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Installing the Dionex PeakNet System

Follow these installation instructions step-by-step, in the order specified. Failure to do so will prevent the PeakNet system from operating.

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Contents

Installing the Dionex PeakNet System

1. PeakNet System Requirements 1

2. Installation Fast Start 2

3. Backup of Windows System Files 6

   3.1 Windows 95: Create Emergency Recovery Disk (ERD) 6

   3.2 Windows NT: Create Emergency Repair Disk 10

4. Installing Computer DX-LAN Cards 11

   4.1 Identifying the DX-LAN Card Type 11

   4.2 Installing the DX-LAN Card in the Computer 12

   4.3 Connecting the DX-LAN Network 13

5. PeakNet Installation: Windows 95 and a Plug-and-Play Card 15

   5.1 Installing a PCI Plug-and Play Card 15

   5.2 Installing an ISA Plug-and-Play Card 18

   5.3 Installing PeakNet Software 21

6. PeakNet Installation: Windows 95B and a Plug-and-Play Card 22

   6.1 Installing PeakNet Software 25

7. PeakNet Installation: Windows 98 and a Plug-and-Play Card 26

   7.1 Run the System File Checker 29

   7.2 Installing PeakNet Software 30

8. PeakNet Installation: Windows NT and a Plug-and-Play Card 31

   8.1 Installing PeakNet Software 34

9. PeakNet Installation: Windows 95 and an ISA AT 1700 Card 35

   9.1 Installing PeakNet Software 38

10 PeakNet System Installation Check List 39

11. PeakNet, Moduleware, and BIOS Compatibility 45

12. Troubleshooting DX-LAN Communication Problems 48

13. Setting Up the AS3500 Autosampler 51

13.1 Connecting the AS3500 to a Computer COM Port 51

13.2 SpectraNet Mode Selection 51

13.3 AS3500 Cycle Time 52

13.4 AS3500 Connections (DX-500 Systems) 53

13.5 AS3500 Connections with an ACI-Based System 60

14. Connecting the ACI to the Computer 63

Installing the Dionex PeakNet System

NOTE **Before installing the system, copy the PeakNet System Installation Check List in Section 10 of this manual. (Reserve the original for future duplication.) During installation, record the requested information on the check list. When you finish, file the completed list in a safe location; should a problem arise later, it will provide valuable troubleshooting assistance. When you purchase PeakNet software and a computer from Dionex, the software and computer hardware are installed at the factory. In this case, some sections of the check list will have been completed for you.**

1. PeakNet System Requirements

Workstation Platform

- IBM-compatible computer, Intel Pentium® 133 MHz minimum
- 24 MB RAM minimum for Microsoft® Windows® 95 and 32 MB RAM minimum for Windows NT®
- Hard disk drive with minimum of 20 MB of free space for PeakNet files
- 3.5-inch high-density (1.44 MB) diskette drive
- CD-ROM drive
- Windows-compatible monitor and video adapter; Super VGA 800 x 600 with 256 colors minimum
- Sound capability
- Mouse supported by Windows
- Printer supported by Windows (parallel interface recommended)
- Serial port for each AS3500 Autosampler (up to two)

Operating Environment

- Microsoft Windows 95, Windows® 98, or Windows NT 4.0

PeakNet/Moduleware/BIOS Compatibility

- The Moduleware and BIOS versions of all installed modules must be compatible with your PeakNet configuration, as incompatibilities among these will cause system communication failures. Section 11 specifies the Moduleware and BIOS versions required for each PeakNet configuration.

2. Installation Fast Start

This section provides an overview of the installation procedure for the PeakNet system.

- If you are experienced at installing network cards and software, this section provides enough information for you to complete the PeakNet installation procedure.
- If you are less experienced, cross-references throughout this section will help you quickly locate detailed instructions for a particular step.

NOTE **While the basic installation steps are the same for any system, details vary depending on the version of Windows installed on your computer and the type of DX-LAN™ card you are installing.**

1 Create an Emergency Recovery or Repair Disk	**For Windows 95 or 95B** Run the ERU.EXE utility program from the Windows 95 CD-ROM. (Go to the Other\Misc\Eru folder.) • Make sure the SYSTEM.DAT file is selected for backup. • Write down the path of the ERD directory and store it in a safe place. ***For details, see Section 3.1 (page 6).***
	For Windows 98 This step is not required.
	For Windows NT Run the RDISK.EXE utility program from the WinNT\System32 directory on your computer. • Store the repair disk in a safe place. ***For details, see Section 3.2 (page 10).***
2 Install the DX-LAN card in the computer	**For all DX-LAN cards and Windows versions** 1. Turn off the computer. 2. Install the DX-LAN card into an empty slot in the computer (either an ISA or a PCI slot, depending on the type of card). ***For details, see Sections 4.1 and 4.2 (pages 11 and 12).***
3 Connect the DX-LAN network	**For all DX-LAN cards and Windows versions** 1. Attach a BNC tee connector to the BNC connector on each DX-LAN equipped device to be connected and on the computer. 2. Install a DX-LAN cable between each device and the workstation. 3. Install terminator plugs in the BNC tee connectors at each end of the DX-LAN network. ***For details, see Section 4.3 (page 13).***

4 Install the DX-LAN card driver

For Windows 95 and a PCI Plug-and-Play card

1. Turn on the computer.
2. Install the driver from the disk provided with the card.
3. After restarting the computer, open the Network dialog box.
4. Double-click the entry for the new card, select Bindings, and then deselect all protocols *except* NetBEUI.

For details, see Section 5.1 (page 15).

For Windows 95 and an ISA Plug-and-Play card

1. Turn on the computer.
2. Select the Windows default driver.
3. When prompted, enter the computer and workgroup names.
4. After restarting the computer, open the Network dialog box.
5. Double-click the entry for the new card, select Bindings, and then deselect all protocols *except* NetBEUI.

For details, see Section 5.2 (page 18).

For Windows 95 and an ISA AT 1700 card

See the detailed instructions in Section 9 (page 36).

For Windows 95B and a PCI or ISA Plug-and-Play card

1. Turn on the computer.
2. For a PCI card, install the driver from the disk provided with the card. For an ISA card, the driver is included with Windows.
3. When prompted, enter computer and workgroup names.
4. After restarting the computer, open the Network dialog box.
5. Double-click the entry for the new card, select Bindings, and then deselect all protocols *except* NetBEUI.

For details, see Section 6 (page 22).

4 Install the DX-LAN card driver (continued)	**For Windows 98 and a PCI or ISA Plug-and-Play card** 1. Turn on the computer. 2. Windows detects the new card and installs the driver. Follow any on-screen instructions as they appear. 3. After restarting the computer, open the Network dialog box. 4. Add the following protocol to the new card: Microsoft: NetBEUI. 5. Bind the NetBEUI protocol to the card and remove all other protocol bindings. 6. After restarting the computer, run the Windows 98 System File Checker utility. ***For details, see Section 7 (page 26).***
	For Windows NT and a PCI or ISA Plug-and-Play card 1. Turn on the computer. 2. Log on with administrator privileges. 3. Double-click the Network icon in the Control Panel. • If the Network Configuration message box appears, follow the on-screen instructions to install Windows NT Networking using the Network Setup Wizard. Accept default settings for all steps, except: - Install the driver from the disk provided with the card - Select the NetBEUI protocol and deselect all other protocols • If the Network dialog box appears, install the card as follows: - Add the new card and install the driver from the disk provided with the card - Bind the card to the NetBEUI protocol and disable all other protocols ***For details, see Section 8 (page 32).***
5 Install PeakNet software	After installing the driver and restarting the computer, run the PeakNet Setup program. ***For details see Section 5.3 (page 21).***

3. Backup of Windows System Files

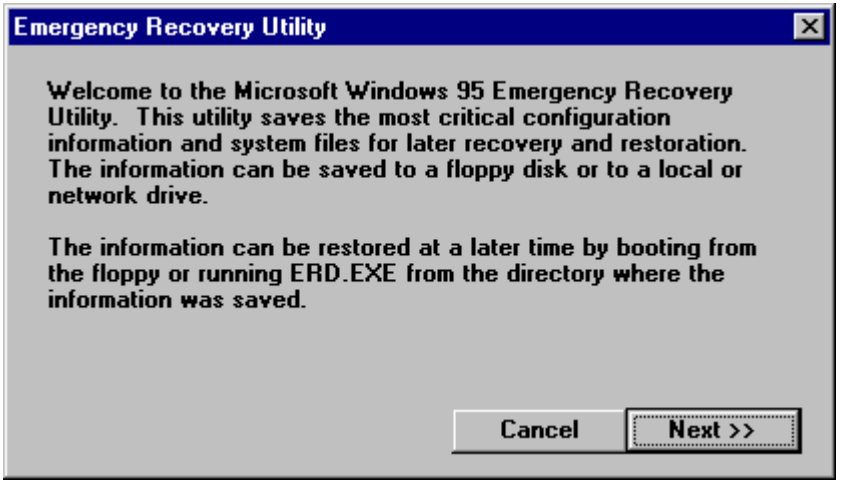
Before installing the DX-LAN card and PeakNet, it is important to back up your Windows system files. If an accident occurs during installation, you may need to restore these files. Follow the instructions in Section 3.1 for Windows 95 or Section 3.2 for Windows NT.

NOTE For Windows 98, a system file check is performed after installing the card and PeakNet (see Section 7).

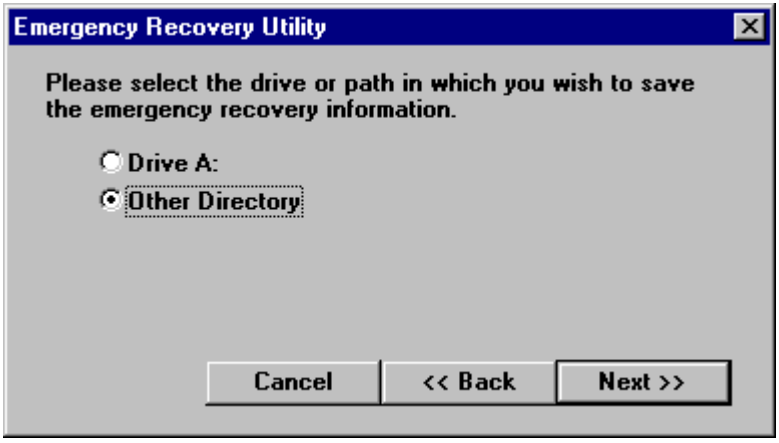
3.1 Windows 95: Create Emergency Recovery Disk (ERD)

The Windows 95 Emergency Recovery Utility (ERU) can be used to create an Emergency Recovery Disk (ERD) directory for the backup of Windows 95 system files.

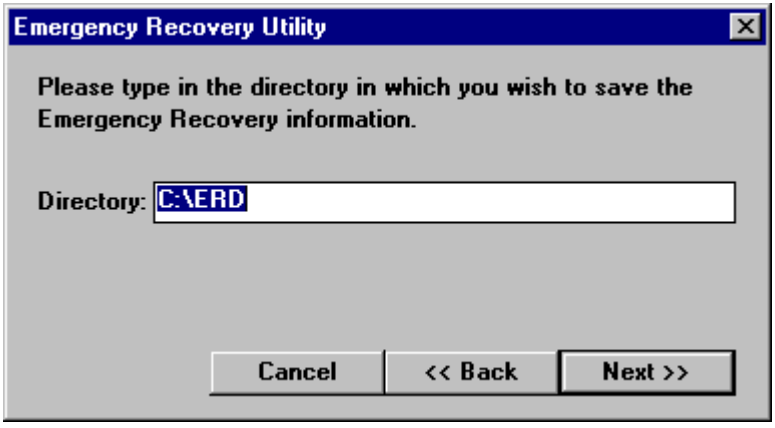
1. Insert the Windows 95 CD into the CD-ROM drive.
2. Change to the Other\Misc\Eru directory and launch the ERU.EXE application. The following dialog box will be displayed:



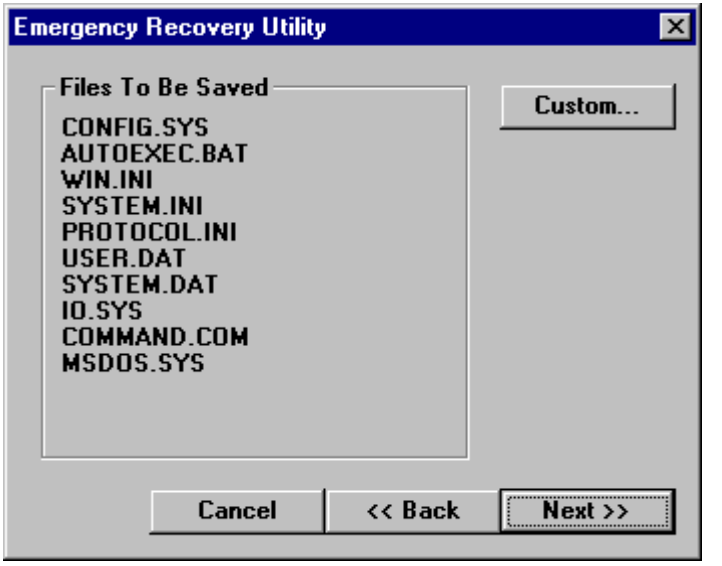
3. Click the **Next** button to display a dialog box that prompts for a destination for the ERD.



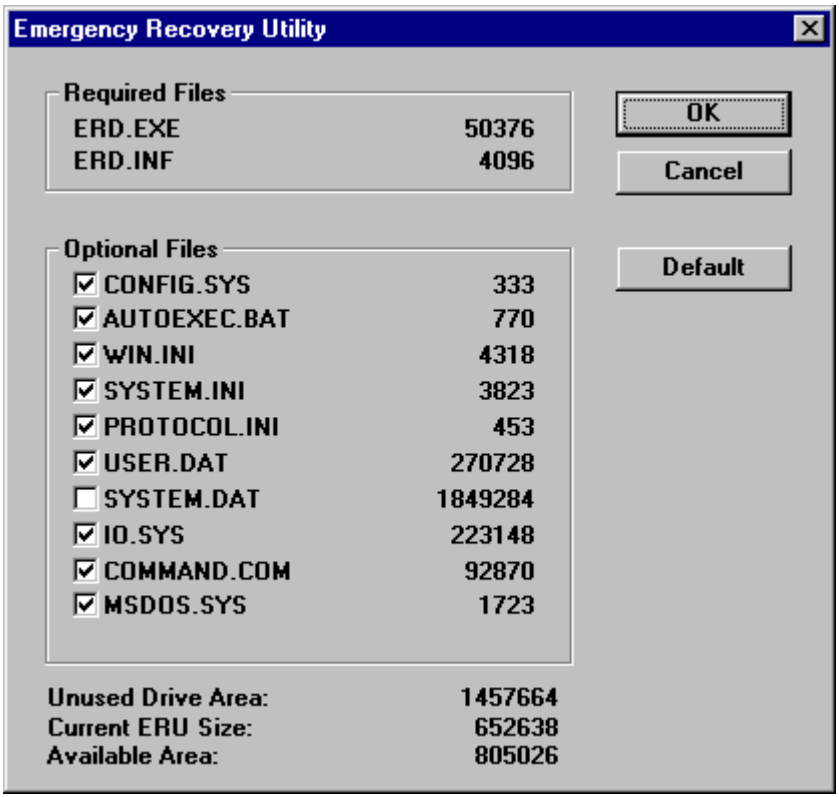
4. Select **Other Directory** and click the **Next** button to display a dialog box that prompts for the destination directory.



5. Click the **Next** button to display a dialog box containing a list of files to be saved.



6. Examine the list of files to be saved. If the list does not include the SYSTEM.DAT file, click the **Custom** button to display this dialog box:

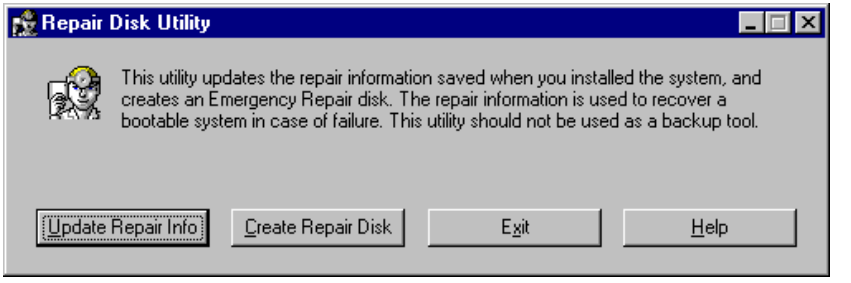


7. Verify that the check box beside SYSTEM.DAT is checked. If the file is too large to be stored on the specified disk, the ERU will not allow the check box to be checked (as in the example above). If that is the case, go back and select a different destination drive. After the SYSTEM.DAT box is checked, click **OK**.
8. You will be returned to the previous screen. Click **Next**.
9. After the files have been backed up to the directory, write down the complete path of the ERD directory. Store the information in a safe place. If it is ever necessary to restore the Windows registry, see Section 12 for instructions.

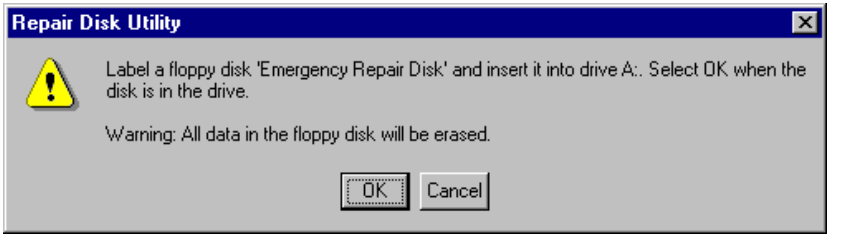
3.2 Windows NT: Create Emergency Repair Disk

Windows NT includes an application called RDISK that saves important Windows system files to an Emergency Repair disk.

1. Change to the WinNT\System32 directory on your computer.
2. Launch the program RDISK.EXE. This screen will be displayed:



3. Click the **Create Repair Disk** button to display the following dialog box:



4. Insert a formatted floppy disk into drive A and click **OK**. The information needed by the Windows NT Setup program to repair Windows NT will be saved to the floppy disk. Store the disk in a safe place. If it is ever necessary to repair the Windows registry, see Section 12 for instructions.

4. Installing Computer DX-LAN Cards

IMPORTANT **Windows 95, Windows 98, or Windows NT must be installed before the Plug-and-Play card is installed in order for the card to be set up correctly.**

4.1 Identifying the DX-LAN Card Type

Dionex ships PeakNet systems with three types of DX-LAN cards:

- ISA Plug-and-Play card (P/N 052351)
- PCI Plug-and-Play card (P/N 052350)
- ISA AT 1700 card (P/N 049077)

The DX-LAN card installation procedure varies, depending on the type of card. Before proceeding, check the card's part number and Figure 1 to determine which type of card you have.

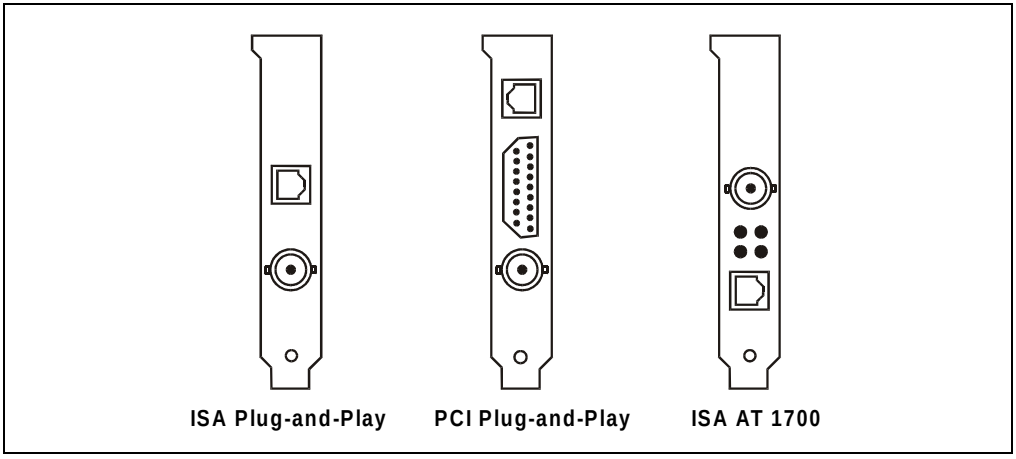


Figure 1. Outside of DX-LAN Card Brackets

4.2 Installing the DX-LAN Card in the Computer

IMPORTANT

To prevent electrostatic discharge from damaging the card's electronic components, use an electrostatic grounding strap during the installation. If one is not available, do the following: before removing the card from its anti-static bag, touch the computer's metal frame to discharge any static electricity from your body.

1. Turn off the computer and disconnect its power cord.
2. Remove the computer cover.
3. Locate an empty expansion slot into which the DX-LAN card will fit. Use the type of slot appropriate for the card (either PCI or ISA). If several slots are empty, leave as much space as possible around each installed card to ensure adequate air circulation.
4. A metal filler bracket covers the rear panel opening for the selected expansion slot. Unscrew and remove the bracket; save the screw.
5. Carefully slide the DX-LAN card into the slot, aligning the card's metal mounting bracket with the expansion slot opening on the rear panel.
6. Align the card's bottom edge connectors with the connectors on the motherboard. Firmly push the card into the motherboard connectors until the card is fully seated.
7. Replace the computer cover and any cables you removed.

4.3 Connecting the DX-LAN Network

NOTE **This section summarizes the DX-LAN connections. For complete installation instructions for any Dionex module, refer to the individual product manual.**

The DX-LAN network consists of a PeakNet workstation and at least one additional DX-LAN-equipped device; for example, a DX-500 module, UI20 Universal Interface, or DX-120 Ion Chromatograph.

1. Verify that each device to be connected has a DX-LAN interface card installed. When the card is installed, a BNC connector extends from the opening in the rear panel of the device.
2. Attach a BNC tee connector (P/N 921914) to the BNC connector on each device and on the PeakNet workstation. Note the two small locking pins protruding from either side of the BNC connector; twist the tee onto the BNC connector until the locking pins are fully engaged in the slots on the tee connector. Pull firmly on the tee connector to verify that it cannot move.
3. Install a DX-LAN cable (3 ft, P/N 960406; 6 ft, P/N 960404; 12 ft, P/N 960405) between each device and the workstation (see Figure 2). Link the device(s) and workstation in a single line. You may link them in any order, with the PeakNet workstation anywhere in the network.
   a. Slide the metal sleeve on the end of the DX-LAN cable over the BNC tee connector.
   b. Twist the metal sleeve onto the tee connector until the locking pins on the tee are fully engaged.
   c. Pull on the end of the cable to verify that it cannot move.

IMPORTANT **The DX-LAN cable is a 50 ohm coaxial impedance cable. (Fifty ohm cables are imprinted with "RG-58U." Do not substitute an inferior cable, such as a 75 ohm television coaxial cable. Failure to use the correct cable or to lock it into place on the BNC tee connector will cause the device(s) to lose communication with PeakNet.**

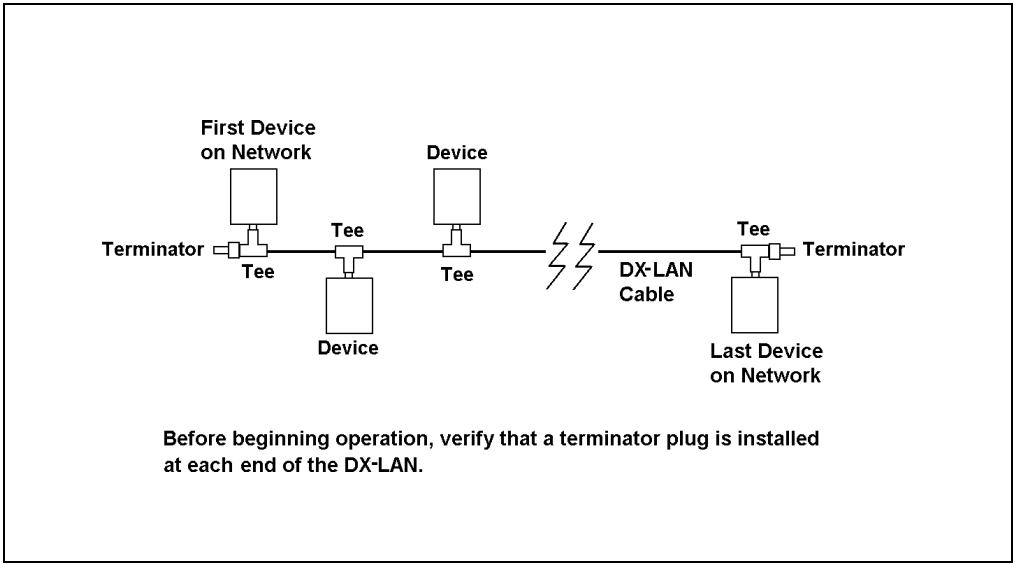


Figure 2. DX-LAN Network Connections

4. Install terminator plugs (P/N 921034) in the BNC tee connectors at each end of the DX-LAN network (see Figure 2).

5. PeakNet Installation: Windows 95 and a Plug-and-Play Card

NOTE If Windows 95B is installed on your computer, follow the instructions in Section 6.

IMPORTANT **Do not install PeakNet software until after both the Plug-and-Play card and driver are installed.**

5.1 Installing a PCI Plug-and Play Card

1. After installing the DX-LAN PCI Plug-and-Play card in the computer and cabling the DX-LAN network, turn on the computer.

   When Windows starts, it will detect the new card. If the drivers for the card are not already installed, a message appears asking for the PCI Ethernet Controller device driver. If this occurs, complete Steps a through f, below.

   If you are not asked for the driver location, go on to Step 2.

   a. When asked for the location of the driver, select the following option: **Driver from disk provided by hardware manufacturer** and click **OK**.

      The Install From Disk dialog box appears.

   b. The installation kit for the card includes a driver disk provided by Dionex. Insert the disk into an available diskette drive (A or B) and click **OK**.

   c. When prompted for the location of the driver, select the correct drive and click **OK**. This installs the DX-LAN card driver.

   d. If the system asks for the Windows 95 CD or diskette, insert the media into the appropriate drive and click **OK**.

   e. Enter the following location for the file to be copied:

      [drive]:\win95

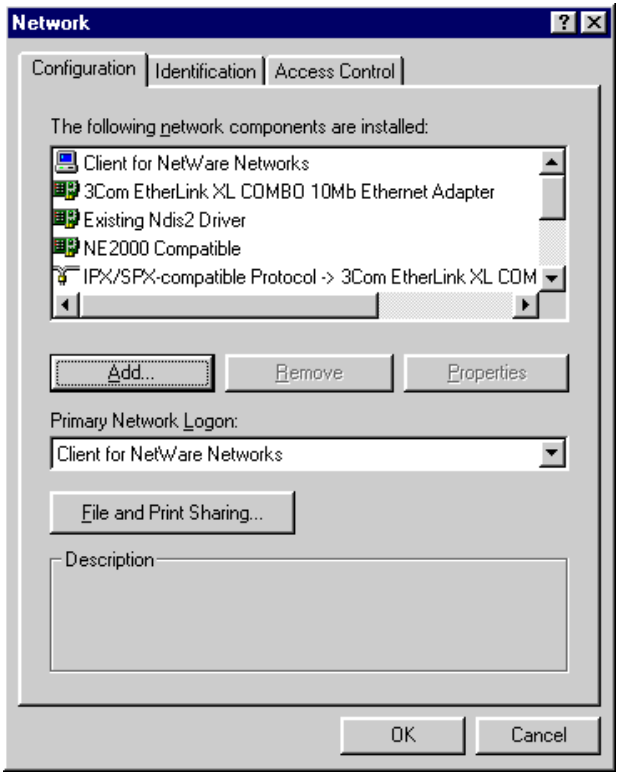
      For example, if the CD-ROM drive is drive D, enter

      D:\win95

f. If the system asks to restart Windows 95 now, click **OK**. When Windows 95 has restarted, go on to Step 2.

2. Open the Control Panel and double-click the **Network** icon.

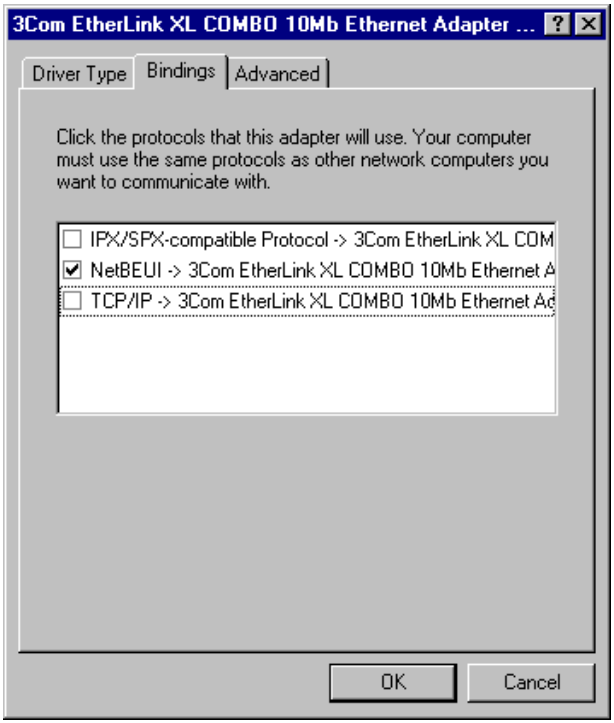
   The Network dialog box appears.



3. Double-click the entry for the 3Com EtherLink XL COMBO 10Mb Ethernet Adapter.

   The properties dialog box for the adapter will appear.

4. Select the **Bindings** tab, and then deselect all protocols except NetBEUI.



5. Click **OK** to close the dialog box and then click **OK** again to close the Network dialog box.

6. Restart the computer.

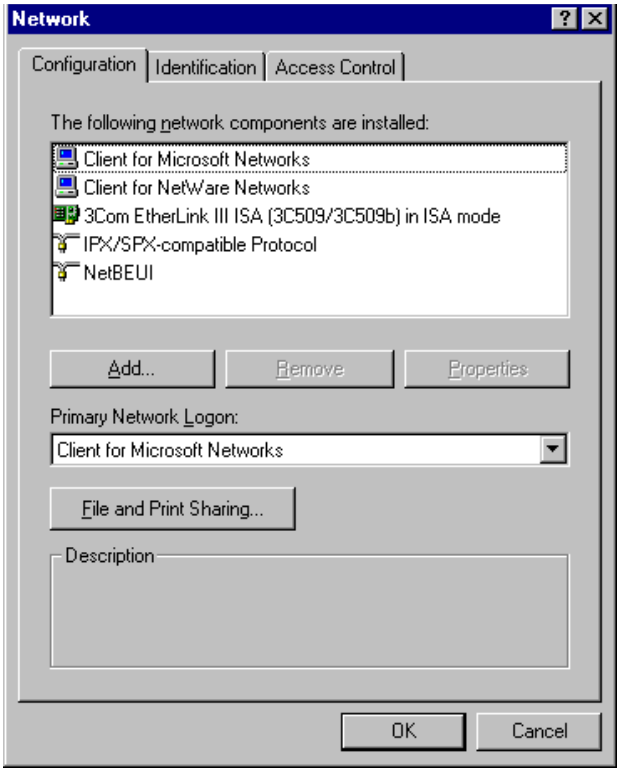
5.2 Installing an ISA Plug-and-Play Card

1. After installing the DX-LAN Plug-and-Play card in the computer and cabling the DX-LAN network, turn on the computer.

   When Windows starts, it will detect the new card and begin installing the software.

2. When the New Hardware Found dialog box appears, select **Windows default driver** and click **OK**.
3. A Network information box informs you that you must provide computer and workgroup names. Click **OK**.
4. Enter names for the computer and workgroup. The computer description is optional. Click **Close**.
5. When asked whether to restart the computer now, click **Yes**.
6. When asked to enter a network password, click **Cancel**.
7. After the computer restarts, open the Control Panel and double-click the **Network** icon.

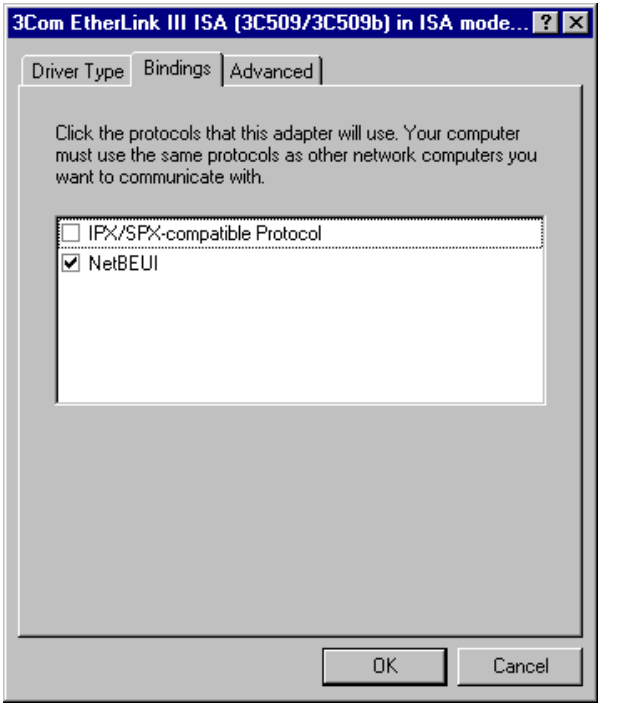
The Network dialog box appears.



8. Double-click the entry for the 3Com EtherLink XL (3C509b) in ISA mode adapter.

   The Properties dialog box for the adapter will appear.

9. Select the **Bindings** tab and then deselect all protocols except NetBEUI.



10. Click **OK** to close the dialog box and click **OK** again to close the Network dialog box.

11. Restart the computer.

5.3 Installing PeakNet Software

The SETUP.EXE file on the CD-ROM (or Disk #1) installs PeakNet. After presenting a series of options for your consideration, it then copies PeakNet onto the hard disk. Run the Setup program from within the Windows operating environment.

1. Make sure that the drive on which you plan to install PeakNet has at least 20 MB of free disk space.
2. Insert the CD-ROM (or Disk #1) into the appropriate drive.
3. Click the **Start** button on the taskbar and select **Run**.
4. Enter **[drive]:SETUP** and click **OK**.

   For example, if the CD-ROM drive is drive D, enter

   D:\SETUP
5. Setup will now guide you through the installation procedure; follow the on-screen instructions as they appear.
6. When prompted to enter the PeakNet serial number, enter the number printed on the media packaging.
7. When asked for the BIOS version, select the version corresponding to the BIOS and Moduleware configuration for your system (see Section 11).
8. After running Setup, store the original media in a safe place away from heat, moisture, and magnets.

6. PeakNet Installation: Windows 95B and a Plug-and-Play Card

IMPORTANT **Do not install PeakNet software until after both the Plug-and-Play card and driver are installed.**

1. After installing the DX-LAN Plug-and-Play card in the computer and cabling the DX-LAN network, turn on the computer.

   When Windows starts, it will detect the new card and the Update Device Driver Wizard will appear.

2. If you are installing the 3Com EtherLink XL Combo adapter (3C900), insert the driver disk for the card, provided in the card's installation kit, into an available diskette drive (A or B). The disk is not required for the 3Com EtherLink III ISA adapter (3C509b).

3. Click **Next**.

   Windows will find the driver for the card you installed.

4. Click **Finish**.

5. A Network information box informs you that you must provide computer and workgroup names. Click **OK**.

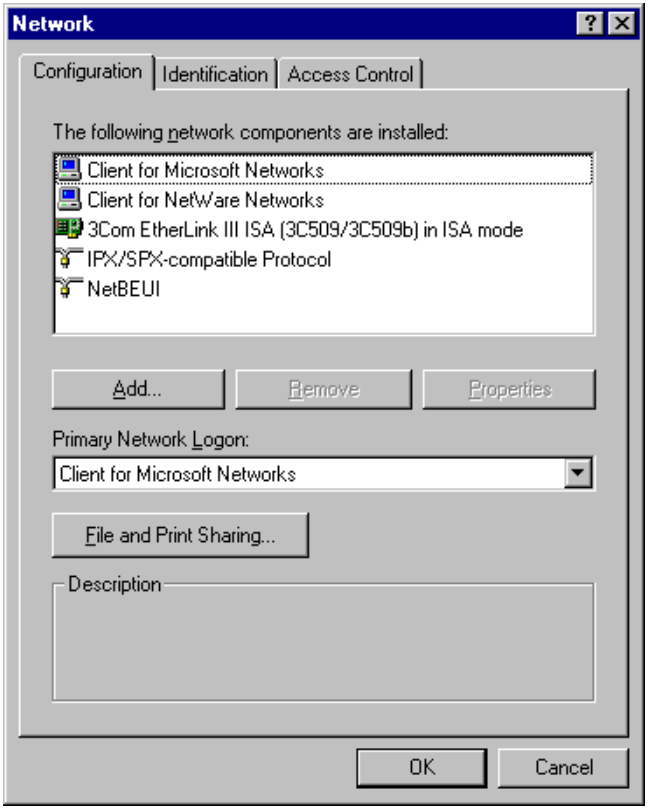
6. Enter names for the computer and workgroup. The computer description is optional. Click **Close**.

7. When prompted, insert the Windows 95B CD-ROM and click **OK**.

8. If prompted to insert the 3Com EtherLink XL disk, click **OK** and then enter the diskette drive letter.

9. After restarting the computer, open the Control Panel and double-click the **Network** icon.

The Network dialog box appears.

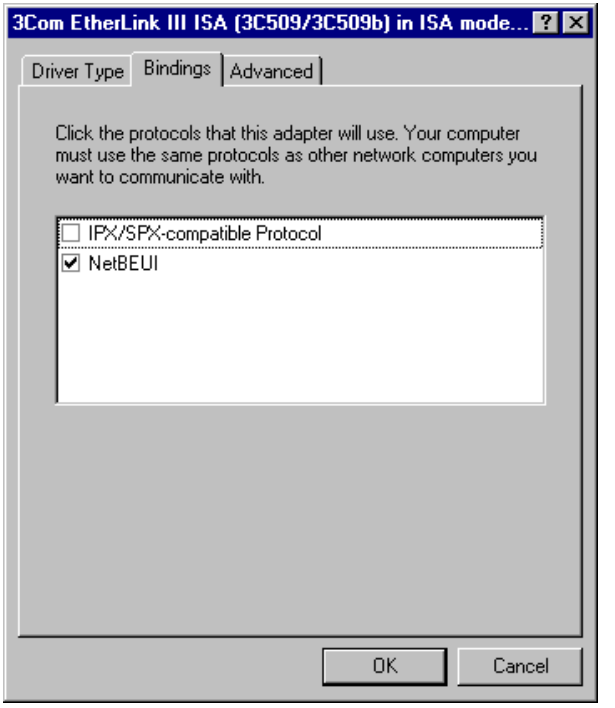


10. Double-click the entry for the card you installed—the 3Com EtherLink III ISA (3C509b) in ISA mode adapter or the 3Com EtherLink XL Combo adapter (3C900).

    The Properties dialog box for the adapter appears.

11. Select the **Bindings** tab.

    The Bindings tab for the 3Com EtherLink III ISA adapter is shown below:



12. Deselect all protocols except NetBEUI.
13. Click **OK** to close the dialog box and click **OK** again to close the Network dialog box.
14. Restart the computer.

6.1 Installing PeakNet Software

The SETUP.EXE file on the CD-ROM (or Disk #1) installs PeakNet. After presenting a series of options for your consideration, it then copies PeakNet onto the hard disk. Run the Setup program from within the Windows operating environment.

1. Make sure that the drive on which you plan to install PeakNet has at least 20 MB of free disk space.
2. Insert the CD-ROM (or Disk #1) into the appropriate drive.
3. Click the **Start** button on the taskbar and select **Run**.
4. Enter **[drive]:SETUP** and click **OK**.

   For example, if the CD-ROM drive is drive D, enter

   D:\SETUP
5. Setup will now guide you through the installation procedure; follow the on-screen instructions as they appear.
6. When prompted to enter the PeakNet serial number, enter the number printed on the media packaging.
7. When asked for the BIOS version, select the version corresponding to the BIOS and Moduleware configuration for your system (see Section 11).
8. After running Setup, store the original media in a safe place away from heat, moisture, and magnets.

7. PeakNet Installation: Windows 98 and a Plug-and-Play Card

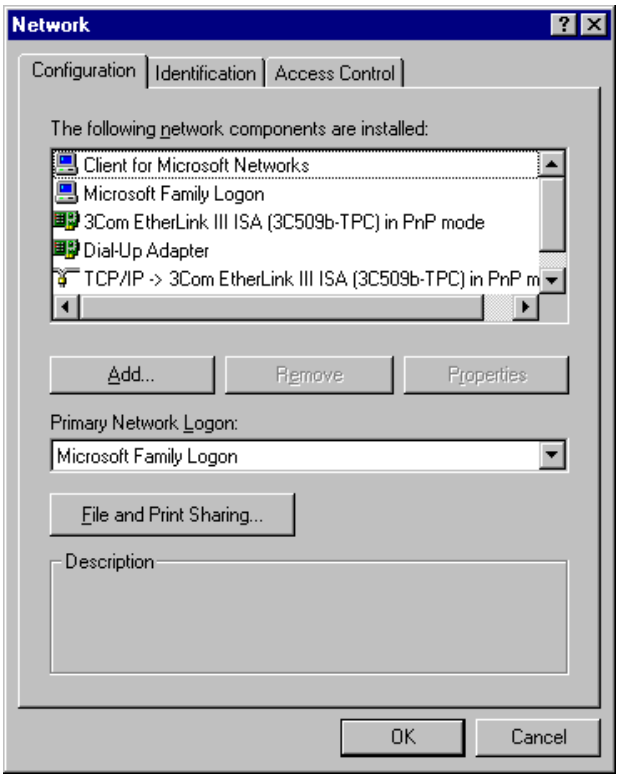
IMPORTANT **Do not install PeakNet software until after both the Plug-and-Play card and driver are installed.**

1. After installing the DX-LAN Plug-and-Play card in the computer and cabling the DX-LAN network, turn on the computer.

   When Windows 98 starts, it will detect the new card and begin installing the driver.

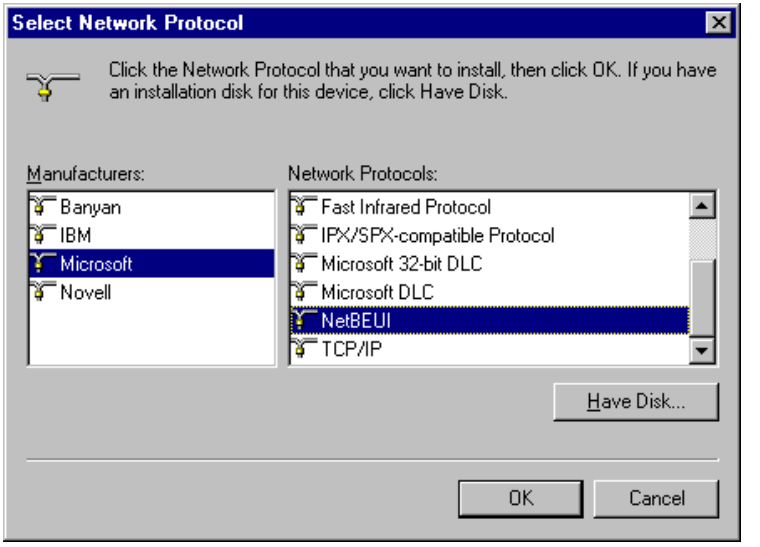
2. When prompted, insert the Windows 98 CD-ROM and click **OK**.
3. When the installation is complete, restart the computer.
4. Open the Control Panel and double-click the **Network** icon.

The Network dialog box appears.



5. Select the entry for the card you installed—the 3Com EtherLink III ISA (3C509b) in ISA mode adapter or the 3Com EtherLink XL Combo 10Mb Ethernet adapter (3C900).
6. Click **Add**.
7. Select **Protocol** and click **Add**.

The Select Network Protocol dialog box appears.



8. Select **Microsoft**.
9. Under Network Protocols, select **NetBEUI**.
10. Click **OK**.

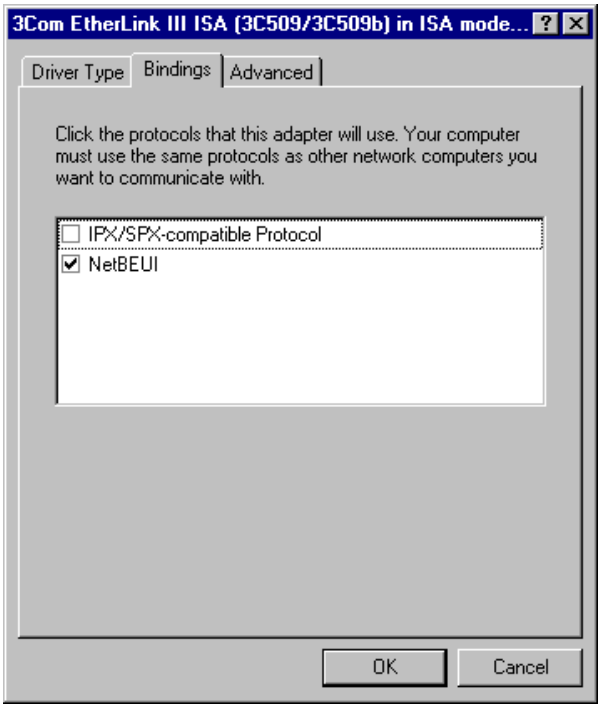
    You will be returned to the Network dialog box.

11. Double-click the entry for the card you installed—the 3Com EtherLink III ISA (3C509b) adapter or the 3Com EtherLink XL Combo adapter (3C900).

    The Properties dialog box for the adapter appears.

12. Select the **Bindings** tab.

    The Bindings tab for the 3Com EtherLink III ISA adapter is shown below.



13. Deselect all protocols except NetBEUI.
14. Click **OK** to close the dialog box and click **OK** again to close the Network dialog box.
15. Restart the computer.

7.1 Run the System File Checker

After installing the DX-LAN Plug-and-Play card and driver, run the Windows 98 System File Checker utility to verify that the system files were not altered during the installation.

1. From the Windows **Start** menu, select **Programs**, **Accessories**, **System Tools**, and **System Information**.

   The System Information application window appears.

2. From the **Tools** menu, select **System File Checker**.
3. Select the **Scan for altered files** option, and click the **Settings** button.
4. Select the **Check for changed files** and **Check for deleted files** check boxes.
5. Click **OK**.
6. Click the **Start** button.
7. If a changed or deleted file is detected, follow the on-screen instructions to restore the file.

7.2 Installing PeakNet Software

The SETUP.EXE file on the CD-ROM (or Disk #1) installs PeakNet. After presenting a series of options for your consideration, it then copies PeakNet onto the hard disk. Run the Setup program from within the Windows operating environment.

1. Make sure that the drive on which you plan to install PeakNet has at least 20 MB of free disk space.
2. Insert the CD-ROM (or Disk #1) into the appropriate drive.
3. Click the **Start** button on the taskbar and select **Run**.
4. Enter **[drive]:SETUP** and click OK.

   For example, if the CD-ROM drive is drive D, enter

   D:\SETUP
5. Setup will now guide you through the installation procedure; follow the on-screen instructions as they appear.
6. When prompted to enter the PeakNet serial number, enter the number printed on the media packaging.
7. When asked for the BIOS version, select the version corresponding to the BIOS and Moduleware configuration for your system (see Section 11).
8. After running Setup, store the original media in a safe place away from heat, moisture, and magnets.

8. PeakNet Installation: Windows NT and a Plug-and-Play Card

NOTE **Do not install PeakNet software until after both the Plug-and-Play card and driver are installed.**

In order to install the DX-LAN card and PeakNet, you must be logged onto NT with administrator privileges. If necessary, ask the Windows NT administrator to grant you administrator privileges temporarily. Administrator privileges are not required to run PeakNet.

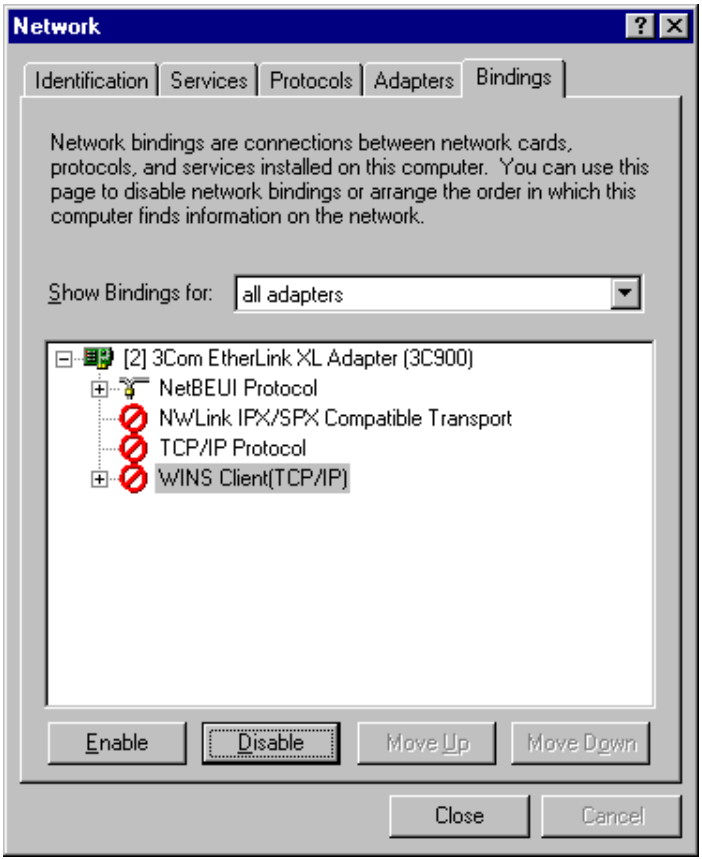
1. After installing the DX-LAN Plug-and-Play card in the computer and cabling the DX-LAN network, turn on the computer.
2. Open the Control Panel and double-click the Network icon.

   If the Network dialog box appears, go on to Step 3.

   If the Network Configuration message box appears, go to "Installing Windows NT Networking and the Plug-and-Play Driver" on page 34.
3. In the Network dialog box, select the **Adapters** tab.
4. Click the **Add** button.

   The Select Network Adapter dialog box appears and displays a list of network adapters.
5. Click the **Have Disk** button.
6. The Insert Disk dialog box appears. The default disk drive is A. If your disk drive is B, select the B drive.
7. Dionex provides a disk with drivers in the PeakNet installation kit. Insert the disk into the drive and click **OK**.
8. In the list of network adapters, select the entry for the adapter you installed—the 3Com EtherLink III ISA Adapter (3C509b) or the 3Com EtherLink XL Combo Adapter (3C900)—and click **OK**.

9. When Windows NT has finished copying the required files, select the **Bindings** tab.



10. In the Show Bindings for box, select **All Adapters**.
11. In the list of adapters, double-click the entry for the adapter you installed—the 3Com EtherLink III (3C509b) ISA Adapter or the 3Com EtherLink XL Adapter (3C900) entry—to display a list of protocols for the adapter.
12. Disable all protocol entries except NetBEUI. To do so, select each entry and click the **Disable** button.
13. Click **OK** to close the dialog box.
14. When the system asks to restart Windows now, click **Yes**.

Installing Windows NT Networking and the Plug-and-Play Driver

1. If Windows NT Networking has not been installed on your computer, the Network Configuration message box appears after you double-click the Network icon in the Control Panel. Click **Yes** to install Windows NT Networking now.

   The Network Setup Wizard appears.

2. Accept the default setting, Wired to the network, and click **Next**.

3. Click the **Select from list** button.

   The Select Network Adapter dialog box appears.

4. Click the **Have Disk** button.

5. The Insert Disk dialog box appears. The default disk drive is A. If your disk drive is B, select the B drive.

6. Dionex provides a disk with drivers in the PeakNet installation kit. Insert the disk into the drive and click **OK**.

7. The Select OEM Option dialog box appears. Select the entry for the adapter you installed—the 3Com EtherLink III (3C509b) ISA Adapter or the 3Com EtherLink XL Adapter (3C900)—and click **OK**.

   The selected adapter will appear in the Networks Adapter list in the Network Setup Wizard.

8. Click **Next**.

9. The Network Protocols list appears. Select the NetBEUI protocol and deselect all others.

10. Continue following the Network Setup Wizard. Accept default settings for all the remaining steps.

11. When prompted, insert the Windows NT CD-ROM, enter the CD-ROM drive letter, and click **OK**.

12. When the dialog box appears informing you there is more than one hardware bus, accept the default settings and click **OK**.

13. Continue following the Network Setup Wizard; when finished, click **Yes** to restart the computer.

8.1 Installing PeakNet Software

The SETUP.EXE file on the CD-ROM (or Disk #1) installs PeakNet. After presenting a series of options for your consideration, it then copies PeakNet onto the hard disk. Run the Setup program from within the Windows operating environment.

1. Make sure that the drive on which you plan to install PeakNet has at least 20 MB of free disk space.
2. Insert the CD-ROM (or Disk #1) into the appropriate drive.
3. Click the Start button on the taskbar and select **Run**.
4. Enter **[drive]:SETUP** and click **OK**.

   For example, if the CD-ROM drive is drive D, enter

   D:\SETUP
5. Setup will now guide you through the installation procedure; follow the on-screen instructions as they appear.
6. When prompted to enter the PeakNet serial number, enter the number printed on the media packaging.
7. After running Setup, store the original media in a safe place away from heat, moisture, and magnets.

9. PeakNet Installation: Windows 95 and an ISA AT 1700 Card

NOTE The ISA AT 1700 card (P/N 049077) cannot be used with Windows NT.

Checking the Computer's Current Configuration

To work properly, the ISA DX-LAN card must be configured to use an interrupt request line (IRQ) and memory location (I/O address) that do not conflict with settings used by other devices in the computer. The other devices might be a network card, video adapter card, serial/parallel port card, disk controller card, or mouse card.

The procedure below explains how to determine which IRQ and I/O address settings are already in use.

1. Click the **Start** button on the taskbar. Select **Settings**, and then click **Control Panel**.
2. On the Control Panel, double-click the **System** icon to open the System Properties dialog box.
3. Click the **Device Manager** tab, and then click the **Print** button to display the Print dialog box.
4. For Report type, select System summary. Click **OK** to print a listing of all IRQ lines, plus the I/O addresses of devices using those lines.
5. Click **Cancel** to exit the Device Manager tab page.

Configuring the Card

The configuration program for the ISA AT 1700 card is SETUP17.EXE (also known as CardAssistant). Certain network cards, CD-ROM drives, and other devices may prevent SETUP17.EXE from communicating properly with the DX-LAN card. This can prevent SETUP17.EXE from changing DX-LAN card settings. In some cases, boot-up instructions for EIDE-type CD-ROM drives have damaged DX-LAN card settings to the point that SETUP17.EXE cannot communicate at all with the card.

Therefore, before configuring the DX-LAN card, disable or remove all cards (including other network cards) and CD-ROM drives which may use interrupt level 10 or I/O address 240h. When you configure the DX-LAN card, choose settings other than those used by the devices.

Built-in CD-ROM drives can be temporarily disabled through the BIOS setup of the computer. For detailed instructions, consult the computer manual or supplier.

1. With the power off, remove any other network card from the computer.
2. Install the ISA AT 1700 card into an ISA expansion slot (see Section 4.2).
3. Connect the DX-LAN network (see Section 4.3).
4. Install PeakNet software (see Section 9.1).
5. Load the Configuration Editor. Upon loading, the Configuration Editor immediately attempts to communicate with the DX-LAN card. You may use the DX-LAN card in its default configuration (IRQ 10, I/O address 240h), unless any of the following applies:
   - An on-screen error message reports an “Error Initializing DX-LAN Computer Interface Card.”
   - Another device in the computer stops working correctly.
   - Another network card will be installed or replaced.

If any of the above applies, reconfigure the DX-LAN card as follows:

6. In the Configuration Editor, open the Configure menu and select Computer Interface Card.
7. From the Configure Computer Interface Card dialog box, change the IRQ and/or the I/O address setting as required:
   - If you are trying to resolve a conflict with another device, try selecting a different interrupt setting.

- If you plan to install another network card, try setting the I/O address of the DX-LAN card to 320h, 340h, or 360h.

8. Before exiting the dialog box, write down the new setting(s). Then, click OK. This saves your selections, and also loads SETUP17.EXE (the CardAssistant program).
9. From the SETUP17.EXE main menu, select Configure I/O Parameters. The Configuration screen should appear.

   If, instead, a yellow window prompts you to specify the current I/O address, select 240h and press Enter.

   If a red window reports that the DX-LAN card was not found, press Enter and try other I/O addresses until the Configuration screen appears. If this does not work, verify that the card is fully seated and that no other installed device is using address 240h. Remove or disable any such device, if found.
10. When the Configuration screen is displayed, move the cursor to the Base I/O item and press Enter to display the Base I/O Selection dialog box. Select the same I/O address that you selected in the Configure Computer Interface Card dialog box.
11. Now, move the cursor to the Interrupt Level item in the Configuration screen and press Enter to display the Interrupt Level Selection dialog box. Select the same IRQ you selected in the Configure Computer Interface Card dialog box.
12. Press the F10 function key to write the new settings to the DX-LAN card.

    NOTE Although pressing F10 saves the settings, they will not take effect until the next time the computer is powered up.

13. Press E and then Enter to exit SETUP17.EXE.
14. Exit the Configuration Editor and return to Windows. Close all programs and exit Windows.
15. Turn off the computer completely. Reinstall the network card, if you removed one.
16. Turn on the computer. The new DX-LAN card settings are now in effect.
17. Reload the Configuration Editor. If the DX-LAN card does not initialize, or if a conflict with another device occurs, repeat Steps 6-16, using different settings. If no combination of settings resolves the problem, contact Dionex.

9.1 Installing PeakNet Software

The SETUP.EXE file on the CD-ROM (or Disk #1) installs PeakNet. After presenting a series of options for your consideration, it then copies PeakNet onto the hard disk. Run the Setup program from within the Windows operating environment.

1. Make sure that the drive on which you plan to install PeakNet has at least 20 MB of free disk space.
2. Insert the CD-ROM (or Disk #1) into the appropriate drive.
3. Click the Start button on the taskbar and select Run.
4. Enter **[drive]:SETUP** and click **OK**.

   For example, if the CD-ROM drive is drive D, enter

   D:\SETUP
5. Setup will now guide you through the installation procedure; follow the on-screen instructions as they appear. When prompted to enter the PeakNet serial number, enter the number printed on the media packaging.
6. After running Setup, store the original media in a safe place away from heat, moisture, and magnets.

10 PeakNet System Installation Check List

1 Computer Setup

a. Hardware Configuration

Brand _____ Model _____ Serial No. _____

CPU Type _____ CPU Speed _____ MHz RAM Size _____ MB

Hard Drive Free Space: Before Install _____ After Install _____

Other Devices

- ❏ Printer Brand _____ Model _____
- ❏ Sound Card Type _____
- ❏ Modem Type _____
- ❏ Non-Dionex LAN Card Type _____

Other _____

Computer Hardware Configuration verified by

_____

(signature and date)

b. Computer Operating System

Windows 95 / 95B / 98/ NT Version _____ Service Pack Version_____

Computer Operating System verified by

_____

(signature and date) **Go to Section 2**

2. Backup of Windows System Files

2.1 Windows 95: Create Emergency Recovery Disk (ERD)

Complete path of ERD directory _____

❑ SYSTEM.DAT included in file list

ERD created by

_____

(signature and date**)** **Go to Section 3**

2.2 Windows NT: Create Emergency Repair Disk

Repair Disk created by

_____

(signature and date) **Go to Section 3**

3. Computer DX-LAN Card Installation

DX-LAN Card Installation

DX-LAN Card Type: ❑ ISA Plug-and-Play ❑ PCI Plug-and-Play ❑ ISA AT 1700

DX-LAN Card Serial Number _____

DX-LAN Cable Connections

❑ "RG-58U" printed on side of each cable

❑ Both ends of network have terminators

❑ Each DX-LAN device connected via BNC tee connector

❑ All connections secure (locking pin on connector is fully engaged)

Computer DX-LAN Card and Cable Installation verified by

_____

(signature and date)

Go to Section 4 for Windows 95, 95B, or 98 and Plug-and-Play DX-LAN Card installation
Go to Section 5 for Windows NT and Plug-and-Play DX-LAN Card installation
Go to Section 6 for Windows 95 and ISA AT 1700 Card installation

4. PeakNet Installation: Windows 95, 95B, or 98 and a Plug-and-Play Card

DX-LAN card driver version on driver disk label _____

❑ DX-LAN card driver installed

❑ All protocol bindings except NetBEUI removed from DX-LAN card

PeakNet Release _____ PeakNet Serial Number _____

PeakNet Model

❑ Control

❑ Basic

❑ Upgrade

During PeakNet setup, you chose the following DX-LAN device BIOS version:

❑ 30.00 or above

❑ Less than 30.00

The following DX-LAN card was selected:

❑ Plug-and-Play card

❑ ISA AT 1700 card

❑ No DX-LAN card

You copied all Moduleware files from the Moduleware diskette to the hard drive (optional):

❑ Yes Moduleware Release _____ BIOS Version _____

❑ No

Computer DX-LAN Card Driver and PeakNet Software Installation verified by

_____

(signature and date) **Go to Section 7**

5. PeakNet Installation: Windows NT and a Plug-and-Play Card

DX-LAN card driver version on driver disk label _____

- ❑ Installer logged in with administrator privileges
- ❑ DX-LAN card driver installed
- ❑ All protocol bindings except NetBEUI removed from DX-LAN card

PeakNet Release _____ PeakNet Serial Number _____

PeakNet Model

- ❑ Control
- ❑ Basic
- ❑ Upgrade

During PeakNet setup, you chose the following DX-LAN device BIOS version:

- ❑ 30.00 or above
- ❑ Less than 30.00

The following DX-LAN card was selected:

- ❑ Plug-and-Play card
- ❑ ISA AT 1700 card
- ❑ No DX-LAN card

You copied all Moduleware files from the Moduleware diskette to the hard drive (optional):

- ❑ Yes Moduleware Release _____ BIOS Version _____
- ❑ No

Computer DX-LAN Card Driver and PeakNet Software Installation verified by

_____

(signature and date) **Go to Section 7**

6. PeakNet Installation: Windows 95 and an ISA AT 1700 Card

❑ Device Manager System Summary printed

Free Resources IRQ(s) _____ Address(es) _____

PeakNet Release _____ PeakNet Serial Number _____

PeakNet Model

❑ Control

❑ Basic

❑ Upgrade

During PeakNet setup, you chose the following DX-LAN device BIOS version:

❑ 30.00 or above

❑ Less than 30.00

The following DX-LAN card was selected:

❑ Plug-and-Play card

❑ ISA AT 1700 card

❑ No DX-LAN card

You copied all Moduleware files from the Moduleware diskette to the hard drive (optional):

❑ Yes Moduleware Release _____ BIOS Version _____

❑ No

❑ IRQ and Address set in PeakNet Configuration Editor

IRQ _____ Address _____

PeakNet Software Installation and ISA AT 1700 Configuration verified by

_____

(signature and date) **Go to Section 7**

7. Dionex Modules Installed (Indicate Moduleware Versions)

ACI _____	CC80 _____	EG40 _____	IP20 _____
AD20 _____	CD20 _____	GP40 _____	IP25 _____
AS3500 _____	DX-120 _____	GP50 _____	UI20 _____
AS50 _____	ED40 _____	IC20 _____	

Others _____

Dionex Module Installation verified by

_____

(signature and date) **Done**

11. PeakNet, Moduleware, and BIOS Compatibility

Before downloading new Moduleware or installing new BIOS, check the tables on the following page to verify that the version number supports the PeakNet release installed on your computer. Incompatibilities among PeakNet, Moduleware, and BIOS will cause system communication failures.

NOTE When running PeakNet 5.1 or higher, BIOS and Moduleware versions for all systems on the DX-LAN network must match the BIOS and Moduleware versions for either Configuration 1 or Configuration 2.

Version information is easy to obtain:

- The DX-120 Ion Chromatograph, DX-500 modules, and CC80 Component Controller display their Moduleware and BIOS versions at power-up.
- On DX-500 modules, you can also select the **POWER-UP SCREEN** from the **DIAGNOSTIC MENU** to display the Moduleware and BIOS versions.
- On the UI20, press the front panel **Status** button to display the Moduleware and BIOS versions.
- From the PeakNet Configuration Editor, open the Configure menu and select the Moduleware... command to display the Moduleware version for any module.

Configuration 1, PeakNet 5.1
Microsoft Windows 95, 95B, 98, or Windows NT
ISA Plug-and-Play Card (P/N 052351) or
PCI Plug-and-Play Card (P/N 052350)

Module	BIOS Version	Moduleware Version
AD20	30.00	3.00 or higher
AS50	30.00	1.00 or higher
CC80	30.00	5.10 or higher
CD20	30.00	3.00 or higher
DX-120	30.00	3.01 or higher
ED40	30.00	3.00 or higher
EG40	30.00	3.00 or higher
GP40	30.00	3.00 or higher
GP50	30.00	3.00 or higher
IC20	30.00	3.00 or higher
IP20	30.00	3.00 or higher
IP25	30.00	3.00 or higher
UI20	30.00	3.01 or higher

Configuration 2, PeakNet 5.1
Microsoft Windows 95 only
ISA AT 1700 Card (P/N 049077)

Module	BIOS Version	Moduleware Version*
AD20	2.34	2.20 or higher
CD20	2.34	2.30 or higher
DX-120	22.34	1.04 or higher
ED40	2.34	2.30 or higher
EG40	Not available	Not available
GP40	2.34	2.10 or higher
GP50	Not available	Not available
IC20	Not available	Not available
IP20	2.34	2.10 or higher
IP25	Not available	Not available
UI20	12.24	1.09 or higher

*For Configuration 2, all Moduleware versions must be less than 3.00.

12. Troubleshooting DX-LAN Communication Problems

Problem: When you try to start the PeakNet Configuration Editor, the Select Adapter for Dionex Module dialog box appears. This indicates that PeakNet is not able to recognize the DX-LAN card; therefore it cannot establish communication with modules in the system.

Causes/Solutions:

- **The DX-LAN module(s) are not powered up and it is the first time you have tried to start the Configuration Editor.**

  Turn on the power to the module(s) and restart the program.

- **The Dionex Plug-and-Play card was installed in the computer before Windows 95 or Windows 98 was installed.**

  1. Close the Select Adapter for Dionex Module dialog box and the subsequent error messages that appear.
  2. Open the Windows Control Panel and double-click the **System** icon.
  3. Select the **Device Manager** tab.

     A device will be listed as an unknown Ethernet card (i.e., a question mark icon precedes the card name).

  4. Delete this unknown Ethernet card listing.
  5. Reboot the computer.
  6. When Windows starts, it will detect the card. Follow the instructions in Section 5 (Windows 95), Section 6 (Windows 95B), or Section 7 (Windows 98) for installing the device driver. When finished, install PeakNet software.

- **PeakNet was installed before the Plug-and-Play card was installed.**

  If you did not save the Windows registry information (see Section 3), contact Dionex for assistance. If you did save the registry information, follow the steps below to correct the problem.

  For Windows 95 or Windows 95B:

  1. Insert the Windows 95 system disk into the floppy drive and turn on the computer.

2. Go to the directory on the hard disk where the ERD files were saved (see Section 3.1) and run ERD.EXE. The registry saved by the ERD will be restored to the Windows 95 directory on the hard disk.
3. Restart Windows, then follow the instructions in Section 5 for installing the device driver.

For Windows NT:

1. Insert the Windows NT CD-ROM into the CD-ROM drive.
2. When the Microsoft Windows NT title page is displayed, click the **Windows NT Setup** button.
3. The Windows NT 4.0 Upgrade/Installation dialog box appears. Click the **Options** button.
4. Uncheck the **Create Local Source** option, then click **OK** and **Continue**.
5. When the installation program finishes copying files, exit Windows NT and restart the computer.
6. When prompted to either completely reinstall Windows NT or repair it, select **Repair** and insert the Emergency Repair disk (see Section 3.2) to repair the registry.
7. Follow the instructions in Section 8 for installing the device driver.

- **The same model of network card was installed before the Dionex Plug-and-Play card was installed.**

  For the DX-LAN to function correctly, the IPX/SPX-compatible protocol must not bind to the Dionex Plug-and-Play card. However, if the Plug-and-Play card is installed in a computer which already contains a similar card, it is difficult to determine from which card the IPX/SPX binding should be removed. Follow the steps below to correct the problem.

  1. In the Control Panel, open the Network applet.
  2. Highlight the first entry for the 3Com EtherLink XL Combo 10 Mb Ethernet Adapter (3C900) or 3Com EtherLink III (3C509b) ISA Adapter (depending on which version of the DX-LAN Plug-and-Play card you installed). Now, click the **Remove** button.
  3. One at a time, remove all other entries for the 3Com EtherLink XL Combo 10 Mb Ethernet Adapter or 3Com EtherLink III (3C509b) ISA Adapter. When you finish, exit Windows and turn off the computer.

4. Remove all 3C900 or 3C509 cards from the computer except the Dionex Plug-and-Play card.
5. Turn on the computer. Follow the instructions in Section 5 (for Windows 95), Section 6 (Windows 95B), Section 7 (Windows 98), or Section 8 (for Windows NT) to set up the card with the Control Panel.
6. After the computer has rebooted, the Configuration Editor should be able to recognize the DX-LAN card. If it does not, select the **Computer Interface Card** command from the **Configure** menu. In the Select Adapter for Dionex Module dialog box, click the **Auto Test** button. The Configuration Editor should now be able to locate the DX-LAN card.
7. Exit Windows and turn off the computer.
8. Reinstall the other 3Com 3C900 or 3Com 3C509 card(s) into the computer and reconnect the network cables.
9. Turn on the computer and install the driver for the other 3Com 3C900 cards. The connection to the network will be re-established.

Problem: The Configuration Editor intermittently loses communication with modules.

Causes/Solutions:

- **A DX-LAN cable(s) is the wrong type.**

  Make sure all cables are RG-58U.

- **A BNC tee connector(s) is incorrectly installed.**

  Check every device on the DX-LAN network as follows:

  a. Make sure a BNC tee connector is attached to the BNC connector on the rear panel of the device. Check that the locking pins on the BNC connector are fully engaged in the slots on the tee connector. Finally, pull on the tee connector to verify that it cannot move.

  b. Next, check each DX-LAN cable to verify that the locking pins on the BNC tee connector are fully engaged in the slots in the cable's metal sleeve. Pull on each cable to verify that it cannot move.

- **A terminator plug(s) is missing.**

  Make sure a terminator plug (P/N 921034) is installed in the BNC tee connector at each end of the DX-LAN network.

13. Setting Up the AS3500 Autosampler

13.1 Connecting the AS3500 to a Computer COM Port

1. Locate the AS3500-to-PeakNet cable assembly (P/N 045789) provided in the autosampler Ship Kit.
2. Insert the end of the cable assembly with the 9-pin jack into one of the computer COM ports.
3. Plug the free end of the cable into the telephone-style connector labeled COMM on the rear panel of the AS3500.

13.2 SpectraNet Mode Selection

The AS3500 autosampler must be in SpectraNet mode when operating with the AS3500 Editor. Select the SpectraNet mode as follows:

1. Turn on the AS3500 power switch. The autosampler will begin running self-diagnostics and displaying their status on the instrument control panel. When the diagnostics are completed, the autosampler Status screen is displayed.
2. Push the MENU button on the Status screen, and then use the arrow keys to select OPTIONS.
3. Press ENTER to display a screen showing two choices: Ready Participation and Configuration. Use the arrow keys to select Configuration.
4. Press ENTER to display the Configuration scroll screen, then use the down arrow to scroll to MODE. Use the plus (+) or minus (-) buttons to select the SpectraNet option. Press ENTER.

13.3 AS3500 Cycle Time

Cycle Time, the time between autosampler injections, can be determined in two ways:

If desired, specify a Cycle Time for each step in the AS3500 Schedule. To do this, select the Run Parameters... command from the Edit menu, to display the Run Parameter dialog box, and enter a Cycle Time in the dialog box.

NOTE **If you enter a Cycle Time that is insufficient for the longest timed event for any of the modules in the system, PeakNet will override it and implement a Cycle Time that is the longer of the two times that would result from the selection methods described above.**

An understanding of timing parameters is critical to successful operation of the AS3500 Autosampler. The list below summarizes the rules that govern Cycle Time.

1. The pump and the detector must begin operation at the same time (i.e., their front panel clocks should display approximately the same time).
2. Begin Collection (in the Method timed events) can begin at any time; however, if data collection does not begin at time 0.0, the detector clock and chromatography clock will be different.
3. If the **Cycle Time equals zero**, then the actual time for each run will be equal to the Data Collection Time (in the Method) plus the time in the timed events at which Begin Collection starts. For example, if Cycle Time = 0, Data Collection Time = 10 min, and Begin Collection = 5 min, the total run time is 15 min.
4. If the **Cycle Time does not equal zero**, the total run time is equal to the Cycle Time plus the time that the AS3500 remains in the Inject Hold position. For example, if Cycle Time = 10 min and the AS3500 receives the injection signal 3 min after it sends the Grad Start Active signal, the total run time is 13 min**.**
5. Each line in an AS3500 Schedule has its own Cycle Time.
6. The Cycle Time in the Schedule overrides any Delay Time that you enter from the autosampler front panel.
7. The **TIME FUNCTION IN** (TTL-2 input) mode of the detector configured for the same system as the AS3500 must be set to **NORMAL PULSE**.

13.4 AS3500 Connections (DX-500 Systems)

NOTE If you have an ACI-based system, refer to Section 13.5 for installation instructions.

If you are connecting the AS3500 to a DX-120, see the *DX-120 Ion Chromatograph Operator's Manual* (Document No. 031183) for DX-LAN setup instructions.

You may choose from two installation setups that allow the Run program for DX-500 DX-LAN systems to control the AS3500 Autosampler:

- Setup 1, recommended for isocratic conditions, starts running the timed events Method for each DX-500 module when the AS3500 makes an injection.
- Setup 2, recommended for gradient conditions, starts running the timed events Method for each DX-500 module before the AS3500 makes an injection, and controls the autosampler injection through a timed event. The timed events Method for any module in the same system as the AS3500 can set a TTL output to control AS3500 injections. A signal is required to start an injection.

Setup 1 (DX-LAN System)

NOTE Many users prefer Setup 1 to Setup 2 because it is faster to install. However, there is one potential drawback; because Setup 1 allows only partial handshaking between the AS3500 and the DX-500 modules, the autosampler will continue with injections even if a module has an operating problem.

Setup 1 minimizes the time between injections (Cycle Time) by having the AS3500 inject as soon as the sample is loaded. Because the AS3500 Inject Out signal is used to start the timed events, injection always occurs at the start of the timed events. Figure 3 illustrates the wiring connections for Setup 1.

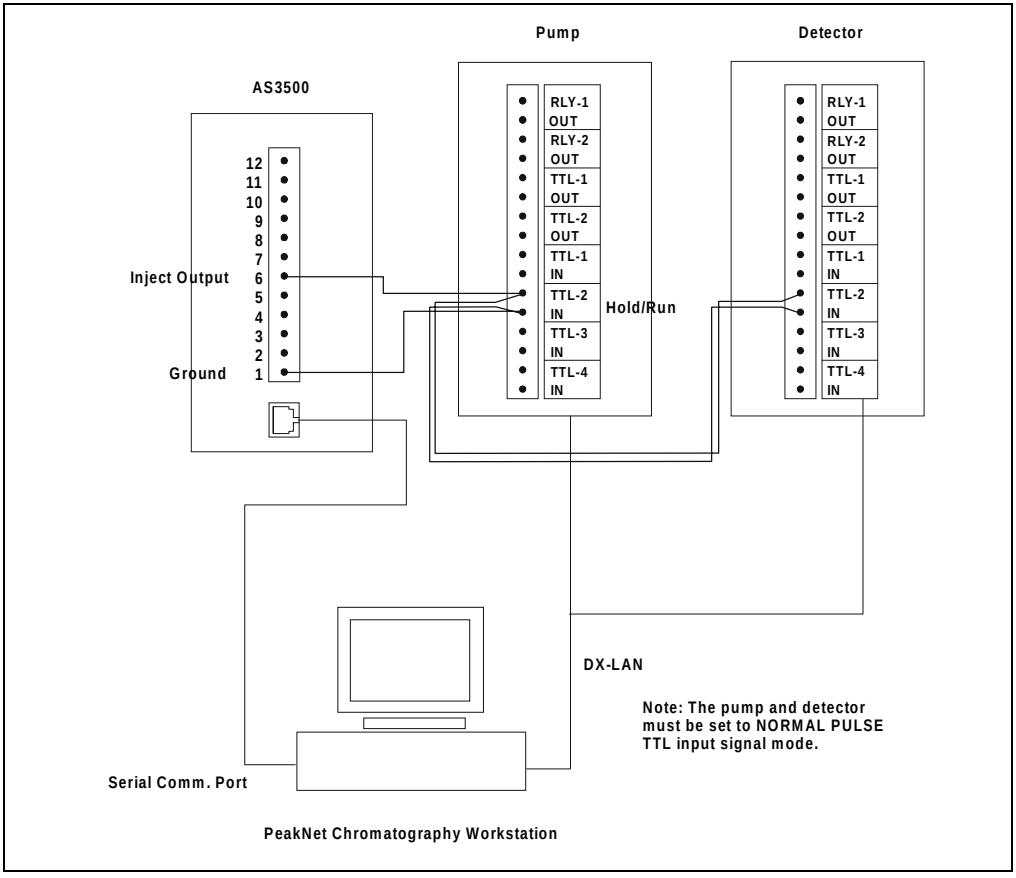


Figure 3. Wiring Connections for Setup 1

1. The **TIME FUNCTION IN** mode of the DX-500 pump and detector configured for the same system as the AS3500 must be set to **NORMAL PULSE**. Select the **TIME FUNCTION IN** screen from the **MENU of SCREENS** on the pump and detector front panels, move the cursor to the **MODE** field and select **NORMAL PULSE**.
2. On the detector's **TIME FUNCTION IN** screen, assign the **HOLD/RUN** function to TTL-2.
3. Connect Pin 6 (Inject Output) of the AS3500 to the TTL-2 input signal pin on the pump and detector.
4. Connect AS3500 Pin 1 (Ground) to the TTL-2 input ground pin on the pump.

5. Select the AS3500 Input Polarity and Output Polarity as follows. (For more information, see the “Advanced Installation and Features” chapter in the AS3500 Autosampler Operator's Manual shipped with the autosampler.)
    a. Turn on the AS3500 power switch. When the power-up diagnostics are completed, the autosampler Status screen is displayed.
    b. Press the MENU button on the Status screen, and then use the arrow keys to select OPTIONS.
    c. Press ENTER to display the first OPTIONS screen.
    d. Use the down arrow to scroll to Input Polarity, and press ENTER.
    e. Use the plus (+) or minus (-) button to set Input Polarity, Pump Ready Active to Hi, and Inj. Hold Active to Hi.
    f. Use the down arrow to scroll to Output Polarity, and press ENTER.
    g. Use the down arrow to scroll to Grad Start Active, and press ENTER.
    h. Use the plus (+) or the minus (-) button to set Output Polarity, Grad Start Active to Lo (the default setting).
6. If the AS3500 column oven or sample tray cooler is installed, disable its Ready Participation. (For more information, see the “Advanced Installation and Features” chapter in the *AS3500 Autosampler Operator's Manual*.)
    a. If the first OPTIONS screen is not displayed, display the screen as instructed in Step 7.
    b. Use the down arrow to scroll to Ready Participation, and press ENTER.
    c. Use the down arrow to scroll to Cooler Ready, and press ENTER.
    d. Use the plus (+) or the minus (-) button to set Cooler Ready to Disable.
    e. Use the down arrow to scroll to Col Oven Ready, and press ENTER.
    f. Use the plus (+) or the minus (-) button to set Col Oven Ready to Disable.

Setup 2 (DX-LAN System)

NOTE **Although Setup 2 takes slightly longer to install than Setup 1, many users prefer Setup 2 because it enables complete handshaking between the AS3500 and the DX-500 modules. This ensures that the autosampler does not continue with injections if there is an operating problem with a module.**

With Setup 2, the Run program first sends a command to the AS3500 to begin the injection process. When the AS3500 is ready to inject, it sends a signal to the DX-500 module to start the timed events before the injection is actually made, using the gradient start output. The DX-500 module holds the injection, via a TTL output line, until a timed event in the Method releases the injection hold.

Using the TTL output to delay actuation of the AS3500 injection valve ensures that the injection occurs at a reproducible time after the start of the analysis, regardless of the volume loaded. Use Setup 2 to minimize variability when the column must equilibrate between injections (e.g., during gradient analyses). Figure 4 illustrates the wiring connections for Setup 2.

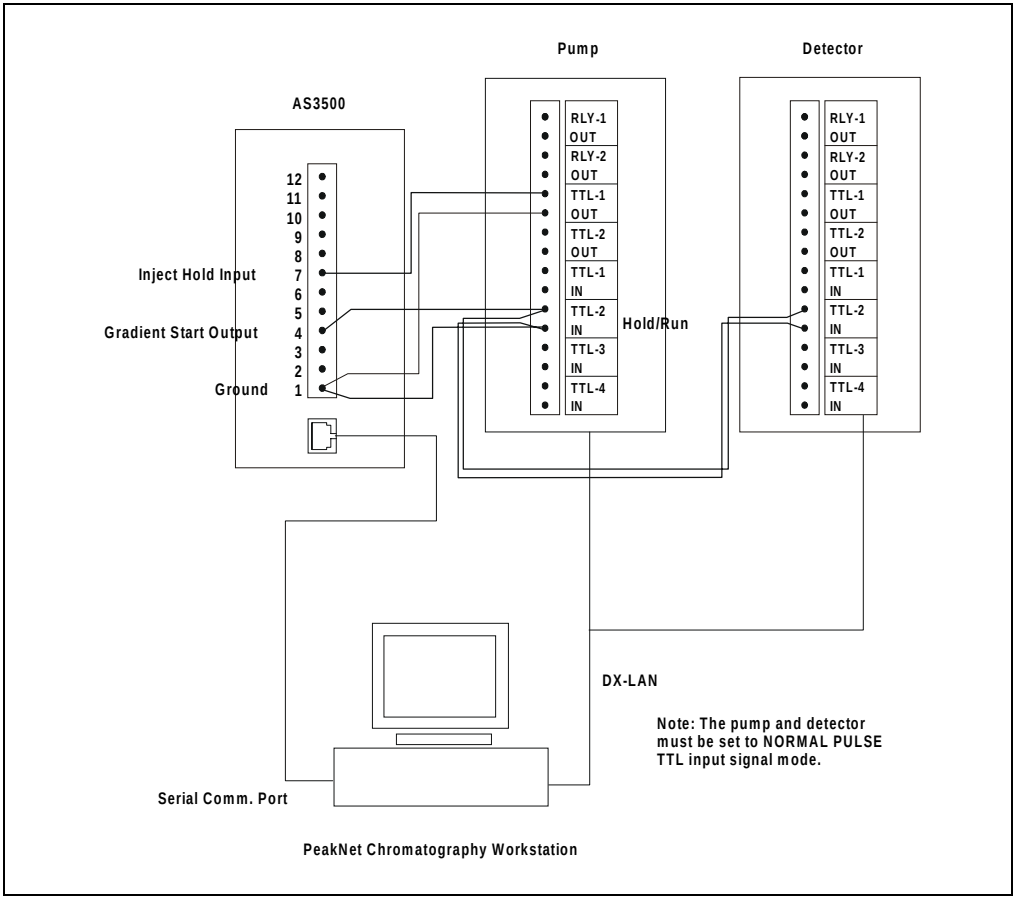


Figure 4. Wiring Connections for Setup 2

1. The **TIME FUNCTION IN** (TTL-2 input) mode of the DX-500 pump and detector configured for the same system as the AS3500 must be set to **NORMAL PULSE**. Select the **TIME FUNCTION IN** screen from the **MENU of SCREENS** on the pump and detector front panels, move the cursor to the **MODE** field, and select **NORMAL PULSE**.
2. On the detector's **TIME FUNCTION IN** screen, assign the **HOLD/RUN** function to TTL-2.
3. Connect AS3500 Pin 4 (Gradient Start Output) to the TTL-2 input on the pump and detector.

4. Connect AS3500 Pin 7 (Inject Hold) to the TTL output connector on the DX-500 module that will be used to control AS3500 injections. This example uses TTL-1 output on the pump.
5. Connect AS3500 Pin 1 (Ground) to the TTL-2 input ground pin on the pump and also to the TTL-1 output ground pin on the pump.
6. Select the AS3500 Input Polarity and Output Polarity as follows. (For more information, see the "Advanced Installation and Features" chapter in the *AS3500 Autosampler Operator's Manual* shipped with the autosampler.)
    a. Turn on the AS3500 power switch. When the power-up diagnostics are completed, the autosampler Status screen is displayed.
    b. Press the MENU button on the Status screen, and then use the arrow keys to select OPTIONS.
    c. Press ENTER to display the first OPTIONS screen.
    d. Use the down arrow to scroll to Input Polarity, and press ENTER.
    e. Use the plus (+) or minus (-) button to set Input Polarity, Pump Ready Active to Hi, and Inj. Hold Active to Hi.
    f. Use the down arrow to scroll to Output Polarity, and press ENTER.
    g. Use the down arrow to scroll to Grad Start Active, and press ENTER.
    h. Use the plus (+) or the minus (-) button to set Output Polarity, Grad Start Active to Lo (the default setting).

7. If the AS3500 column oven or sample tray cooler is installed, disable its Ready Participation. (For more information, see the “Advanced Installation and Features” chapter in the *AS3500 Autosampler Operator's Manual*.)
   a. If the first OPTIONS screen is not displayed, display the screen as instructed in Step 8.
   b. Use the down arrow to scroll to Ready Participation, and press ENTER.
   c. Use the down arrow to scroll to Cooler Ready, and press ENTER.
   d. Use the plus (+) or the minus (-) button to set Cooler Ready to Disable.
   e. Use the down arrow to scroll to Col Oven Ready, and press ENTER.
   f. Use the plus (+) or the minus (-) button to set Col Oven Ready to Disable.

Here is an example of the timed events for a Method using Setup 2 and a GP50 Gradient Pump.

Time	GP50 TTL-1-Out*	Comment
Init	Off	
0.00	On	Release the AS3500 from Hold and trigger injection.
20.00	Off	Return the AS3500 to Hold until the next AS3500 injection.
25.00	Off	

*GP50 TTL-1 Output is connected to AS3500 Inject Hold Input Pin 7.

When editing timed events from the pump Method Editor, turn on (check) the appropriate TTL output checkbox in the timed events list to release the AS3500 from Hold and trigger injection. Before the next injection is started, clear the checkbox to return the AS3500 to Hold. (You can add this timed event near the end of the event list or immediately following the release timed event.)In the example above, injection occurs at Time=0.00 and the AS3500 is returned to Hold at Time=20.00 minutes.

To start collecting detector data when the AS3500 injects, include a step in the detector timed events that begins data collection when the injection hold is released.

13.5 AS3500 Connections with an ACI-Based System

NOTE If you have a DX-LAN system, refer to Section 13.4 for installation instructions.

In this setup, the ACI Run program first sends a command to the AS3500 to begin the injection process. When the AS3500 is ready to inject, it sends a signal to the Advanced Computer Interface (ACI) to begin timed events before the injection is actually made, using the gradient start output. The ACI holds the injection, via a TTL output line, until a timed event in the Method releases the injection hold.

Using the TTL output to delay actuation of the AS3500 injection valve ensures that the injection occurs at a reproducible time after the start of the analysis, regardless of the volume loaded. This minimizes variability when the column must equilibrate between injections (e.g., during gradient analyses). Figure 5 illustrates the wiring connections for this setup.

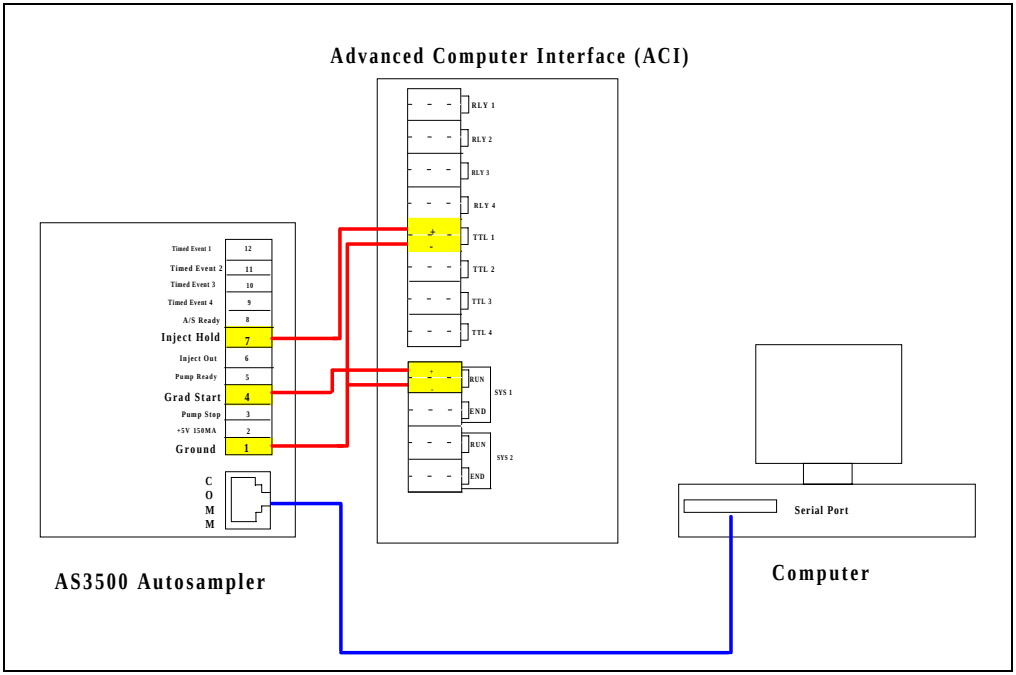


Figure 5. ACI Wiring Connections

1. Connect AS3500 Pin 4 (Gradient Start Output) to the ACI SYS1 or SYS 2 RUN connector on the ACI rear panel.
2. Connect AS3500 Pin 1 (Ground) to the GND pin for the SYS RUN selected in Step 1.
3. Connect AS3500 Pin 7 (Inject Hold) to one of the TTL output connectors on the ACI rear panel.

NOTE Each TTL has two connection ports on the green connector on the ACI rear panel; the upper port is output and the lower port is ground.

4. Connect AS3500 Pin 1 (Ground) to the ground connector of the TTL selected in Step 2.
5. Select the AS3500 Input Polarity and Output Polarity.
   a. Turn on the AS3500 power switch, if it is not already on.
   b. Press the MENU button on the autosampler status screen, and then use the arrow keys to select OPTIONS.
   c. Press ENTER to display the first OPTIONS screen. Use the down arrow to scroll to the Input Polarity screen and press ENTER.
   d. Use the plus (+) or minus (-) button to set Input Polarity, Pump Ready Active to Hi, and Inj. Hold Active to Hi.
   e. Press the down arrow twice to select Output Polarity, and press ENTER.
   f. Use the plus (+) or minus (-) button to set Output Polarity, Grad Start Active to Lo. (For more details on setting polarity, see the “Advanced Installation and Features” chapter in the *AS3500 Autosampler Operator's Manual*.)

Customizing Autosampler Ready Requirements

Although some parameters (including Door Interlock, Cooler Ready, and Column Oven Ready) normally must be met before the AS3500 is ready for operation, you can override them. For more information, see "Ready Participation" in Appendix A of the *AS3500 Autosampler Operator's Manual*.

Linking the Run Program to the AS3500

NOTE **Before beginning operation, you must assign the AS3500 to a computer COM port (via the PeakNet Configuration Editor); otherwise, Run will not know that the AS3500 is configured.**

Opening Run should automatically initialize the AS3500 and display the word "INITIALIZE" in the panel display window. If this does not occur, check the setup configuration. Once Run and the AS3500 are linked, you cannot control the autosampler from the front panel. If it is necessary to use the AS3500 front panel controls, first close the Run program.

Do not close Run during AS3500 operation. If you do, Run will lose information about the injection sequence.

IMPORTANT

After using the Schedule Editor to view expanded sample injections, do not save the Schedule file to the hard disk. Doing so will overwrite the Schedule file updated by Run.

14. Connecting the ACI to the Computer

NOTE **If the system includes an ACI (Advanced Computer Interface), refer to the *Advanced Computer Interface Operator's Manual* (Document No. 034011) for detailed installation instructions.**

PeakNet supports RS-232 operation at 9600 baud (position 3 of the RS-232 Baud Rate switch on the ACI rear panel). See Appendix B of the ACI manual for more information.

Using the RS-232C cable provided, connect the connector on the ACI rear panel to the corresponding connector on the computer. Each ACI requires a separate RS-232 port.

PeakNet supports up to two ACIs and two AS3500 Autosamplers via RS-232 ports. If more than two RS-232 ports are required, they can be configured using a card with four COM ports (Dionex P/N SP4125).

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