# Getting Started with pcXset

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# GETTING STARTED WITH PCXSET

This guide explains how to install and configure the NBX® pcXset™ Soft Telephone Client software. The information in this guide is designed for installers and technical support representatives. Only users with administrative privileges can install and configure the software.

This guide explains how to install and configure the pcXset application. It is designed for resellers and technical support representatives.

Use this guide in conjunction with the following documents:

- *NBX Administrator's Guide*

  This guide describes how to change and manage the NBX system after initial installation and configuration. It is intended for installation technicians and administrators.

- *NBX Business Telephone Guide*

  This guide provides an overview of the features in the NBX system as they relate to the NBX Business Telephone.

Use the NBX NetSet™ utility to access these documents. These guides can also be found on the *Resource Pack CD*.

## Overview

The pcXset PC Telephone is a software application that enables a user's computer to have the same features and functions as an NBX Business Telephone. Using the pcXset software is similar to using an NBX Business Telephone except that the telephone has a handset while the pcXset software requires a headset with a microphone connected to the client computer. You use the computer's mouse and keyboard to operate the pcXset controls.

*3Com recommends that you use a USB headset with your computer. Do not use the computer's built-in speaker and microphone due to sound quality issues.*

*The pcXset software can accept calls only when both the client computer and the pcXset software are running. However, voice mail messages are received and stored on the NBX system even if the pcXset computer is not running.*

The pcXset Help contains instructions for using the application. For detailed instructions on using the pcXset software, select *Contents* from the *Help* menu.

The *NBX Business Telephone Guide* has similar instructions, except for the obvious differences between using the controls of a physical telephone and the controls of a software program.

## Computer Requirements

The computer on which you install the pcXset software must meet the following hardware and software requirements:

- **Processor** — Minimum Pentium 333MHz. Recommended 500 MHZ or higher.
- **Operating system** — Windows 98, Windows ME, Windows 2000 (Server and Professional versions) and Windows XP (Home and Professional). Recommended Operating System is Windows 2000 or Windows XP.
- **RAM** — 32 MB (Windows 98), 64 MB (Windows 2000)
- **Video display** — 640 x 480 pixels with 16 colors minimum. 3Com recommends 800 x 600 pixels with 256 colors or greater.
- **Network** — An Ethernet network adapter.
- **Audio** — A USB handset or headset with microphone.
- **Disk Space** — 40 MB of free disk space
- **USB headset with microphone**
- **Please avoid the following:**
  - PC sound card systems.
  - Poor quality headset.
  - Using speakers and a separate microphone. See "DTMF Tones Echo Back to the Analog Line Card" for more information.

## Installing the pcXset Software

You install the pcXset software from the *NBX Resource Pack CD*.

Each NBX system is shipped with one pcXset license. To use more than one pcXset Soft Telephone on a system, you must purchase additional pcXset licenses and enter the license key into the NBX system.

***CAUTION:*** *Do not install the pcXset software on the same computer on which NBX ConneXtions is installed.*

To install the pcXset software:

1. Insert the *NBX Resource Pack CD* into the CD-ROM drive of the client computer.
2. On the *NBX Resource Pack* dialog box, click *NBX Applications* and then click *NBX pcXset* to begin the installation wizard.
3. Reboot the computer to complete the installation.

*You must reboot the computer to finish installing the pcXset software driver.*

This completes the installation process. You must now configure the pcXset software before you can begin using it.

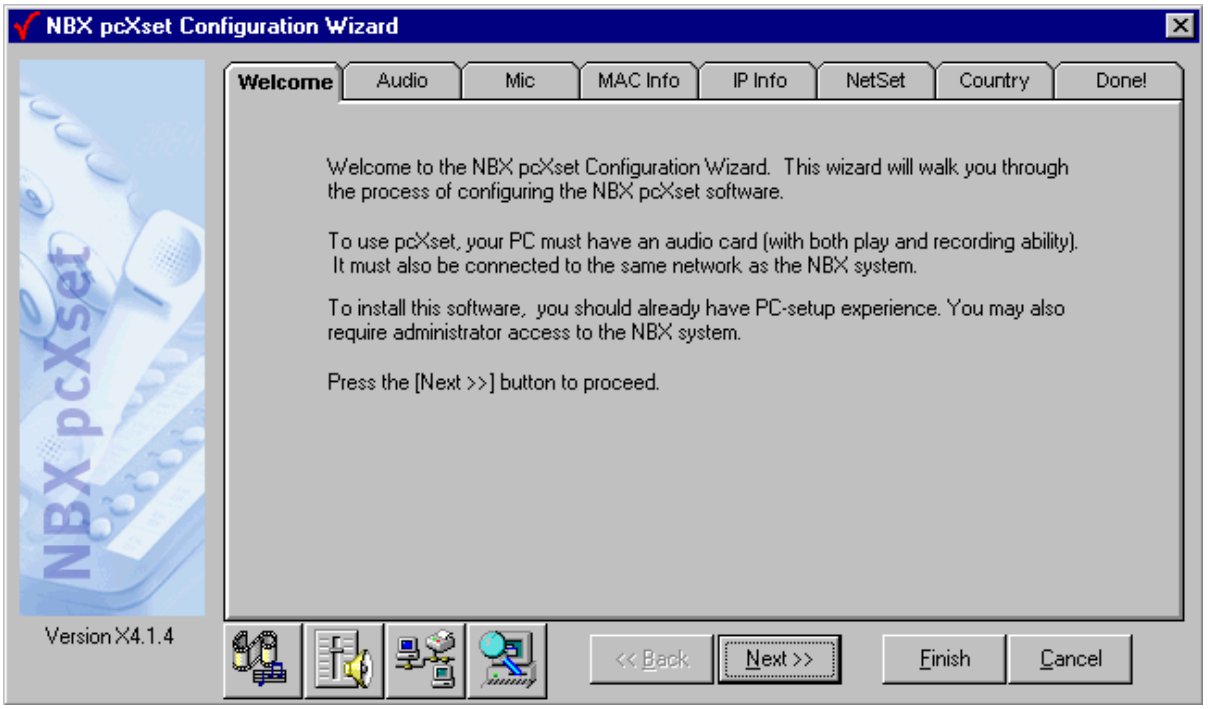
## Configuring the pcXset Software

You must configure the pcXset software so that it can interact with both the Call Processor and with the computer on which it is installed.

To configure the pcXset software:

1 Select **Start > 3Com NBX > NBX pcXset Configuration Wizard**. The Configuration Wizard window appears (Figure 1).

**Figure 1** Configuration Wizard Window




2 Use the buttons described in Table 1 to access Windows configuration for your PC setup:

**Table 1** Windows Access Buttons

| Windows Configuration Type | Button |
|---|---|
| Multimedia Control Panel — Displays Multimedia properties for your PC. | |
| Volume Control — Allows you to set the volume for speaking and listening using the pcXset application. | |
| Network Control Panel — Provides information on network devices, such as network interface card parameters, protocols, and IP addresses. | |
| Microsoft System Information — Displays information about your system, such as operating system, memory, and processors. You must specify the MAC address of your network adapter if you manually add the pcXset client as a new device in the NBX system. | |

**3** Use the Configuration Wizard tabs to configure the pcXset software.

- **Welcome** — Introduction.
- **Audio** — Test the client computer's audio controls for compatibility with the pcXset software.
- **Mic** — Test the headset microphone's compatibility with the pcXset software.
- **MAC Info** — Enter the NBX system's MAC address.
- **IP Info** — Enter the NBX system's IP address, subnet mask, and default gateway. The wizard can locate this information automatically.
- **NetSet** — Add the pcXset software to the Call Processor using the NetSet utility.
- **Country** — If you want the pcXset tones and cadences and Help to use the same regional settings as the NBX system, select the a setting on the Country tab. To specify different regional settings for tones and cadences and Help, enable the *Use Advanced Settings* check box and click *Advanced*.
- **Done!** — Finish the pcXset configuration process.

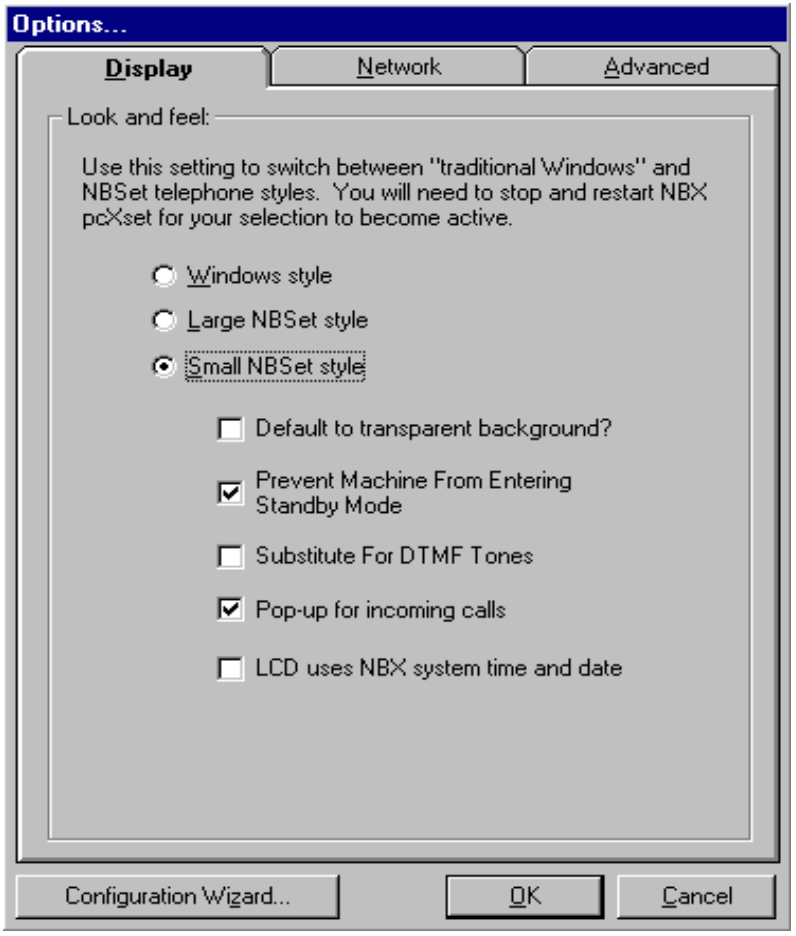
The user can now start using the pcXset application, and may customize the pcXset display and other settings at any time.

## Customizing pcXset's Display

After you launch pcXset, you can set the pcXset display:

1 Select **pcXset Tools > Options > Display**. See (Figure 2).

**Figure 2** Options Dialog Box - Display Tab



**2** Select from the following display types:

- **Windows style** — This Windows application-style appearance (Figure 3) is recommended for computers with a video card capable of displaying only 256 colors.

**Figure 3** Windows-style Display

- **Large NBSet** or **Small NBSet** — You can set this realistic telephone display (the classic NBX Business Telephone as shown in Figure 4) to large or small to suit your preference. To display only the telephone image on the screen, select **Display > Default to transparent background?** or, when the pcXset application is running, double-click the telephone image to remove the grey background.

**Figure 4** NBSet-style Display

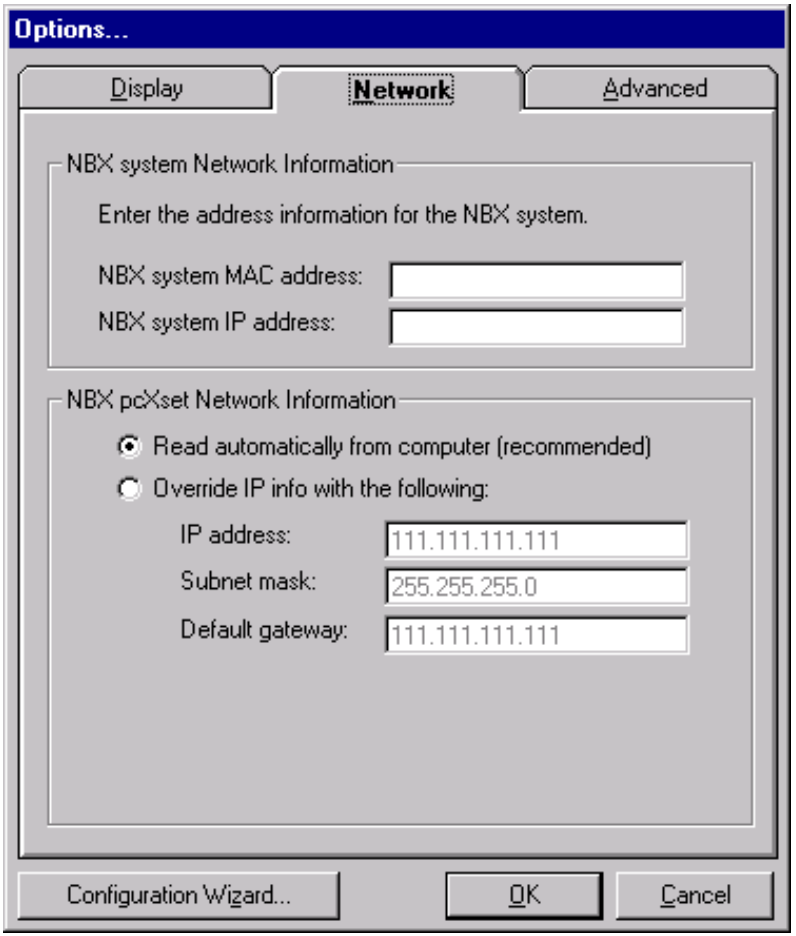
- **Prevent Machine from Entering Standby Mode** — (See Figure 2) A call that comes in to the pcXset application when your computer is in standby mode is transferred to voice mail. This setting is enabled by default to prevent your computer entering standby mode.
- **Substitute for DTMF tones** — (See Figure 2) Check this box to hear a "click" sound when you dial using pcXset software instead of the normal DTMF tone that you hear when dialing with a regular

telephone. This substitution makes the pcXset software sound more like a PC application.

## Configuring Network Settings

In the *Network* tab (Figure 5), you can customize or adjust the network settings that you applied in the Configuration Wizard.

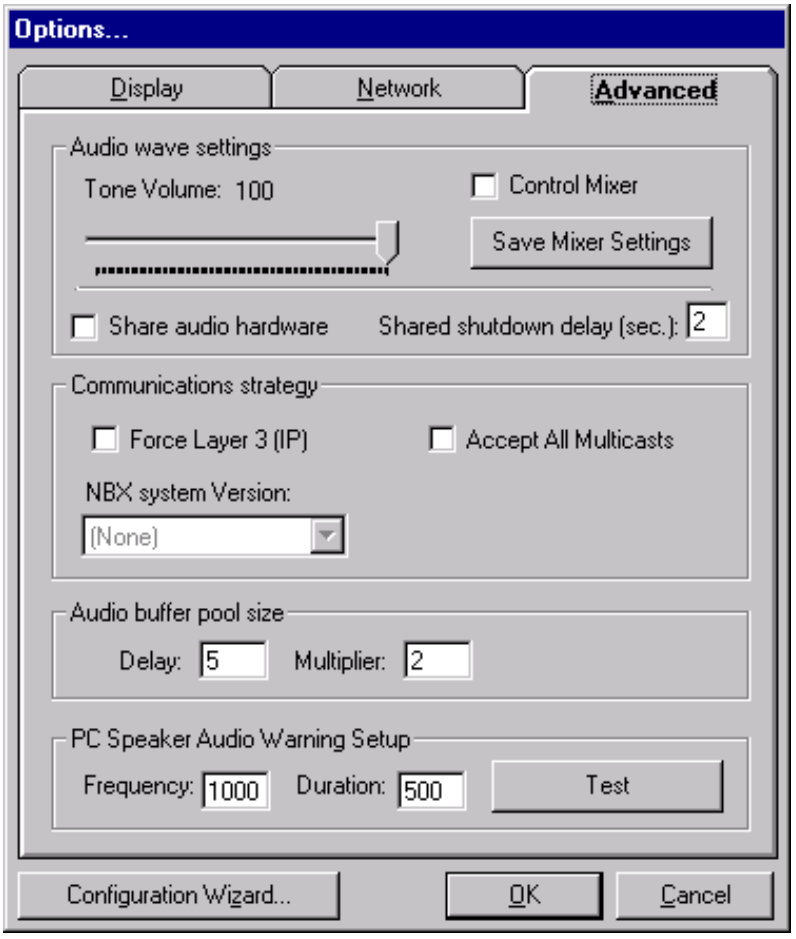
**Figure 5** Options Dialog Box - Network Tab



## Configuring Advanced Settings

Use the *Advanced* tab (Figure 6) to adjust your audio parameters and communications strategy.

**Figure 6** Options Dialog Box - Advanced Tab




- **Tone Volume** — Allows independent volume control of dial tone, dialing, and DTMF tone sounds (that is, telephone audio tones) which are generated when you press digits to dial a telephone number.
- **Control Mixer** — A mixer program controls settings such as the amplification level of the microphone, computer volume, CD device, and wave play. The mixer program, which is called *Volume Control* on Windows machines, is typically available by an icon in the system tray.

*You can also access the Volume Control program by clicking the* Volume Control *icon (see* Table 1*) in the NBX pcXset Configuration Wizard.*

You can set and save a set of mixer state values for use with the pcXset application. Each time you start the pcXset application, it uses these saved values instead of the Windows default values. To set and save the mixer values for pcXset, open the Volume Control window, start the pcXset application and:

**a** Click **Tools > Options.** On the **Advanced** tab, enable the **Control Mixer** check box.

**b** Set the volume control to the value you want to use with pcXset.

**c** Click the **Save Mixer Settings** button.

**d** Set the mixer amplification levels back to the values you want to use as the Windows default values.

When the pcXset application is active, it uses the saved mixer amplification levels. When pcXset is not the active window, it uses the Windows default values.

To verify this:

**a** Open the volume control window.

**b** Start the pcXset application and observe the volume control settings.

**c** Exit from the pcXset application and observe that the volume control mixer settings change from the values used by the pcXset application to the Windows default values.

- **Share audio hardware** — Enable this selection for the pcXset software to share the audio hardware recording channel. If you do not enable this, you must close the pcXset application before any other applications can use the audio hardware recording channel.
- **Shared shutdown delay (sec.)** — If you have chosen to share the audio hardware and find that the pcXset application is cutting off the audio, increase this value. For example, increase the value if the tones are distorted when you dial a telephone number. The default value for this setting is 2 seconds.

***CAUTION:*** *Increasing the value too much can also prevent the pcXset application from playing tones properly or prevent other applications from using the shared audio hardware, which could result in audio sharing conflicts. See* "Troubleshooting" *for more information.*

- **Force Layer 3 (IP)** — Select *Force Layer 3* to force the pcXset software to use Layer 3 IP addressing to communicate with the NBX

system. When you use Layer 3, the pcXset application requires the IP address of the NBX system. You specify this setting using the pcXset Configuration Wizard, or using the *Network* tab of the *Options* dialog box.

When you use Layer 3, you must also specify the version of your NBX software.

- **Accept All Multicasts** — Some Ethernet cards do not fully support selective multicasting communication. Select this option if you are experiencing problems with conference calls or internal or external paging.
- **Delay** and **Multiplier** — The size of the audio buffer pool is a product of Delay and Multiplier. Higher multipliers and lower delays generally produce an optimal audio setup. Higher overall values may improve audio quality for slower machines at the expense of a small communications delay. Lower overall values improve audio responsiveness, but may result in some audio break-up for slower machines.
- **PC Speaker Audio Warning Setup** — These values determine at which frequency and for how long your PC plays a sound when there is an incoming call. Press *Test* to hear a sample tone.

## Editing the Access Button Labels and Tooltip Pop-ups

You can edit the labels to the right of the Access buttons on both the NBX Telephone display and the Windows style display. You can add brief text that describes the feature or speed dial that you have assigned to the button. You can also add a description that appears as a "tooltip" comment when you place the cursor over any of the buttons.

To edit the label and tooltip of a button:

1. Right-click any of the Access buttons. The Button Properties dialog box appears (Figure 7).

**Figure 7** Button Properties Dialog Box

2. Enter a brief, descriptive name in the *Button text* field.

*If the name is longer than five or six characters, it may be truncated on the Access button labels.*

3. Enter a more descriptive comment in the *Tooltip text* field. You can use up to 100 characters.
4. Click *OK*. The text appears on the Access button labels in any of the displays.

## Keyboard Shortcuts

Table 2 lists the keyboard shortcuts you can use instead of clicking telephone control buttons with the mouse.

**Table 2** Keyboard Shortcuts

| Press Key | To Select |
|---|---|
| 0 through 9 | Digits 0 through 9 |
| * | Star |
| # | Hash or pound |
| F1 through F12 | Line Appearance Buttons L1 through L12 |
| Esc | Speaker |
| S | Speaker |
| R | Redial |
| C | Conference |
| T | Transfer |
| H | Hold |
| F | Forward Voice Mail |
| V | Voice Mail (Msg) |
| A | Handsfree |
| M | Mute |
| P | Program |
| Up Arrow | Volume Up |
| Right Arrow | Volume Up |
| Down Arrow | Volume Down |
| Left Arrow | Volume Down |

Alternatively, you may use 0 through 9 and * on the numeric keypad on your computer's keyboard. Use "." (the period key) for hash or pound. Before you use the keypad, verify that Num Lock is on.

## Troubleshooting

This section outlines possible problems that you may encounter when you install and use the pcXset software for the first time. It includes error messages, problem descriptions, and recommended solutions. The pcXset log file (pcXset.log) is in the pcXset installation directory.

*Some of the errors described in this section are audio card problems. Audio card errors have an error number of [8004xxxxH]. Note, however,*

*that 3Com recommends that you use your system's USB audio capabilities rather than using sound card audio.*

**Audio Buffers Need Adjusting**

Choppy audio occurs during telephone conversations or during the audio test in the Configuration Wizard, or there are delays in audio playback during telephone conversations.

**Description**

This problem is caused by incompatible audio buffer size settings.

**Solution**

Audio buffer size settings are expressed as two values: Delay and Multiplier. The product of these numbers represents the overall size of the buffer pool. Lower values for these numbers reduce echo delay. Higher values increase audio quality. Change these values in any of these ways:

- Select **Configuration Wizard > Audio > Audio Configuration**
- Select **Configuration Wizard > Mic > Audio Configuration**
- Select **Options > Advanced**

These numbers depend on your computer hardware and operating system. Experiment with different value combinations to see how low you can adjust the product of the delay and multiplier and still achieve good audio quality.

**Audio Sounds Distorted**

Audio sounds choppy while on a conference call.

**Description**

You must configure some Ethernet cards to accept all multicasts to improve audio quality.

**Solution**

1. Run the pcXset software.
2. Select **Tools > Options > Advanced > Accept All Multicasts.**

**Audio Stream Error**

This type of error occurs when the pcXset software is trying to play or record audio.

The following messages appear during an audio test, microphone test, or during pcXset startup:

```
Error code: [80044802H]

   Error running audio stream from engine. Could be caused by
   accidentally running pcXset and the configuration wizard
   at the same time.
```

A similar message may appear in the log file:

```
ERROR: XXXXX [80044802H]

   Error running audio stream from engine. Could be caused by
   accidentally running pcXset and the configuration wizard
   at the same time.

Error code: [80041000H] Error Message: XXXXX Context: XXXXX

   This error has occurred in the Wave Audio object. Please
   contact your technical support representative.
```

A similar message may appear in the log file:

```
ERROR: XXXXXXXX [80041000H]

   This error has occurred in the Wave Audio object. Please
   contact your technical support representative.
```

### Description

You cannot hear pcXset audio with the audio card.

### Solution

1. Select one of these:
   - Windows 9X and Windows NT

     **Start > Settings > Control Panel > Multimedia > Audio**
   - Windows 2000

     **Start > Settings > Control Panel > Sounds and Multimedia > Audio**
   - Windows XP

     **Start > Control Panel > Sounds and Audio Devices**
2. Verify that there are valid entries in the *Preferred device* drop-down lists for *Playback* and for *Recordin*g.

**3** Use Windows Sound Recorder to verify that you can play the wave files. See the solution under "Full-Duplex Errors", later in this guide, for more information.

## DTMF Tones Echo Back to the Analog Line Card

The pcXset software cannot make external calls through any Analog Line Card port, but calls to internal extensions are successful. Typically, the call fails the first time, but succeeds if you click Redial.

### Description

This error occurs when DTMF tones echo from the PC speakers back into the microphone, causing the Analog Line Card to receive each outpulsed digit twice.

### Solution

Select **Options > Display > Substitute For DTMF Tones**. This option replaces DTMF tones with clicks. The Analog Line Card ignores the clicks when they echo back to the TLIM. You can also use headphones to alleviate this problem.

## Full-Duplex Errors

Full-duplex audio is an audio card's hardware ability to play and record audio at the same time.

The following related message appears during an audio test or microphone test:

```
Error code: [80042004H] Error Message: XXXXX Context: XXXXX

The likely cause of this error is lack of full-duplex audio.
```

A similar message may appear in the log file:

```
ERROR: XXXXX [80042004H]

The likely cause of this error is lack of full-duplex audio.
```

### Description

This error occurs when the pcXset software attempts to use the audio card while another application is recording audio. It also happens when the audio driver does not support full-duplex audio.

You can use Windows Sound Recorder to verify that the audio subsystem supports full-duplex by running two Windows Sound Recorder

applications at once. Play a wave file in one application while recording in another application. If you get an error message, your audio card does not support full-duplex audio.

### Solution

Use a USB audio headset.

**Incorrect IP Address for the Call Processor**

The following message appears during pcXset startup or after you click *Test* on the *IP Info* tab of the Configuration Wizard.

```
Error code: [80043002H] Error Message: XXXXX Context: XXXXX

This error has occurred in the Winsock subsystem. Please
check your IP configuration. Especially your NCP IP address.
```

A similar message may appear in the log file:

```
ERROR: XXXXX [80043002H]

This error has occurred in the Winsock subsystem. Please
check your IP configuration. Especially your NCP IP address.
```

### Description

The Winsock call connect, used to determine the correct local interface during Auto IP determination, received the error. This error normally occurs if pcXset has an incorrect IP address for the Call Processor or cannot connect to that Call Processor due to network problems.

### Solution

1. Verify the Call Processor IP address. See "Configuring the pcXset Software" for more information.
2. Verify the network connection by pinging the Call Processor from the DOS prompt.

**NBX Packet Driver Error (Windows NT Only)**

The following message appears during pcXset startup:

```
Error code: [80046000H] Error Message: XXXXX Context: XXXXX

This error has occurred in the Communications object. Please
contact your technical support representative.
```

A similar message may appear in the log file:

```
ERROR: XXXXX [80046000H]

This error has occurred in the Communications object. Please
contact your technical support representative.
```

### Description

This error occurs if the system cannot open the packet driver (Layer 2).

### Solution

1. Select **Start > Options > Control Panel.**
2. The next steps depend on your operating system:
   - **Windows NT** — Select **Network > Services** and look for the NBX Packet Driver entry.

     If the NBX Packet Driver entry is missing, install the driver manually (select **Network > Protocols**). The driver is in the Packet subdirectory of the pcXset application directory.

     If the NBX Packet Driver entry exists, click the *Bindings* tab to determine if the driver has been bound to the network adapters. If not, try uninstalling and reinstalling the driver.
   - **Windows 2000** — Select **Network and Dialup Connections icon > Local Area Connections > General** and look for the NBX Packet Protocol Driver entry.

     If the NBX Packet Driver entry is missing, click *Install* to install the driver manually. The driver is in the Packet subdirectory of the pcXset application directory.

     If the NBX Packet Driver entry exists, you must determine if the driver has been bound to the network adapters. Select **Network and Dialup Connections > Advanced > Advanced Settings.** The driver should be visible in the *Adapters and Bindings* tab.

     If not, try uninstalling and reinstalling the driver.
   - **Windows XP** — Select **Network Connections > Local Area Connection** and then click Properties to open the Network dialog. On the General tab, look for the *NBX Packet Driver* entry.

     If the NBX Packet Driver entry is missing, install the driver manually (select **Network > Protocols**). The driver is in the Packet subdirectory of the pcXset application directory.

If the NBX Packet Driver entry exists, click the *Bindings* tab to determine if the driver has been bound to the network adapters. If not, try uninstalling and reinstalling the driver.

### The pcXset Software Won't Initialize

If the pcXset software does not initialize, a message like the following may appear:

```
ERROR: [80046000H]

Error Message: H3InitDefault failed

Context: Starting

This error has occurred in the Communications object. Please
contact your technical support representative.
```

#### Solution

If you receive an initialization error, do one or more of the following:

- Verify that you have enough pcXset licenses. The SuperStack 3 NBX system ships with only one pcXset license.

To view the number of user licenses that you have installed:

1. Log on to the NetSet utility as an administrator.
2. Select **Operations > Licenses.**

You can purchase additional licenses from your authorized NBX reseller.

- Verify that you have connectivity with the Call Processor. Try to ping the Call Processor IP address entered on the *IP Info* tab of the Configuration Wizard, for example, 192.168.1.190. If you cannot ping the Call Processor, then the pcXset software cannot communicate with it either.
- If you are attempting to use autodiscover, verify that *Auto Discover Telephones* is enabled. In the NetSet utility, select **System Configuration > System Settings > System-wide.**
- Verify the NBX system MAC address. Select **Configuration Wizard > MAC Info > Reports > *System* Data.**
- Verify that you have selected the active network adapter on the *MAC Info* tab. If you are unsure which device to select, use your computer's Control Panel to view device settings and verify the adapter driver that is started.

### PC Standby Mode Causes pcXset Calls to be Missed

The pcXset application does not wake a PC from standby mode on an incoming call, so the user misses incoming calls.

#### Description

The pcXset software provides no mechanism to wake a computer from standby mode. However, you can set it to prevent the machine from entering standby mode.

*Not all computers support standby mode properly. Therefore, pcxset may not be able to stop the PC from going into standby mode.*

#### Solution

Select **Options > Display > Prevent Machine from entering Standby Mode.**

### Audio Driver Configuration Error

The following message appears during an audio or microphone test, or during the pcXset software startup:

```
Error code [8007xxxxH] Error starting stream. Ensure that
this computer's multimedia devices are properly installed.
```

A similar message may appear in the log file:

```
ERROR: Error starting NBX pcXset [8007xxxxH] Error starting
stream. Ensure that this computer's multimedia devices are
properly installed.
```

#### Description

The Waveform Audio interface returned an error code. There is a problem with the wave play device.

#### Solution

1. Open your computer's Control Panel and view the **Multimedia** or **Sounds and Audio Devices** settings.
2. Verify that there are entries in the **Preferred Device** drop down lists for **Playback** and for **Recording**.
3. To verify that you can play wave files.