This main screen displays general information about the network interface card (NIC).   Use the tabs at the top of the window to open the Properties, Diagnostics, and Support screens. If you have more than one NIC installed, use the NIC Selection box to select a NIC.

The information under the NIC selection box provides a summary of the current configuration, including:

Device ID

I/O Address

Node Address

Select NIC Details for more detailed information on the current card settings, including:

Boot PROM Size	Media Type
Bus Number	Network Speed
Device Number	Product Code
Division Code	Product Date Code
I/O Port Range	Receive FIFO Size
IRQ Level	Transmit FIFO Size

NIC Selection

The NIC selection box lets you select a network interface card if multiple NICs are installed.

NIC Details

The NIC details button displays NIC information including:

Boot PROM Size	Media Type
Bus Number	Network Speed
Device Number	Product Code
Division Code	Product Date Code
I/O Port Range	Receive FIFO Size
IRQ Level	Transmit FIFO Size

Device Number

The Device Number for the selected NIC.

Bus Number

The Bus Number for the selected NIC.

I/O Port Range

The I/O Port Range specifies which portion of the computer's I/O address space will be used communication between the NIC and the computer. Make sure that no other device is using any I/O addresses in the same range. The NIC uses 16 bytes of I/O space, starting at the I/O base address. You cannot change this setting from the Properties screen.

IRQ Level

The Interrupt Request Level is used by the NIC for communication between the NIC and the computer. The interrupt request level is the communications channel through which a device issues interrupts to the computer's interrupt handler.   You can not change this setting using the Properties screen.   Make sure that no other device is using the same setting.

Media Type

Media Type lets you select the media type (Auto Select, 10BASE-T, 100BASE-TX, or 100BASE-T4), based on the type of network you are using.   The Auto Select option lets the NIC automatically select the Media Type.   You can change this setting using the Properties screen.

Boot PROM Size

The size of the current boot PROM.   This setting is only changed if you install a boot PROM on the NIC.

Network Speed

For network speed, you can select 10 Mbps or 100 Mbps.   You can change this setting using the Properties screen.

Receive FIFO Size

The current receive FIFO Size is 3 K.   You cannot change this setting.

Transmit FIFO Size

The current transmit FIFO Size is 5 K.   You cannot change this setting.

Product Date Code

The Product Date Code is the release date of the product.

Division Code

The Division Code is 6.   You cannot change this setting.

Product Code

The Product Code is EC.   You cannot change this setting.

Enable Tray

This is the Enable Tray Icon check box.   When you check this box, the 3Com icon appears in tray at the bottom of your screen, and you can launch the 3Com NIC Diagnostics program by clicking the 3Com icon.

Summary

Node Address

The node address for selected NIC.

I/O Address

The I/O address for the selected NIC.

Device ID

The device ID for the selected NIC.

Warning

Warning text shows up if there is a problem with the selected NIC.

The Properties tab displays the Properties screen that allows you to change the configuration settings using the pull-down menus.

Select Optimal settings to automatically configure the selected NIC.   The configuration software chooses settings that do not conflict with the current computer configuration.

If you want to customize the NIC configuration yourself, you can change the parameters listed under Individual Settings.   These parameters include:

Boot PROM

Full Duplex

Media Type

Network Driver Optimization

If you are using PACE drivers, select PACE Configuration to open the PACE configuration window.

Optimal Settings

The Optimal Settings button automatically configures your NIC to settings that do not conflict with other devices in your computer.

PACE Configuration

The PACE Configuration button displays the PACE configuration screen.   PACE drivers support prioritization of packets for applications such as video conferencing and distance learning.   With the 3Com PACE drivers, you can set a class of service for each application.   This NIC uses PACE technology to evaluate network traffic and optimize network performance.

Configuration Parameters

This combination box contains optional settings for the selected configurable item

Network Driver Optimization

The Network Driver Optimization setting specifies how to optimize the network driver for your network. Options include:

- Normal

- Minimized CPU utilization

- Maximized network performance

For example, network driver optimization may use a larger percentage of the CPU under DOS to improve network throughput.   On a server this may be inappropriate, so the driver will attempt to minimize CPU utilization in a server environment.

For a multi-tasking workstation, it may be better to use the Normal option to balance the CPU utilization and the network performance.

Full Duplex

Full Duplex is optimized for high-performance switched Ethernet.   For this setting, options include:

n   Auto Select (N-Way)

n   Enable

n   Disable

For Auto Select, the NIC automatically runs at the speed that the connected hub supports, in compliance with NWay, an IEEE 802.3 standard.   The NIC also works with any other non-NWay 10BASE-T compliant products. Note: Full duplex is not available with the Fast EtherLink XL PCI 100BASE-T4 NIC.

Boot PROM

The Boot PROM lets the computer start DOS operations through the network without using a local startup disk.   The Disabled setting indicates that no boot PROM is installed or that you do not want it active. There is no boot PROM installed on this NIC. If you install a boot PROM, you can enable it here and select 8 K, 16 K, 32 K, and 64 K.

Media Type

Media Type lets you specify the type of media your network is using.   You must have the appropriate NIC installed that supports your selection. Options include:

n   Auto Select (N-WAY)

n   100 BASE-TX (100 Mbps)

n   100BASE-T4 (100 Mbps)

n   10 BASE-T (RJ-45) (10 Mbps)

The Auto Select option allows the NIC to automatically select the type for you.

The Diagnostics Tab opens the diagnostics screen.   The list box contains the following diagnostic tests that you can run.   These tests include:

EEPROM Test

Encoder/Decoder Loopback Test

Ethernet Core Loopback Test

FIFO Test

Interrupt Test

Register Access Test

The NIC self-test checks the NIC itself.

Start

The Start button starts the selected test.

Stop

The Stop button stops the selected test.

Tests

This box contains a list of the diagnostic tests you can run.   The NIC self-test checks the NIC itself.   The Echo test verifies the NIC's ability to send and receive data to and from another NIC.

Register Access Test

The Register Access Test verifies that the computer can access the NIC's registers correctly.   If this test fails, check the I/O base address setting on the NIC and make sure that it does not conflict with another device using the same setting.   Make sure that the NIC is installed in the appropriate slot.

EEPROM Test

The EEPROM Vital Data test verifies that the ASIC can access the EEPROM and checks the integrity of the nonconfigurable data in the EEPROM.

The EEPROM Configurable Data test verifies that the ASIC can access the EEPROM and verifies the integrity of the user-configurable data in the EEPROM.

If this test fails:

n Check the I/O base address setting on the NIC and make sure that it does not conflict with another device using the same setting.

n Make sure that the NIC is installed in the proper slot.

n The user-configurable data in the EEPROM may be corrupted.   Reconfigure the NIC so that the configuration information is rewritten to the EEPROM.

FIFO Test

The FIFO Built-in Self-test verifies the data integrity of the FIFOs.   The FIFO Loopback test uses the FIFO loopback mode to verify the correct operation of the transmit and receive FIFOs.

If the FIFO Loopback test fails:

n   Check the I/O base address setting on the NIC and make sure that it is not being used by another device.

n   Check the DMA channel setting on the NIC and make sure that it is not being used by another device.

n   Make sure that the NIC is installed in the proper slot.

Ethernet Core Loopback Test

The Ethernet Core Loopback test verifies the NIC's ability to send and receive data through the Ethernet core.

If this test fails:

- Check the I/O base address setting on the NIC and make sure that it is not being used by another device.

- Check the DMA channel setting on the NIC and make sure that it is not being used by another device.

The NIC may be installed in a slot that does not support bus mastering. Install the NIC in a bus mastering slot.

Encoder/Decoder Loopback Test

The Encoder/Decoder Loopback test verifies the NIC's ability to send and receive data through the encoder/decoder.

If this test fails:

n   Check the I/O base address setting on the NIC and make sure that it is not being used by another device.

n   Check the DMA channel setting on the NIC and make sure that it is not being used by another device.

n   Make sure that the NIC is installed in the appropriate slot.

Interrupt Test

The Interrupt test verifies that the NIC can send interrupt requests to the computer.

Send

The Send button displays the Echo Test Sender screen.

Respond

The Respond button displays the Echo Test Responder screen.

Echo Test

The Echo test verifies the NIC's ability to transmit and receive data while on the network.   This test should be run on an inactive network.

The NIC must be connected to a network that includes a second PC set up as an echo server.   The echo server receives packets from the NIC being tested and echoes them back.   The second PC is (the echo server) must contain a 3Com NIC. You can use any of the NICs listed below in the echo server:

For 10 Mbps/s Ethernet:

n   EtherLink II or II TP

n   EtherLink Plus

n   EtherLink 16 or 16 TP

n   EtherLink/MC or MC TP

n   EtherLink/MC 32

n   EtherLink II/16 or II/16 TP

n   EtherLink III Family

n   EtherLink XL PCI

For 100 Mbps/s Ethernet:

n   Fast EtherLink XL PCI (10/100)

n   Fast EtherLink EISA (10/100)

n   Fast EtherLink ISA (10/100)

For more information, see the Fast EtherLink PCI 10/100BASE-TX/T4 Network Interface Card User Guide or the EtherLink XL Parallel Tasking PCI Bus Master Network Interface Card User Guide.

The Echo test reports error counts and performance statistics, including:

Bad SSD Errors	Oversize Packets
Bytes Received	Packets Received
Bytes Transmitted	Packets Transmitted
Carrier Sense Lost	Receive overrun
CRC Errors	Runt Packets
Excessive Collisions	Single Collisions
Frame Alignment Errors	SQE Errors
Jabber errors	Transmit Deferrals
Late collisions	Transmit underrun
Multiple Collisions	

If the Echo test fails:

n   Check the I/O base address setting on the NIC and make sure that it is not being used by another device.

n   Check the DMA channel setting on the NIC and make sure that it is not being used by another device.

n   Check the transceiver setting on the NIC.

n   Make sure that the test is running on an inactive network.

n   Check the NIC connection to the network.

n   If you are testing a twisted-pair NIC, check the LED on the back of the NIC.   If it is not lit, there is a problem with the loopback plug or the network.

n   Make sure that the NIC is installed in the appropriate slot.

Start Echo

The Start button begins the echo test.   The echo test verifies the NIC's ability to transmit and receive data while on the network.   The NIC must be connected to an inactive network that includes an echo server.

Stop Echo

The Stop button stops the echo test.

Continuous

Check the Continuous box to run the test until you click Stop.

Statistics

The Statistics list box lists the performance statistics obtained by the test.

Bytes Received

Bytes Received is the number of bytes received during the test.

Bytes Transmitted

Bytes Transmitted is the number of bytes transmitted during the test.

Packets Received

Packets Received is the number of packets received during the test.

Packets Transmitted

Packets Transmitted is the number of packets transmitted during the test.

Transmit Deferrals

Transmit Deferrals is the number of times the NIC deferred to another transmitting node while waiting to transmit.   This number increases as other stations contend with this NIC for access to the Ethernet.

Receive Overrun

Receive overrun is the number of lost packets that cannot be stored in the receive buffer because the computer's buffer is already full.

Late Collisions

Late collisions A late collision occurs when another node on the Ethernet does not properly defer once the NIC has started transmitting.   If a large number of late collisions occur, contact your network administrator.

Carrier Sense Lost

Carrier Sense Lost is the number of packets transmitted with carrier sense loss. This normally occurs as a result of collisions.   For more information, refer to an Ethernet reference guide.

SQE Errors

SQE Errors are the number of times that the SQE signal was detected during transmission from the computer's NIC.   This count should be zero or the same as the total number of packets transmitted.   Any other number indicates that the NIC transceiver is malfunctioning.

Multiple Collisions

Multiple Collisions are a normal occurrence on an Ethernet network; however, excessive collisions may indicate problems.   If this occurs, contact your network administrator.

Single Collisions

Single Collisions are the number of packets that had one collision during transmission from the NIC.

Bad SSD Errors

Bad SSD Errors may indicate network problems.   Contact your network administrator.

CRC Errors

Each packet sent on an Ethernet network has a calculated cyclic redundancy check (CRC) appended to it.   When the packet is received, this CRC is compared with the calculated CRC If the calculated CRC is different from the CRC, the packet was corrupted, most likely by line noise.

Oversize Packets

Oversize Packets are packets greater than 1,514 bytes.   Even though such packets are theoretically illegal under Ethernet, they do occur on certain live Ethernet networks.

Runt Packets

Runt Packets are packets less than 60 bytes.   Typically these are simply collision fragments.   There are no problems on the network.

Excessive Collisions

Excessive Collisions may indicate network or cabling problems.   Contact your network administrator.

Transmit Underrun

Transmit underrun is the number of times a packet was transmitted without adequate data by the NIC. This may indicate a problem with the NIC or the computer's buffer.

Jabber Errors

Jabber errors may indicate noise on the network.

Frame Alignment Errors

Frame Alignment Errors are the number of alignment errors for the packets received by the PC.   An alignment error is caused when an incoming packet does not end on a byte boundary and the CRC does not match at the last byte boundary.

The Support Tab displays the 3Com Support screen.   If you are having trouble with your NIC, you should follow the steps outlined on the Support screen.

n   Run Diagnostics first.   The Run Diagnostics button opens the Diagnostic screen, which is the same screen displayed under the Diagnostics tab.

n   Review the Release Notes.   The Release Notes button lets you review the KnowledgeBase, which contains known solutions for computer models, operating systems, and network operating systems.

n   Check the 3Com BBS.   Always check the BBS for the latest software, drivers, and technical information pertaining to your NIC.

n   Check the 3Com WWW site.   You can also go to 3Com's World Wide Web site for the latest for the latest software, drivers, and technical information pertaining to your NIC.

n   Record a Problem Report.   If you cannot find a solution to your problem, use the Problem Report button to record a description of your network environment and the problem you are having, and to save it to a file. You send the completed report to 3Com using e-mail.

Run Diagnostics

The Diagnostics Button opens the Diagnostics screen.

Release Notes

The Release Notes Button opens a library of information about the NIC. Select one of the following topics for detailed information.

n   <u>Release Notes</u>.

n   <u>Frequently Asked Questions</u>

n   <u>KnowledgeBase topics</u>

During testing of HP NetServers and the Fast EtherLink XL NIC, 3Com has observed that the performance can be maximized by customizing the NetServer's BIOS.   Within the BIOS of the NetServer, access the Advanced Chipset Setup and set the DRAM Buffer Write to 0 and the Snoop Ahead to 1.

NOTE: This was tested on an HP NetServer 466 LF and a 466 LC, but could apply to other models of the NetServer family.

3Com has observed issues with a particular system BIOS revision for the Compaq Prolinea 575 computer.   If the system BIOS version is dated 7/26/95, it should be updated to a later revision.   The Compaq Prolinea 575 Configuration and Diagnostics utility should be used to verify the revision date of the system BIOS (system ROM).

Consult the manual for the Compaq Prolinea for instructions on verifying and updating the system ROM version and on obtaining updated system ROM software, or contact Compaq for assistance.

To install a PCI NIC in a PCI slot:

1 Select a PCI slot. Refer to your PC documentation if you need help.

2 Insert the NIC in the PC.   Refer to your PC documentation.

3 Start the PC.   In most cases, the PCI computer will automatically configure the NIC.   If this does not happen, you may need to configure the PC to work with the NIC.

For more information, see the Fast EtherLink PCI 10/100BASE-TX/T4 Network Interface Card User Guide or the EtherLink XL Parallel Tasking PCI Bus Master Network Interface Card User Guide.

Troubleshooting Installation Problems

3Com has found that some PCI computers require additional configuration steps in order to install a PCI NIC.   3Com recommends these steps:

1 Determine whether you have the latest BIOS version for your computer.   Contact your PC's manufacturer to make sure you are using the latest BIOS.   Click here for the phone numbers for some PCI system manufacturers:

2 Make sure the BIOS is set up correctly.   In some PCI computers, you may need to enable the PCI slot using the BIOS Setup program.   This is especially common in PCI computers with a Phoenix BIOS.

3 After installing the NIC, turn on the computer and enter the Setup program during system initialization, usually by pressing [F1], [F2], or [Ctrl]-[Alt]-[S]).   The correct key to press is shown on the screen.

4 Once in the Setup program, find the entry for PCI slots in the main menu or in Advanced System Configuration.   Set the configuration parameters as follows:

BIOS System Parameter   Setting

BIOS System Parameter	Setting
PCI Slot Number	Slot where the 3Com PCI NIC is installed (1-3)
Master	ENABLED
Slave	ENABLED
Latency Timer	40
Interrupt	Choose from available interrupts
Edge or Level	Level Triggered Interrupt

(NOTE: The exact name of each parameter may vary.)

Save the changes, exit the Setup program, and continue with the installation.

3Com DOS Diagnostic and Configuration program runs in DOS-mode only.   If you are running Windows 95 or windows NT, please use the 3Com NIC Diagnostic program, which is installed in your SYSTEM directory from the EtherDisk diskette when you install the NIC.

Because the Echo test verifies the NIC's ability to transmit and receive data while on the network, both the echo server and the echo client must be connected to a network.   An EtherLink XL NIC uses link beats to determine whether it is connected to a network when the 10BASE-T, 100BASE-TX, or 100BASE-T4 Media Type is selected.   A constant link beat is needed for the Echo Exchange test when the 10BASE-T, 100BASE-TX, or 100BASE-T4 Media Type is selected.   Before starting the echo test, connect the echo server and the echo client together through a hub or a switch that generates a constant link beat.   Using crossover cable to connect the echo server and the echo client directly does not work.

During testing, 3Com has observed that some early Pentium Pro models using Intel's (54x?) PCI chip sets do not fully support the full bandwidth throughput of the PCI bus.   Symptoms can include an abnormal number of dropped packets or performance below what the wire can support.   This problem can sometimes be fixed by getting a more recent BIOS from your system vendor.   Contact your vendor to see if such an upgrade is available.

This information applies to Intel (x86)-based computers running one of the following operating systems:

n Microsoft Windows NT Workstation versions 3.5 and 3.51

n Microsoft Windows NT Server versions 3.5 and 3.51

On these computers, adding an EtherLink XL or Fast EtherLink XL can occasionally   cause a PCI resource conflict.

When this occurs, the system stops responding (hangs), or one or more of the PCI devices fail to operate.

These resource conflicts occur because the Windows NT Hardware Abstraction Layer sometimes assigns overlapping I/O port addresses for the Fast EtherLink XL/EtherLink XL NIC(s) and other PCI devices.

When a resource conflict occurs, one of the following procedures should provide a workaround.

n <u>Change the Load Order of Drivers</u>

n <u>Swap Slot Numbers in the Registry</u>

n <u>Swap Slots</u>

If the conflict is with another plug-in PCI device, swapping the PCI slots of the Fast EtherLink XL/EtherLink XL NIC and the conflicting device may resolve the problem.   Swapping the slots may cause the system BIOS to swap the I/O port addresses assigned to the two devices, which will eliminate the conflict that occurs later when Windows NT boots.

If the conflict is between two Fast EtherLink XL/EtherLink XL NICs, try swapping the PCI slots of the two NICs. If this does not work, you must edit the System Registry using the Registry Editor.   The Registry Editor can be found in the \WINNT35\SYSTEM32\REGEDT32.EXE file.

In the HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services tree of the Registry are keys for the two Fast EtherLink XL/EtherLink XL NICs, EL90X1 and EL90X2.   In the Parameters subkey of each of these keys are two values, Slot and SlotNumber, which are the same.   Swap the slot values for EL90X1 with the slot values for EL90X2.   Make sure to swap both the Slot and the SlotNumber values.

Changing these values causes the driver to register and activate the two NICs in a different order, which eliminates the conflict.

If the previous procedures do not work, change the load order of the drivers for the Fast EtherLink XL/EtherLink XL NIC and the conflicting device.   In the HKEY_LOCAL_MACHINE\SYSTEM\ CurrentControlSet\Services tree of the Registry Editor, you should find the driver keys for the Fast EtherLink XL/EtherLink XL NIC (EL90X) and the conflicting device.   For the key that comes first in the tree, add a value with the name DependOnService and a string value that is the key of the driver for the other device.

For example, if the conflict is between an EtherLink XL and an EtherLink III PCI NIC, then the two driver keys are EL90X and EL59X.   EL59X is first in the tree, so you would add the "DependOnService: EL90X" value to the EL59X key.   This forces the EtherLink XL NIC driver to load first, instead of the EtherLink III PCI NIC driver.

Add the keyword NO_PIPELINE to your NET.CFG file when running the DOS ODI driver with a non-Novell protocol in a DOS environment.

To add NO_PIPELINE to your NET.CFG file:

1 Access the C:\NWCLIENT directory and open the NET.CFG file.   Type:

    EDIT NET.CFG [Enter]

2 Scroll through the file to the LINK DRIVER 3C90X section and locate the following line:

    LINK DRIVER 3C90X

3 Add NO_PIPELINE after LINK DRIVER 3C90X.   Your file should now look like this:

    LINK DRIVER 3C90X
    NO_PIPELINE

When installing an EtherLink XL or Fast EtherLink XL NIC under Windows 95, the operating system automatically detects the presence of the NIC and asks for the diskette containing the driver software for the NIC (the EtherDisk diskette).   At this point, you can choose to cancel the installation of driver software and install it later.   Even though the driver installation has been canceled, the fact that the NIC is installed is recorded in the System Registry.

Later, when you install the driver software using the Network applet in the Control Panel, the operating system assumes that you are installing another instance of a NIC, not installing software for the already recorded instance.   This results in two instances of a NIC being recorded in the System Registry.   The Fast EtherLink XL/EtherLink XL NIC will not operate correctly under these circumstances.

To fix this problem, open the System applet in the Control Panel.   In the Device Manager dialog box, under Network NICs, the two instances of the Fast EtherLink XL/EtherLink XL NIC are shown.   Remove the one that is marked disabled, and restart your computer.   The remaining entry for the Fast EtherLink XL/EtherLink XL NIC in the same dialog box should show that the NIC is operating correctly.

Spurious Hardware Interrupts on the Compaq Proliant 5000

When running a server on the Compaq Proliant 5000,   spurious interrupts warning messages may appear.   3Com has found that these warnings can be ignored and have no effect on normal operation. 3Com has noticed that these warnings also occur with NICs from other manufacturing companies.

Windows NT 4.0 Incompatibility with Miniport Drivers

3Com has observed occasional system shutdowns on some multiprocessor servers (servers with more than one CPU) that use Microsoft Windows NT 4.0 running miniport drivers, including the 3Com 3C90X.SYS miniport driver.   This situation is not unique to the 3C90X.SYS miniport driver and may occur with other miniport architecture drivers used with Windows NT 4.0.   A new SRV.SYS driver from Microsoft fixes this problem. This driver is included in the Microsoft Windows NT 4.0 Service Pack #1, and can be downloaded from the Microsoft web site.

Stopping the driver in a Windows NT   System

3Com has found that if you stop the driver while there are no protocols installed in your system it will crash with a blue screen error.   When this error occurs, the system is dead and must be rebooted. Microsoft admits that there is a problem in Windows NT and is fixed in Service Pack 2.0.   To avoid this problem, simply keep at least one protocol loaded, and Windows NT will not let you stop the driver.

Company	Phone	Web Site
Acer	(800) 445-6495	www.acer.com
ALR*	(800) 257-1230	www.alr.com/service/support
Ambra*	(800) 465-2227	Not available
AST*	(800) 727-1278	www.ast.com/americas/files.html
AT&T*	(800) 543-9935 (800) 531-2222	www.ncr.com/support/pc/pcdesc /machines.html
Compaq*	(800) 652-6672 (800) 345-1518 (NOTE: Compaq DeskPRO XL should have a BIOS dated Oct. 1994 or later for best performance.)	www.compaq.com/support/files/compaq.html
Dell*	(800) 626-4308 (800) 624-9896	www.dell.com/
Digital Equipment*	(800) 354-9000	www.dec.com/
Gateway*	(800) 846-2070 (800) 846-2301	www.gateway2000.com/
Hewlett-Packard*	(800) 322-HPPC (800) 752-0900	www.hp.com/cposupport/cpoindex.html
IBM*	(800) IBM-3333	www.pcco.ibm.com/
Micron*	(800) 438-3343	www.mei.micron.com/services/bbs/techbbs.htm
Packard Bell*	(800) 733-4411	www.packardbell.com/gfx/support/support.html
Unisys*	(800) 328-0440	www.pc.unisys.com/
Zenith*	(800) 227-3360	www.zds.com/htdocs/zds/htm/files.htm
ZEOS*	(800) 554-7172 (800) 228-5390	www.mei.micron.com/Services/zeosbbs.htm

In addition, here are the phone numbers and on-line addresses of several popular OEM motherboard manufacturers:

Company	**Phone**	**Web Site**
Intel*	(503) 264-7999	ftp://ftp.intel.com\pub\bios
Micronics	(510) 651-6837	www.micronics.com/support/
ASUS	(408) 956-9084	http://asustek.asus.com.tw

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If two or more PCI NICs in your PC use the same interrupt, you may get a blue screen or continuous PC reboots. To fix this problem, assign a different PCI interrupt number to the Fast EtherLink/EtherLink XL NIC using system setup. Consult your PC documentation for more information about changing the interrupt values on your PC.

3Com has identified issues with the Toshiba Tecra 720 CDT and Tecra 500 CS PCs, running DOS, with a DeskStation V+ docking station, which may cause data loss.

To avoid this situation, when using the Fast EtherLink/EtherLink XL (3C905-TX or 3C900) NIC and the NetWare DOS ODI client driver, edit the NET.CFG file and turn off the pipeline feature. For example:

LINK DRIVER 3c90x

     No_Pipeline

Save the file and reboot your PC.

When a 3C509B NIC is installed in the same PC as the Fast EtherLink/EtherLink XL (3C905/3C900) NIC, you may get a blue screen. When the 3C509B NIC is installed and configured for Plug and Play, the driver's request for PCI resources are not granted. To avoid this situation, disable Plug and Play for the 3C509B NIC.

3Com has noticed that during the install of early releases of OS/2 Warp 3.0 that the LAPS might incorrectly install the 3C90X NIC.   If this does occur, the user will see the following message when the machine is rebooted:

LT00042: The EL90XIO2_nif MAC was not able to bind. Return code = 0x22

PR00025: An error occurred when the program tried to bind LANDD to EL90XIO2_nif

To work around this issue, edit the PROTOCOL.INI file and locate the following section:

[EL90XIO2_nif]

Next, change the line

DriverName = **EL9X$** to DriverName = E**L90X$**

Note that this problem only occurs to earlier release of OS/2 Warp 3.0 and not later releases.

3Com has found that some PCs do not reset the PCI Bus when the <CTRL><ALT><DEL> key combination is used to restart the computer.

If the PC does not reset the PCI Bus when a "warm boot" occurs the Fast EtherLink XL/EtherLink XL NIC family stay in a running state that can cause problems if there is any network activity before the driver is reloaded.   This problem can be avoided by pressing the reset button if your PC has one or by turning the PC completely off before restarting.

- ACERPOWER ROM configuration problem.
- Are my drivers Novell-certified?
- Cannot execute programs loaded over the net.
- Do I have to configure the NIC?
- Does my PCI NIC support shared interrupts?
- Incorrect configuration set by BIOS.
- Is my 3Com PCI NIC a 3.3 V or 5 V NIC?
- Is the NIC compliant with PCI Spec 2.1?
- Microsoft EMM386.EXE problem.
- NetWare 3.11 server packet buffer problem.
- What interrupts should I avoid?
- Which interrupt should I use?
- Which PCI slot is best for my PCI NIC?
- Which slots are bus mastering?
- How do I remove the 3Com icon from my system tray?
- Why does my PCI NIC appear disabled in Windows 95 OSR2?
- Why does the 3Com NIC diagnostics program say my NIC is not connected to the network?
- How can I tell which NIC is displayed in the PACE Configuration window?
- How do I know which Device ID corresponds to which 3Com XL NIC?
- How Can I use a 3C509B and the 3C905/3C900 NICs in the same PC?
- How can I get a SCO driver?
- How do I remove the Fast EtherLink/EtherLink XL Software?
- Why is dRMON bound to a non-3Com NIC?
- Why does my HP VA PC hang at POST during memory check?
- How do I update my EtherDisk 2.0 driver to the EtherDisk 2.1 driver?
- Why does the Fast EtherLink/EtherLink XL NIC connect at half duplex?

Do I have to configure my 3Com PCI NIC for my computer?

PCI is a self-configuring bus architecture.   Most of the time you will only need to install the board in your system; PCI does the rest.   However, on some PCI computers (mostly with combination PCI/ISA or PCI/EISA buses in the same machine), you may be required to configure the computer's BIOS manually after installing your PCI NIC.   If you need to configure your system manually, refer to the owner's guide for your computer.   3Com testing has shown, for example, that the AST Premmia GX P90 seems to require you to run the EISA configuration utility once you install the board to make sure that the I/O base address of the device does not conflict with other devices in the system.

Which PCI slot is best for my 3Com PCI NIC?

3Com PCI NICs are designed to work in any bus mastering PCI slot. The Fast EtherLink/EtherLink XL is not supported in "slave-only" slots. The NICs perform best in those slots that support bus mastering data transfers. Refer to your owner's manual for information on which slots support bus mastering data transfers.

Is the Fast EtherLink XL/EtherLink XL NIC compliant with the PCI Specification v. 2.1?

3Com's Fast EtherLink XL/EtherLink XL NICs comply with PCI Spec 2.1. For further details, please see the product data sheet.

Which PCI slot(s) are bus mastering in my PCI machine?

Generally, if you have three PCI slots in a system, one slot will be designated as a "slave-only" slot (that is, it does not support bus mastering data transfers).   Slots are not always marked clearly to distinguish between slave-only and bus mastering slots.   It is best to refer to your owner's manual or contact your computer manufacturer for this information.   Also, make sure that you have the latest version of your system's BIOS.   Phone numbers for leading PCI system manufacturers are included earlier in this help.

Which interrupt should I use with my 3Com PCI NIC?

Unless your system is a PCI-ISA/EISA combination computer that requires manual configuration, you should not have to worry about setting interrupts.   However, if your computer is not self-configuring, you will need to set your PCI NIC's interrupts manually.   To do this, you may need to set a jumper on your motherboard or set the interrupt in the system's BIOS.   In either case, you will need to assign the PCI interrupt (INTA) to any available interrupt not being used by an ISA or EISA add-in board already in your computer.   Keep in mind that the interrupt configuration on your computer's motherboard and in your BIOS must match.   Since PCI supports shared interrupts, multiple 3Com PCI NICs can use the same PCI interrupt (except as noted in the next topic).

Does my PCI NIC support shared interrupts?

The drivers for the Fast EtherLink XL/EtherLink XL Bus Master NICs support shared interrupts. However, because there is no industry-standard way to support shared interrupts, other NICs may support them differently, or not at all.   If you have another PCI NIC that does not support shared interrupts (for example, a SCSI host NIC), either contact the manufacturer for a shared interrupt driver or try running the system setup program to assign it a different interrupt. 3Com has found that OS/2 version 1.3 does not support shared interrupts, but it is only a problem if you are using the OS/2 NDIS 2.01 driver in LAN Manager version 2.2.   If this is a problem, try using the DOS configuration utility to give each NIC a different IRQ, and change the BIOS on your system to match.

What interrupt should I avoid using with my 3Com PCI NIC?

You should avoid using any interrupts used by ISA/EISA boards that do not properly support shared interrupts (level-triggered).   If you do not know or are unsure whether your NIC supports shared interrupts, then avoid using them.   In addition, try to avoid using the same interrupt as that of your local hard drive (normally IRQ 14 for IDE drives and IRQ 11 for most SCSI host NICs), since not all hard drives support shared interrupts at this time.   For Novell NetWare servers, you should also avoid using IRQ 7 or 15.   These IRQs only support nonshared devices and may cause problems if they are shared between two devices.

Is my 3Com PCI NIC a 3.3 V or 5 V NIC?

The 3Com NIC currently being shipped is a 5 V NIC.   It will not fit in a 3.3 V slot.

Why won't the 3Com PCI NIC driver load when EMM386.EXE is loaded?

Microsoft's EMM386.EXE versions 4.48 and earlier may conflict with some PCI computer's ROM BIOS. If you are using EMM386 version 4.48 or earlier, make sure you run A:\MSUPDATE\MSUPDATE.EXE, which replaces your current EMM386 with an updated version.

The NIC works fine in DOS, but I can't execute programs loaded over the net when Windows is running.

If the EMM386.EXE memory manager is not loaded by your CONFIG.SYS file, Windows loads an equivalent driver when Windows is started.   The problem is that the EMM386 Windows emulator that ships with Windows 3.1 and Windows for Workgroups 3.11 is not compatible with PCI computers.   To solve this problem, put the following statement in your CONFIG.SYS file:

DEVICE=C:\DOS\EMM386.EXE NOEMS

immediately following the line

DEVICE=C:\DOS\HIMEM.SYS

Make sure you are running version 4.49 or newer.   If you are not sure which version of EMM386 you have, run EMM386UP.BAT on the EtherDisk 1 diskette.   This program will update EMM386 if the update is needed.

Two EtherLink XL NICs cannot be loaded in my NetWare 3.11 server.   When the second one loads, it generates the message:

Attempt to reinitialize re-entrant module FAILED.   LAN driver <name> is not loaded."

The default NetWare 3.11 Packet Receive Buffer is not large enough for the 3C90X NIC.   Set the Minimum Packet Receive Buffer to 50 or more to resolve the problem.   Consult Novell documentation for detailed instructions.

Why does the ACERPOWER system indicate that ROM is installed, but one is not present?

The ACERPOWER BIOS (BIOS version V2.0 486/DX2 66 MHz) PCI system incorrectly indicates (through PCI information) that there is a ROM on the PCI NIC.   Contact ACER to get an updated BIOS to correct this problem.

Are my Fast EtherLink XL/EtherLink XL Bus Master ODI drivers Novell certified?

3Com's Fast EtherLink XL/EtherLink XL Bus Master ODI drivers are Novell tested and certified.

When I attempt to run the DOS configuration utility for the 3C905-XL and 3C595-TX NIC, the following error appears:

Incorrect configuration is set by the BIOS.
Get an updated BIOS from the PC manufacturer
or try to install the NIC in another slot."

This error occurs in the Micron Millennia (M55HI) computer with BIOS version 3, and only in slots 1, 2, and 3.   The solution is to install the NIC in slot 4, or if slot 4 is unavailable, disable Plug and Play in your system's BIOS.   This eliminates the error in all four slots.

How do I remove the 3Com icon from my system tray?

How do I stop the 3Com tray icon from appearing in my system tray?

Double-click on the 3Com icon to start the NIC Diagnostics program. In the right bottom corner of the main window, click the Enable Tray Control box to remove the check mark. Exit the program and the icon will not appear anymore.

Why does my NIC appear disabled in Windows 95 OSR 2?

During the Windows 95 OEM Service Release 2 (OSR 2) over the network install using 3C90X NDIS, a dialog box appears saying I have an incompatible driver and that I have to get a Windows 95 compliant driver. Even if I bypass this message and proceed, the device appears disabled in Device Manager. Why?

This failure has been observed with other NICs running setup of OSR2 over the network. This failure occurs only with the OSR2 version of Win95 and not with Win95 'gold release'. Please contact Microsoft for additional support.

Why does the 3Com Diagnostics say my NIC is not connected?

Why does the 3Com NIC diagnostics program display this message when I select the AUI interface? What happens if I ignore the message?

The NIC is not currently connected to a network.   Please check the media type connections of the client and server and change if necessary.

This is an erroneous message.   The NIC will function correctly if the message is ignored.   You   could verify by running the Echo Server test with another 3Com NIC for reassurance.

How can I tell which NICs are displayed in the PACE Window?

If I install more than 1 NIC, in the PACE configuration window, using the 'Properties' tab in the 3Com NIC Diagnostics program, the display shows

3Com Fast EtherLink XL/ EtherLink XL

3Com Fast EtherLink XL/ EtherLink XL #2

How can I tell which NIC is which?

To determine the identification of the NIC, click the 'General' tab of the 3Com NIC Diagnostics program. This displays the NICs installed.

The following is the corresponding list of Device Ids for the 3Com XL NICs:

n   3C905-TX 3Com Fast EtherLink XL NIC - 9050

n   3C905-T4 3Com Fast EtherLink XL NIC   - 9051

n   3C900-TPO 3Com EtherLink XL NIC   - 9000

n   3C900-COMBO 3Com EtherLink XL NIC - 9001

Yes the NDIS driver for the DEC Alpha PC for Windows NT 4.0 ships with the Fast EtherLink/EtherLink XL NICs.

The EtherLink III loses the network connection when I install a 3C905 NIC into the same PC with a EtherLink III 3C509B NIC. How can I resolve this issue?

This situation only occurs if you attempt to run the 3Com NIC Diagnostics on the 3C905 NIC when the 3C509B (in Plug and Play mode) is still connected to the network. When the diagnostics run, the operating system reallocates resources to the 3C905 NIC which causes the 3C509B NIC to lose network connection.

To avoid this network connection loss, boot the PC into MS-DOS mode and execute the Configuration and Diagnostic program for the 3C509B. Under Adapter Configuration, disable Plug and Play, and save the changes. Reboot with Windows 95 and Windows 95 will assign new resources and the driver will function properly.

You can get the driver from the 3Com world wide web site.

1 Enter the 3Com URL - http://www.3Com.com.

2 Go to the 3Com Customer Support section.

3 Click on Software Library.

4 Click on Latest Adapter Files.

5 Download the file you need.

There are two files:

>   90XSCO3.EXE is for SCO Open Desktop v.3
>   90XSCO5.EXE is for OpenServer Rel.5

How do I remove the software that comes with Fast EtherLink/EtherLink XL NIC from my PC if I have a compatibility problem?

3Com has developed a uninstall program for uninstalling the software   that comes with the Fast EtherLink XL/EtherLink XL NIC, except for the 3Com dRMON SmartAgent PC Software.   Unfortunately 3Com finished the development of the uninstaller after the manual was printed, so for more information and instructions on how to use the uninstaller please read UNINSTAL.TXT in the root of the EtherDisk 2 diskette.

Why is dRMON bound to non-3Com NIC according to the Properties screen?   I thought dRMON is a feature for 3Com only.

After the installation of a Fast EtherLink/EtherLink XL   NIC and a 3rd party NIC, if you check the Bindings of the 3rd party NIC within the Properties screen, you will notice that there is a check mark in the box   for "3Com dRMON SmartAgent".   This check mark in the indicates that the dRMON agent is given the opportunity to bind with the 3rd party NIC if possible.   It is not an indication that it is actually bound to it.   dRMON will only bind to the first 3Com NIC that it finds and not to any other manufacturers' cards nor multiple 3Com NICs, even if it is installed.

After installing a 3C90X NIC in my HP VA machine and attached to the network, if I performs a warm boot, the machine will hang at POST during memory check.

The PC only hangs if the NIC is installed onto a live network. Since HP implements a PCI RESET a bit differently than how the 3C90X detects this signal, the NIC is still active at the time of reboot.   Please contact   HP for an updated BIOS that resolves this issue.

If I have Windows 95 and the driver from EtherDisk 2.0 installed in my PC now, how do I update the Windows 95 driver from the 2.1 EtherDisk?

To update the driver and the support files follow these instructions:

1 Open the Network Control Panel and click Add.

2 Select Adapter and Click Add.

3 Click Have Disk and insert the EtherDisk 2 Diskette into the A drive and click OK.

4 Select the NIC you have and click OK.

5 Remove all EtherLink XL adapters from the control panel by selecting them one at a time and clicking Remove.

6 Click OK.

7 When Windows 95 asks the question 'Do you wish to reboot the system', click YES.

8 When Windows 95 starts, it acknowledges the NIC, and the Windows 95 installing software message appears on the screen.

9 Select 'Driver from Disk Provided by Hardware Manufacturer' and click OK.

10 Insert the EtherDisk 2 diskette in the A: drive and click OK.

Why does the Fast EtherLink/EtherLink XL NIC only connect at half duplex when I connect it to a full duplex hub, when I configured the NIC's duplex to Auto Select?

When the NIC duplex is configured for Auto Select and the diagnostics or the driver initializes, it attempts to establish a link with the hub to determine its duplex capability. If this communication is unsuccessful, the NIC will connect at half duplex for stability. If you know that the hub does support full duplex, you could force the NIC to connect at full duplex by running the configuration utility and setting the option of Duplex to full.

The following KnowledgeBase entries are organized alphabetically by hardware platform, operating system, or network operating system.

n   Compaq 4704 (USB) (Pentium 133)

n   Compaq DeskPro 2000 P5120

n   Compaq Presario 8702 (Pentium 133)

n   Dell (Pentium 133)

n   Dell Dimension XPS (Pentium 133)

n   Diamond Stealth 64 PCI Video NIC

n   Gateway 2000 (Pentium 133)

n   Gateway P5133

n   Gateway P590

n   HP Vectra XU-6150

n   IBM Clones With Award BIOS 4.50g

n   Micron Milennia with Diamond Stealth 3D Video

n   Tyan 16 Dual Pro with Matrox Video, PVR

n   What is PIPELINE in the NET.CFG file for the 3C90X NIC?

n   Windows 95

n   Windows NT 3.51

n   3Com NIC Diagnostics fail on the Zenith Data System P5-75

n   Two Fast EtherLink/EtherLink XL NICs in a NetWare Server

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Compaq 4704 (Pentium 133) with (Universal Serial Bus)
Windows 95
NetWare 3.12
NIC not working properly in 95

Whatever IRQ was assigned to the NIC, the Universal Serial Bus (USB) device used the same IRQ. Disable the USB in the BIOS (CMOS).   For Compaq systems with USB capability, you must do one of the following:

n   Disable the USB to use the PCI bus master NIC

n   Use an EISA/ISA NIC if you want to use the USB devices.

For an overview, click Universal Serial Bus implementation.

Compaq is licensing its own host controller design, which includes the essential technical "blueprints" for logically and electrically integrating the Universal Serial Bus (USB) controller into chip sets, so that vendors will not have to create their own ASIC designs from scratch.   This will reduce the cost and time it would take companies to develop their own products, enabling USB-ready components to be available much more quickly and at lower costs.   It should also help advance the implementation of USB within the PC industry while increasing the development of products that comply with industry-wide standards.

USB is an emerging industry standard that defines how a large number and wide variety of peripherals can be connected to a single physical connector at the back of the PC, ultimately replacing the multiple ports currently required.   This is accomplished by having several peripherals "chained" to one another in a tree-like configuration. For example, the mouse, joystick, and telephone can be connected to the keyboard, which is connected to the monitor, which is connected to the system.

USB is a serial bus capable of supporting up to 127 peripherals and operates at 12 megabits per second (Mbps), approximately the speed of Ethernet (10 Mbps).   USB supports low- to mid-speed peripherals like keyboards, mice, joysticks, virtual-reality game input devices, audio, printers, and telephony devices. Phoenix has been involved with USB for over a year and has authored the USB PC Compatibility Specification and the Mass Storage Device Class Specification.

Compaq DeskPro 2000 P5120
Windows 95
Does not detect NIC

On booting, Windows 95 won't detect the NIC with the following configuration:

n   Compaq DeskPro 2000 P5120 MHz (latest Compaq BIOS)

n   3C905-TX PCI NIC

n   Windows 95

n   NetWare 3.12 = NOS

n   Client 32 for Windows 95 = (NDIS drivers)

This is true -up even though the DOS diagnostics work correctly and the NIC is configured correctly.

To get Windows 95 to recognize the NIC:

1   Plug the NIC into slot 1.

2   Go to the Control Panel, System icon, Device Manager, Other Devices, and remove any entries for Ethernet boards that are defined.

Compaq Presario 8702 (Pentium 133)
Windows 95
NetWare 3.12
Will not connect to Novell Network

You cannot see or connect to the Novell network running the Client for Microsoft NetWare networks under Windows 95 with the device drivers working properly.

1 Go to the CMOS setup by pressing F10.

2 Go to System.

3 Go to PCI configuration, PCI Ethernet, and assign IRQ=10.

4 Reboot the machine and check the IRQ under Control Panel, System, Device Manager, Computer.

5 The PCI devices should now have their own interrupt.

6 Reboot.

Dell Dimension XPS (Pentium 133)
Windows 95
NIC Is Not Detected

When Windows boots up, it can't find the 3C905-TX NIC in the following configuration:

n   Dell Dimension XPS P133 with the latest BIOS

n   NOS = Windows NT 3.51

n   OS = Windows 95

n   NIC = 3C905-TX

The problem occurs even though the diagnostic runs without error.   Different IRQ settings make no difference.

Try inserting the NIC into the PCI slot closest to the CPU.

Dell (Pentium 133)
Windows for Workgroups
NetWare 3.12
Could not hook up to HP 3000 mainframe using WRS Reflection Software.

You can log in to a Novell NetWare 3.12 server and access the network, but cannot log in to the HP 3000 mainframe using the software Reflection Network Series for DOS version 2.1.

The error message:

Searching for unique NS node name...

is displayed and the PC hangs. If the 3C905-TX is replaced with a 3C509 NIC, you can connect to the HP 3000 mainframe. The solution is to add Ethernet Only to the Protocol TCP2PDIS statement in the NET.CFG file, as follows:

Protocol TCP2PDIS
IPAddress0 xxx xxx xxx xxx
HostsPath C:\WRQNET
DefaultGateway0 xxx xxx xxx xxx
TCPBufferSize 1526
PCDNSHostName "USER.DOMAIN.ORG"
TCPSessions 5
Node NODENAME
Domain DOMAIN
Organization ORG
SubnetMask0 xxx xxx xxx xxx
NumTCPBuffers 10
DNSServerAddr xxx xxx xxx xxx
ETHERNET ONLY

You should now be able to connect to the HP 3000 computer.

Gateway 2000 (Pentium 133)
Windows for Workgroups
NetWare 3.12

If the Network seems to be running slowly at login,   add these extra statements to the NET.CFG file in the NetWare directory:

LINK DRIVER 3C90X
NO_PIPELINE
NETWARE DOS REQUESTER
CACHE BUFFER SIZE = 1500
PB BUFFERS = 10

On some Gateway systems running Windows 95, 3Com has noticed that the computer does not detect the NIC at boot-up. The driver appears to install correctly and all DOS diagnostics run successfully, but when you click on NIC driver description in the Device Manager, you get the error message: "device driver failure."

Try inserting the NIC into slot 2.   Slot 1 works fine for a 3C59X-TX NIC, but the 3C90X does not work in PCI slot 1.

Gateway P5133
Windows 95
NetWare 3.12
Client 32 would not work with TCPIP.

This problem occurred in the following environment:

n Gateway P5-133

n 3c905-TX NIC

n Windows 95

n NetWare 3.12

n Client for NetWare Networks and Client for Microsoft Networks installed

n IPX/SPX, NETBEUI, and TCP/IP protocols

You were able to connect to all NetWare 3.12 servers, Microsoft peer clients, and the protocols IPX/SPX, NETBEUI, and TCP/IP protocols without any problem.   There were other workstations using Client 32. You did an over-the-network install of Client 32.

Remove Client 32 through the Novell UNINSTALL utility and connect back to the Novell NetWare 3.12 server using the regular Client for NetWare networks.   Reinstall Client 32 by deselecting the Default Option of " UPGRADE NDIS DRIVERS TO ODI AUTOMATICALLY, IF AVAILABLE.   Finish the install, reboot, and log in through the Client 32 login script and browse the network using all resources.

Gateway P590
PCI Specification v2.0 Not Supported

On a Gateway 2000 P590 PCI computer with a BIOS at 1.01.05.axy, an Adaptec 2940, and an ATI Mach 64 video card, Windows for Workgroups (WFW) does not load or bind the 3Com NIC properly. The Gateway P590 was made before the PCI 2.0 specification came out.   So, the Adaptec card is not be supported in this machine, or is bus mastering.   There are two newer levels of BIOS available, but they may not provide PCI 2.0 support as well.

HP Vectra XU-6150, Matrix Video
Windows NT
NIC not recognized by 3Com Configuration & Diagnostics Program

When Windows NT loads the driver, the machine does a screen dump.   The 3C90X NIC is not recognized by 3Com's diagnostics for the following configuration.

n   HP Vectra XU-6150

n   Windows NT 3.51, 3C905-TX

n   Matrox video card

n   BIOS, revision GG.06.03

Put the 3C90X in slot 2 and the Matrix video card in slot 3.

IBM Clones With Award BIOS 4.50g
Windows 95, Windows For Workgroups
NIC using IRQ 0

The Windows 95 and Windows for Workgroups configuration utilities running in IBM clones with Award BIOS 4.50g automatically set the 3Com NIC's IRQ to level 0, which caused the operating system to fail to detect the NIC installed in the computer.

Set the PCI configuration for slot 1 in the BIOS setup program to:

Slot 1 - RIGHT
    Latency Timer   80 PCI Clock
    Using IRQ   10
    Trigger/Routing   Level/Auto

Micron Millennia with Diamond Stealth 3D Video
Incorrect configuration is set by the BIOS

When attempting to run the diagnostics for the 3C905-XL and 3C595-TX on a Micron Millennia M55HI with Stealth 3D video, the following error appears:

> **!! Error !!! Incorrect configuration is set by the BIOS.**
> **Get an updated BIOS from the PC manufacturer or**
> **try to install the adapter in another slot.**

The error appears in slots 1, 2, and 3, but not 4.

Install the NIC in slot 4.   If slot four is not available, disable the PnP option in the Advanced area of the BIOS.   This eliminates the error in all four slots.

Tyan 16 Dual Pro with Matrix Video, PVR
Windows NT 4.0 Workstation
NIC not recognized by 3Com Diagnostics

Neither the 3Com diagnostics nor Windows NT 4.0 workstation recognizes the 3C90X NIC in the following configuration:

n   Tyan motherboard 16 dual Pentium 200 MHz with 5 PCI slots

n   Award BIOS 4.5

n   Windows NT 4.0 workstation

n   Matrox Video 2 Mb RAM (PCI)

n   Digital Perception video recorder (PCI) (used for video editing)

Move the 3C90X NIC to slot 2, the Digital Perception video card to slot 3, and the Matrix video card to slot 4.

What is PIPELINE in the NET.CFG file for the 3C90X NIC?

Novell implemented a new feature in its IPX protocol that allows a faster and robust hand-off from the driver to the protocol stack.   This feature is known as pipeline mode.   This means with the Parallel Tasking¨ feature, even if the frame length of the packet is unknown because it has not been read yet, the driver can still pass up a "no known frame length" value to the protocol and have the protocol allocate a set buffer for the packet.   This is implemented by setting the PB register to -1, which allows Novell's IPX protocol to take full advantage of 3Com's integrated Parallel Tasking feature.

Since pipeline is relatively new, only Novell's IPX protocol supports it. Other implementations of IPX from Microsoft, or from ODIPKT, ODINSUP, as well as older versions of LSL, IPXODI, do not support this feature and pipeline needs to be turned off in order for it to work.

A routine in the driver checks to see if you are running Windows or not.   If the pipeline feature is commented out in the NET.CFG file, the pipeline mode will be active until the user enters into Windows. At that point, pipeline mode is dynamically disabled until the user exits Windows.   If the pipeline feature is turned off in the NET.CFG, pipeline is disabled whether the you are in DOS or Windows.

Diamond Stealth 64 PCI Video NIC
Windows 95
Cannot Transfer Large Files.

When using the 3C905-TX NIC in a 100 MHz Pentium (Intel motherboard with Triton chip set) system running Windows 95 equipped with a Diamond Stealth 64 PCI video card (configured at IRQ 9) and the 3C905-TX NIC (configured at IRQ 11), and connected to a peer-to-peer network, large files do not transfer.

Use a standard VGA driver for the Diamond Stealth video card.

Recognizes NIC improperly as PCI Ethernet Controller

After installing the 3C90X NIC, Windows 95 senses a generic PCI Ethernet NIC rather than a 3Com Fast EtherLink XL NIC (3C900-TPO, 3C900-COMBO, OR 3C905-TX).

Windows 95 will not recognize the NICs by name because it does not contain a native version of the NIC driver.

Make sure you click on the Insert Driver Disk from the Manufacturer option to find the hardware and install it correctly using the EtherDisk diskette.   If you still have problems loading the NIC and browsing, select Control Panel, then System, and select Device Manager.   If there is a subheading named "? Other Devices" double-click to view the description.   If there is a PCI Ethernet controller listed, highlight and remove it.   Next, select the refresh button.   The NIC will now be recognized correctly by Windows 95.

CD Files Not Found

When Windows 95 detects the 3C905-TX NIC and installs the drivers from the EtherDisk diskette, it asks for files from the Windows 95 CD-ROM (beginning with NETAPI.DLL).   When you enter the correct path to the CD-ROM the files are not found.   The new NIC is detected and the drivers were installed, but the CD-ROM had not yet been initialized by 95.

When Windows 95 asks for files from the CD ROM:

1 Press Cancel.

2 Go to Device Manager in the Control Panel.

3 Highlight and Remove the NIC from Network Adapters List.

4 Select Refresh.   Windows 95 will re-detect the NIC and ask for the EtherDisk diskette and Windows 95 CD.

5 Enter the correct path to the CD-ROM when asked.

Windows NT 3.51
OEMSETUP.INF Error Message

When installing the Windows NT driver from the EtherDisk diskette for the 3C90X NIC, the system displays the following error message saying that it can't find the OEMSETUP.INF file:

error occurred can't find A:\WINNT\WINNT\EI90X.SYS

Download the latest driver 3C90XN.EXE from the 3Com Web site or the BBS.

Why do the 3Com NIC Diagnostics fail when I am using the Fast EtherLink/EtherLink XL in a Zenith Data System P5-75?

In this PC, IRQ 3 is an unstable IRQ which the BIOS may attempt to allocate to an installed PCI device. Force the BIOS to allocate another IRQ. Refer to your PC user guide that shipped with your PC to access the BIOS.

Why does Windows 95 detect the Fast EtherLink/EtherLink XL NIC as a PCI RAM device when I install the NIC in a Compaq Proliant 5000?

The Compaq Proliant 5000 is equipped with a primary and secondary PCI bus. If the NIC is installed in the secondary bus, Windows 95 mistakes it as a PCI RAM device. To avoid this problem, install the NIC in the primary PCI bus. Although Windows 95 may still find a PCI RAM card, it will also detect the 3Com NIC and install it correctly.

3Com has identified issues with the Toshiba Tecra 720 CDT and Tecra 500 CS PCs, running DOS, with a DeskStation V+ docking station, which may cause data loss.

To avoid this situation, when using the Fast EtherLink/EtherLink XL (3C905-TX or 3C900) NIC and the NetWare DOS ODI client driver, edit the NET.CFG file and turn off the pipeline feature. For example:

LINK DRIVER 3c90x

     No_Pipeline

Save the file and reboot your PC.

Two EtherLink XL NICs cannot be loaded in my NetWare 3.11 server.   When the second one loads, it generates the message,

 "Attempt to reinitialize re-entrant module FAILED.   LAN driver <name> is not loaded."

The default NetWare 3.11 Packet Receive Buffer is not large enough for the 3C90X NIC.   Set the Minimum Packet Receive Buffer to 50 or more to resolve the problem.   Consult Novell documentation for detailed instructions.

BBS

Click the BBS button to display the telephone numbers for accessing the 3Com bulletin board service (BBS).

Tech Support

Please refer to your Fast EtherLink XL PCI 10/100BASE-TX/T4 Network Interface Card User Guide or the EtherLink XL Parallel Tasking PCI Bus Master Network Interface Card User Guide for technical support information. In addition, this information is also available in the \HELP\SUPPORT.TXT file on the EtherDisk 1 diskette.

Problem Report

Click the Problem Report button to record a Problem Report for reporting to 3Com Customer Support.

The Problem Report utility guides you through an on-line form for organizing information about your site and the problem you are having.

Company Name

Enter your company name.

Customer Address

Enter your company address.

Contact Name

Enter a contact name within your company.

Contact Phone

Enter the contact phone number.

Contact E-Mail Address

Enter the contact email address.

Model Type

Enter the computer manufacturer and model type.

Machine Usage

Indicate whether the computer is being used as a client, a server, or both.

CPU Type

From the pull-down bar, select the type of CPU your computer is using from the list provided.

PCI Slots

Enter the physical slot numbers with NICs installed. Typically, slot #1 is the slot closet tot he power supply. Consult your PC user guide for verification.

Bus-Mastering Slots

Enter the physical slot number(s) that support bus mastering.   Generally, if you have three PCI slots in a system, one slot will be designated as a "slave-only" slot (that is, it does not support bus mastering data transfers).   Slots are not always marked clearly to distinguish between slave-only and bus mastering slots.   It is best to refer to your owner's manual or contact your computer manufacturer for this information.   Also, make sure that you have the latest version of your system's BIOS.   Phone numbers for leading PCI system manufacturers are included in this help.

Operating System

Select the name of the computer operating system using the pull-down menu.

Network Operating System

Select the name of the Network Operating system using the pull-down menu.

Speed

Select the computer processor speed using the pull-down menu. Refer to your computer guide to identify the processor speed.

Problem Description

Enter the description of the problem.

3Com Case Number

Enter the 3Com case number, if assigned by 3Com Customer Support.

Reproducible?

Select the reproducible options, using the pull-down menu.

File Name

The default name is 3report.txt. You can enter a new filename for the report.

View Report

Press the View report button to view the completed Problem Report.