocol options by selecting "Obtain an IP address automatically," this will **erase** the IP addresses you entered in the five fields. Therefore, it's best to **make a note** of the addresses for your records.

Using *PING* to check the NSP connection

Use the **PING command** to verify that the remote site can connect to the NSP.

> **Note:** You must use this command while at the main office.

If you forgot a step or entered a wrong number somewhere in your configuration, you probably won't be able to connect to the NSP — which you must be able to do in order to use *VIP*. Using the *PING* command is an easy way to verify your configuration. *PING* sends an *echo* request from a PC to a specified address, and waits for the reply ("echo").

To use *PING*, go to a PC on the LAN.

1. Click on the *Windows* **Start** button and select **Run**. The **Run** window will appear.

2. Type `command` and click **OK**. This will open a DOS window.

3. In the DOS window, type `ping` and a space, followed by the NSP private IP address, and press **Enter**. Here (below) you see the results of a successful *PING* test. This means *VIP* should communicate to the NSP when launched.

```
C:\WINDOWS\system32\command.com
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-1999.

C:\>ping 10.0.5.115

Pinging 10.0.5.115 with 32 bytes of data:

Reply from 10.0.5.115: bytes=32 time<10ms TTL=60
Reply from 10.0.5.115: bytes=32 time<10ms TTL=60
Reply from 10.0.5.115: bytes=32 time<10ms TTL=60
Reply from 10.0.5.115: bytes=32 time<10ms TTL=60

Ping statistics for 10.0.5.115:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms
```

However, if "Request timed out" appears instead *(below)*, then you're not connecting to the NSP at the main office. Resolve this issue before proceeding to the next step. Go back through the steps described earlier in this *Advanced Options Guide*. You may wish also to consult *NSP Installation Made Simple* (# 0450-0669).

```
C:\WINDOWS\system32\command.com
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-1999.

C:\>ping 10.0.5.115

Pinging 10.0.5.115 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 10.0.5.115:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss).
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms
```

4. Once you successfully establish that you can connect to the NSP, install the *VIP* program, based on the instructions in the *VIP Setup and User's Guide* (# 0450-0513). Then go on to "*VIP* settings" (page 13).

VIP settings

To install *VIP* on the remote PC, follow the instructions in the *VIP Setup and User's Guide* (# 0450-0513), which can be found on either the *Technical Resource* CD or the ESI Resellers' Web site, *www.esiresellers.com*.

If you have previously installed *VIP* on this PC, verify that the *VIP* network setting box displays the router's IP WAN address:

1. In *Outlook*, click **Options** on the *VIP* toolbar. Then, in the **Options** window, choose the **VIP** tab.

2. Click **Network Settings**. Then, in the **VIP Network Settings** window *(below)*, enter the main office router's WAN IP address.
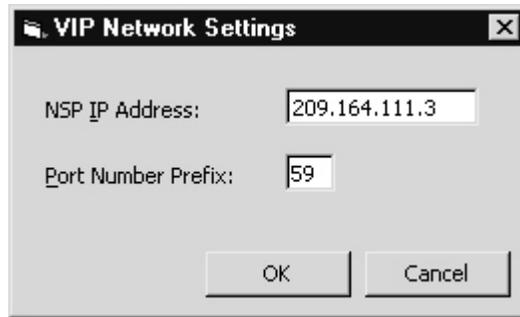
Common VIP error messages

1. Once *VIP* is installed, open *Outlook* and launch the **VIP Call Window**.
If you receive an error message, "Cannot connect to NSP IP address…" your setup (router, NSP, or PC) may be inaccurate. Verify **all** of the following:

    a. Router configuration (remote and main office).

    b. IP address entered in the **VIP Network Settings** box

    c. NSP is online at the main office

    d. 48-key Remote IP Feature Phone is operational.

> **Note:** Go back through your setup to verify the appropriate numbers were put in the correct fields when programming the router. If you still have problems with launching *VIP*, consult your Network Administrator or ESI Reseller.

2. If you receive an error message, "Cannot find TAPI line…" then something in your *VIP* setup is inaccurate. Refer to the "Troubleshooting" section in the *VIP Setup and User's Guide*, for several tips on fixing this error.

Remote maintenance with *Esi-Access*

Esi-Access, one of the five modules of *Esi-Tools*, gives the **Installer** the capability to program all phone system features, including IP addresses for Remote Phones and Esi-Link. *Esi-Access* can be used from a PC or laptop connected directly to the phone system on-site; it can also connect to the system remotely via TCP/IP or dialup. *Esi-Access* can be used remotely by the Installer to make adjustments to a site's phone system. This section will cover how to use *Esi-Access* in conjunction with the phone system's NSP for remote maintenance.

Required equipment and information:

• An NSP installed in the site's ESI phone system.

• You will also need to know the site's NSP IP address _____.

• The PC or laptop must have an Ethernet interface and have a broadband connection to the LAN, WAN, or Internet (depending upon the type of remote connection involved).

• TCP/IP port number **59002** for the site's router.

Esi-Access setup

1. Contact the site to port-forward TCP/IP port 59002 from the router to the NSP's IP address. Verify that the port prefix of *59* hasn't changed (if it changed to *56*, for example, the port number would be *56002* rather than *59002*). If the customers are unaware how to port-forward, have them refer to the router's *User's Guide*. The port forwarding works the same as described previously in "Configuring the remote office NAT router" *(page 8)*.

2. After port forwarding is complete, install *Esi-Access* on your PC. *Esi-Access* can be found on the *Technical Resource* CD or on the Resellers' Web site, *www.esiresellers.com*.

3. Follow directions in the *Esi-Tools User's Guide* (# 0450-0311) for setting up a site.

Connecting to the site

Important:	ESI **strongly** recommends connecting to the phone system via the NSP, for a faster and more stable connection.

Once the site is created, connect to the site using network communications, as follows:

1. Highlight the site and click **Program**.

2. For **Access Mode**, select **Online**.

3. For **Communications Type**, select **Network.**
   Two fields will now appear:

   a. **IP Address** —
   This will be the site's NSP IP address.

   b. **Port Number** —
   This typically will be *59002* unless the prefix, *59*, was changed.

4. Click **OK** to connect.

Once you are connected to the site, you can program features as if you were actually there.

Direct connection of *Esi-Admin* with the NSP

Esi-Admin provides the System Administrator access to the administrator programmable features within the phone system. System speed dials, extension feature authorization, group mailboxes, message notification options, cascade paging, and Q-and-A mailboxes can all be programmed from the PC (use a Feature Phone to record voice prompts, greetings and messages). The administrator can also print system reports and customized key overlays for Feature Phones and Expansion Consoles from system programming information. The Administrator can also connect to the phone system with either an RS-232 COM port or through the NSP.

This section will cover how to use *Esi-Admin* in conjunction with the phone system's NSP for maintenance.

Required equipment and information

- A Network Services Processor (NSP) installed in the site's ESI phone system.
- You will also need to know the site's NSP IP address _____.
- The PC or laptop must have an Ethernet interface and have a broadband connection to the LAN, WAN, or Internet (depending upon the type of remote connection involved).
- TCP/IP port number **59002** for the site's router.

Esi-Admin setup

1. Install *Esi-Admin* on the PC at the site. *Esi-Admin* can be found on the *Technical Resource* CD or on the Resellers' Web site, *www.esiresellers.com*.
2. Follow directions in the *Esi-Tools User Guide* (# 0450-0311) on setting up a site.

Connecting to the site

Once the site is created, connect to the site using network communications, as follows

1. Highlight the site and click **Program.**
2. Select **Online,** then **Network.**
   Three fields will now appear:
   a. **IP Address** — The site's NSP IP address.
   b. **Port** — This will typically be *59002* unless the prefix, *59*, was changed.
   c. **Password** — Administrator's password.
3. Click **Connect** to connect to the phone system.

Once you are connected, you can begin programming selected features.

Appendix I:
Checking existing address information

On *Windows NT/2000/XP*

1. Click **Start**, then **Run**.

2. Type in `command` and press **Enter**. This will bring up a DOS window.

3. At the "C:\" prompt, type `ipconfig /all` and press **Enter**. (Note that there's a space between `ipconfig` and the forward slash.) You will see a listing for *IP Address*. If there is no number listed, then DHCP is disabled on your PC.[1]
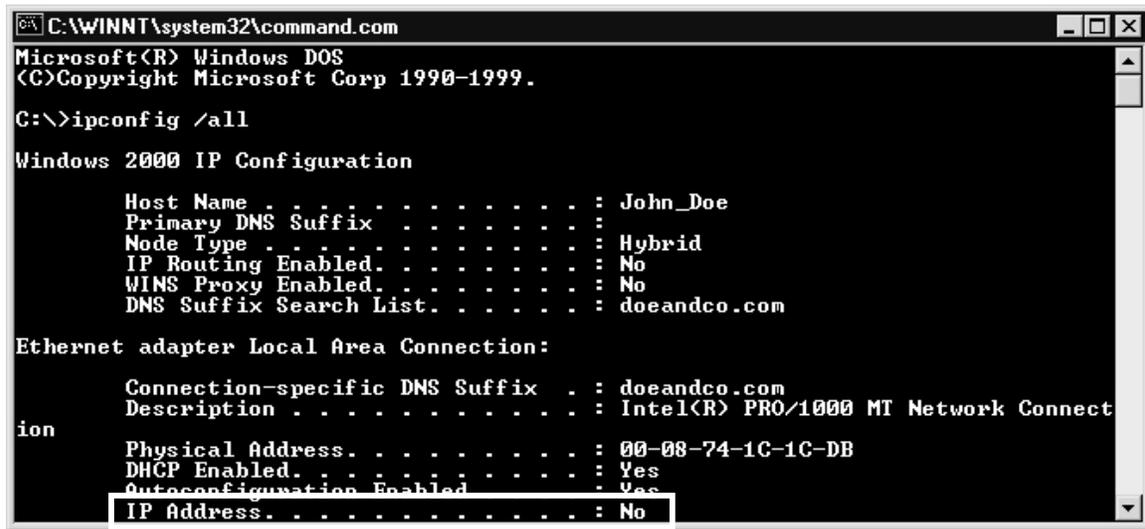
```
C:\WINNT\system32\command.com                                        _ □ ×
Microsoft(R) Windows DOS
(C)Copyright Microsoft Corp 1990-1999.

C:\>ipconfig /all

Windows 2000 IP Configuration

        Host Name . . . . . . . . . . . . : John_Doe
        Primary DNS Suffix  . . . . . . . :
        Node Type . . . . . . . . . . . . : Hybrid
        IP Routing Enabled. . . . . . . . : No
        WINS Proxy Enabled. . . . . . . . : No
        DNS Suffix Search List. . . . . . : doeandco.com

Ethernet adapter Local Area Connection:

        Connection-specific DNS Suffix  . : doeandco.com
        Description . . . . . . . . . . . : Intel(R) PRO/1000 MT Network Connect
ion
        Physical Address. . . . . . . . . : 00-08-74-1C-1C-DB
        DHCP Enabled. . . . . . . . . . . : Yes
        Autoconfiguration Enabled . . . . : Yes
        IP Address. . . . . . . . . . . . : No
```
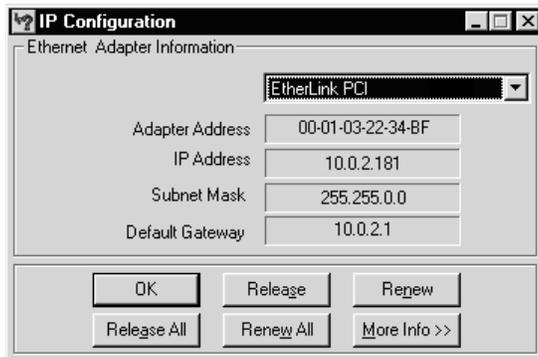
---

[1] If necessary, review "The PC's DHCP status," page 9.

On *Windows 95/98/ME*

1. Click on the **Start** button and select **Run**. The **Run** window will appear.

2. Type `winipcfg` and click on **OK**. The **IP Configuration** window will appear:

```
IP Configuration                          _ □ ×
┌ Ethernet Adapter Information ─────────────────┐
│              ┌─────────────────────────┐▼    │
│              │ PPP Adapter.            │      │
│   Adapter Address    44-45-53-54-00-00       │
│        IP Address        0.0.0.0             │
│       Subnet Mask        0.0.0.0             │
│    Default Gateway                           │
│                                              │
│     ┌────OK────┐   Release      Renew        │
│     Release All    Renew All   More Info >>  │
└──────────────────────────────────────────────┘
```
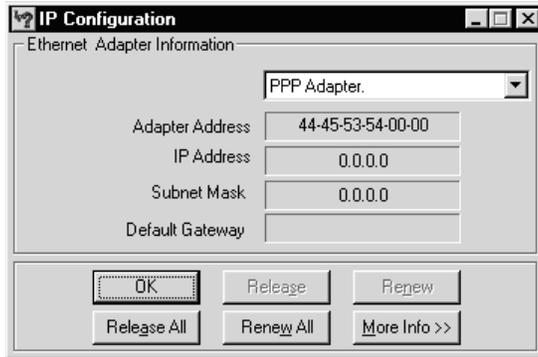
3. Choose the *Ethernet adapter* in the dropdown box:

```
IP Configuration                          _ □ ×
┌ Ethernet Adapter Information ─────────────────┐
│              ┌─────────────────────────┐▼    │
│              │ EtherLink PCI           │      │
│   Adapter Address    00-01-03-22-34-BF       │
│        IP Address       10.0.2.181           │
│       Subnet Mask       255.255.0.0          │
│    Default Gateway       10.0.2.1            │
│                                              │
│     ┌───OK───┐    Release      Renew         │
│     Release All    Renew All   More Info >>  │
└──────────────────────────────────────────────┘
```

4. The **IP address** field is the IP address assigned to the PC; you should choose an IP address in the same subnet for the NSP.
In the example shown, the IP address is assigned via DHCP.[1] You can tell this by looking at the **Release** and **Renew** buttons. If the PC, as above, is set to DHCP, then those buttons will be selectable buttons. If the PC is not set to DHCP, then those buttons will be "grayed-out" (*i.e.*, not selectable). In either case, you usually will be able to pick a very high IP address in the range, and use that as the NSP's IP address.

5. The **Default Gateway** shown in the window is the local IP address of the router. Use this local IP address as the default gateway when programming the Remote IP Feature Phone.

---

[1] If necessary, review "The PC's DHCP status," page 9.

Appendix II:
Installing the TCP/IP protocol

Windows 95/98/ME

> **Important:** Have the PC's *Windows* CD-ROM close at hand, in case *Windows* requires files from it during this procedure.

1. Click on **Start**, choose **Settings**, then choose **Control Panel**.
2. Double-click the **Network** Icon. The **Network** dialog box appears. Select its **Configuration** tab.
3. Click the **Add** button.
4. Double-click on **Protocol**.
5. Highlight *Microsoft* under the list of **Manufacturers**.
6. Find and double-click **TCP/IP** in the list that appears on the right.
7. After a few seconds, the main **Network** window will appear. **TCP/IP Protocol** should now be listed.
8. Click **OK**. *Windows* may ask for the original *Windows* installation files. Supply them as needed.
9. *Windows* will ask you to restart the PC. Click **Yes**.

Windows NT/2000/XP

Windows NT, *2000,* and *XP* require Administrator rights to install the TCP/IP protocol. ESI recommends that a *Windows NT/2000/XP*-qualified technician perform this task on a PC running any of these operating systems.

Index

esi

We Make It Easy To Communicate
www.esi-estech.com