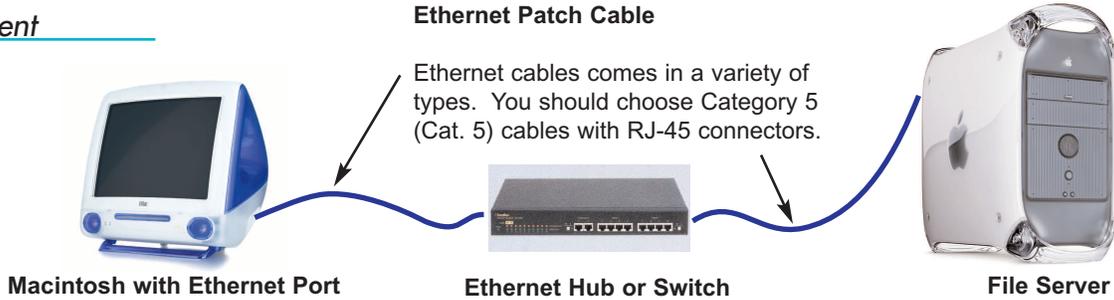This document will help you to set up a simple Macintosh network. We will only be getting into the basics of networking. More information can be found in the Macintosh Help Center, under the Help Menu.

Equipment

Ethernet Patch Cable

Ethernet cables comes in a variety of types. You should choose Category 5 (Cat. 5) cables with RJ-45 connectors.

Macintosh with Ethernet Port

Ethernet Hub or Switch

File Server

This computer serves as a terminal. The Ethernet port will have a symbol identical to the one shown to the left. Use this port to connect the Ethernet cables to the Hub.
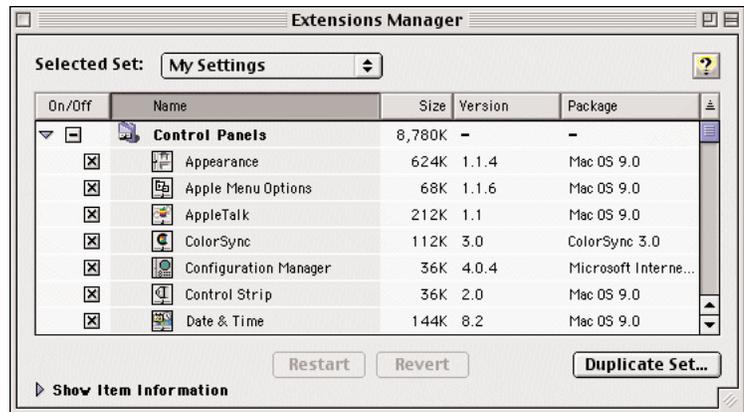
The hub is the central connection between computers on a network. Choose either a 10/100Base-T Hub or Switch. Hubs are less expensive, but switches provide faster network connections.

To eliminate file duplication, we recommended that you use a single computer to contain all of your patient records, and have other computers on the network access it. **IMPORTANT: Frequently back up your patient files.**

Setting up the Mac for AppleTalk

1 Click on the **Apple menu** and go to "**Control Panels**" and then select "**Extensions Manager**". The screen shown to the right will appear. Scroll downward and make sure the following control panels and extensions are turned on:

Control Panels	Extensions
AppleTalk	Apple Enet
File Sharing	AppleShare
	File Sharing Extension
	File Sharing Library
	All Open Transport
	All OpenTPT extensions

Extensions Manager

Selected Set: My Settings

On/Off	Name	Size	Version	Package
	▽ ☐ 🗂 **Control Panels**	8,780K	–	–
☒	Appearance	624K	1.1.4	Mac OS 9.0
☒	Apple Menu Options	68K	1.1.6	Mac OS 9.0
☒	AppleTalk	212K	1.1	Mac OS 9.0
☒	ColorSync	112K	3.0	ColorSync 3.0
☒	Configuration Manager	36K	4.0.4	Microsoft Interne...
☒	Control Strip	36K	2.0	Mac OS 9.0
☒	Date & Time	144K	8.2	Mac OS 9.0

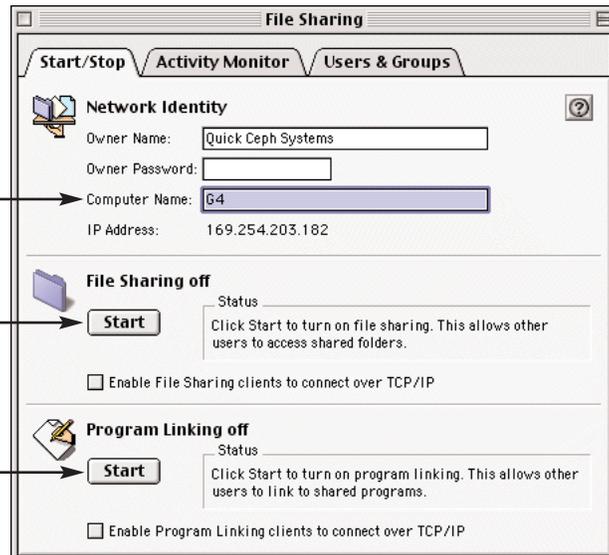Restart   Revert   Duplicate Set...

▷ Show Item Information

2 Click on the **Apple menu** and go to "**Control Panels**" and then to "**File Sharing**". The screen shown to the right will appear.

Type in the **Owner Name** and the **Computer Name**. A Password can be used, but is not necessary.
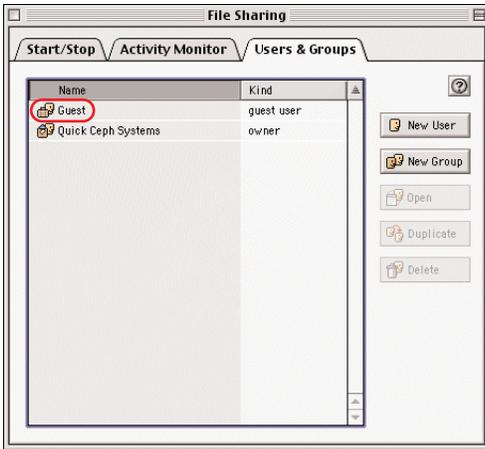
Click on this button to initialize file sharing. The menu will change to the following icon to indicate file sharing is on:
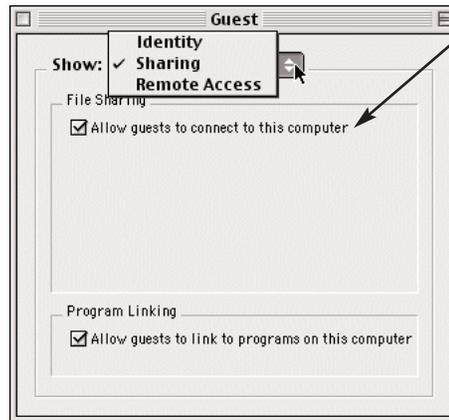
File Sharing on
Stop

The Program Linking button can be enabled if you wish to be able to link programs across your network.

File Sharing

Start/Stop / Activity Monitor / Users & Groups

Network Identity
Owner Name: Quick Ceph Systems
Owner Password:
Computer Name: G4
IP Address: 169.254.203.182

File Sharing off
Status
Start   Click Start to turn on file sharing. This allows other users to access shared folders.

☐ Enable File Sharing clients to connect over TCP/IP

Program Linking off
Status
Start   Click Start to turn on program linking. This allows other users to link to shared programs.

☐ Enable Program Linking clients to connect over TCP/IP

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3 Click on the "**Users & Groups**" tab within the File Sharing section. The window shown to below will appear. Double-click on the "Guest" option, highlighted below.

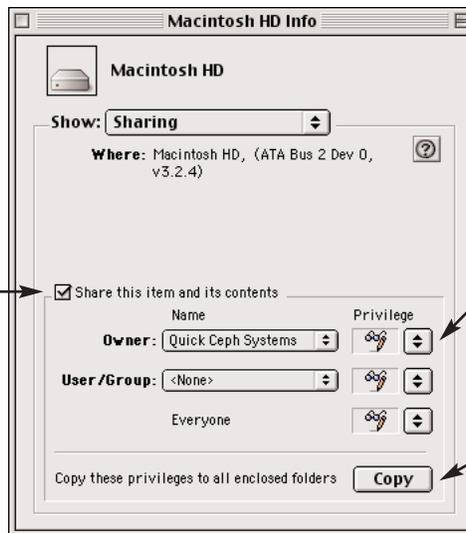**4** Click on the "Show" selection box and select "Sharing" to display the sharing options for Guests.

Make sure this option is checked to allow guest users to connect to this computer. Guest access is much easier to implement than password access.

Close the guest window and the File Sharing window when you have made these changes.

5 Next, click on the Macintosh hard drive once to select it. Then, go to the File menu and select "**Get Info**", then "**Sharing...**". The dialog box to the right will appear.

Make sure you have selected the appropriate settings and then close this window.

Click this option to display the networking options shown.

NOTE: To limit access to specific folders or to limit "Write" access in certain folders, such as the Patient Folder, you should select that folder, perform "Get Info" as described, and change the priveleges as shown below.

The Privileges option allows you to choose which computer has the permission to read or write to other computers on the network.
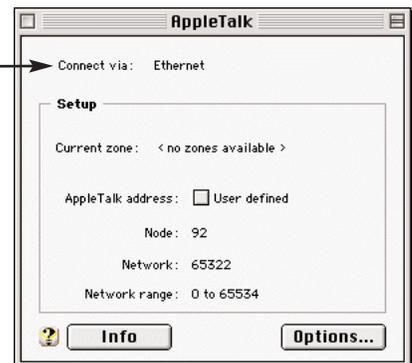
Use the Copy function to allow other computers on the network full access to all folders contained within the hard drive.

6 Repeat steps 1 - 5 on each computer you wish to connect to the network.

When these steps are finished, you are ready to go on to the next step, which is opening the connection between the connected computers.

NOTE: If you are using an older Macintosh, check to make sure AppleTalk is set to "Ethernet".

Click on the **Apple menu** and go to "**Control Panels**" and then to "AppleTalk". Make sure it is set to "Connect via: Ethernet". Then, close this window.

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Once you have set up the network, you are ready to open an AppleTalk connection between the connected computers.
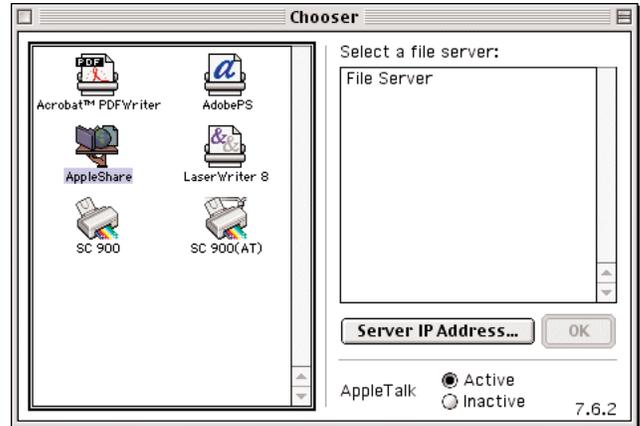
Opening an AppleTalk Connection

1 On one of the computers, click on the Apple menu and select "Chooser". A window, similar to the one shown to the right, will appear. Click on the "AppleShare" icon.
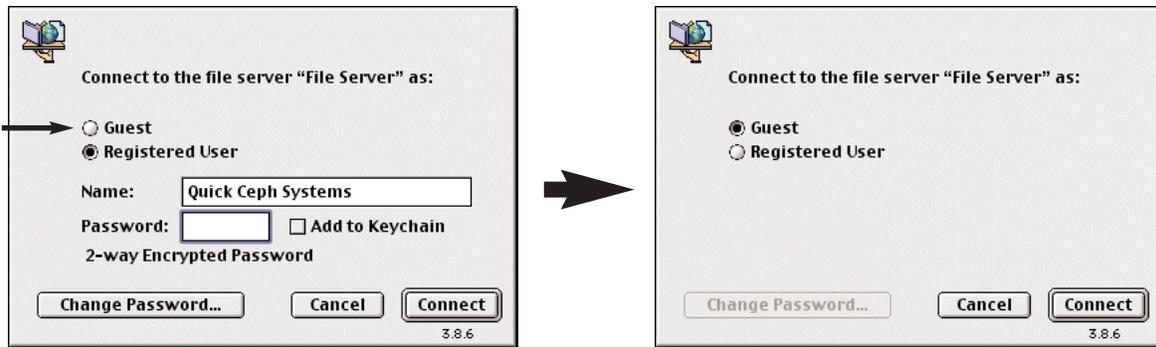
This will bring up a menu in the right allowing you to select a connected computer. If a computer name does not appear in this area, then either it is not turned on or it was not connected properly.

Double click on the name of the computer to which you wish to connect.

(For the sake of simplicity, only one computer is shown here.)
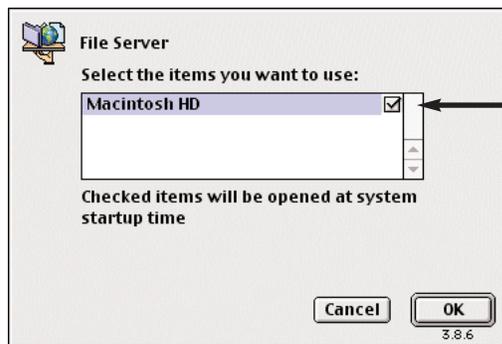
2 The window shown on the left will appear next with "Registered User" preselected. Click on "Guest" to easily connect to that computer. The screen will look like the one shown to the right. Click on the "Connect" button to continue.

3 After clicking on "Connect", the dialog box shown to the right will appear. This box indicates the name of the connected hard drive.

Click on "OK" to select this hard drive.

TIP

To set the computer so that it connects to this hard drive upon startup, click on the small box to the right of the hard drive name.

4 You will now see the hard drive icon on your desktop. This indicates that the hard drive can now be accessed from the present computer, which allows you to share files between the computers.

If you make an alias of this icon and place it on your desktop, it will eliminate the need to repeat Steps 1-3.

You can now perform this procedure on the other computers connected to the network.

TIP

We recommend setting one computer as the "File Server", which will contain all of your patient files. This reduces the possibility of duplicate files.

In order to share files with your PC, the Mac needs to be connected to a network. Windows NT 4.0 provides connectivity between the different platforms. Listed below are the instructions for implementing this network in your office.
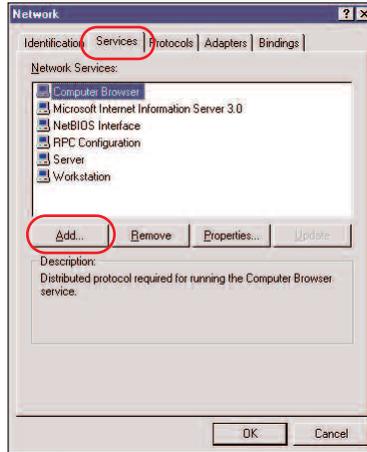
NOTE: These are extremely simplified instructions, and are meant to be used as a general guideline for networking. Before starting, make sure that the NT system has been properly configured and the Macintosh computers have been set up properly for File Sharing, as described in the previous sections.
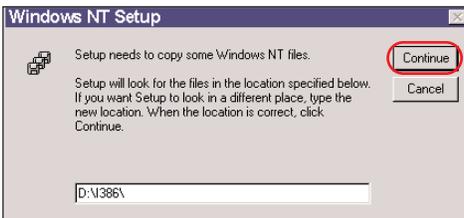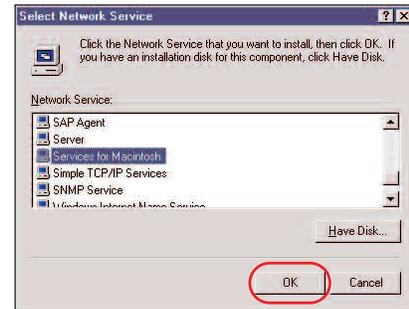
Connecting to a Windows NT Network - PC Side

1 Windows NT does not, by default, install the Macintosh drivers needed to communicate with the Macintosh. To do this, you will need the Windows NT CD-ROM.

First, click on the Start button, select "Settings", and then "Control Panels".

Locate and double click on "Network". The window to the right will appear. Click on the "Services" tab to display the current NT supported protocols. Now, click on the "Add" button.

2 When the "Select Network Service" window appears, scroll down until "Services for Macintosh" appears. Select this item and click on "OK".

3 The computer will then open the "Windows NT Setup" window, prompting you to select a source disk to copy the required files. It will look similar to the window shown to the left.
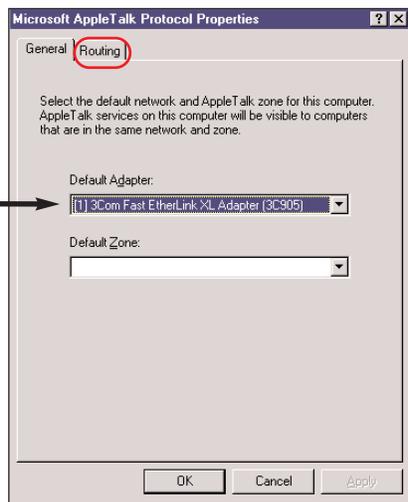
If you are using Windows NT on an Intel machine, make sure to specify the "i386" directory, as shown. The drive letter ("D:" in this case) specifies from which drive the information is copied.

Click on "Continue" once the settings are correct to install the program.

4 After the software has been installed, you will be returned to the Network dialog box. Close out of the dialog box. The AppleTalk properties dialog box will appear.

Make sure the correct ethernet adapter is selected within the "Default Adapter" box indicated by the arrow.

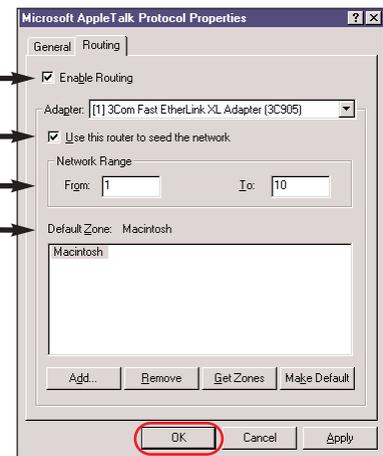Then, click on the "Routing" tab, as shown to the right.

5 Select the following options to enable networking.

Select this option. →

Type in the number of computers on the network. →

The Macintosh Zone → defines a group of connected computers, as seen by the server. You can create a Zone by selecting "Add". One zone can be made the Default zone.

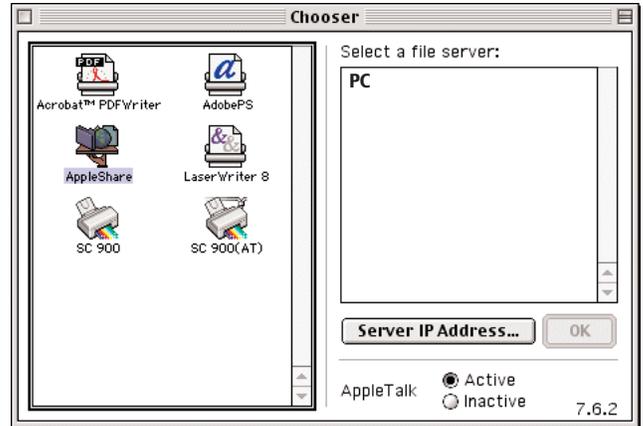Click on "OK" when the revisions are complete, and restart the computer.

The PC has now been configured to recognize the Macintosh computers connected on the network. Now, we must link the Macintosh to the PC using AppleTalk in order to share files.
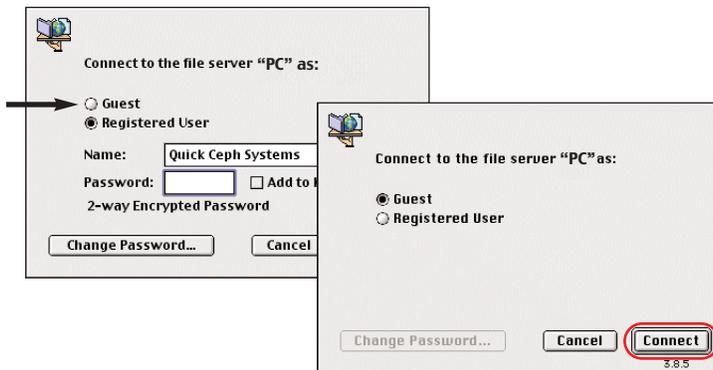
Connecting to a Windows NT Network - Mac Side

1 Starting with one of the Macintoshes, click on the Apple menu and select "Chooser". A window similar to the one shown to the right will appear. Click on the "AppleShare" icon.

This will bring up a menu in the right allowing you to select a connected PC. If the PC's name does not appear in this area, you should check the Mac to make sure File Sharing is turned on. If it is, you should return to the previous section and check if all steps were followed correctly.
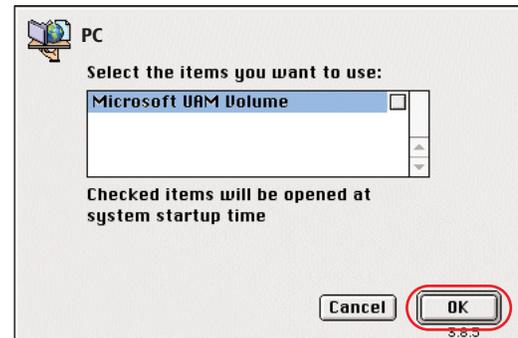
Double click on the name of the computer to which you wish to connect.

2 The window shown below will appear next with "Registered User" preselected. Click on "Guest" to easily connect the computers. Then, click on the "Connect" button to continue.

3 The dialog box shown below allows you to connect to available folder volumes on the connected PC computer. The default volume created on the computer is labeled as shown. Click on the name and then click on "OK."

4 The PC icon representing the PC shared folder will appear on your desktop. You will be able to transfer files with this folder and treat it just as you would a connected Macintosh.

You can now make an alias of this icon. Select the shared folder icon by clicking once. Go to the File menu and select "Make Alias". To access the drive, double-click on the alias icon. This will save you time, as it allows you to bypass the Chooser steps when you wish to open the shared folder.

5 On the PC side, you will be able to access this folder with any PCs connected to the network to send or receive files, such as digital x-rays, patient images, etc. The default location of the folder is in the "C:" drive of the server, which can be accessed by double-clicking on the My Computer icon.

Information on connecting PCs to the NT network can be found in the Microsoft user manuals.

For simple peer to peer connections, we recommend connecting the Macintosh to PC computers using PC MacLAN (www.miramarsys.com). More information can be found in the following section.

PCs can also be connected to Macs via the AppleTalk protocol with a program called PC MacLAN from Miramar Systems (www.miramarsys.com). This makes it much easier to connect the computers together and requires less administrative work. This system is best if you are looking for a simple method of sharing your files between platforms.
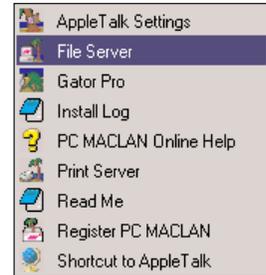
NOTE: Before starting, make sure that the Macintosh computers have been set up properly for File Sharing, as shown in the previous section.
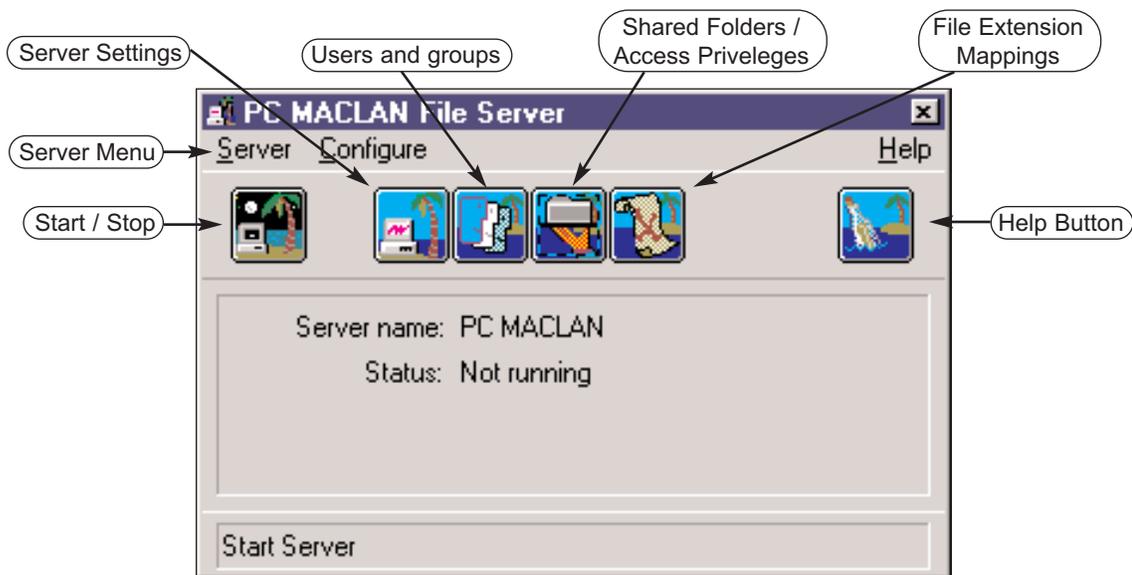
Connecting to an AppleTalk Network - PC Side

1 Insert the PC MacLAN CD-ROM and follow the instructions listed on the software documentation to install. This process is almost entirely automated, so installation is simple. You should restart after the installation is complete.

2 During the start up process, a new PC MacLAN splash screen will appear, indicating that the software was been successfully installed.

Once the computer has started up, click on the Start menu and select "Programs". Then, select "PC MACLAN" from the menu. You will see a menu bar which looks like the one shown to the right. Click on "File Server".

3 This will bring up the dialog box shown below. The options are labelled here for easy reference.

4 To activate the file sharing on the PC, click on the "Start / Stop" button. Once the file sharing is initiated, the file sharing icon will change to the figure shown to the right.

5 If the PC is to be used only for one way transfer of files to the Macintosh, such as a capture station for a digital x-ray machine, go to the Start menu and select "Programs". Then, select "PC MACLAN" from the menu. On the menu that appears to the right, click on "Shortcut to AppleTalk". This will open the Network Neighborhood window (not shown).

In the Network Neighborhood window, you will see an icon for the connected Macintosh computer. To connect to this computer, double click on the icon. The connection process is similar to the one shown on page 5 of this document.

NOTE: If you wish to send files from the Macintosh to your Windows PC, please follow the instructions on the following page.

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The following steps set the PC as a file server, allowing you to upload picture files from the Mac. The information presented below assumes that Steps 1-5 on the previous page have been completed.
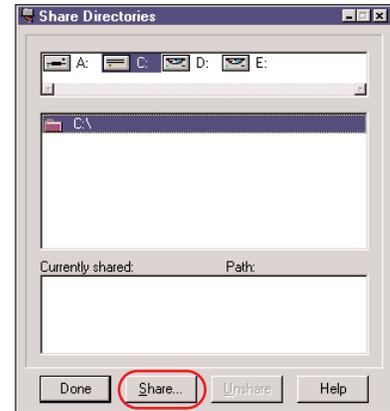
Connecting to an AppleTalk Network - PC Side

1 Click on the Shared Folders button, shown to the right, to select or create the folders you wish to be viewable by the Mac.

To navigate, you can click on the "C:\" drive in the top window. For simplicity, we will select the "C:\" directory as the shared directory, although you can create your own shared directory
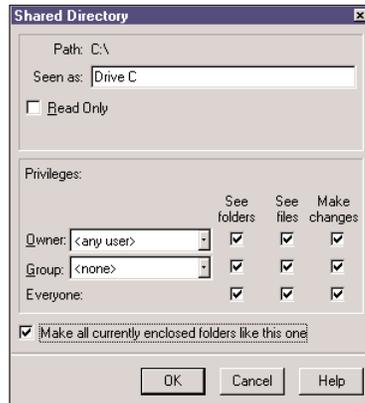
Click on the "Share" button, circled on the right image, to continue. The window shown below will appear.

2 Name the shared folder. →

Set the "Priveleges" as shown to allow all users to both read and write to the selected folder.

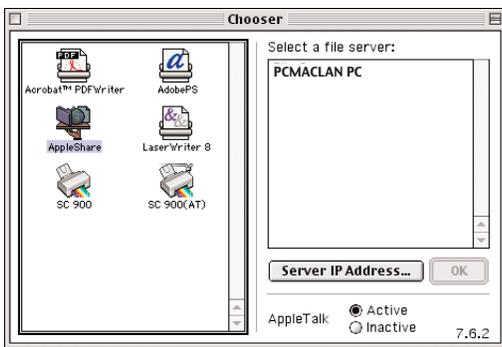Selecting this option allows you to access all folders within the current shared folder.

NOTE: The "Priveleges" section allows you to control access for users who log onto the computer. The settings shown allow for full access to read and write to this folder. Functionality can be disabled by unchecking these options. For example, to limit access and allow users to read only, you should unclick the option, "Make changes" for "Everyone".

Click on "OK" when all necessary options are checked. This will allow the Macintosh to connect to the PC and grab files.
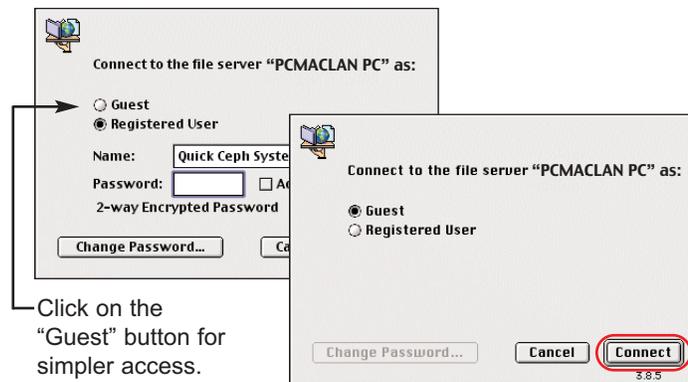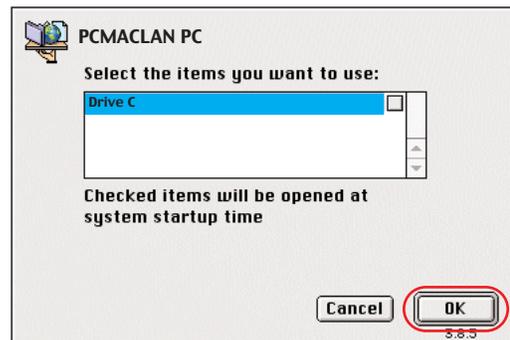
Connecting to an AppleTalk Network - Mac Side

1 To connect to the PC using the Mac, first click on the Apple menu, then select the Chooser.

Select AppleShare, then double-click on the appropriate file server. In this case, it is the "PCMACLAN PC" server. A file sharing window wil appear, as shown below. Select "Guest" and click on the "Connect" button.

2 Clicking on the "Connect" button will bring up the connection screen shown below, allowing you to choose the shared hard drive.

Click on the "Guest" button for simpler access.

3 Click on the "OK" button to connect to the PC hard drive. A new icon representing the PC hard drive will appear on your desktop. You can now share files with your PC.

For more information about using PCMACLAN, please visit the Miramar Systems site at www.miramarsys.com.