

# ES/PCI Lockup Check List

The ES/PCI card is a PnP device. PnP stands for Plug and Play. PnP eliminates the frustration of configuring IRQ and DMA settings and I/O and memory addresses. Sometimes this turns out to mean Plug and Pray, causing lockups and other problems. This document contains a list of suggestions to resolve lockups with your ES/PCI card. The checklist is on this first page, the procedures to follow are on the following pages.

- 1) For Windows 2000 Professional, make certain that you log on as the System Administrator to install it. Users must be defined as Power Users.
- 2) Make certain that you uninstall any previous versions of ES32 or ES95.
- 3) Make certain that you have the latest version of ES/PCI software, which is 5.0.1.3.
- 4) Make certain that you have the correct device driver installed.
- 5) Check for conflicts in the Device Manager.
- 6) Make certain that no parts are damaged on the board.
- 7) Move to a different PCI slot. Make certain that the card is screwed down tightly and inserted properly.
- 8) Disable Hibernation in the Power Management functions in the Control Panel.
- 9) Make certain 'PnP OS -- Yes or No?' is set correctly in the BIOS.
- 10) Make certain that either 'Resources Controlled By' is set to Auto or that you have enough IRQs and DMA addresses assigned to PCI PnP devices.
- 11) Disable any devices in the BIOS that you are not going to use, like COM ports, parallel ports, and USB ports.
- 12) Disable Power Management functions in the BIOS. Especially options that reference sleep mode and hibernation mode.
- 13) If you have Win95, upgrade to Win98, or Win98 SE.
- 14) Make certain that the board is inserted properly and screwed down tightly.
- 15) Check the board hardware revision. It should be EC01 level or higher.
- 16) Load the ES/PCI card first.
- 17) Swap the board with a known good one if possible. Please follow electrostatic prevention procedures.

**Error! Reference source not found.** Disable the ACPI functions in the Windows 2000 installation.

- 18) Try Microsoft Troubleshooting procedures.
- 18) Update your BIOS to the latest version.

## Procedures:

- 1) For Windows 2000 Professional, make certain that you log on as the System Administrator to install it. Users must be defined as Power Users. If you have this problem, the flash screen comes up, then you get a "**FAILED TO UPDATE SYSTEM REGISTRY**" message. Windows 2000 Professional has an option to prevent users from writing to the registry. All users who use the ES/PCI card must be defined as at least a Standard user in the Power User Group under the Control Panel's Users and Password settings for Group Membership.
- 2) If you had an **ES32 or ES95** product on this PC prior to installing the ES/PCI, completely **uninstall** it, and recycle power, before attempting to load ES32. Not doing so can cause severe problems that would likely require reinstall of the OS to resolve.
- 3) The latest version of the software is **5.0.1.3**. This is marked on the jewel case of the CDROM and on the CDROM itself. You can also use the ES32 Help About option.

Upgrade to Version. 5.0.1.3. The following URL leads to a self-extracting zip file `espci5013.exe` (6.179MB) that contains a portion of the next release, version 5.0.1.3. It contains the INF and ES32 folders only. Please extract this file to a Temp folder on the PC, or use diskettes to copy it to another PC.

Please use Netscape to go to: <ftp://ftp.nlynx.com/pub/Midrange/EmeraldSeries/ESPCI/>

Click on the **espci5013.exe** to download it to your PC.

After it is downloaded, click on it to extract the Setup folders.

If there was an unsuccessful installation, please follow these steps to recover:

- a. Remove the N Lynx PCI Twinax Adapter from the Device Manager (Control Panel>System)
- b. Delete NLYNX.INF from the C:\Windows\INF\Other folder.
- c. Delete NLTwinax.sys and/or PCITwin.VxD from the C:\Windows\System folder.
- d. Uninstall any and all versions of N Lynx emulation software using the uninstall icon in the ES/32 program group.
- e. Power off PC and unplug for at least 15 seconds. Power on.
- f. When the PCI card is detected, choose Specify Location and browse for the INF folder in the Temp directory.
- g. When finished, run Setup.exe from the ES32 folder in the Temp directory. Follow prompts.
- h. When adding a device driver, use the default path for the drivers.tvi file.
- i. Follow prompts.

- 4) **Check the driver.** If you are using **Win98**, **Windows Millenium**, or **Windows 2000**, the driver INF file should be dated **4/19/2000** and the driver file should be **NLTwinax.sys** dated **03/23/2000**.

If you are using **Client Access** on any operating system, the driver should be dated **5/20/1999** and the driver file should be **PCITwin.VxD**. If this is not what is installed, then remove it.

If you are using **Win95**, or **WinNT4**, the driver is **PCITwin.VxD** dated **11/11/1998**, but it shows in the Device Manager as **5/20/1999**, which is the date of the INF file. If this is not what is installed, then remove it.

Go to the Desktop, and **right-click** on "**My Computer**".

Select "**Properties**", which will bring up the **System Properties** window.

Select the **Device Manager** tab.

*First* look for **Twinax Adapter**. If it exists, check the dates.

If **Twinax Adapter** does not exist, then look for **PCI communication device**, (this would be bad) or a card that you do not recognize in "**Other**"(this would be bad). Click on that device to select it, and then click the "**Remove**" button.

If you find the wrong dates, delete the **NLTwinax.sys** and the **NLynx.inf** files.

Select **Start** and **Find**.

Put **NLTwinax.sys** in the 'named' field and select **Find**. (When you find it, delete it)

Put **NLynx.inf** in the 'named' field and select **Find**. (When you find it, delete it)

Next perform a shutdown and power down the PC.

Re-start the PC.

The windows **Add New Hardware Wizard** will appear. You will insert the ES/PCI CD into CD drive and follow the Wizard screens. Choose **Search for the best driver**.

You will choose the option to **Specify Location**, then choose the CDROM, which is usually the D: drive.

When you get the message "Please insert the disk labeled Win xx Drivers Disk", click **OK** and Browse to the **ES/PCI CD**.

**Browse** to the **INF** folder and then select the folder for *your* Windows Operating System version.

When the message "**Copy files from Windows**" displays the correct path for the .inf file Click **OK**. Do not get your files from the INFCA folder.

Start the **Display Emulator** and **Configure Connection Method and Devices**; continue with the ESPCI.DOC instructions.

- 5) Check your **Device Manager** for conflicts. It will have a question mark or exclamation point next to any devices that have problems. If there is a conflict, sometimes, you can go into the Device Manager, and remove the check from 'Use automatic settings' and select a free IRQ. If you do this, you should carefully write down all of your IRQ, IO, and DMA selections. Often you will not be able to change the IRQ from the one automatically set by the system. This behavior is related to the BIOS of the PC. In 90% of the machines we tested, this option was greyed out. This is a standard PCI behavior. In this case, all that you can do is move to different PCI slots or disable devices in BIOS.

Go to the Desktop, and **right-click** on "**My Computer**".

Select "**Properties**", which will bring up the **System Properties** window.

Select the **Device Manager** tab. (Win2000 – System Information – Hardware Resources)

Look for **Twinax Adapter**, primarily, but any other devices installed improperly could affect the ES/PCI card.

Make certain that the device is only installed once. The Twinax Adapter should only show up once. There should not be a PCI Simple Communication Device.

Try temporarily un-installing other drivers that the ES/PCI may be conflicting with.

This is a good web-site for resolving IRQ conflicts:

[http://www.bluelifeaudio.com/~pcconfig/how\\_to/resolve\\_irq/resove\\_irq.htm](http://www.bluelifeaudio.com/~pcconfig/how_to/resolve_irq/resove_irq.htm)

- 6) Make certain that no parts on the board are damaged. Sometimes during the install, a crystal can get inadvertently bumped loose. This is covered by your warranty. Please tell us what happened. The most common parts for this problem are:
- the X1 crystal at the top of the board next to the card guide.
  - the capacitors C15 and C26 at the bottom of the board.
- 7) Move to a different PCI slot. While you are at it, make certain that the card is inserted properly and screwed down tightly.
- 8) Disable **Hibernation** in the **Power Management** functions in the **Control Panel**. If that does not work, change all of the settings to **Never**.
- Start/Settings/Control Panel.
  - Double-click on Power Management.
  - Options here are dependent on your PC's chipset and BIOS version.

- 9) There are several things that can be checked in BIOS. BIOS versions are different from one PC to the next. You will restart the PC and immediately go into the **BIOS SETUP** before Windows starts to initialize. Usually you will press the **Del** key right after power-up and before Windows. Here is a listing of some of the key combinations used to enter the BIOS setup. Again you must do this during the first few seconds after you turn on power or after you restart. If you see the Windows startup, it's too late.

Award Bios = Ctrl-Alt-Esc

AMI Bios and Award Bios and others = **Del (most common)**

Compaq = F10 or F2

Dell = Ctrl-Alt-Enter

Dell = Reset (Twice)

HP Pavilion = Esc then F1

NEC = F2

Phoenix Bios = Ctrl-Alt-S

Phoenix Bios = Ctrl-Alt-Ins

PS/2 = Ctrl-Alt-?

PS/2 = Ins

Toshiba = Esc

Toshiba = F1

Once you get into BIOS, you must read the screen to figure out how to maneuver around to the different pages. Sometimes you will use the arrow keys to move to different options and the PG UP PG DN keys to adjust the options. Then Enter to select. Sometimes you use PG UP and PG DN to move between pages.

*Sometimes* there is a setting in the BIOS for '**PnP OS -- Yes or No?**' This option is basically asking if you have a Plug and Play Operating System, (like Win98). If you select **No**, the BIOS attempts to perform the Plug n Play operation. While it is technically best to answer this honestly, sometimes you can shift things by changing the answer to the question. For WinNT4.0, you must answer this with No.

Some BIOS allow PnP to be turned on or off for each PCI slot. Make certain it is enabled for the slot that the ES/PCI card is in.

- 10) If you do not select Auto, make certain that there are enough IRQ and DMA slots assigned to the PCI PnP devices. You would also want to verify this in the Device Manager or System Information – Hardware Resources:

Win95, Win98, WinME -> Right-click My Computer, select Properties, then Device Manager, then Properties again.

Win2000 -> Right-click My Computer, select Manage, System Information, then Hardware Resources.

Microsoft's IRQ resolution help menus are good also. But it is best to have a different PC with the same OS to follow it. Click the **Start** button, and then select **Help**. Select the **Contents** tab, and then **Troubleshooting** and then **Hardware Conflict**.

- 11) Disable any functions that you are not using, like COM ports, parallel ports, USB, internal mice, internal modems, or internal sound cards. These would usually be under **Peripherals Management**. This may not be necessary, but it could win you a good housekeeping award.

- 12)** Disable **Power Management** functions in the BIOS. We are especially targeting Hibernation, Sleep Mode, or Doze Mode options. Typically this will cause a problem where you get a message that says: "The device driver for the 'Nlynx PCI Twinax Adapter' device is preventing the machine from entering hibernation." The ES/PCI does not support 'hibernation' mode in the driver because the driver software is always active. When the ES/PCI card's driver is loaded, at PC boot time, and loads the microcode onto the board, it starts the session to the AS/400 even though there is no software, ES/32 app, to display the session.

When the PC goes into hibernation mode there is no power on the PC and the PCI board will be unable to answer polls from the AS/400. If that is the case then the session will be disconnected, and will have to be restarted when the PC comes out of hibernation mode. This will be unacceptable in the AS/400 environment. The PCI board has to answer polls all the time even if the session is not active.

Look for power management functions and disable them. These could be titled: **APM**, **Advanced Power Management** functions, **Hibernation**, Doze Mode, or Sleep Mode.

If problems still continue, then try going to the Device Manager under **System Devices** and use the **'Remove'** function to take out any of those devices there.

On NT4 you may be able to change the start up of the device from automatic to manual.

On Windows 2000, you would have to disable standby and hibernation. You could use a password on your screen saver for security.

- 13)** If you have Win95, we recommend an upgrade to Win98. PnP was in its early stages when Win95 was released. Another option for Win95 users is this web-site that has some useful information: <http://www.infinisource.com/techfiles/irq-steering.html>

If you have Win98, go to Microsoft's website and download a free copy of the Second Edition patches:

[http://www.microsoft.com/Windows98/downloads/contents/WURecommended/S\\_WUFeatured/Win98SE/Default.asp](http://www.microsoft.com/Windows98/downloads/contents/WURecommended/S_WUFeatured/Win98SE/Default.asp)

- 14)** When you check the Device Manager (from the **desktop**, **right-click My Computer**, then select **Properties**, and the **Device Manager** tab), for the **Twinax Adapter** it says: "**This device has a problem: Code=10 (0xA): This device is not present, not working properly, or does not have all the drivers installed.**" You did, very carefully, install the correct driver.

This could indicate a bad PCI card. Make certain that the card is inserted properly and screwed down tightly.

Also check the IRQ assignment. at

- 15)** One issue you may want to verify is the board hardware level. Please check whether the board you are experiencing the problem is at the current level, EC01 level and note whether the problem happens before or after the Nlynx PCI driver(s) are loaded or when the ES32 software is started. The PCI board will have a hardware level label on it. You would have to remove the board to look at it. It should have a label: E/C 131B01.

- 16)** Uninstall all of the other PCI device drivers and devices. Recycle power, and make certain that the OS loads the Nlynx driver when it sees the ES/PCI card.
- 17)** This could be a hardware failure. If the operating system detected an “Other PCI Bridge Device” it is a hardware problem. If you see an error message on boot that says “Plug & Play Configuration Error”, it is probably a hardware failure. If possible swap the card for a known good one. Call +44 (0) 161 928 7014. Please have your serial number at the ready. You can contact Technical Support at:  
<http://www.nlynx.co.uk>
- 18)** For some Windows 2000 PC’s Microsoft recommends that the ACPI functions need to be disabled during installation of Windows 2000. The procedure is covered on Microsoft’s website at this URL:  
<http://support.microsoft.com/support/kb/articles/Q224/8/26.ASP?LN=EN-US&SD=g>
- This procedure covers potential problems with your PC’s Hardware Abstraction Layer (HAL) <http://support.microsoft.com/directory/article.asp?ID=KB;EN-US;Q237556>
- 19)** Try Microsoft’s troubleshooting procedures. Click the Start button and select Help.
- 20)** Update the BIOS in the PC. For assistance with this you must either contact your PC Manufacturer or try these web-sites.  
<http://www.firmware.com/support/bios/index.htm#5>
- <http://www.unicore.com/biosagent/>
- <http://www.unicore.com/bioswiz/>
- [http://www.spacewalker.com/english/download\\_bios.asp?product=HOT-591P](http://www.spacewalker.com/english/download_bios.asp?product=HOT-591P)
- <http://kb.indiana.edu/data/ahvl.html>
- <http://www.phoenix.com/pcuser/BIOS/Award.htm>
- <http://www.wimsbios.com/>