



User's Guide



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Introducing PC MACLAN

Welcome to PC MACLAN, Miramar Systems' cross-platform networking solution that provides full, peer-to-peer network access between a Windows server or workstation and Macs on an AppleTalk local area network (LAN) or over the internet using TCP/IP.

PC MACLAN integrates an AppleShare client and server interface into the Windows environment, allowing seamless cross-platform access to files, applications, printers (even inkjet printers), and more. With PC MACLAN's user-friendly Wizard Interface, set up has never been easier or more complete.

New features in PC MACLAN

- Wizard interface that quickly and easily configures PC MACLAN for sharing files and printers with Mac users.
- AppleTalk Filing Protocol (AFP) 3.0 support. This provides support for larger file sizes, larger partitions and in the case of the file client, longer file names.
- Printer configuration in the Print Server has been improved.
- Improved wireless support.
- Better Internet support.
- Automated selection of network adapter.
- Support for sharing network drives with Mac users.

PC MACLAN components

PC MACLAN components are listed under the Start Menu/Programs/PC MACLAN. Because PC MACLAN Client is fully integrated with My Network Places, it does not appear as a program item.

- PC MACLAN Client lets you access File Servers and printers on the AppleTalk LAN using My Network Places. You can access the AppleTalk network by selecting Miramar AppleTalk Network in the PC MACLAN Programs group.
Note: The Windows 2000 or XP "My Network Places" is called "Network Neighborhood" in Windows NT. We use Windows 2000 terminology unless otherwise noted.
- AppleTalk Settings displays the AppleTalk Control Panel. This window lets you see which adapter you are using for network access, and lets you select a different zone in which to display your AppleTalk File Server.

- File Server is an AppleShare compatible File Server that lets you share resources like folders, hard drives, network drives or removable media with Macs. Up to ten Macintosh computers can access the PC MACLAN File Server at any one time.
- GatorPro displays a list of all the devices on the network.
- PC MACLAN Online Help displays online help for PC MACLAN.
- PC MACLAN Read Me File displays the readme.txt file, which contains late-breaking product information.
- PC MACLAN Print Server lets you share any printers connected to your PC with Mac users.
- PC MACLAN User Guide provides a comprehensive user manual for you to read.
- Register PC MACLAN lets you register PC MACLAN if you decide not to do so during installation.

Technical support

Before requesting technical support, be sure to look at the readme.txt file for last-minute changes and check Appendix A for troubleshooting tips.

Technical support is available by phone or on Miramar's web site:

Phone: (805) 965-5161

Web: <http://www.miramar.com>

Before you call technical support, please be prepared to provide the following information:

1. Your name, company name, phone and fax numbers, and email address.
2. Your PC MACLAN serial number (located on the inside front cover of this quick installation guide).
3. Your Windows PC make, model, processor type, and speed.
4. The version number of your Windows operating system.
5. The version number of any service packs you have installed.
6. Information on hardware attached to your system:
 - Video card, driver, and resolution.
 - CD-ROM port I/O address and IRQ or INT interrupt.
 - Sound card port I/O address and IRQ or INT interrupt.
7. Information about your PC network:
 - Network adapter make, model, and speed.
 - Network adapter port I/O address.
 - Network adapter IRQ or INT interrupt level.
8. Information about your Macs and network:
 - Operating system version number.
 - AppleTalk version number.
 - Adapter or router make and model.
 - Number of Macintoshes on the network.
9. A detailed description of the problem.

Online help

Every PC MACLAN window contains a Help menu, which displays help information for that window and lets you access other online help topics using standard Windows help navigation buttons. Once online help is open, you use it just as you use online help for most standard Windows applications.

PC MACLAN provides online help in two forms:

1. You can get help from the Start Menu. Go to Programs/PC MACLAN and select PC MACLAN Online Help. You can also get help by pressing F1 when you are in the File or Print Server.

Using this guide

If you've never set up a network before, we recommend that after you install PC MACLAN, you thoroughly review this User Guide.

If your Macintosh-to-PC LAN hardware and cabling is already in place and tested, you can skip Chapter 2 and go directly to the installation instructions in Chapter 3.



Setting up the Network

If your Macintosh-to-PC LAN hardware and cabling is already in place and tested, you can skip this chapter and go directly to Chapter 3: *Installing PC MACLAN*.

This chapter provides basic information for those who are unfamiliar with cross-platform networking. It also describes the computer systems and software, the network hardware and software, and the cabling needed to configure a network. If you come across a network term that you are unfamiliar with, you can refer to the glossary for a definition.

Cross-platform local area networks

A local area network (LAN) is a group of computers and other devices, such as printers and scanners that are connected to each other by cables. Network software, like network operating systems, drivers, and PC MACLAN, allows computers connected to the network to share files, folders, applications, disk drives and printers with other users on the network.

A cross-platform network is one in which computers with different operating systems are connected. Network software like PC MACLAN enables these computers to communicate with each other. Figure 2-1 illustrates a typical cross-platform LAN.

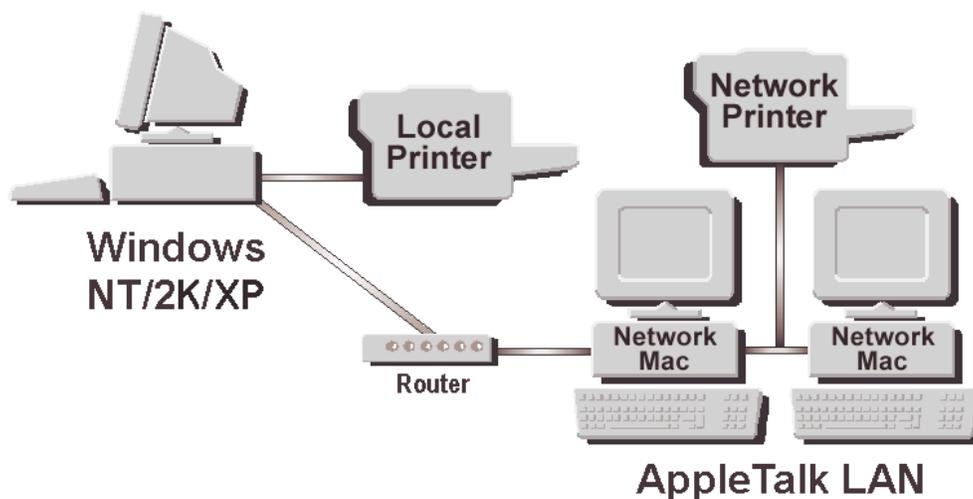
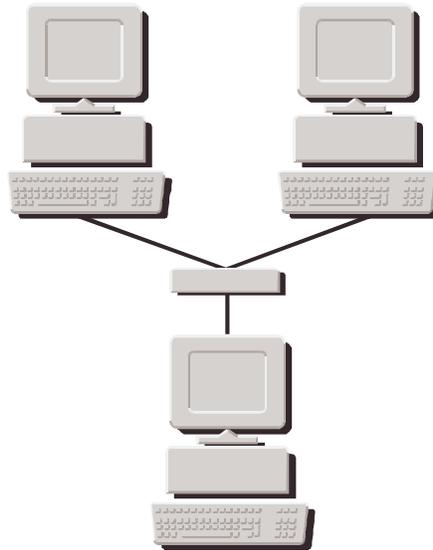


Figure 2-1. A cross-platform local area network

Network types

To form a network, computers and devices not attached to computers are connected using matching network hardware, or, if using unmatched network hardware, through a router or bridge. A network may require additional hardware like terminators and transceivers.

The type of adapter and cabling you need depends on the type of network you are setting up. Figure 2-2 shows a cabling diagram for a 10 Base T Ethernet network.



*Figure 2-2. 10 Base T Ethernet cabling
10 Base T Ethernet requires a hub. (If you are connecting only two computers, you can use a special cross-over cable instead.
See Appendix A.).*

Network components

This section describes the components you need to set up your cross-platform network. The next section, System and network requirements gives specific hardware and software requirements for both Macs and PCs on the network.

PC network adapter and driver

On Windows computers, you need to install an Ethernet adapter and its associated driver. Windows uses the 32-bit, enhanced-mode NDIS (Network Device Interface Specification) driver for all networks. Any network adapter that uses this type of driver will work with PC MACLAN.

Mac network adapter and driver

Most newer Macs come with EtherTalk (Ethernet) adapters and drivers built-in. With these computers, you connect to another Mac simply by plugging in the EtherTalk cable into the backs of both computers.

Printers

PC MACLAN can print to any AppleTalk printer for which a driver is installed. Windows comes with many drivers for the most common printers. The Apple LaserWriter driver is a good default driver to pick if you have a PostScript printer and do not have the exact driver. Adobe's web site contains drivers for most PostScript printers.

Mac users can print to Windows printers using either a printer driver from the manufacturer of the printer or printing to it using the LaserWriter driver. PC MACLAN will print to inkjet or non-PostScript printers on the PC as if they are Laser Writers using GhostScript.

AppleTalk

AppleTalk is part of the Mac operating system, and is the network protocol that computers on an AppleTalk LAN use to communicate with each other. PC MACLAN installs AppleTalk on your Windows PC to allow it to communicate with the Mac LAN.

System and network requirements

This section describes the minimum system configuration, and the network hardware and software required to successfully install and use PC MACLAN.

Windows NT/2K/XP system

Computer system

- 486 or Pentium processor
- 16 megabytes of RAM
- 4.5 megabytes of free hard disk space
- CD-ROM drive
- Windows NT version 4.0 or Windows 2000 or XP (workstation or server)
- Printer drivers

Network hardware and software

- Ethernet with NDIS 3.1 or higher driver
- Appropriate network cabling, hub or router.

Note: PC MACLAN will work on older (486) NT systems. Requirements for newer systems may be higher.

Mac

Mac systems on the LAN

- 68x00 or PowerPC Mac
- AppleShare version 3.0 or higher, or System 7.x or higher with file sharing enabled.
- LaserWriter driver version 7.1.2 or 8.x.x (standard with all Macs).

Network hardware and software

- Ethernet adapters and drivers
- Appropriate network cabling and/or transceivers, hubs, or routers

Universal naming conventions

The Universal Naming Conventions (UNC) used to identify a PC MACLAN File Server or Print Server on the network are:

- File Server = \\zone name@file server name

- Print Server = \\zone name\printer type\printer name

Naming files for cross-platform networks

Mac and Windows operating systems use different character sets and have different requirements for naming files and folders. You can avoid problems by getting into the habit of naming files for cross-platform use.

The Windows Explorer Properties feature (on the File menu) lets you view information about a file, such as the long file name, the file type and creator type, the Mac icon for the file, and other properties.

Number of characters in file names

While Windows lets you use up to 253 characters in a file name, the Mac operating system only allows up to 31. If you try to transfer a file with a name of more than 31 characters from a Windows PC to a Mac, you will get an error message. Also, many Windows applications add a two or three-character extension to file names. These characters are included in the total number of characters allowed.

Mac OS X allows for unlimited file name lengths and PC MACLAN will work with files up to 253 characters. The total length of a file and its path (the folders it is contained in) is 255 characters.

Characters not accepted by Windows

The characters \ / : * ? " < > | Cannot be used in Windows file or folder names. If you transfer a Macintosh file with one of these characters in the name, PC MACLAN substitutes the ASCII code for that character enclosed in brackets ([047], for example). In addition, the characters @ and ` are reserved by PC MACLAN and are substituted with [064] and [096], respectively.



Installing PC MACLAN

This chapter describes how to install PC MACLAN. These installation procedures assume that all network hardware and software has been installed, configured, and tested as specified in Chapter 2.

Pre-installation checklist

Use this section to find out if your system and network are ready for the PC MACLAN installation, and to record the information you will need for installing and setting up PC MACLAN.

1. Is a version of AppleTalk already installed on your Windows system?

If AppleTalk software from a vendor other than Microsoft is installed on your Windows system, you must remove it before you install PC MACLAN. You should also remove any networking applications that used the version of AppleTalk you have removed. (For information about removing software, see the documentation that came with the software.)

2. Is the network adapter on your Windows system installed and configured?

For Plug and Play adapters, Windows automatically determines the appropriate settings for your adapter during installation. With older adapters, you may need to know the I/O base address (port), interrupt (or INT), DMA information, and shared memory-block address and size (if any) for successful installation.

3. Have you disabled your screen saver and virus-protection program?

Screen savers and virus protection programs can interfere with the PC MACLAN installation, so it is wise to temporarily disable them before beginning the installation.

4. Record the make and model of your adapter; and the makes, models, and names of the printers on the AppleTalk LAN here:

Adapter Make:

Adapter Model:

Printer 1:

Printer 2:

Printer 3:

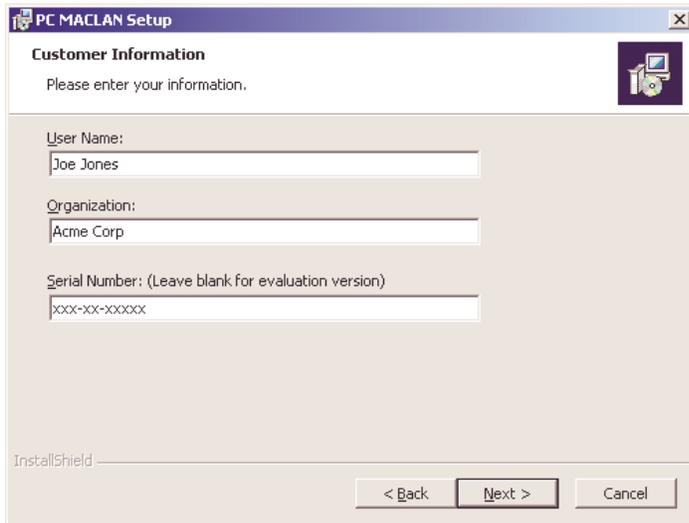
Printer 4:

The installation steps are different for Windows NT and Windows 2K/XP. Be sure to use the section appropriate to your operating system.

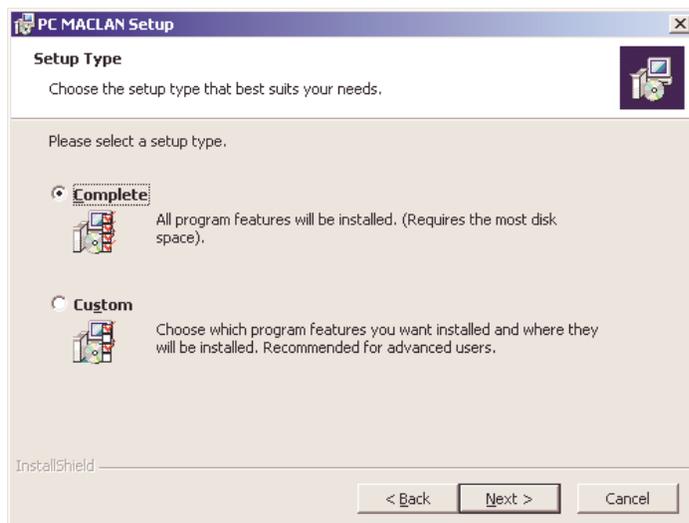
Installing PC MACLAN on Windows 2K/XP

1. Log on as an administrator.
2. Exit all programs, and disable screen saver and virus protection programs.
3. Insert the PC MACLAN CD into your CD-ROM drive.
4. When the PC MACLAN window opens, click on the Install PC MACLAN icon.
5. In the installation wizard Welcome window, click on Next.
6. In the license agreement window, read the agreement, select the radio button indicating that you accept the terms in the license agreement and click on Next.

The Customer Information window is displayed.



7. Enter your name, company name, and PC MACLAN serial number (located on the inside front cover of this quick installation guide) then click on Next.

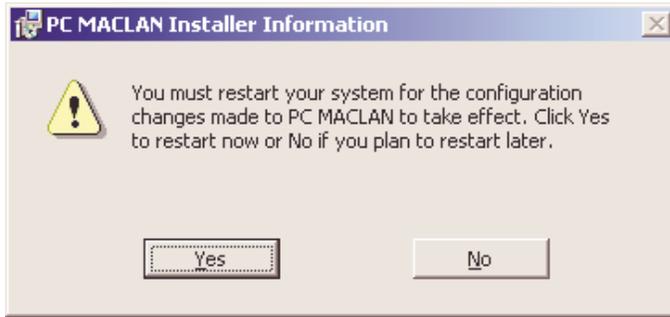


8. Select the radio button for a complete installation, and then click on Next.

Note: A complete installation installs the client, print client, File Server, and Print Server. If you need to install only certain components of PC MACLAN, or if you wish to install it in a different directory, you can choose the custom setup option.

In the Ready to Install window, click on Install. An installation status window displays while PC MACLAN is installing.

9. When the installation is complete, click on Finish. A window is displayed asking if you would like to restart your computer.



10. Click on Yes to restart your computer.

Once you log back in the Setup Wizard will startup and step you through configuring PC MACLAN for your needs. If you have any questions refer to the online help or manual. If you cannot access the network please refer to the troubleshooting section of the help or manual.

Removing PC MACLAN from Windows 2K/XP

1. Log on as an administrator.
2. Exit all programs, and disable screen saver and virus protection programs.
3. In the Start Menu, go to Settings and open the Control Panel.
4. In the Control Panel, double-click on Add/Remove Programs.
5. In the Add/Remove Programs window, click on PC MACLAN to select it, then click on the Remove button.
6. Click on Yes to confirm that you want to remove PC MACLAN.
7. When the removal is complete, a window is displayed asking if you would like to restart your computer.
8. Click on Yes to restart your computer.

Maintaining PC MACLAN on Windows 2K/XP

Once PC MACLAN has been installed on your system, the installation program offers you several options. In addition to removing the program, you can also choose to modify or repair it.

Modifying PC MACLAN features

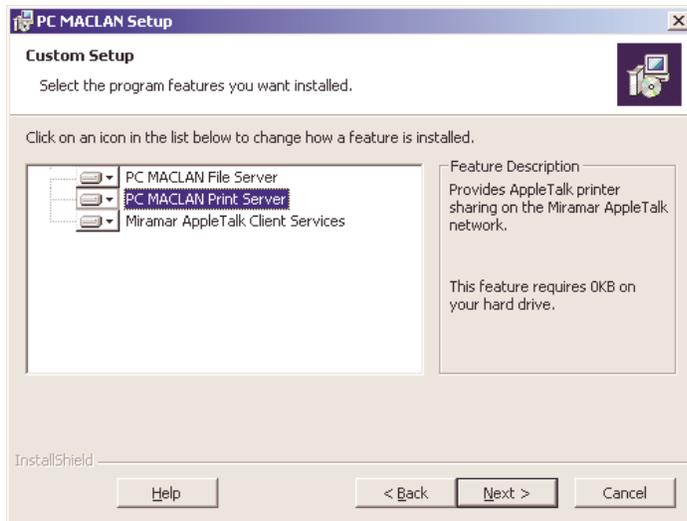
Customizing lets you change the way PC MACLAN features are installed.

To modify PC MACLAN:

1. Log on as an administrator.
2. Exit all programs, and disable screen saver and virus protection programs.

3. In the Start Menu, go to Settings and open the Control Panel.
4. In the Control Panel, double-click on Add/Remove Programs.
5. In the Add/Remove Programs window, click on PC MACLAN for Windows 2000 to select it, then click on the Change button.
6. In the installation wizard Welcome window, click on Next.
The Program Maintenance window is displayed.
7. Select the Modify radio button, then click on Next.

The Custom Setup window is displayed.



1. By clicking on one of the PC MACLAN features, you can select to install the feature, install the feature and all its subfeatures, or make the feature unavailable.
2. Select how you want each feature to be installed, then click on Next.
3. An installation status window displays while PC MACLAN is modifying the installation of features.
4. When the modifications are complete, click on Finish. A window is displayed asking if you would like to restart your computer.
5. Click on Yes to restart your computer.

Repairing PC MACLAN on Windows 2K/XP

The repair function repairs errors in the program by fixing missing or corrupt files, shortcuts, or registry entries.

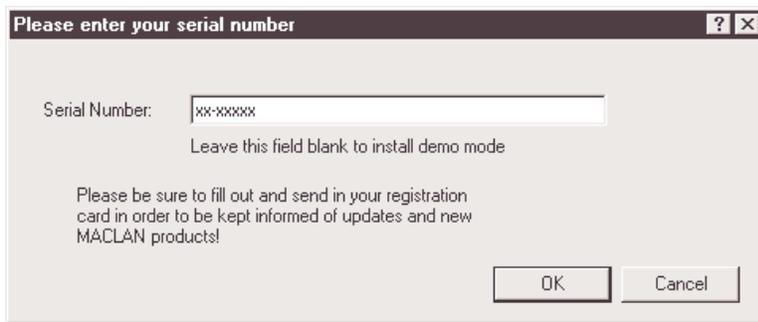
1. Log on as an administrator.
2. Exit all programs, and disable screen saver and virus protection programs.
3. In the Start Menu, go to Settings and open the Control Panel.
4. In the Control Panel, double-click on Add/Remove Programs.
5. In the Add/Remove Programs window, click on PC MACLAN for Windows 2000 to select it, then click on the Change button.
6. In the installation wizard Welcome window, click on Next. The Program Maintenance window is displayed.
7. Select the Repair radio button and click on Next.

8. A status window displays while PC MACLAN is repairing files, shortcuts, and registry entries.
9. When the repair is complete, click on Finish. A window is displayed asking if you would like to restart your computer.
10. Click on Yes to restart your computer.

Installing PC MACLAN on Windows NT

1. Log on to the Windows system as an administrator.
2. Exit all programs, and disable screen saver and virus protection programs.
3. Insert the PC MACLAN CD into your CD-ROM drive.
4. When the PC MACLAN window opens, click on the Add Software cube.
5. In the license agreement window, click on Agree to indicate that you agree to the conditions set forth in the agreement.

The serial number window is displayed.



The screenshot shows a dialog box titled "Please enter your serial number". It contains a text input field with the placeholder "xx-xxxxx" and the instruction "Leave this field blank to install demo mode". Below the input field is a paragraph of text: "Please be sure to fill out and send in your registration card in order to be kept informed of updates and new MACLAN products!". At the bottom right, there are "OK" and "Cancel" buttons.

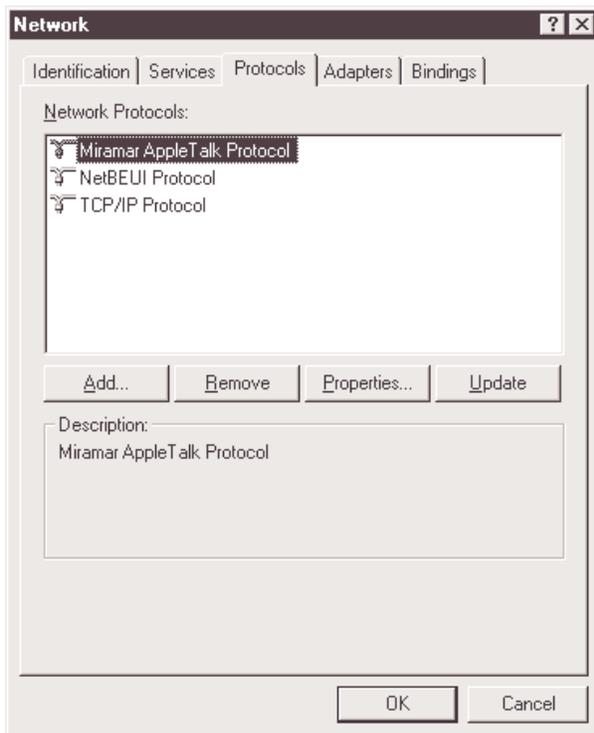
6. Enter the serial number (located on the inside front cover of this quick installation guide) and click on OK.



The screenshot shows a dialog box titled "User Information". It contains two text input fields: "User:" with the value "Administrator" and "Company:" with the value "Get Real Inc". At the bottom right, there are "OK" and "Cancel" buttons.

7. In the User Information window, make sure the user and company information is correct, and click on OK.
8. In the Destination folder window, make sure the folder into which PC MACLAN will be installed is correct, and that you have enough drive space, then click on OK.

The Network control panel is displayed.



9. Select the Protocols tab and click on Add.

The Select Network Protocol window is displayed.

10. Make sure that Miramar AppleTalk Protocol is selected and click on OK.

The protocol files are copied to your hard drive.

11. Click on Close to close the window.

12. In the Network Control Panel, select the Services tab and click on Add.

13. The Select Network Services window is displayed.



14. Make sure All Miramar Services is selected, and click on OK. When the files have been copied from the CD, Miramar's three services are listed in the window.

Note: You can add the three services individually by selecting them in the list. However, we recommend that you select the All Miramar Services option.

15. Click on Close to close the window, then click on OK to close the Select Network Services window.

The installation program takes a few seconds to update network settings, then asks if you want to restart your system.

16. Click on Yes to restart your system.

Once you log back in, the Setup Wizard will startup and step you through configuring PC MACLAN for your needs. If you cannot access the network please refer to the troubleshooting section of the help or manual.

Removing PC MACLAN from Windows NT

1. In the Control Panel, double-click on the Network icon.
2. In the Network control panel, select the Services tab.
3. One at a time, select each of the Miramar services (client services, File Server, and Print Server), and click on Remove.
4. Select the Protocols tab, make sure Miramar AppleTalk transport is selected, then click on Remove.
5. Close the Network Control Panel.

The system takes a few seconds to update network settings, then asks if you want to restart your system.

6. Click on Yes to restart your system.



Setting up PC MACLAN Client

PC MACLAN Client lets you transfer files between your Windows PC and an AppleTalk or AppleShare IP file server. It also lets you print to any AppleTalk printers on the AppleTalk or AppleShare IP network. PC MACLAN Client is fully integrated with Windows My Network Places, (Network Neighborhood in Windows NT). You can browse for computers and printers by selecting Miramar AppleTalk Network in the PC MACLAN program group.

Logging onto a PC MACLAN network

This section describes how to log onto the PC MACLAN network so you can set up PC MACLAN Client. Before you log on, make sure you have completed the following:

For both AppleTalk and AppleShare IP networks: Macintosh network computers must have been set up as described in Chapter 9, and any Macintosh computers and devices you wish to access must be turned on.

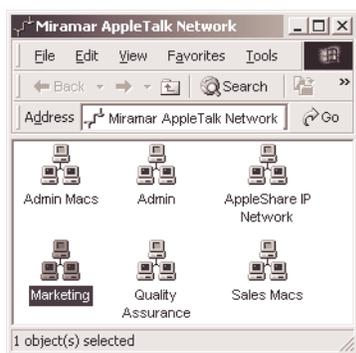
For AppleShare IP networks: Your IP connection must have been set up as described in *Setting up an AppleShare IP connection* on page 4-15.

Note: We use My Network Places to describe how to set up and use PC MACLAN. It is very similar to Network Neighborhood.

To log onto the PC MACLAN network:

1. From the Start menu, select Programs/PC MACLAN and then Miramar AppleTalk Network. Alternatively you can also access it through My Network Places on the Desktop.

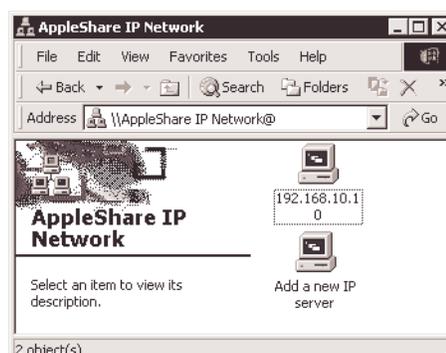
You will see a window similar to one of these.



Example of Zone icon



Example of Printer and File Server icons



Example of IP Server icon

- If your network uses zones, you double-click on a zone icon to display the file servers and printers available in that zone.
 - If you logged on using an AppleShare IP connection, you double-click the AppleShare IP icon to display the IP servers available to you.
 - If your network does not use AppleTalk zones, network file servers and printers are displayed in the window.
2. Double-click on the icon for the file server you want to access.

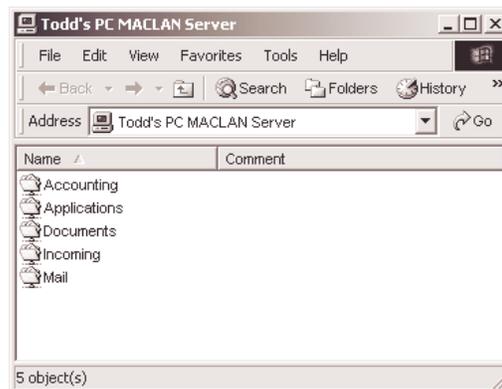
The Enter Network Password window is displayed with your user name in the User name field and the name of the file server in the server field.



The user name and password you enter must be the same as those entered on the AppleTalk file server (see Chapter 9). If the server does not allow guest access, the Connect as Guest checkbox is dimmed.

3. If necessary, enter the correct user name in the User name field.
4. In the Password field, enter your password exactly as it was set on the AppleTalk file server. (Passwords are case-sensitive.)
Asterisks (*) appear as you type to protect your password from being seen by others.
5. If you do not want to re-enter the password each time you log onto the selected AppleTalk file server, click on the Save this password in your password list checkbox.
6. Click on OK to close the window and log onto the AppleTalk file server.

A window is displayed listing the folders available on this server.



You can now access any file on the server to which you have access privileges. (For information about file access privileges, see Chapter 5.) You can also find the AppleTalk file server in Windows Explorer or My Computer, under My Network Places (Network Neighborhood) icon.

Setting up an AppleShare IP connection

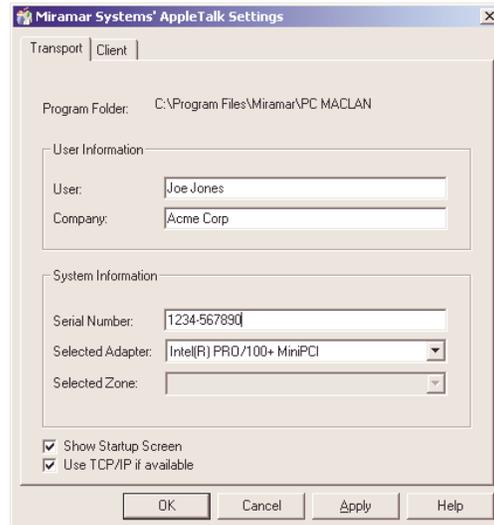
Using PC MACLAN's IP feature, your Windows PC can access any AppleShare IP (version 5.0 or higher) file server, whether the server is located on your company's LAN, at a branch office on a WAN, or anywhere worldwide over the Internet.

Before using the IP feature, you need to set up an AppleShare IP network connection using the AppleTalk settings window. You can set up connections to as many IP addresses as you like.

To access the AppleTalk settings window:

1. From the Start menu, select Programs/PC MACLAN.
2. In the PC MACLAN menu, select AppleTalk Settings.

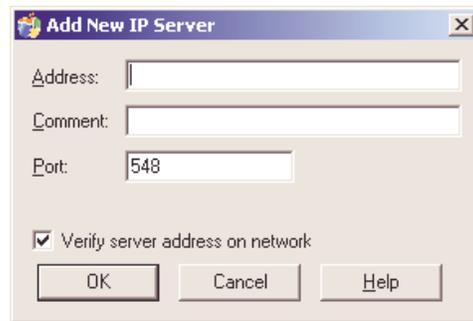
The AppleTalk Settings window is displayed.



To set up an AppleShare IP Connection:

3. In the AppleTalk Settings window, make sure the "Use TCP/IP if available" checkbox is checked, then click on OK.
4. From the Start menu, select Programs/PC MACLAN.
5. In the PC MACLAN menu, select Miramar AppleTalk Network.
6. Click on the AppleShare IP Network.

7. The Add a New IP Server window is displayed.



8. In the Address field, type in the IP address to which you wish to connect. The address shown here is for explanation only.

9. In the Comment field, type in a description of the IP connection.

10. For now, uncheck the “Verify server address on network” checkbox.

Note: Later, when the network connection is established, you can check this box. When this box is checked, a TCP/IP “ping” is sent to the entered IP address when you click on OK. The ping checks that the IP address is active.

11. Click on OK to add the connection. The new connection is displayed in the AppleShare IP Network window.

Add as many additional IP connections as you like.

Mapping to a network drive

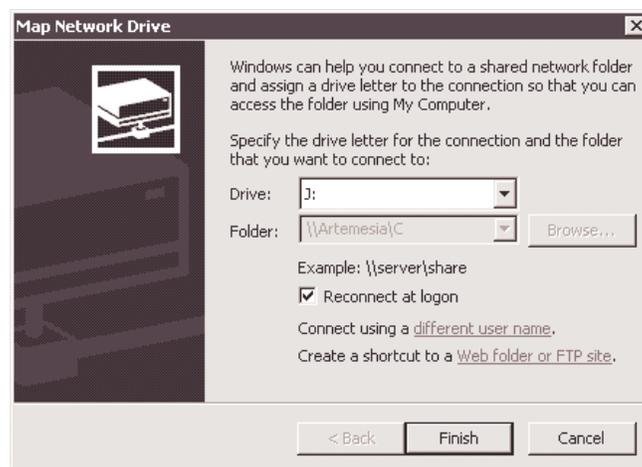
To display a shared AppleTalk volume as a drive in Windows Explorer, you can map the volume to a drive letter. You can disconnect the mapped drive at any time.

Note: You can map only one drive to a drive letter.

To map to a network drive:

1. Make sure you are logged onto an AppleTalk file server.
2. In the file server’s window, navigate to the AppleTalk volume you wish to map to a drive.
3. Right click on the folder, and from the shortcut menu, select Map Network Drive.

The Map Network Drive window is displayed.



4. In the Drive field, select a drive letter that is not in use. The volume name is displayed in the Folder field.

Caution: If you select a drive letter that is already mapped to a drive, the new drive will replace the existing one.

5. If you want the server to be connected automatically every time you start Windows, click on the Reconnect at Logon checkbox.

6. Click on OK.

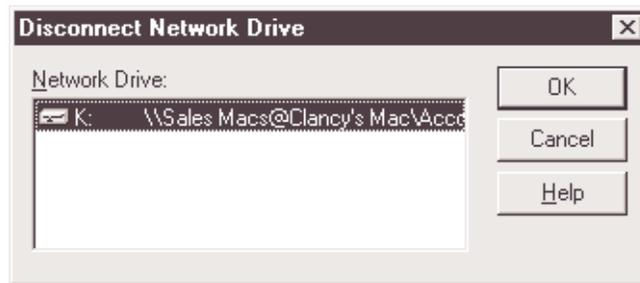
The contents of the mapped drive are displayed in a window, and the shared drive is displayed in Windows Explorer as the drive you selected.

To disconnect a mapped network drive:

1. Right-click on the My Network Places icon.

2. In the shortcut menu, click on Disconnect Network Drive.

The Disconnect Network Drive window is displayed.



3. Click on OK.

The AppleTalk file server is disconnected from the network drive.

Setting up client print services

You use My Network Places (Network Neighborhood) to set up the PC MACLAN print services that allow your Windows system to use a printer connected to the AppleTalk network.

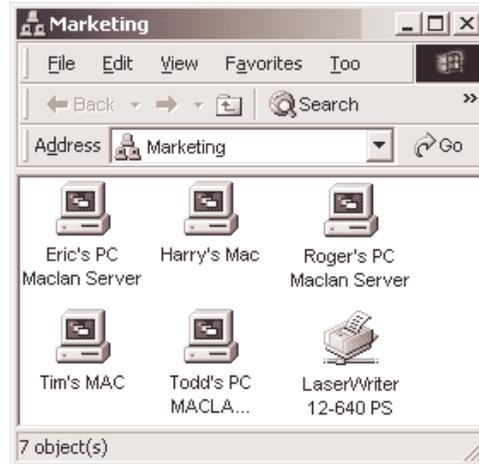
Before setting up client print services, you need to:

- Know the make and model of the network printer
- Know the assigned name of the network printer
- Make sure the printer is turned on and connected to the network
- Know the AppleTalk printer type of your printer (optional)

To set up client print services:

1. From the Start menu, select Programs/PC MACLAN.

2. In the PC MACLAN menu, select Miramar AppleTalk Network.



A window displays the file servers and printers available.

4. Double-click on the AppleTalk printer you want to set up.
5. Answer yes to the query, “Do you want Windows to set up the printer;”
The Add Printer Wizard is displayed.
6. Follow the instructions as you would for adding any Windows printer.

When you have completed the Add Printer Wizard steps, the printer window is displayed. You can now use the printer like any other Windows printer.

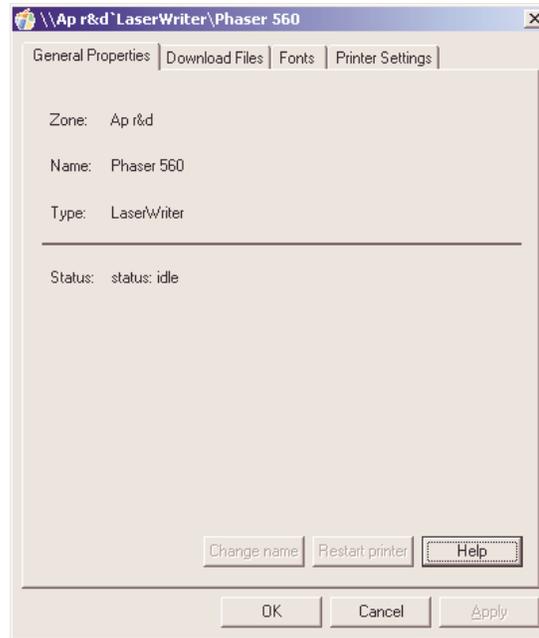
Viewing or changing AppleTalk printer functions

PC MACLAN provides a printer functions window that lets you:

- View general printer properties
- Display resident fonts
- Download fonts
- Download PostScript files
- View printer page settings

To display the AppleTalk Printer Functions window:

1. From the Start Menu, select Settings/Control Panel, then double-click on the Printers folder.
2. Right-click on the AppleTalk printer icon, and in the shortcut menu, select AppleTalk Printer Utilities.
The AppleTalk Printer Functions window is displayed.



3. Click on the tab for the printer function you want to view or change.

Creating and viewing a printer log file

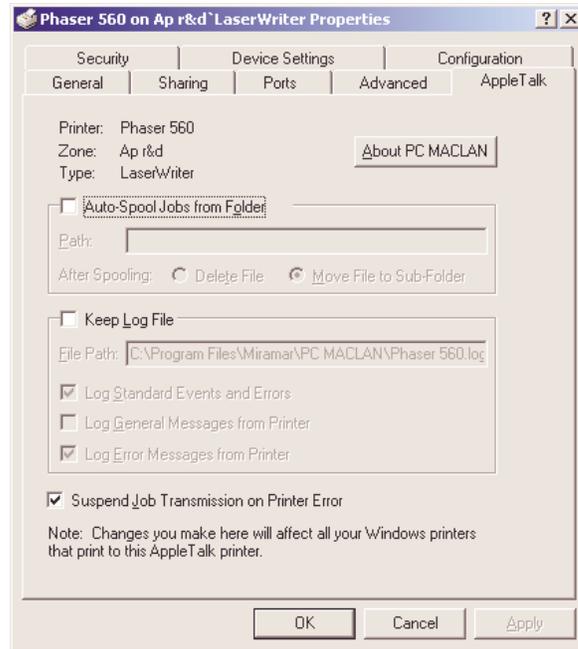
PC MACLAN lets you keep a log file for any network printer. In this file, you can include any of the following information:

- Standard events and errors
- General messages from the printer
- Error messages from the printer

You can view or clear the contents of the log at any time.

To create a printer log file:

1. From the Start Menu, select Settings/Control Panel and double-click on the Printers folder.
2. Right-click on printer icon for which you wish to create a log file, and in the shortcut menu, select Properties.
3. Select the AppleTalk tab.



4. Click on the Keep Log File checkbox.
5. In the File Path field, leave the default or type a new file path.
6. Click on the checkboxes to include selected information in the log file, and click on OK.

To view and clear the printer log file:

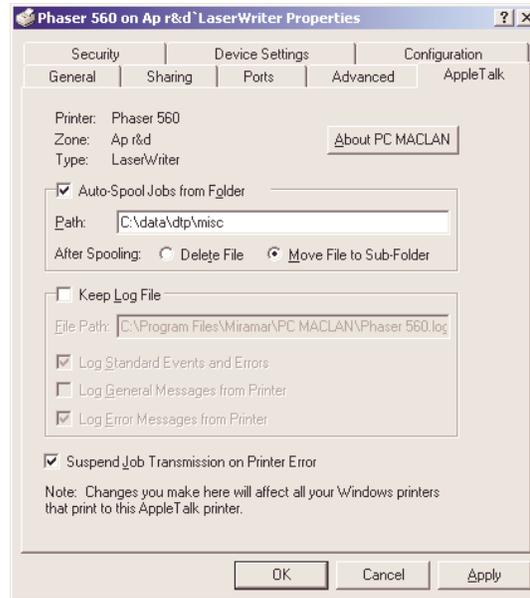
1. From the Start Menu, select Settings/Control Panel, then double-click on the Printers folder.
2. Right-click on the AppleTalk printer icon, and in the shortcut menu, select View printer log.
3. To clear the contents of the printer log, in the same shortcut menu, select Clear printer log.

Auto-spooling print jobs

You can create a folder from which printable files can be spooled to an AppleTalk printer. The files you copy to this folder must be formatted for the type of printer they are to be sent to (for example, files sent to a LaserWriter must be PostScript-formatted.)

To automatically spool print jobs:

1. In Windows Explorer, create a folder for the spooled print jobs.
2. From the Start Menu, select Settings/Control Panel and double-click on the Printers folder.
3. Right-click on the network printer icon, and in the shortcut menu, select Properties.
4. Select the AppleTalk tab.



5. Click on the Auto-Spool Jobs from Folder checkbox.
6. In the Path field, type the path to the folder you created.
7. Select either Delete file or Move file to subfolder to specify what to do with the file after the printing is complete.
8. Click on OK to close the Properties window.

Changing your password

You can change your password at any time using the Change Password option in the Windows shortcut menu. To change your password:

1. Make sure you are logged onto an AppleTalk file server.
2. Right click on the AppleTalk file server icon, and from the shortcut menu, select Set Password.



3. Enter your old password and your new password in the appropriate fields.
4. Click on OK to accept the new password.

Logging off an AppleTalk file server

To log off an AppleTalk file server:

1. In the My Network Places window, right-click on the icon for the AppleTalk file server you are logged onto, and from the shortcut menu, select Logout.

The Logoff Verification window is displayed.



2. Click on OK.

You are logged off the AppleTalk file server, and any drives you have mapped to the server are disconnected.

Changing AppleTalk settings

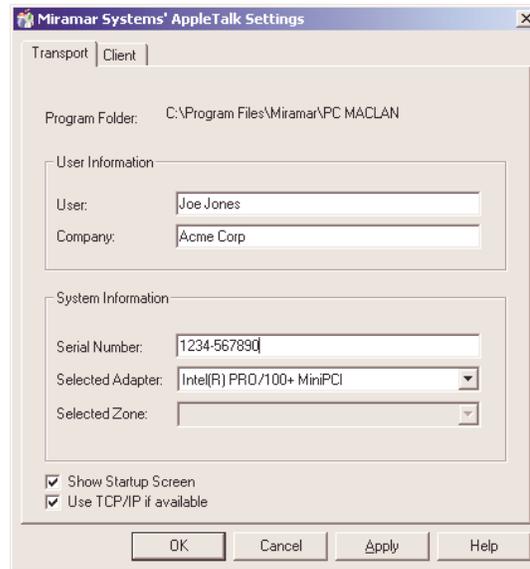
PC MACLAN's AppleTalk settings window lets you:

- Choose to use TCP/IP to access any AppleShare IP server.
- Turn the PC MACLAN startup screen on or off
- Change your AppleTalk zone
- Add a network printer type for the purpose of displaying it in Windows Explorer.

To access the AppleTalk settings window:

1. From the Start menu, select Programs/PC MACLAN.
2. In the PC MACLAN menu, select AppleTalk Settings.

The AppleTalk Settings window is displayed.



Turning the PC MACLAN startup screen on or off

You can choose not to have the PC MACLAN startup screen displayed when Windows starts up.

To turn the PC MACLAN startup screen on or off:

1. Access the AppleTalk settings window.
2. To turn the PC MACLAN startup screen on or off, simply check or uncheck the Show Startup Screen checkbox, then click on OK to close the window.

Changing your AppleTalk zone

To change your AppleTalk zones:

1. Access the AppleTalk settings window.
2. Click on the arrow in the Selected Zone field to display a list of available zones, and select the new zone.
3. Click on OK.

The AppleTalk file server is now located in the new zone.

Adding a network printer type

For Windows Explorer to display a network printer, the type of printer must be recognizable to PC MACLAN. Most standard printer types are displayed by default. If Windows Explorer does not display a network printer, you need to add the printer type.

To add a network printer type:

1. Access the AppleTalk settings window as described above, and select the Client tab.
2. In the Printer Type field, enter the type of the printer you want to add.
3. Click on Add to add the printer, then click on OK to close the AppleTalk settings window.



Setting up the File Server

The PC MACLAN file server lets you share files on your Windows system with users on the Macintosh LAN. The files can be located on any media attached to the Windows system, including hard drives, removable drives or CD-ROMs.

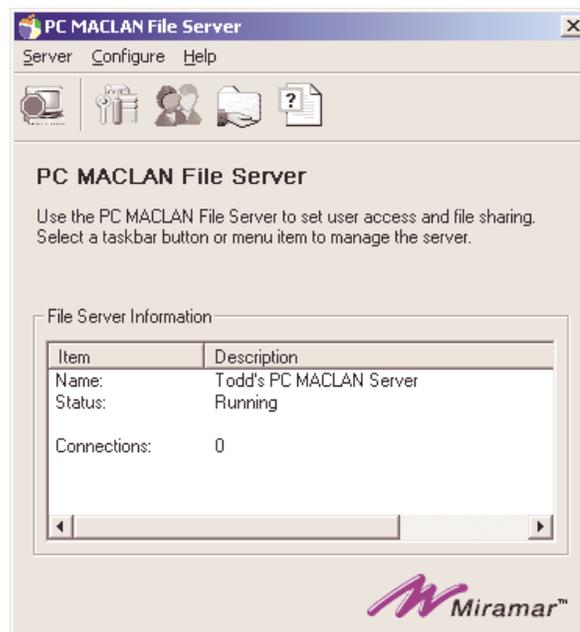
This chapter will guide you through configuring the File Server. It will describe how to set the name of your File Server, configure users, create shares, set security, and create file mappings.

The file server window

The file server starts running automatically in the background when your computer is started. Only those logged onto Windows as administrators can access the file server window through the PC MACLAN program group or through the file server icon in the taskbar notification area.



To display the file server window, double-click on the file server icon.



Setting file server preferences

You specify preferences for the file server in the Server Setup window. These preferences let you:

- Enter a message to display when users log in
- Disable encrypted logins
- Rebuild system files without prompting
- Allow users to save their password

To open the Server Setup window:

1. In the File Server window, click on the Server Preferences icon.
The Server Setup window is displayed.



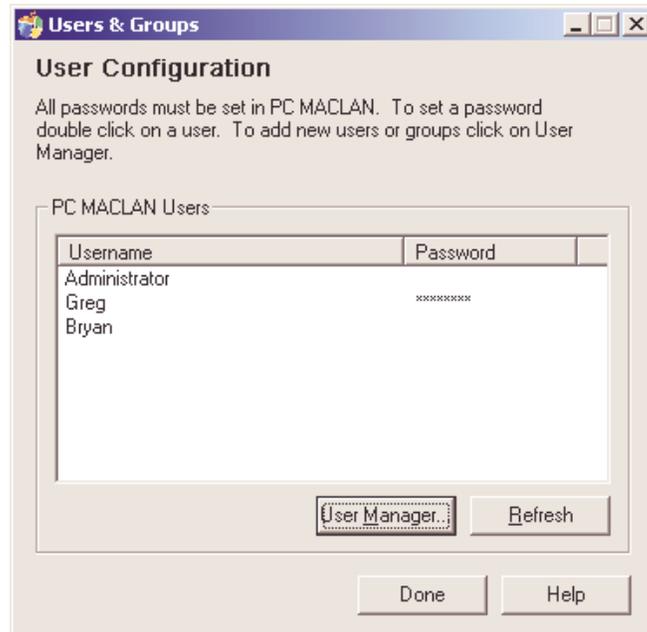
2. Click on Help for information on disabling encrypted logins, rebuilding data files, and allowing password save.

Changing a user's password

Before a user can log into the PC MACLAN file server, they need to specify a password in the Users and Groups window. Changing the password will also change the password for logging onto Windows. When a PC MACLAN password has been entered, an asterisk is displayed next to the user name in the Users and Groups window.

To change a user's password:

1. In the file server window, click on the Users and Groups icon.
The User Configuration window is displayed.



2. To set password, double click on a user. To add new users or groups, click on User Manager.
3. The set password window is displayed. Enter your new password in the appropriate field and then confirm your new password. Click OK.

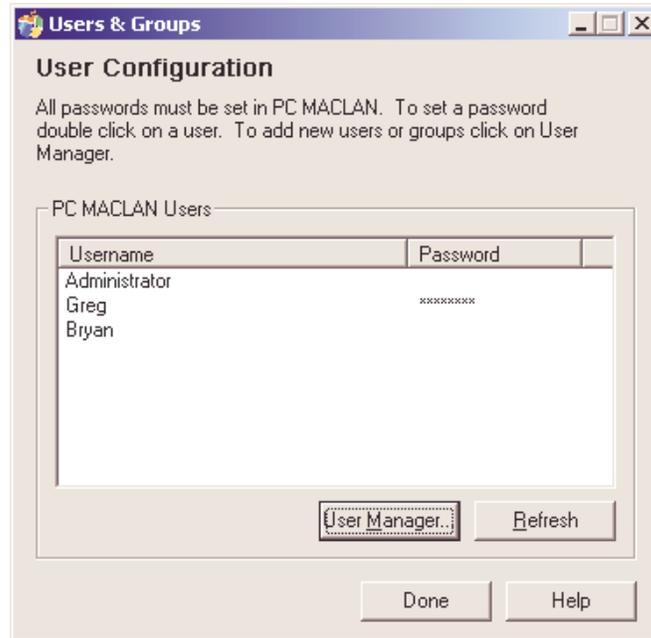


Defining users and groups

You define users and groups for the PC MACLAN file server using the Local Users and Groups tool, (the User Manager in Windows NT) which you can access through the PC MACLAN Users & Groups window. For information on defining users and groups, see your Windows documentation.

To access Windows users and groups tools:

1. In the file server window, click on the Users and Groups icon.
The Users & Groups window is displayed.



2. Click on the User Manager button.

The Windows Users and Groups tool or the Windows NT User Manager is displayed.

3. Define users and groups as described in your Windows documentation.

Defining shared folders and access privileges

You use the file server window to define user access privileges. (On the Macintosh, you use the Sharing dialog box as described in Chapter 9).

The three types of users you can define are:

- **Owner.** The user or group that created or was assigned ownership of the folder.
- **Group.** Members of the owner's group who need to share files or folders.
- **Everyone.** Any user or group with access to the server.

Each of these user types can be assigned any combination of access privileges for a shared folder. Only the owner of a folder can set or change access privileges.

The levels of access privileges are:

- **None.** No file or folder operations are allowed.
- **Read Only.** Allows the user or group to open, view and copy the folder or file but not change it.
- **Read and Write.** Lets the user or group edit, move or delete files.
- **Write Only (Drop Folder)** . Lets the user or group copy or move items into a folder but not view or change any of its contents.

When you select and name a folder on the file server, this also specifies the name that will appear on the Macintosh desktops of users on the network. Users can connect and log into a folder only if they have the necessary access privileges.

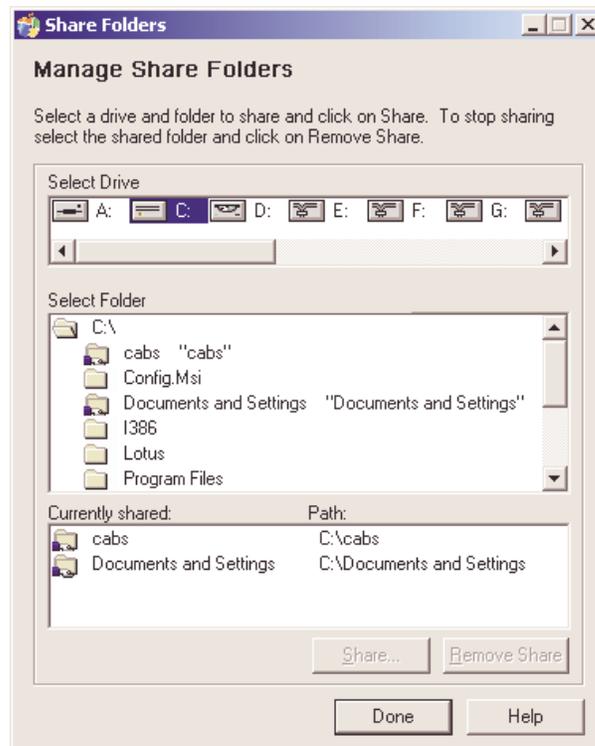
Creating a shared folder

To create a shared folder, you select the drive and the folder. Then you assign access privileges for the users who will be sharing the drive or folder.

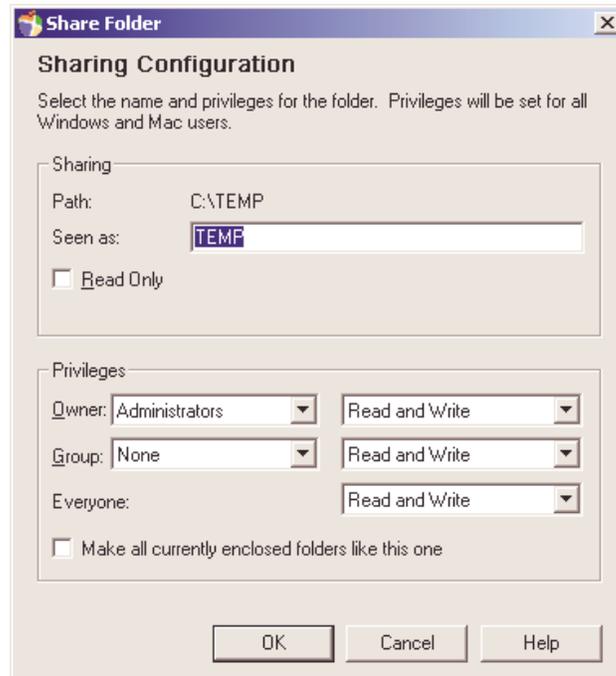
To create a shared folder and assign access privileges:

1. In the file server window, click on the Share Folder icon to display the Sharing Configuration window.

Note: To access the Share Folders window through Windows Explorer, open the Explorer, locate the folder you want, right-click on it, and select AppleTalk Sharing from the shortcut menu.



2. Select a drive and folder to share and click on Share. To stop sharing, select the shared folder and click on Remove Share.



3. In the Seen as field, enter the folder name as you want it to show on the Macintosh user's desktop.
4. If you do not want anyone to be able to write to the selected folder, Click on the Read Only checkbox.
5. In the Privileges section, select the privileges for the folder.
6. To apply the same access privileges to all sub-folders in the selected folder, check the Make all currently enclosed folders like this one checkbox.
7. Click on OK to close the Sharing Configuration window.

The folder is listed in the Currently Shared list, both as it will appear on Macintosh desktops and as it appears in Windows.
8. Repeat steps 2 through 7 for each folder you want to share.
9. When you are finished, click on Done to close the Sharing Configuration window.

Note: On an NTFS-formatted drive, making changes to the privileges in this window will change the NTFS security permissions for the selected folder.

Changing access privileges

You can change the access privileges for a shared volume using the Sharing Configuration window.

To change access privileges for a shared folder:

1. In the File Server window, click on the Share Folder icon.
2. In the Sharing Configuration window's Currently shared list, select the folder for which you want to change access privileges, then click on Share.
3. Make the necessary changes and click on OK.

Unsharing a folder

When you no longer need to share a folder, you can unshare it. You cannot unshare a folder while a user is currently accessing it.

To unshare a folder:

1. In the File Server window, click on the Shared Folder icon to display the Sharing Configuration window.
2. In the Currently Shared list, click on the name of the folder you want to unshare.
3. Click Remove Share to unshare the folder.

All of the Macintosh file and folder information for the folder remains intact.

4. Click on Done.

Note: Unsharing a folder (share point) on an NTFS drive will not alter the NTFS security permissions for that folder.

Defining a file extension map

Windows identifies a file's associated application by the file's file name extension. For example, a Microsoft Word document has the file extension *.doc*. When you double-click on the file icon, the application opens along with the document. The PC MACLAN file server supports file name extensions of up to 15 characters.

The Macintosh operating system stores information with every file. This includes a 4-character File Creator code that identifies the application that originated the file and a 4-character File Type code that identifies the type of file. For example, a Microsoft Word document has a File Creator code of MSWD and a File Type code of W7BN.

File extension mapping lets you determine how Windows files will display on the Macintosh by specifying which Macintosh File Creator code and File Type code to map to a Windows file name extension.

Some common file types are already defined by PC MACLAN. These are listed in the File Extension Mapping window. You can add or delete file extension maps, or edit or duplicate them.

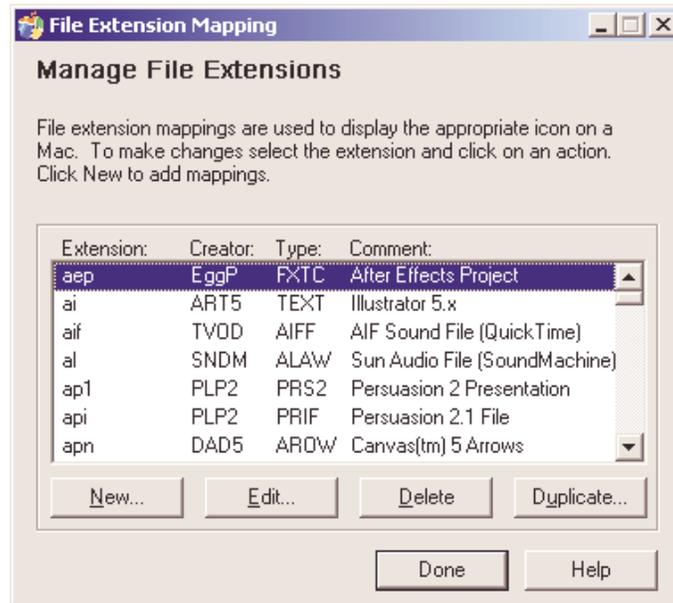
Windows files with no file extension map are displayed on the Macintosh desktop as a generic PC icon. When you define a file extension map for such a file, the generic icon is replaced by the appropriate application icon the next time the folder is opened by a Macintosh user. If you change a file's extension map, the new icon is not applied until the file is renamed or moved to a new location.

PC MACLAN Client uses these file extension maps when files are copied to an AFP server.

To display the File Extension Mapping window:

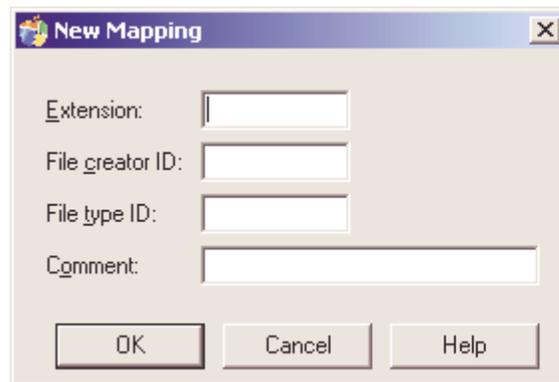
1. In the File Server window, click on the File Extension Mapping icon.

The File Extension Mapping window is displayed with a list of file extension maps.



To add a new file extension map:

1. In the File Extension Mapping window, click on New to display the New Mapping window.



2. Enter the file name extension, the File creator ID, and the File type ID.
Notes: File creator and file type IDs are case-sensitive. A file name extension can have up to 15 characters.
3. In the Comment field, type a description of the file extension map.
4. Click on OK to add the new file extension map to the list.

To edit a file extension map:

1. In the File Extension Mapping window, select the file extension map you want to edit.
2. Click on Edit.
The Edit Mapping window displays the existing data for the selected map.
3. Make the necessary changes in each of the fields.
4. Click on OK to save the changes to the file extension map and close the window.

To delete a file extension map:

1. In the File Extension Mapping window, select the file extension map you want to delete.
2. Click on Delete.
3. Click on OK to close the window.

To duplicate a file extension map:

You can quickly add a file extension map that is similar to an existing one by duplicating the existing map and editing it.

1. In the File Extension Mapping window, select the file extension map you want to duplicate.
2. Click on Duplicate.
3. Type the file name extension in the Extension field and modify any of the other fields as necessary.
4. Click on OK to add the new file extension map.

The PC MACLAN File Server is now set up and ready for use. Before you can use the file server, your Macintosh must be set up for file sharing as described in Chapter 9, and you must be connected to the network. For details on how use the file server, see Chapter 8.



Setting up the Print Server

The PC MACLAN Print Server lets you share printers connected to your Windows system with users on the Macintosh LAN. Once you have set up the print server by defining a print server for each printer, Macintosh users on the network can simply select a Windows printer with the Chooser or Print Center as they would any other printer on the LAN. (See Chapter 9 for details.) Likewise, Windows users on the network can use these printers as they would any Windows printer.

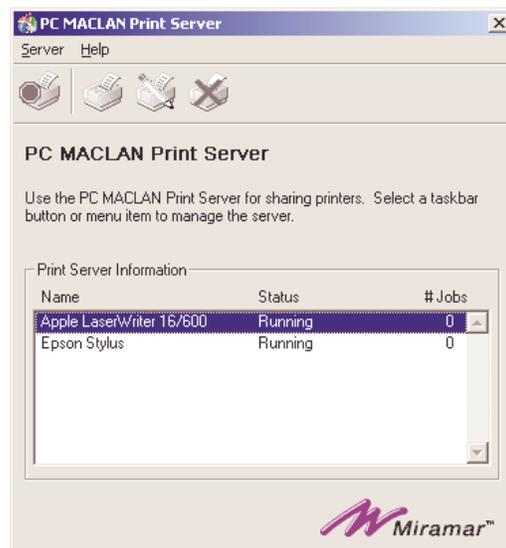
A print server can accept jobs from multiple users at the same time. Servers for each printer can be configured, started, or stopped independently.

The print server accepts print jobs from the Macintosh LAN using the Printer Access Protocol (PAP). The standard definition for Macintosh printers is PostScript. To use a non-PostScript printer, you may need to install an appropriate driver on the Macintosh.

The print server window

You set up print servers and access all printer and print server functions through the print server window shown below.

When you open the print server window, any print servers that were running when you last exited the print server window are automatically restarted. Any print servers that were stopped remain stopped. In addition, each time you create a new print server, it is automatically started when it is created.



To open the print server window:

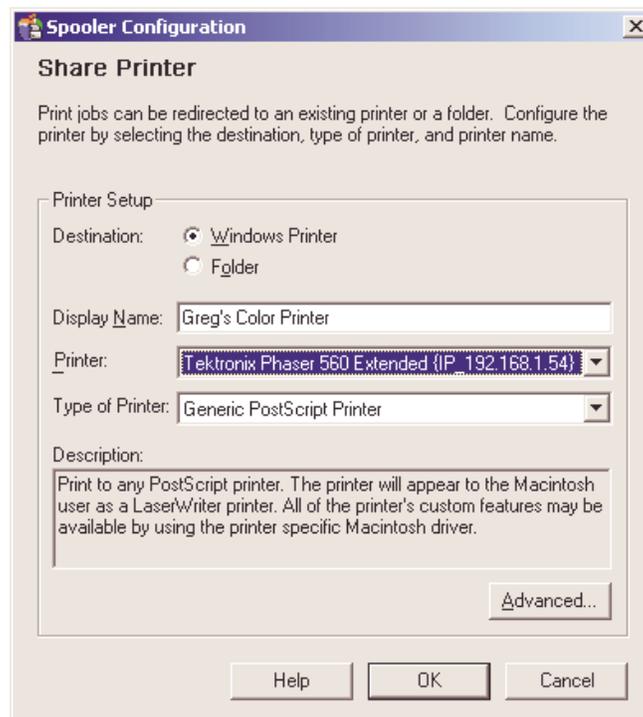
1. In the taskbar notification area, near the system clock, double-click on the Print Server mini-icon.
The print server window is displayed with the Create New Server icon activated.

Creating a new print spooler

You can set up a server to send print jobs directly to a printer, or you can set it up to send them to a folder for later printing. Setting up a server to print to a folder lets you “print to a file,” an option found in many Windows applications.

To create a new print spooler:

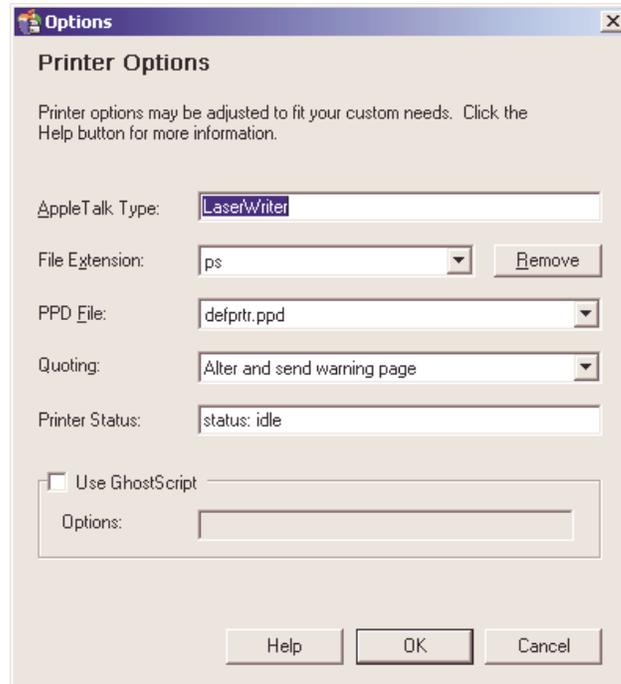
1. In the print server window, click on the Create New Spooler icon.
The Printer Configuration window is displayed.



Note:

You can also open the spooler configuration window for a specific printer from the Printers folder. To do so, go to Start/Settings/Control Panel, then right-click on the printer icon and select AppleTalk Sharing from the shortcut menu.

2. Select the appropriate radio button for your print job: Print to a Windows Printer OR Print to a File.
3. Under Display Name, enter the name for the printer or spooler. This is the name that will be displayed on the network.
3. Select printer from the Printer drop down menu. This is a list of all the configured printers on the Windows system. If you chose Print to a File, enter or browse to the folder where you want the file created.
4. Select the type of printer from the Type of Printer drop down menu.
Note: The Generic PostScript Printer will be the default and will work fine for most PostScript printers. Other printers may have a printer specific model or Generic Non-PostScript Printer can be selected and a Mac user can print to it like a PostScript printer.
5. If your print jobs contain binary data (graphics), click on the Advanced button and select options as required.



Click on Help for detailed information about each option. Select an option only if it is supported by your printer (see your printer manual). Click on OK or Cancel to close the window.

6. In the Printer Configuration Window, click on OK.

The print spooler is added to the list in the print spooler window. All newly-created spooler are running and available to users on the network.

Starting and stopping a print spooler

A printer that is running can be used by anyone on the AppleTalk network. You can start or stop any spooler listed in the print server window.

To start a print spooler:

1. In the print spooler window, click to select the print spooler you want to start.
2. Click on the Start/Stop icon to start the printer.

The status of the selected print spooler is changed to “running” and the Start/Stop icon is lit.

To stop a print spooler:

1. In the print spooler window, click to select the print spooler you want to stop.
2. Click on the Start/Stop icon to stop the spooler.

The status of the selected print spooler changes to “stopped” and the Start/Stop icon is dimmed. The printer is no longer available to users connected to the network.

Editing a print spooler

You can edit the settings of an existing spooler. You must stop the spooler before editing it.

To edit a print spooler:

1. In the print spooler window, click to select the print spooler you want to edit.
2. If necessary, click on the Start/Stop icon to stop the spooler.
3. Click on the Edit Spooler icon to open the Server Configuration Window.
4. Make the necessary changes and click on OK.
5. Click on the Start/Stop icon to start the spooler.

Removing a print spooler

You can remove an existing print spooler from the Print Spooler to make it unavailable to users on the network. You must stop a print spooler before removing it.

To remove a print spooler:

1. In the print spooler window, click to select the print spooler you want to remove.
2. If necessary, click on the Start/Stop icon to stop the spooler.
3. Click on the Remove Spooler icon.

A message displays asking if you are sure you want to remove the spooler.

4. Click on Yes to remove the spooler.

The spooler is deleted from the list of spoolers in the print spooler window and is no longer available to network users.

Print spooler taskbar and startup settings

You have the option of stopping and removing the print spooler icon from the taskbar notification area. You can also prevent it from starting automatically when your system starts up.

To remove the print spooler icon from the taskbar:

1. In the Control Panel, open the Administrative Tools control panel and double-click on the Service icon.
2. In the Services list, select Miramar AppleTalk Print Spooler.
3. Click on Stop to remove the print spooler icon from the taskbar.

Note: For Windows NT, Services are located in the Control Panel.

To prevent the print spooler from starting automatically:

1. In the Control Panel, open the Administrative Tools control panel and double-click on the Service icon.
2. With Miramar AppleTalk Print Spooler selected, click on the Startup button.
3. In the pop-up window, select “Manual” or “Disabled” to allow manual startup or to disable print spooler startup altogether.

Note: For Windows NT, Services are located in the Control Panel.



Using PC MACLAN Client

PC MACLAN Client lets you access file servers and printers on the AppleTalk LAN using Windows My Network Places (Network Neighborhood in Windows NT.)

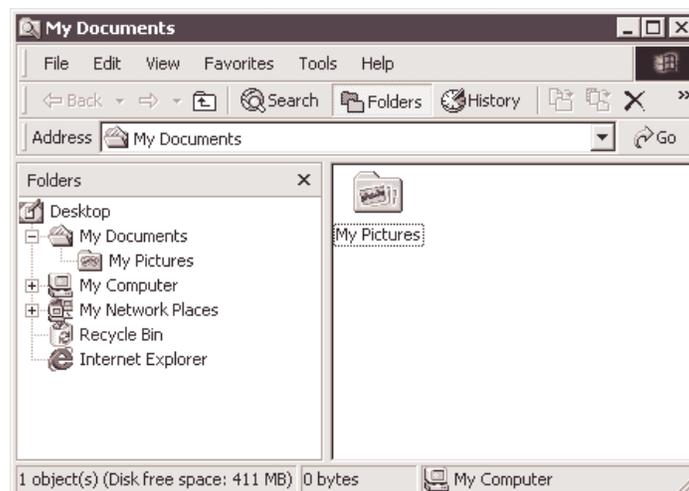
This chapter explains how to use PC MACLAN Client after you have set it up and logged onto an AppleTalk or AppleShare IP file server as described in Chapter 4.

Displaying shared files

If you have mapped a shared volume to a drive as described in Chapter 4, you can display and access shared files in the same way you do files on your local drives. If you have not, you can still access a shared volume through My Network Places.

To display shared files using Windows Explorer:

1. Open Windows Explorer.



- If you mapped the shared volume to a network drive, scroll through the drives and folders listed on the left of the Explorer window until you find the drive to which you mapped the volume, then double-click on the drive icon.

- If you did not map the shared volume to a network drive, find the My Network Places icon in the left panel.
- Click on the + sign next to the My Network Places icon. If your AppleTalk file server is not shown on the list, click on the + sign next to the Entire Network icon, then on the Miramar AppleTalk Network icon.

The files available on the shared volume are displayed on the right side of the Explorer window. Once you have located network files, you can open, change, move, copy, or delete them (assuming you have permission) just as you do the files on your local drive.

Connecting Via TCP/IP

You can connect to a computer that is not listed if it is configured to communicate via TCP/IP. The computer can be anywhere, including the Internet.

1. Click on the AppleShare IP Network.
2. Select the Add a New IP Server item. A new window will appear.
3. Enter the IP address for the computer or its DNS name, such as Miramar.com.

Note: You can add a comment and the address and it will appear in the list of available AppleShare IP servers.

4. Click OK.
5. To connect to the system, double click on the entry in the AppleShare IP Server list.

Sharing Windows applications

Windows applications stored on the AppleTalk file server can be shared with all users on the network. For more information about sharing network resources, refer to the online help topic *Guidelines for Sharing Network Resources*.

To use a Windows application stored on an AppleTalk file server:

1. Open Windows Explorer and display the contents of the AppleTalk file server.
2. Locate the application and double-click on its icon.

The application is automatically started on your computer just as if it were located on a local drive. The application may run slower.

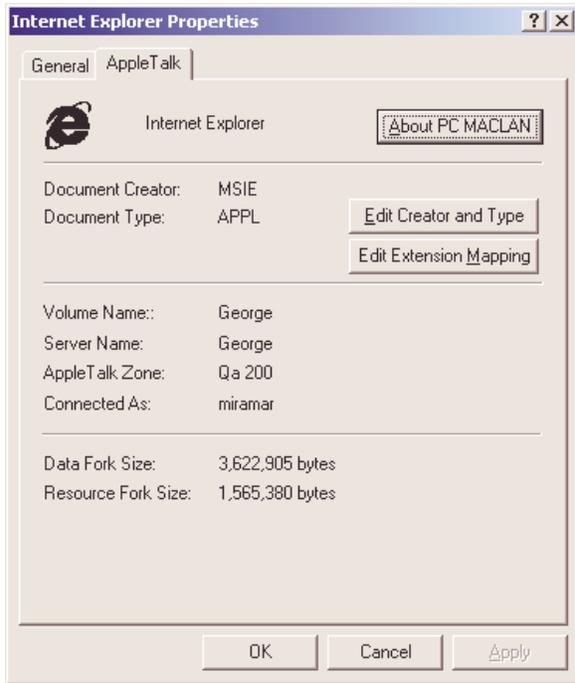
Viewing properties and privileges

Windows property pages let you display information about a file or folder. PC MACLAN extends this ability to the AppleTalk network. You can use this feature to see and edit the creator, type, and icon for a file, as well as other information. In addition, you can use this feature to see the access privileges assigned to a folder.

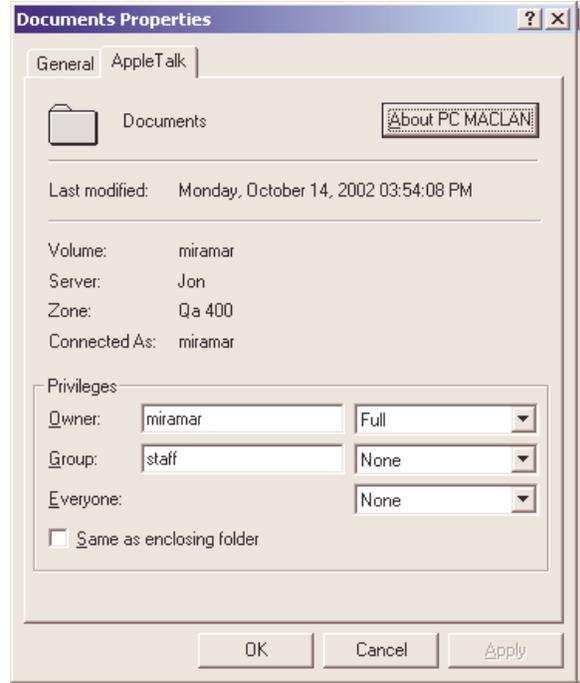
To view file or folder properties:

1. Open Windows Explorer and locate the AppleTalk file server icon.
 2. Double-click on the icon to open the AppleTalk file server.
- The file server contents are displayed on the right side of the Explorer window.
3. Right-click on a file or folder, and from the shortcut menu, select Properties.

4. In the Properties window, select the AppleTalk tab. There are property pages for both files and folders.



Properties for a file



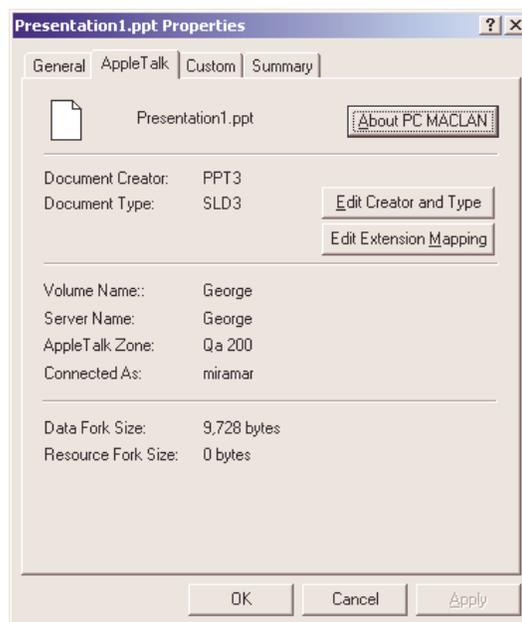
Properties for a folder

Defining a file extension map

You can use a file's property page to define or edit a file extension map for the file. For a complete description of file extension mapping, see *Defining a file extension map* in Chapter 5.

To add or edit a file extension map:

1. In Windows Explorer, locate the file, right-click on it, and from the shortcut menu, select Properties.
2. In the Properties window, select the AppleTalk tab.



The existing creator type and file type, if any, are displayed.

3. Click on the Edit Creator & Type button.

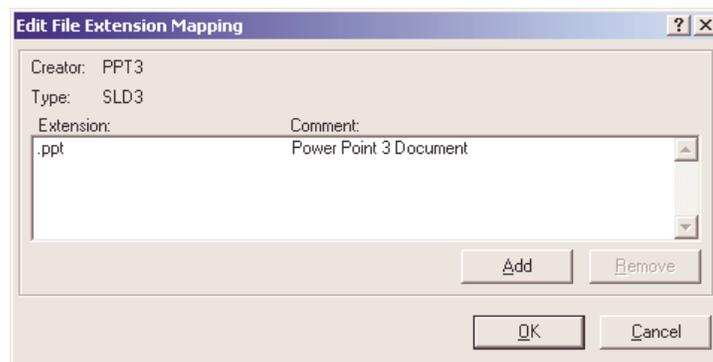
The Edit Creator & Type window is displayed.



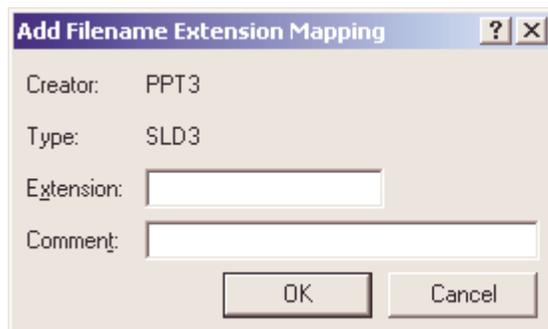
4. Enter the file creator code in the Creator field, and the file type code in the Type field, then click on OK.

5. In the “Are you sure?” message window, click on OK.

6. Click on the Edit Ext. Mapping button to display the Edit File Extension Mapping window



7. Click on the Add button to display the Add Filename Extension Mapping window.



8. In the Extension field, enter the Windows file name extension to map.

9. In the Comment field, enter the name of the application represented by the file extension.

10. Click on OK.

The Windows file extension and comment are listed in the Edit File Extension Mapping window.

11. Click on OK, then in the “Are You Sure?” message window, click on OK again.

Changing a file extension map in this property page changes it on the file server as well.



Using the File Server

The PC MACLAN File Server is an AppleTalk file server, which means you can share Windows resources like folders, hard drives, or removable media with Macintosh computers on a LAN. Up to ten Macintosh computers can access the file server at any one time.

Starting and shutting down the file server

When you first open the file server window, the status field indicates that the server is not running. To allow network users access to shared files, you need to start the file server.

To start the file server:

1. In the taskbar notification area next to the system clock, double-click on the file server mini-icon.

In the file server window, the Status will show Stopped, indicating that the server is stopped.

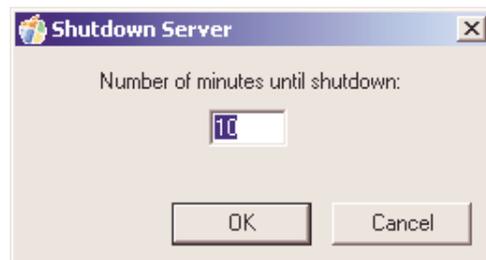
2. Click on the Start/Stop icon.

The Start/Stop icon will change. The Status field displays any messages, then indicates that the file server is running. Users can now log onto the file server and access shared folders.

To shut down the file server:

1. Click on the Start/Stop icon.

The Shutdown Server window is displayed.



In this window, you can specify how many minutes to wait before shutting down the server. All users logged onto the server receive a message telling them how long they have before the server is shut down. If you enter zero, the server shuts down immediately. Make sure no users are logged on before shutting down immediately.

1. Enter a time interval and click on OK.

The file server window displays the following message:

Shutting down in: nn mins

When shutdown is complete, the Status field on the File Server window changes to Not Running and the Start/Stop icon changes.

Note: To cancel file server shutdown, click on the Start/Stop icon or select Cancel Server Shutdown from the Server menu. A message that the server shutdown has been canceled is displayed on the screen of each logged on user.

Displaying and using shared files

Windows users display and access shared files using Windows Explorer, My Network Places, (Network Neighborhood in Windows NT) or My Computer. Macintosh users display and access shared files by opening the shared folder icon that appears on their desktop.

Real-time folder update

When more than one user has access to a shared folder, it is possible for files to be updated by each of them. The Macintosh and Windows environments handle real-time folder update differently.

Macintosh real-time updates

Every 20 seconds, the Macintosh finder automatically checks any folder that is open on the desktop, and updates all open folders to reflect changes made by other users. For example, if two Macintosh users have the same folder open, and one user deletes a file, the icon for the deleted file disappears from the other Macintosh user's desktop.

Windows real-time updates

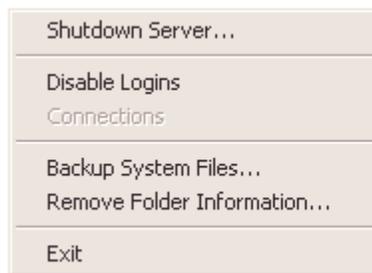
If someone deletes a file while accessing a shared folder at the same time as a Windows user, Windows Explorer does not update the list of files in the folder until the folder is closed and reopened or F5 is pressed.

Disabling and enabling logins

You use a toggle item on the file server window Server menu to disable and enable logins. Disabling logins prevents shared access to the server until logins are enabled again.

To disable and enable logins:

1. In the file server window, pull down the Server menu and select Disable Logins.



2. To allow users to log on again, pull down the Server menu, and select Enable logins.

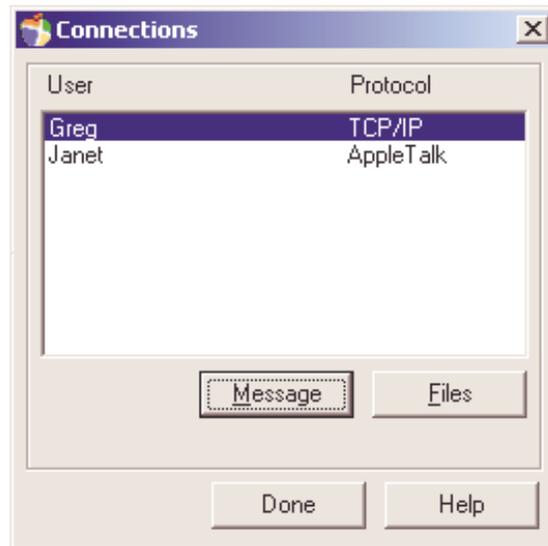
Displaying connections and sending messages

You can display a list of all the users currently logged onto the server. Using this list, you can send a message to any user, or you can display a list of folders being accessed by any user.

To display connections:

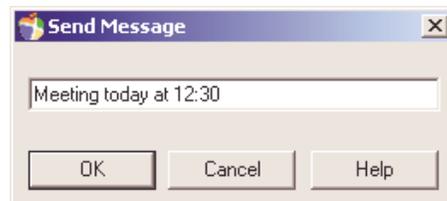
1. In the file server window, pull down the Server menu and select Connections.

The Connections window displays a list of the users logged onto the server and whether they are logged on using AppleTalk or TCP/IP.



To send a message:

1. In the Connections window, select the name of the user to whom you want to send a message.
2. Click on the Message button to display the Send Message window.

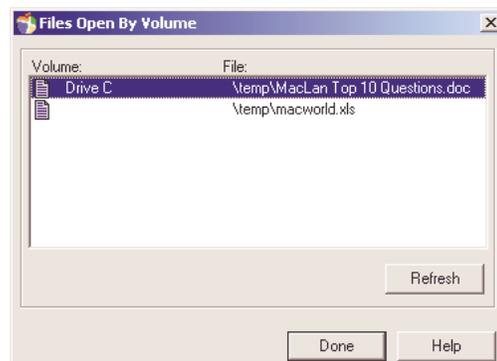


3. Enter the message in the Message field and click on OK.

The message is immediately displayed on the screen of the selected user.

To display the folders and files being accessed by a user:

1. In the Connections window, select the name of the user.
2. Click on the Files button to open a window that lists any shared folders or files that are being accessed by the user.



3. Click on Refresh to update the list.
4. Click on Done to close the window.

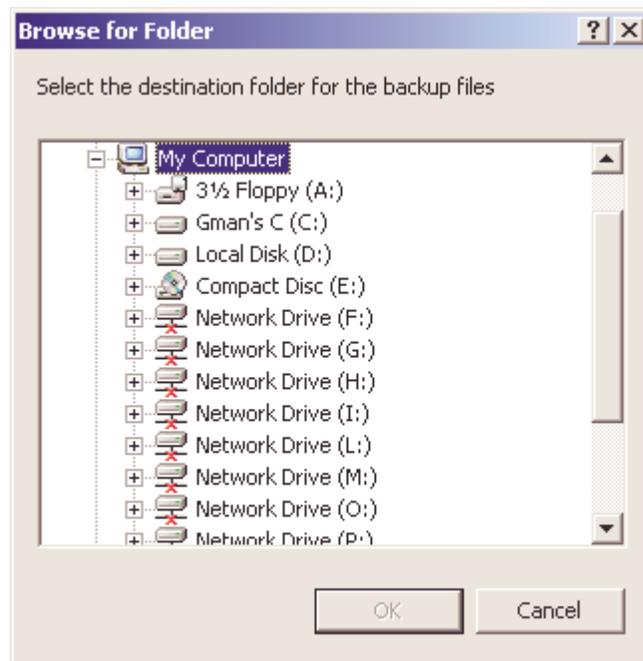
Backing up system files

Because PC MACLAN opens its system files in read-only mode to prevent other applications from accessing them while they are in use, you cannot use a file backup utility to store PC MACLAN system files while the file server is running.

PC MACLAN has its own utility that lets you back up the files to *.bak* files. You can then back up these files using any backup utility.

To back up system files:

1. In the file server window, pull down the Server menu, and select Backup System Files.
The Backup System Files window is displayed.



2. In the File name field, type a path for the backup folder, or leave the default.
3. Click on OK.

PC MACLAN's *.dat* files are copied to *.bak* files in the specified folder.

To restore system files:

1. Make sure the file server is stopped.
2. Move the existing *.dat* and *.idx* files to a backup folder.
3. Rename the *.bak* files created by the backup utility to *.dat* files and copy them into the PC MACLAN folder.
4. Start the file server.

When you start the file server, the restored *.dat* files are rebuilt automatically.

Remove folder information

Remove folder information lets you remove information about the volume from the PC MACLAN system files. Because when you remove folder information, all references to the volumes on that drive are removed from the PC MACLAN system files, it is a good idea to back up these files before you remove folder information.

To remove folder information:

1. In the file server window, pull down the Server menu, and select Remove Folder Information.

The Remove Folder Information window displays a list of the local drives and the shared volumes on a selected drive.



2. In the Drive list, select the drive you want to remove folder information from.
3. In the Volumes list, select the volume you want to remove folder information from.

A warning message is displayed.

4. Click on OK.

All references to the volume and the files in the volume are removed from the system files.

File server taskbar and start menu settings

You have the option of removing the file server icon from the taskbar notification area. You can also prevent it from starting automatically when your system starts up.

To remove the file server icon from the taskbar:

1. In the Control Panel, open the Administrative Tools control panel and double-click on the Service icon.
2. In the Services list, select Miramar AppleTalk File Server.
3. Click on Stop to remove the file server icon from the taskbar.

Note: In Windows NT, Services is located in the Control Panel.

To prevent the file server from starting automatically:

1. In the Control Panel, open the Administrative Tools control panel and double-click on the Service icon.
2. With Miramar AppleTalk File Server selected, click on the Startup button.

3. In the pop-up window, select “Manual” or “Disabled” to allow manual startup or to disable file server startup altogether.

Note: In Windows NT, Services is located in the Control Panel.



Setting Up and Using the Network Macs

To use PC MACLAN, you need to set up the Macintosh file server to allow Windows users access to resources on the AppleTalk LAN. For more details on the procedures in this chapter, see your Macintosh system documentation.

This chapter includes instructions for Mac OS and Mac OS X operating systems. The Mac OS X setup is covered later in this chapter.

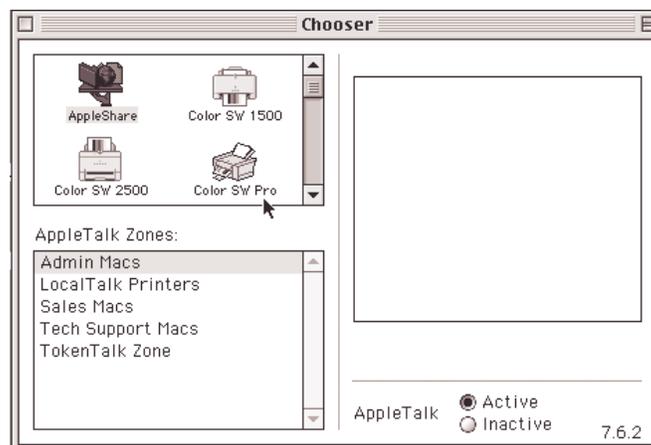
Turning AppleTalk on and off

AppleTalk is the network protocol used to communicate between your Macintosh and a Windows PC. On the Macintosh, AppleTalk is activated automatically when you connect to a network. Occasionally, you may need to turn AppleTalk off to use some other software and then turn it back on to use the network again.

To turn AppleTalk on and off:

1. From the Apple pulldown menu, select Chooser.

The Chooser is displayed.



2. Click on the Active button to turn AppleTalk on, or click on the Inactive button to turn AppleTalk off.
3. Close the Chooser.

If you leave the Inactive button selected when you shut down the Macintosh, AppleTalk is automatically activated when you restart the computer.

Selecting a network connection type

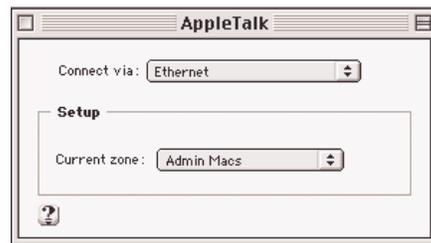
LocalTalk is the default network selection on older Macintoshes. If you want to use EtherTalk networking hardware and software, you need to select that connection type in order to connect to the network.

You can change your connection type at any time.

To select a network connection type:

1. From the Apple pulldown menu, select Control Panels.
2. In the Control Panels menu, select AppleTalk.

The AppleTalk control panel is displayed.



3. Click on the Connect via button to display a list of network connections available on your Macintosh.

Note:

The LocalTalk connection will be either the Modem Port or the Printer Port, depending on how your network connections are set up.

4. Select a network connection type from the list and close the AppleTalk control panel.

Naming your Macintosh and starting sharing

You use the File Sharing control panel to identify your Macintosh on the PC MACLAN network and to turn on file sharing.

To name your computer and start sharing:

1. From the Apple pulldown menu, select Control Panels.
2. In the Control Panels menu, select File Sharing.

The File Sharing control panel is displayed.



3. Select the Start/Stop tab.
4. In the Network Identity section:
 - Enter your name in the Owner Name field.
 - Enter your password in the Owner Password field (up to eight characters).
 - Enter the name of your computer in the Computer Name field.
5. In the File Sharing section:
 - If the button reads Start, click on it to activate file sharing.
 - If the button reads Stop, file sharing is already active.
6. Close the File Sharing control panel.

Sharing a folder or drive

You must set up at least one shared folder or drive to allow a Windows user to log onto the Macintosh.

To share a folder or drive:

1. Make sure the folder or drive you want to share is selected.
2. From the File menu, point to Get Info and select Sharing.
The Sharing window for the selected folder is displayed.



3. Click to activate the Share this item and its contents checkbox.

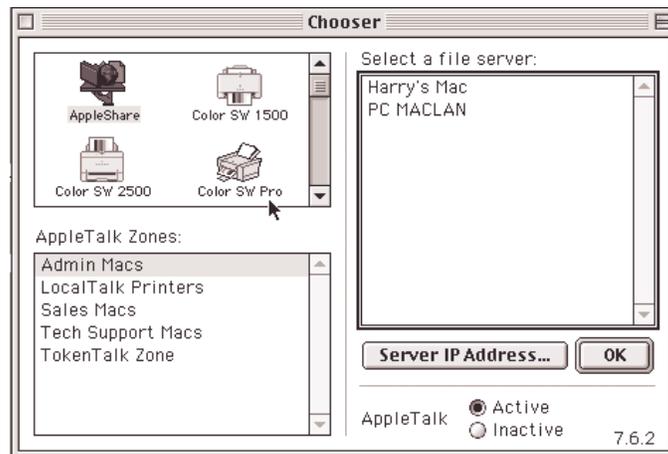
The selected folder can now be shared with Windows users connected to the network. For more information about access privileges, see *Setting access privileges for your folder*.

Logging onto the network

To log onto the PC MACLAN network and access the PC MACLAN file server from your Macintosh, you use the Chooser.

To log onto the PC MACLAN network:

1. From the Apple pulldown menu, select Chooser.
The Chooser is displayed.



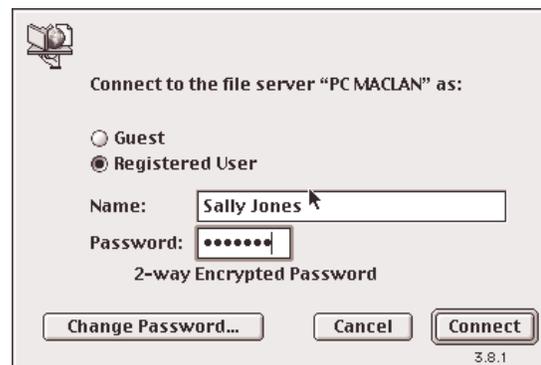
2. Click on the AppleShare icon.

If AppleTalk zones are available on the network, they are listed in the AppleTalk Zones list. When you click on an AppleTalk zone, all available file servers are listed in the Select a file server list.

If your network does not use AppleTalk zones, only the available file servers are displayed in the Select a file server list.

3. If zones are displayed in the AppleTalk Zones list, click on the zone that contains the file server you want.
The file servers are displayed in the Select a file server list.
4. Click on the PC MACLAN file server, then click on OK.

A log in window is displayed.



5. To log on as a Guest, click on the Guest button, then click on Connect.
6. To log on as a registered user, click on the Registered User button, enter your user name and password, then click on Connect.
A window is displayed listing all the shared folders on the PC MACLAN file server.
7. Click on the name of the shared folder you want to access. (You must have access privileges for the selected folder.)
8. If you want your Macintosh to log on automatically at startup, click on the box to the right of the volume.
9. Click on OK.

An icon for the folder is displayed on the desktop.

10. Close the Chooser.

Setting access privileges

When you create a folder, you are the owner of that folder. To share it with other users on the network, you need to set access privileges. In order for you to assign access privileges, the user or group must be defined on the PC MACLAN file server. (See Chapter 5 for information about defining users and groups and assigning access privileges.)

To set access privileges for a folder:

1. On the desktop, select the folder for which you want to set access privileges.
2. From the File menu, select Get Info, then select Sharing.

An Info window is displayed for the selected folder.



3. Make sure the Share this item and its contents checkbox is checked.
4. Click on the Privileges button to the right of the owner button and select the type of access privileges you want to assign.
5. Click on the User/Group button to display a list of users and groups, and select the group for which you want to assign access privileges.
6. Click on the Privileges button and select the access privileges you want to assign for this user or group.
7. Click on the Privileges button to the right of Everyone and select the type of access privileges you want to assign for the selected folder.
8. To apply the same access privileges to all folders contained within the selected folder, click on the Copy button.
9. If you do not want this folder to be moved, renamed or deleted, check the Can't remove, rename, or delete this item checkbox.
10. Close the Info window.

Logging off the network

When you want to log off the file server, drag any shared volume or folder icons to the Trash.

Accessing a network printer

To access a network printer, you use the Chooser. You do not have to be logged into the file server to use PC MACLAN print services.

To access a network printer:

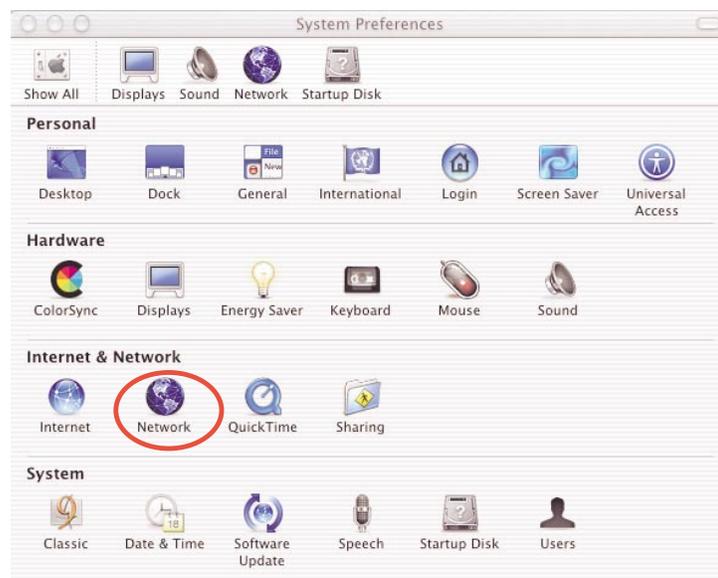
1. Open the Apple Menu and select Chooser.
The Chooser is displayed.
2. Select the printer you want to use.
3. If the AppleTalk zones list is displayed, click on the zone in which the printer is located.
All available printers and print spoolers display in the right window of the Chooser.
4. Select the printer you want to use.
Any print jobs are automatically sent to the selected printer until a different printer is selected.

Setup Guide for Mac OS X Users

In order for PC MACLAN to access a Mac OS X system, AppleTalk needs to be enabled on the Macintosh. This will provide an easy way for the PC to browse for the system on the network.

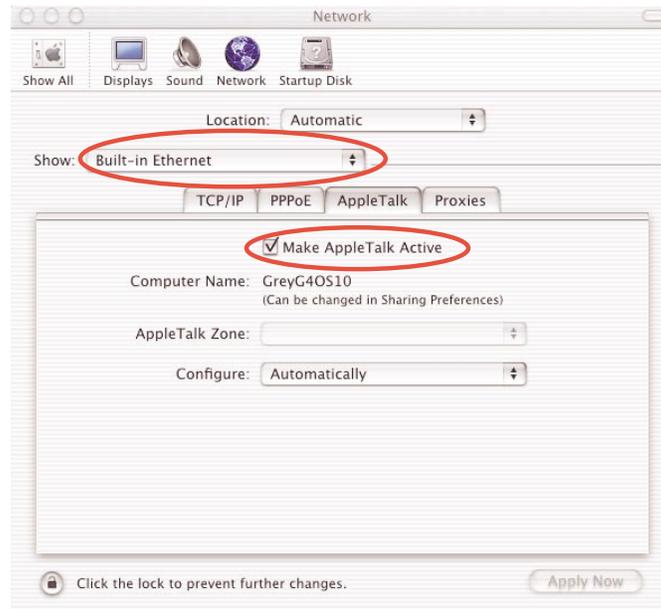
To turn on AppleTalk on Mac OS X.

1. Click on System Preferences in the Apple menu.
2. In System Preferences, click on the Network Icon. It is the globe icon.



3. In Network make sure "Show" is set to Built-in Ethernet or your Ethernet adapter.

4. Click the AppleTalk tab and check "Make AppleTalk Active".



5. Click Apply Now.

6. You should now be able to see the Mac from the PC.

Connecting to a Server

Mac OS X does not have a Chooser to connect to other systems. You now connect in the Go menu. To connect to other computers:

1. Select the Go menu in the Finder.
2. Click on Connect to Server.
3. Select Appletalk in the left pane
4. If applicable, select the zone.
5. Select the server.
6. Select Connect.

Printing to a Printer

A new Print Center configures the printers you can access. To setup a new printer:

1. Open the hard drive.
2. Select Applications.
3. Select the Utilities folder.
4. Launch Print Center.
5. Select Add Printer.
6. Select the type of printer you will be configuring. Select AppleTalk or EPSON AppleTalk to print to a printer attached to a PC.
7. Select the printer from the list.

8. If necessary, pick the Printer Model.
9. Click on Save.

Alternatively, you can get to the printer center when you print by selecting Edit Printer List from the Printer Selection List.

Turning on sharing

In order for another computer to access the files on a Mac OS X system file sharing must be started.

1. Select System Preferences in the Apple menu.
2. Select Sharing in the Internet & Network section.
3. Be sure that the File & Web tab is selected.
4. At the top of the window it will indicate the sharing status. If File Sharing Off appears select the Start button.

Accessing a Mac OS X System

Mac OS X shares files differently than early Mac operating systems. You cannot select any folder and share it with networked users. Only specific folders are available for sharing. Who you login as will affect what you can access. If you are logging in to the system with a user name that is an administrator on the machine you will have access to the entire hard drive. If you login as a user that is not an administrator you will only have access to other users Public folders or your Home folder. Other users Public Folders have a Drop folder and you can place files into it. You will not be able to see any files including files you put in the Drop folder.

Setting Permissions

Files and folders have permissions allowing and preventing user access. When a Mac OS X user creates a folder the default is to allow others Read Only access. In order to set the permissions for a file or folder:

1. Select the file or folder.
2. Then choose "Get Info" from the Finder's File menu.
3. Click the "Ownership & Permissions" triangle in the window to see who has permission to read and write to the file or folder.
4. Make any changes and Save the settings.

Creating New Users

Anyone wanting to connect to a Mac OS X system will need a user name and optionally a password. You can give them full access to the computer by granting that user administrator status. To configure users:

1. Choose System Preferences from the Apple menu.
2. In the System section, select the Users preferences icon.
3. Select New User.
4. Enter the user's name.
5. Select the Password tab.
6. Enter a password or leave it blank.
7. If you want them to have full access, select the Allow user to administer this computer check box.
8. Select Save.



Troubleshooting

This appendix describes some problems you might encounter when installing and setting up PC MACLAN, and offers possible solutions to them.

Installation problems

On rare occasions, if you stop an installation procedure before it is completed, leftover Windows registry entries can cause problems when you try to install again. The program CleanReg, included on the installation CD will clean the registry of PC MACLAN keys, allowing you to run the installation again without problems. To use CleanReg, locate the Utilities folder on the CD-ROM. Open the Utilities folder, then the PC folder. Double-click on *CleanReg.exe* and answer yes to any questions. CleanReg takes just a moment to clean the Windows registry and displays a message when it is done.

You can also download CleanReg from Miramar Systems' web site at www.miramarsys.com/support.

Adapter and driver problems

Most major brands of network adapters work well with PC MACLAN. To get information about your adapter and to make sure you have the latest driver available for that adapter, visit Miramar's adapter web page at www.miramarsys.com/support.

Also make sure that "Enhanced mode (32 bit or 16 bit) NDIS driver" is selected as your network adapter. To do this, open the Control Panel and double-click on the Network icon. Highlight the adapter and click the Properties button. Select the Driver Type tab and verify that the "Enhanced mode (32 bit or 16 bit) NDIS driver" option is selected.

IRQ and I/O settings

Computer devices are assigned settings that enable access to computer resources, such as the processor and memory. Network adapters use interrupt request (IRQ) and I/O (also called port address) settings. Some adapters also use memory settings. Check the documentation that came with your adapter or contact the adapter manufacturer for further information.

The following three criteria must be met for the network adapter to function properly.

- IRQ and I/O values must be set on the adapter itself and must also be entered in Windows.
- IRQ and I/O values set in Windows must match the values set on the adapter.
- IRQ and I/O network adapter values set in Windows must not be used by another device.

The Plug and Play feature of newer network adapters is designed to choose settings that do not conflict with other devices, and to adjust adapter settings to match settings chosen in Windows. On rare occasions, the Plug and Play function may not work properly.

These are general guidelines for checking adapter configuration and functionality. If you have further questions about your specific adapter, consult the adapter documentation or contact the manufacturer.

To view IRQ and I/O settings in Windows and identify conflicts detected by Windows:

Windows 2K/XP:

1. Go the Start Menu>Setting>Control Panel.
2. Double-click on the Administrative Tools icon.
3. In the Administrative Tools window, click on the Computer Management icon.
4. Open the System Information folder and double click on Hardware Resources.
5. Double click on the IRQs folder to open it.
6. Your network adapter's device name is shown with its detected IRQ.
7. Double click on the I/O folder to open it.
8. Your network adapter's device name is shown with its detected I/O address.

Windows NT

1. Open the Administrative Tools and select Windows NT Diagnostics.
2. Select the Resources tab, then click on the IRQ button (near the bottom of the window).
3. Your network adapter's device name is shown with its detected IRQ.
4. Click on the I/O button (near the bottom of the window).
5. Your network adapter's device name is shown with its detected I/O address.

The resources of most network adapters cannot be modified directly using Windows tools. They require a utility that is run from a bootable MS-DOS diskette. Newer network adapters from manufacturers such as 3COM and Intel install programs or control panels that allow Windows users to modify these resources. Please consult your network adapter manufacturer for information on how to modify the adapter's IRQ and I/O port.

Network cabling

To test your network cable, replace it with a cable that is known to be good. Some network adapters provide diagnostic tests that can detect cable malfunctions. (Look on the diskette or CD-ROM that came with your adapter or contact the manufacturer.)

10 base 2 cabling (also known as coaxial) requires a 50 ohm terminator at each end of the cable unless one end is connected to a repeater. Never connect a coaxial cable directly into a network adapter. A T connector must be used instead.

10 Base T cabling (also known as twisted pair) requires either a hub or a crossover cable to function correctly. This is not true if you are using the Etherwave technology from Farallon.



Glossary

A **access privileges.** Levels of access assigned to users of shared folders that allow (or disallow) those users to view or make changes to folders and their contents.

adapter. A card that fits into a slot in your computer to provide connection to a peripheral device or network. A network adapter—also called a network interface card (NIC)—provides connection to a network.

AppleTalk. Apple Computer's network architecture and protocols. Any network that has more than one Macintosh workstation and/or server running PC MACLAN functions as an AppleTalk network.

ASCII. *American Standard Code for Information Exchange.* A standard code for representing characters on a computer.

AFP. *AppleTalk Filing Protocol.* The protocol that allows Macintosh users to share data files and programs located on a file server. PC MACLAN uses this protocol on a Windows computer, allowing both Macintosh and PC users to share files on the server.

B **bridge.** A device that forwards data from one physical network to another. Compare with *router*.

C **client.** A computer that has access to network services, such as AppleShare, on a network. A user of a client computer requests services, such as file transfer, from a file server. The software that makes your computer a client is included with PC MACLAN.

cross-platform network. A network that connects computers with two or more operating systems. A PC MACLAN network connects computers with Macintosh and Windows operating systems.

D **default.** A value, attribute, or option that is assigned by an application before the user specifies a choice.

driver. The software that allows a peripheral, such as a adapter card, printer, or drive to function.

E **Ethernet.** A network connected by coaxial or twisted-pair wires for fast file transfer. Ethernet has a data transfer rate of 10 million bps (bits per second).

EtherTalk. AppleTalk running on an Ethernet network.

F **FAT.** *File Allocation Table.* The file system used by DOS to manage files stored on hard disks, diskettes, and other storage media. See NTFS.

file extension map. The association of a Windows file name extension with a Macintosh file type code and file creator code. This allows data files to be shared by applications that have both Windows and Macintosh versions.

file server. A computer that provides services such as file transfer or file storage over a network. The software that makes your Windows system a file server is included with PC MACLAN.

folder. A collection of files and other folders that are stored in the same location.

G **group.** A logical organization of users who need the same type of access to specific resources.

guest. A user who is logged on to an AppleShare server without a registered user name and password. As a guest, a user may have limited access to files and folders on a file server.

I **IP.** *See TCP/IP.*

IRQ. *Interrupt request.* A signal from a hardware device such as a keyboard or a drive controller indicating that it needs the CPU's attention.

L **local area network (LAN).** Two or more computers connected by cables and/or other network hardware that can share drives, folders, files, and devices like printers and scanners.

LocalTalk. Apple's proprietary network hardware built into every Macintosh. It is an inexpensive way to connect Macs, printers and PCs.

N **NDIS.** *Network Device Interface Specification.* A network driver architecture developed by Microsoft Corporation for Windows systems.

network. Two or more computers connected over cables or phone lines for the purpose of sharing hardware and software resources.

network adapter. *See adapter.*

NTFS. *NT File System.* The file system used by Windows NT. Compared to the FAT file system, NTFS offers superior performance and security, and can handle hard disks of virtually any size with significantly less waste caused by the large cluster sizes of FAT. *See FAT.*

O **operating system.** The fundamental software that allows all the components of a computer to work with each other, with applications, and with the computer user. Synonymous with *platform*. The current major operating systems are Windows, Macintosh, and Unix.

P **password.** A unique string of characters that a program, computer operator, or user must supply to meet security requirements before gaining access to data.

path. The location of a file on storage media. A path consists of a drive, a folder, any subfolders under that folder, and the file name.

peer-to-peer network. A network typically found in small companies in which any computer can serve as a file server and client.

peripheral. Hardware connected to a computer. A peripheral can be a printer, modem, scanner, storage media, or any other attached hardware.

port. A connector on a computer where a cable to a network or peripheral is attached.

print queue. An ordered list of the data files waiting to be printed.

print server. A computer that provides printing services across a network and accepts print jobs from other computers. The software that makes your Windows system a print server is included with PC MACLAN.

printer port. A connector on a computer to which a printer is attached.

protocol. The language that computers use to communicate with each other over a network. PC MACLAN uses AppleTalk protocol.

R **registered user.** A person who has a user name and password registered on a file server for the purpose of gaining access to its resources.

Registry. A database of configuration information in Windows that is used by the operating system and other software.

router. A device that connects networks with different protocols.

S **server.** A computer that shares its resources, including drives, files, and peripherals with other computers on a network.

sharing. On the Macintosh, the term for accessing the resources of another computer over a network.

spooler. A program that runs in the background and sends print files to a network printer.

storage media. Magnetic or optical devices like tapes, diskettes, cartridges, or CD-ROMs that store data for use by computers.

T **TCP/IP.** *Transmission Control Protocol/Internet Protocol.* A collection of protocols that allows computers to communicate with each other over the internet.

U **user name.** A unique name assigned to each user on a network. This name is used to grant access to network resources, and to keep track of who is using these resources.

V **volume.** A unit of storage on a Macintosh. Synonymous with *drive* on a Windows system.

Z **zone.** Logical subdivisions of a network that allows resources to be grouped into categories.