SoftWindows 95 Installation and User's Guide

This guide refers to version 5.0 of SoftWindows 95

Please remember to return your Warranty Registration Card (refer to page 159).

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Conventions

For clarity this guide uses the following typographical conventions:

This style	*Refers to this*
COMPUTER	Anything you type, exactly as it appears.
bold	Names of items that appear on the screen.
↵	Return or Enter key.
⌘, Esc…	Other special keys on the keyboard.
italics	References to other sections of the guide.

The following symbols identify special instructions:

This symbol	*Refers to this*
➤	A step in a procedure.
■	An item in a list of alternatives.
■	Important information.

Abbreviations

This guide uses the following abbreviations:

This abbreviation	*Refers to this*
Insignia	Insignia Solutions.
MS-DOS	Microsoft Disk Operating System for the IBM PC or compatible.
Macintosh	A PowerPC processor-based Macintosh computer or MacOS compatible.
PC	An IBM PC or compatible computer.
Windows	Microsoft Windows 95.
SoftWindows 95	SoftWindows 95 5.0.

Introduction

Welcome to SoftWindows 95, the software that enables you to run PC programs and applications on your Power Macintosh or Power Macintosh compatible.

Read this chapter for a quick overview of the features of SoftWindows 95, and then turn to *Installing SoftWindows 95*, page 7, to get started.

What is SoftWindows 95?

SoftWindows 95 emulates a Pentium with MMX-based PC, allowing you to run PC programs, including applications and games, alongside your existing Macintosh applications. It is supplied complete with Windows 95, so that you can run the latest Windows 95 programs. It gives the same performance as you would expect from a PC, and the faster your Macintosh the faster the performance of SoftWindows 95.

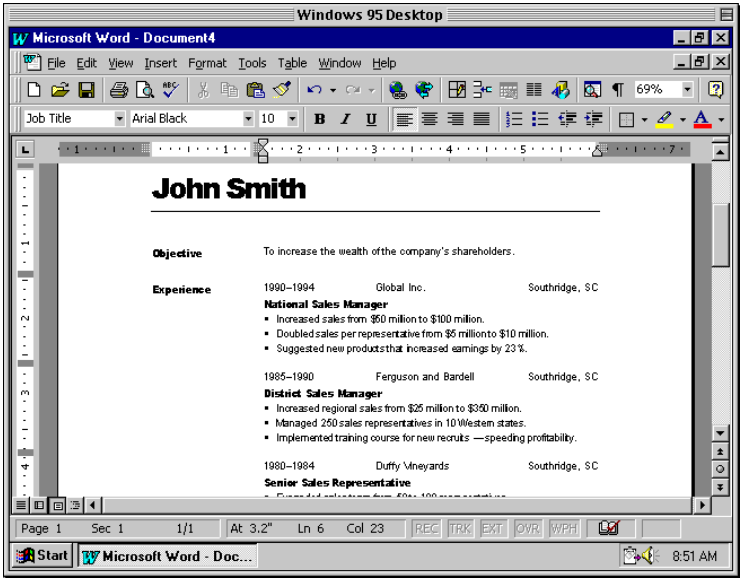
SoftWindows 95 is easy to use, and provides several important features including:

- TurboStart™, which lets you quit from SoftWindows 95 without exiting Windows 95. Windows 95 will load instantly the next time you run SoftWindows 95, allowing you to continue where you left off.
- Apple Guide help, to give you step-by-step assistance with setting up and using SoftWindows 95.
- AppleScript support, to allow you to automate PC-based tasks from your Macintosh.
- EasyLaunch, to let you run PC applications and games simply by double-clicking an icon on your Macintosh desktop.
- Drag and drop, for easy copying of information between PC and Macintosh applications.
- Joystick support, so you can use your Macintosh joystick with PC games.

SoftWindows 95 supports Sound Blaster Pro, Sound Blaster 16, and MMX, and allows you to use a Macintosh joystick, making it ideal for running PC games on your Macintosh.

Includes Windows 95

SoftWindows 95 is provided with Windows 95, so that you can immediately run Windows applications on your Macintosh. SoftWindows 95 includes a special Windows display driver which gives enhanced display performance, and allows you to re-size the Windows desktop dynamically without restarting.



Microsoft Office 97 running on a Macintosh using SoftWindows 95

Key features of SoftWindows 95

The following key features of SoftWindows 95 make running PC applications on your Macintosh as straightforward as running your existing Macintosh applications:

Full integration

SoftWindows 95 is seamlessly integrated with your Macintosh. It includes clipboard linking to allow you to copy and paste graphics and text between your Macintosh and PC applications.

Moving data between your PC and Macintosh applications is no problem using the SoftWindows 95 built-in file sharing. In addition, your PC programs can make use of your Macintosh peripherals, including your floppy disk drive, CD-ROM drive, sound, mouse, keyboard, joystick, microphone, serial ports, printers, SCSI devices, and network.

Networking

SoftWindows 95 is fully network aware, and can take advantage of your Macintosh Ethernet or Token Ring connection to access other PCs on your network. SoftWindows 95 includes Novell NetWare client and Microsoft Network client software. In addition, it supports most other PC network clients, to allow you to communicate with common network servers including Windows NT, Banyan VINES, DEC PATHWORKS, LANtastic, and Novell LAN WorkPlace.

SoftWindows 95 and the Internet

SoftWindows 95 includes Microsoft Internet Explorer and several Internet utilities to allow you to access the World Wide Web from SoftWindows 95, and to download PC files from the Internet.

SoftWindows 95 also includes a demonstration copy of the NTRIGUE Net Client for Macintosh, enabling you to run Windows applications across the Internet and your intranet by connecting to an NTRIGUE Windows application server.

Easy to use

SoftWindows 95 is easy to use, in most cases easier than a real PC. Insignia's EasyLaunch feature allows you to run PC applications by simply double-clicking an icon on your Macintosh. And you can copy information between PC and Macintosh applications using drag and drop.

Setting up SoftWindows 95 is easy too. Many changes that would require a hardware change on a PC can be made simply by changing options on the **SoftWindows 95 Setup** dialog box.

If you are not already familiar with PCs this guide includes a brief introduction to Windows 95 to help you get started. If you need more information you can use the SoftWindows 95 Apple Guide help or Balloon Help to tell you what you need to do.

Requirements

Feature	*Requirements*
Macintosh	Any Power Macintosh or MacOS compatible.
System	System 7.1.2 or later.
Memory	System 7: 16 Mbytes minimum, 24 Mbytes recommended. System 8: 24 Mbytes minimum, 32 Mbytes recommended.
Application memory size	Minimum: 10 Mbytes. Recommended: 24 Mbytes.
Hard disk space	180 Mbytes.
CD-ROM drive	Any Macintosh compatible CD-ROM drive.

New features and enhancements

This section lists the new features and enhancements in SoftWindows 95 5.0.

Improved user interface

SoftWindows 95 is even easier to use, thanks to a revised user interface. All the configuration options are available in a single **SoftWindows 95 Setup** dialog box allowing you to see the current configuration of SoftWindows 95, or change it, using a convenient set of panels.

Sound Blaster

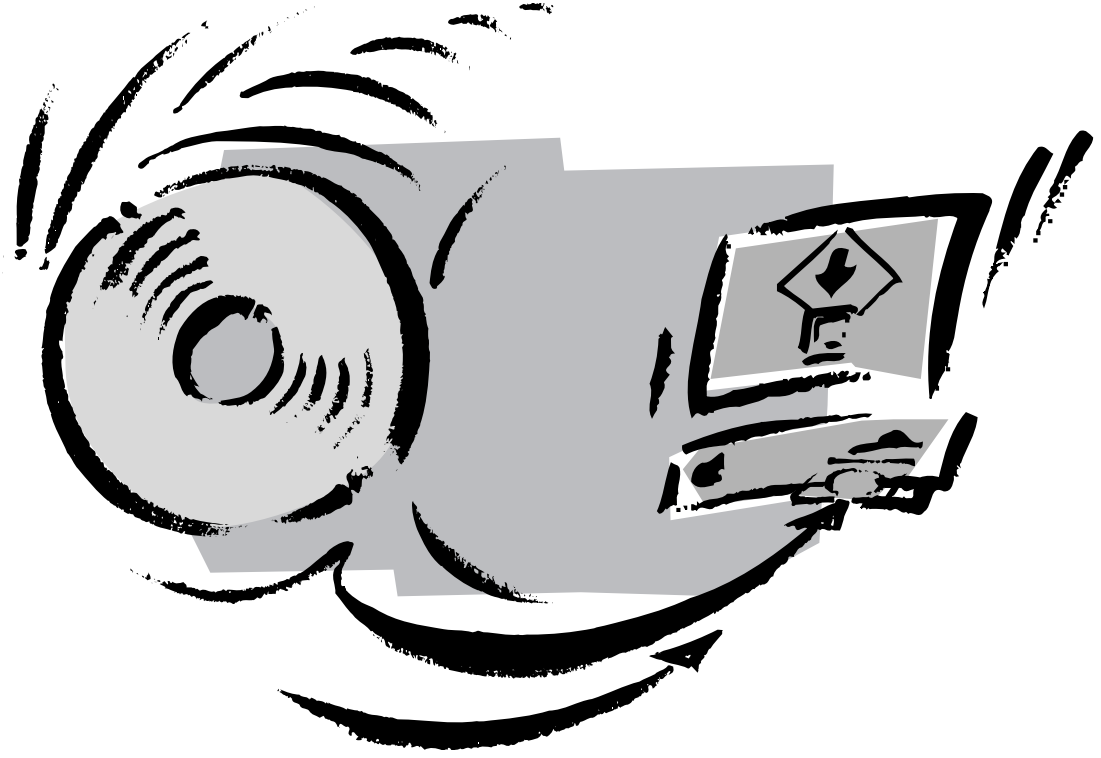
SoftWindows 95 now supports Sound Blaster Pro and Sound Blaster 16, the sound cards supported by most PC games and music applications.

Joystick support

SoftWindows 95 now allows you to use a Macintosh joystick with PC games and applications that support a joystick.

Drag and drop	SoftWindows 95 now supports Macintosh drag and drop, allowing you to copy text and graphics between SoftWindows 95 and other Macintosh applications, simply by dragging the selection with the mouse.
Improved CPU emulation and MMX	The SoftWindows 95 CPU emulation has been enhanced to give improved performance, and now includes MMX support, allowing you to run PC multimedia applications and games that take advantage of MMX.
EasyLaunch	SoftWindows 95 includes a new EasyLaunch feature that lets you start SoftWindows 95, and then run a PC application by double-clicking an icon on your Macintosh.

Installing SoftWindows 95



This chapter describes how to install SoftWindows 95 on your Macintosh, and how to upgrade from an earlier version of SoftWindows 95. It also explains how to upgrade Windows 3.11 to Windows 95.

SoftWindows 95 is supplied on two CD-ROMs. If your Macintosh does not have a CD-ROM drive you can connect an external CD-ROM drive, or use file sharing to connect to a Macintosh with a CD-ROM drive. Alternatively, a PowerBook can use SCSI disk mode to connect it to a Macintosh with a CD-ROM drive. Refer to your Macintosh documentation for more information about these options.

Installing SoftWindows 95

SoftWindows 95 includes an installer which automatically installs all the files you need.

If the installation fails, set the **Extensions Manager** control panel **Selected Set** to **Mac OS 8.0 base** (or equivalent) and then try installing again.

You will need about 180 Mbytes of free disk space for the default installation.

1 Read the ReadMe file

➤ Insert the first SoftWindows 95 installation CD.

Before proceeding we recommend that you double-click the **ReadMe SoftWindows** icon on the installation CD-ROM for any important information that it was not possible to include in this guide.

2 Run the installer

➤ Double-click the **Installer** icon.

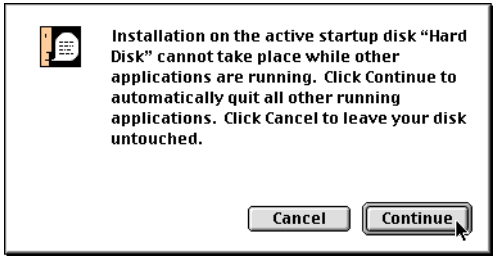
➤ When the welcome screen appears click **Continue…** to display the **Easy Install** dialog box.

By default, the installer will install SoftWindows 95 into a folder named **SoftWindows 95** on your startup disk.

➤ Click **Select Folder…** if you want to install SoftWindows 95 in a different folder, and then click the **New** button if you want to create a new folder for SoftWindows 95.

➤ Click **Install** to proceed with the installation.

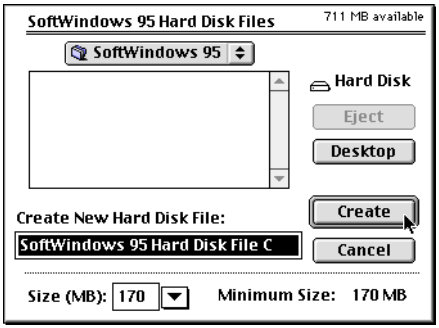
If you are installing on the startup disk, and applications are running, this dialog box appears:



➤ Click **Continue** to quit from other applications before installing. You will be prompted to save your work if necessary.

3 Create a hard disk file

Unless you are upgrading an existing hard disk file, this dialog box allows you to create a file to act as the hard disk for SoftWindows 95:



By default, the hard disk is created with the name **SoftWindows 95 Hard Disk File C** and a size of 170 Mbytes, which is sufficient for Windows 95.

If you want to install other applications you will need to increase the size. Refer to the user guides for the applications you want to install for help in choosing the size you need.

Alternatively you can increase the size later, using the HD Expander utility. Refer to *To change the size of a hard disk file*, page 42.

➤ Select the size for the hard disk file from the **Size** pop-up menu, or type the size into the box.

➤ Click **Create** to create the hard disk file.

4 Change CDs

During the installation you will be prompted, when necessary, to change CDs.

➤ Insert the specified CD.

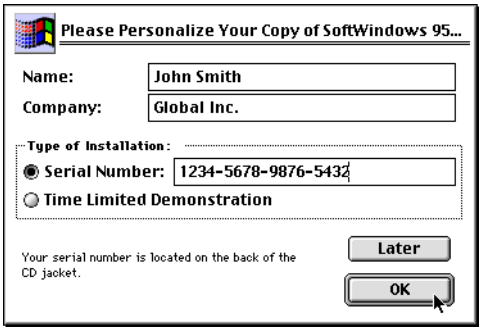
The installer then copies the Windows files to your hard disk, which takes several minutes.

If you are running a US system this dialog box then appears, reminding you to register your copy of SoftWindows 95:

➤ Click **OK** to continue.

5 Personalize SoftWindows 95

This dialog box then appears, allowing you to personalize your copy of SoftWindows 95:



➤ Type in your name.

➤ Type in your company, or press the space bar.

➤ Enter the serial number from the back of the installation CD-ROM jacket.

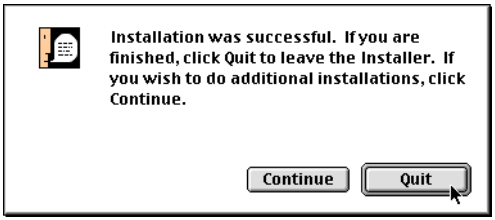
If there is no serial number on the CD jacket see the enclosed Activation Card for details.

To run a full version of SoftWindows 95 all three fields must be completed. Alternatively, click **Time Limited Demonstration** to evaluate SoftWindows 95 for a limited period.

➤ Click **OK** to save your details.

Alternatively, if you want to install SoftWindows 95 without personalizing it, click **Later**. You will then be asked to personalize SoftWindows 95 when you first run it.

This dialog box then confirms that installation was successful:



➤ Click **Quit**.

SoftWindows 95 is now installed.

6 Run SoftWindows 95

The first time you run SoftWindows 95, a series of updates will automatically run to reconfigure Windows for optimum performance, using information on the **SoftWindows 95 Upgrade Disk** and the WIN95DATA CD.

➤ Insert the WIN95DATA CD.

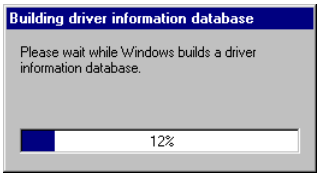
➤ Double-click the **SoftWindows™ 95** icon.

If you are using US system software the Registration program will first run, to help you register your copy of SoftWindows 95. Refer to *Registering SoftWindows 95*, page 12, for information about how to proceed.

7 Windows configuration

The MS-DOS SWUPDATE program will then run to add Insignia drivers and update your configuration, and Windows will start.

Windows will then build a driver information database:

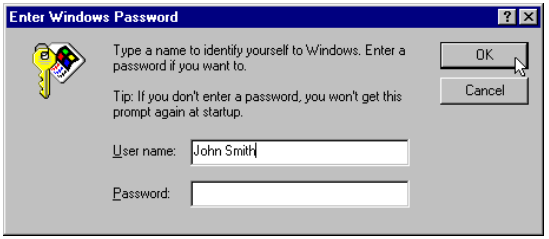


If the following dialog box appears:

➤ Insert the WIN95DATA CD and press ↵ to continue.

Windows will then run a batch file in an MS-DOS window, which will take several minutes, and Windows will restart.

If you are asked to enter a Windows password:



➤ Enter your name.

➤ Press Tab and enter a password, or leave the **Password** field blank.

➤ Press ↵ to continue.

The Windows desktop will then be displayed.

> Note that Windows will load virtually instantly the next time you run SoftWindows 95 if you choose the TurboStart option when you quit. This also allows you to continue work in the applications you were previously using.

If you have hard disk files created with an earlier version of SoftWindows 95, refer to *Upgrading Windows 3.11 to Windows 95*, page 17, for information about updating them to Windows 95.

What next?

For more information about using SoftWindows 95 refer to *Running SoftWindows 95*, page 27, *Setting up SoftWindows 95*, page 37, and *Networking with SoftWindows 95*, page 95.

For information about using Windows refer to *Using Windows*, page 75.

Registering SoftWindows 95

In the US or Canada you can use the SoftWindows 95 Registration program to make registering your copy of SoftWindows 95 as straightforward as possible.

Registering your copy will entitle you to 30 days of free technical support and customer service from your first call, and it will also ensure that you are notified of future product upgrades.

Note that the registration program is only installed if you are running a US system. To register SoftWindows 95 outside the US or Canada, please complete and return the registration card included in the package.

If you have a modem, the SoftWindows 95 registration program can save you effort by sending your registration information directly to Insignia, on a toll-free number.

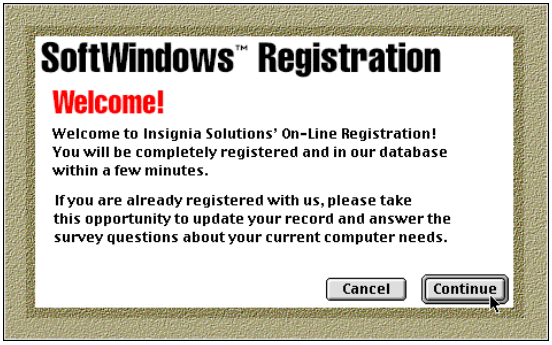
Alternatively, you can choose to print out your registration details to make a pre-addressed form, which you can then fax or mail to Insignia to complete the registration.

To register SoftWindows 95

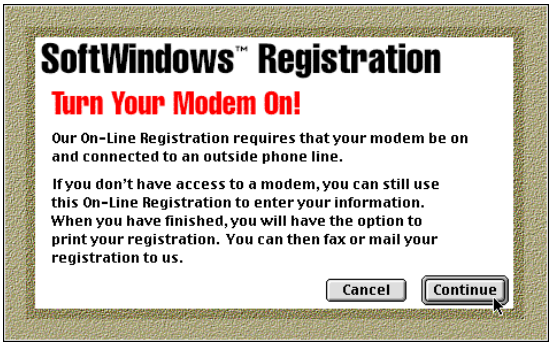
Until you register your copy of SoftWindows 95, the Registration program runs automatically while you are installing SoftWindows 95, and the following title screen appears:

➤ Click **Continue** to proceed with the registration.

The **Welcome** screen then appears:



➤ Click **Continue** to display the following screen:



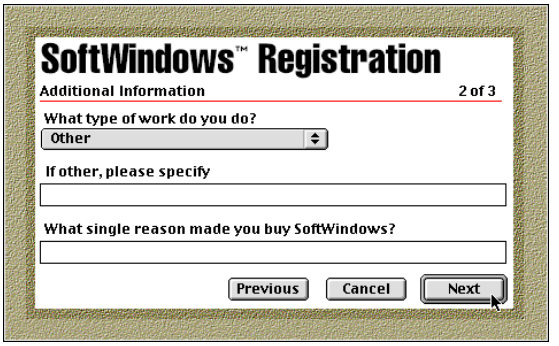
➤ If you are going to register by modem, turn on your modem now.

➤ Click **Continue** to display the **Contact Information** screen:

Your name and company will already have been filled in from the data you entered earlier, but you can change these if you wish.

➤ Complete the screen with your name and address, and your other contact information, so that we can keep you updated with information about SoftWindows 95.

➤ Click **Next** to display the **Additional Information** screen:



➤ Complete the screen with the requested information.

➤ Click **Next** to display the **Purchasing Information** screen:

➤ Select your answers from the pop-up menus.

➤ Click **Previous** to review your other information, or **Done** when you have completed all three information screens.

This screen then lets you choose how to send the registration information to us:

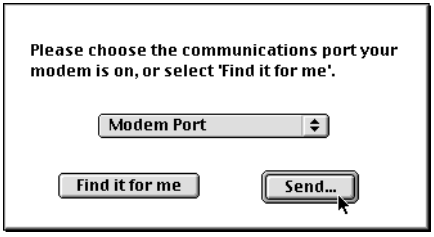
The registration program can read your computer model, system version, and RAM size. If you prefer not to send us this information, click **Include System Information**, so that the check box is not checked.

Then proceed as described in the following sections, depending on whether you want to send the registration by modem, or print it.

To send your registration information by modem

➤ Click **Send...** if you have a modem connected to a telephone line, and you would like to send your registration information electronically.

This dialog box then lets you specify which port your modem is connected to:



➤ Click **Find it for me** to set up the port automatically.

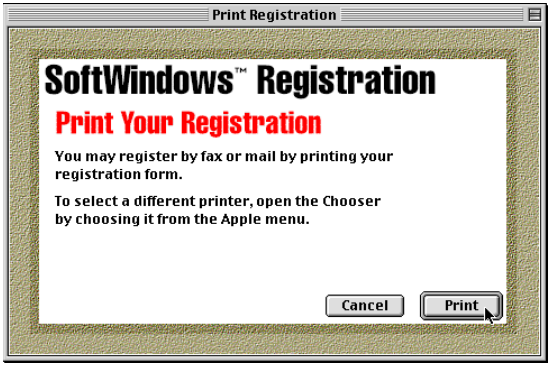
➤ Click **Send...** to send the registration information by modem.

If there is a problem using the modem you will be given the opportunity to print the information so that you can fax or mail it.

To print your registration information

➤ Choose **Print** in the **Send Data** screen if you want to print out a copy of your registration information, and fax or mail it to us.

This screen allows you to choose a printer before printing:



➤ When you have selected the printer click **Print** to proceed with printing the information as a single pre-addressed sheet of paper.

➤ Fax the information to the toll-free number specified on the sheet, or fold it as directed and mail it to the pre-printed address to complete your registration.

Upgrading from an earlier version to SoftWindows 95 5.0

If you already own an earlier version of SoftWindows 95, the SoftWindows 95 5.0 installer will automatically detect the hard disk file selected in your existing preferences file and upgrade it for use with SoftWindows 95 5.0.

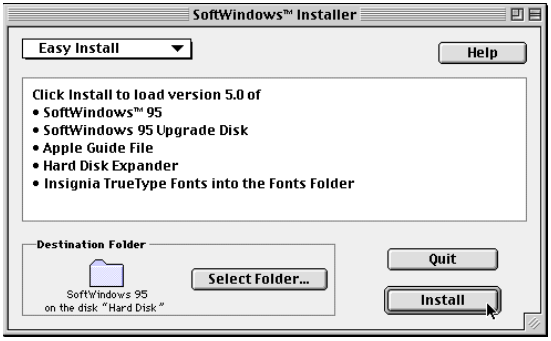
If you are upgrading from SoftWindows 2.0 or 3.0, or RealPC 1.0, the SoftWindows 95 5.0 installer creates a new **SoftWindows 95** folder, and you should move your original hard disk file into this folder after the installation.

To upgrade to SoftWindows 95 5.0 proceed as follows:

➤ Insert the SoftWindows 95 installation CD.

➤ Double-click the **Installer** icon.

➤ When the welcome screen appears click **Continue...** to display the **Easy Install** dialog box.



➤ Click **Install** to proceed with the installation.

If you are updating from SoftWindows 95 1.0 or 4.0 a dialog box warns that your earlier version of SoftWindows 95 will be overwritten.

➤ Click **Yes** to continue.

➤ Proceed as described in *Installing SoftWindows 95*, page 7.

Upgrade your old SoftWindows 95 hard disk files

To upgrade your existing SoftWindows 95 hard disk files with the latest drivers:

➤ Run SoftWindows 95 5.0.

➤ Attach the hard disk file you want to upgrade as the `C:` drive, and leave the **SoftWindows 95 Upgrade Disk** attached as the `D:` drive.

➤ Restart SoftWindows 95.

If you were previously using SoftWindows 2.0 or 3.0, or RealPC 1.0, you can upgrade Windows 3.11 on your existing hard disk files to Windows 95, if required. For more information refer to *Upgrading Windows 3.11 to Windows 95*, page 17.

Upgrading an existing hard disk file does not install the additional Internet utilities provided with SoftWindows 95 5.0. To install these refer to *Installing the Internet utilities*, page 23.

Upgrading from SoftWindows 95 1.0

If you are upgrading from SoftWindows 95 1.0 you should use the **W95 Hard Disk File D** in the **Master Disks** folder on the SoftWindows 95 1.0 CD where the WIN95DATA CD is referred to in this guide.

Upgrading Windows 3.11 to Windows 95

If you want to upgrade an existing hard disk file from an earlier version of SoftWindows or RealPC to Windows 95, you can upgrade from Windows 3.11 using the SoftWindows 95 WIN95DATA CD.

Before upgrading your hard disk file it is recommended that you make a backup copy of it using the Finder's **Duplicate** command.

Ensure that your hard disk is at least 120 Mbytes to install Windows 95; refer to *To change the size of a hard disk file*, page 42.

You must install Windows 95 in the `C:\WINDOWS` directory.

1 Start the installation

➤ Start SoftWindows 95.

➤ Select **Emulate PC Mouse** to allow you to control the setup process.

➤ Insert the WIN95DATA CD-ROM into your Macintosh CD-ROM drive.

➤ Start Windows 3.11 and choose **Run** from the Program Manager **File** menu.

➤ Type `F:\SETUP` ↵.

2 Run the Setup program

The Windows 95 Setup program will then run.

➤ When the Software License Agreement is displayed click **Yes** to proceed.

You will then be given the opportunity to exit from other Windows applications.

➤ Press Alt Tab to display the SmartCopy icon, then press Alt F4 to quit from SmartCopy. Repeat this procedure for any other running applications.

➤ Click **OK** to continue.

➤ When asked where to install Windows select **C:\Windows** and click **OK**.

➤ When asked if you want to save your system files select **Yes** and click **OK**.

➤ When the **Setup Options** dialog box is displayed select **Typical** and press **OK**.

➤ When the **Analyzing Your Computer** dialog box is displayed select **Sound, MIDI, or Video Computer Card** and click **OK**.

➤ When the **Get Connected** dialog box is displayed select only those items that you wish to use and click **OK**.

➤ When the **Windows Components** dialog box is displayed select **Install the most common components** and click **OK**.

➤ When the **Startup Disk** dialog box is displayed select **Yes** only if you want to create a Startup Disk, otherwise select **No** and click **OK**.

The Windows 95 Setup program then copies the files for Windows 95. This will take several minutes.

Windows 95 will then restart.

➤ Press ⌘M to use the mouse.

The Windows 95 Setup program then sets up the components of Windows 95.

3 Set up Microsoft Exchange

This dialog box then prompts you to set up Microsoft Exchange:

➤ Follow the screens to install the Microsoft Exchange options you require.

4 Complete the installation

Finally this dialog box confirms that installation has been successful:

➤ Click **OK** to restart with Windows 95.

The installation is now complete.

5 Set up Windows 95 for use with TurboStart

Finally set up Windows 95 for use with the TurboStart feature as follows:

➤ From the Windows 95 desktop click **Start**, then click **Settings** and **Control Panel**.

➤ In the **Control Panel** folder double-click the **Power** icon.

➤ Check the **Allow Windows to manage power use on this computer** box.

➤ Click **OK**.

➤ Click **Yes** to restart Windows 95.

SoftWindows 95 is now fully set up to run Windows 95.

What next?

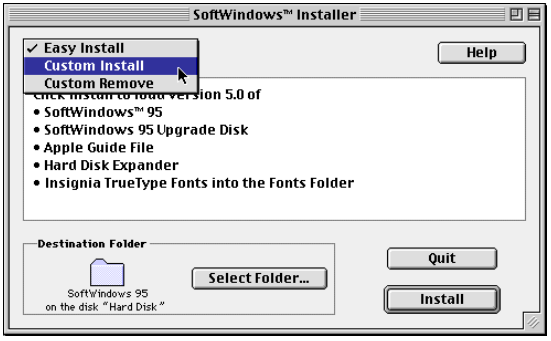
For more information refer to *Using Windows*, page 75.

Installing additional SoftWindows 95 options

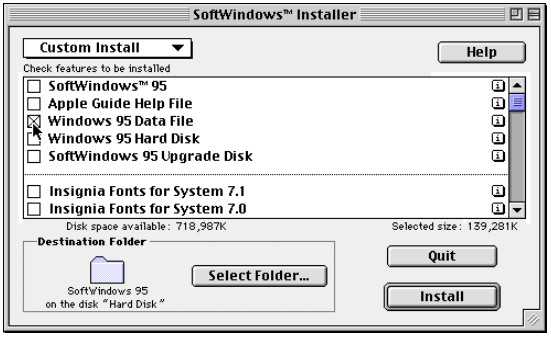
The **Custom Install** option provides additional installation options.

To install selected files

➤ Run the installer and choose **Custom Install** from the installer's pop-up menu.



This dialog box shows the features you can install:



➤ Click the checkbox for each item you want to install.

For more information about each item refer to the table opposite.

➤ Click **Install** to install the selected items.

Hard Disk Expander will be installed into the **SoftWindows 95** folder, and the other utilities will be installed into the **Utilities** folder in the **SoftWindows 95** folder.

To remove selected files

➤ Run the installer and choose **Custom Remove** from the installer's pop-up menu.

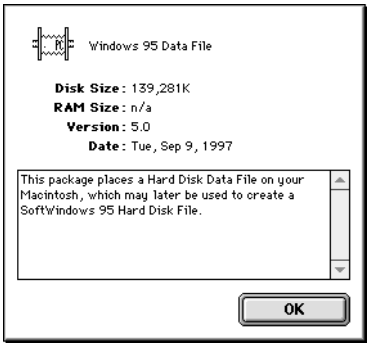
➤ Click the checkbox for each item you want to remove.

➤ Click **Remove** to remove the selected items.

To get information about an item

➤ Click the information icon to the right of the item.

Information about the item will be displayed; for example:

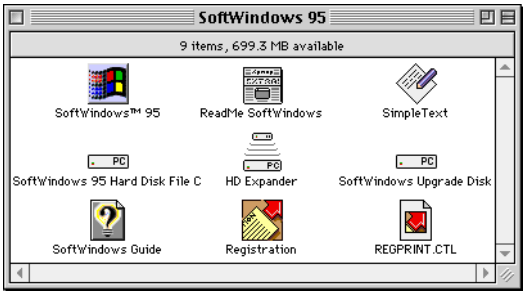


The table below gives information about each of the installation options:

Select this option	*To do this*
SoftWindows™ 95	Install the SoftWindows 95 application.
Apple Guide Help File	Install help for use with Apple Guide.
Windows 95 Data File	Install a data file for creating a `C:` hard disk file containing Windows 95.
Windows 95 Hard Disk	Create a new `C:` hard disk file containing Windows 95.
SoftWindows Upgrade Disk	Create a new `D:` hard disk file containing the Insignia upgrade utilities.
Insignia Fonts for System 7.1/7.0	Install TrueType fonts to give the correct IBM extended character set when copying or printing text from SoftWindows 95.
Insignia Fonts for System 6	Install bitmap versions of the Insignia fonts.
MacIPX	Install the Macintosh IPX NetWare protocol stack.
DECnet Address Override Utility	Install a utility to enable the DECnet protocol to be used with your Macintosh Ethernet card.
Hard Disk Expander	Install a utility to change the size of an existing hard disk file.
PowerBook Utilities	Install the ~don't rest and ~rest utilities to disable or enable the rest mode of PowerBooks, which can otherwise reduce the performance of SoftWindows 95.
SharePC	Install a utility to set up SoftWindows 95 on a file server so that it can be run simultaneously by several users.

The components of SoftWindows 95

The **Easy Install** option creates a folder containing the following files:



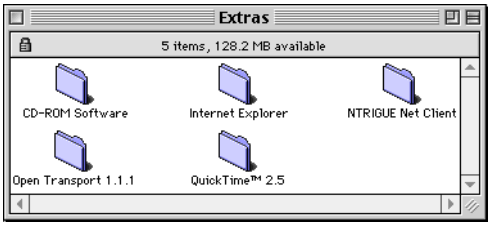
- **SoftWindows™ 95** is the SoftWindows 95 application.
- **ReadMe SoftWindows** contains additional information about SoftWindows 95.
- **SimpleText** is the application used to read the ReadMe file.
- **SoftWindows 95 Hard Disk File C** is a bootable hard disk file for use by SoftWindows 95.
- **HD Expander** is a utility to change the size of an existing hard disk file; for more information refer to *To change the size of a hard disk file*, page 42.
- **SoftWindows Upgrade Disk** is a hard disk file containing utilities to upgrade hard disk files and install Insignia drivers.
- **SoftWindows Guide** is the Apple Guide help file.
- **Registration** and **REGPRINT.CTL** are the registration utilities installed if you have US system software; refer to *Registering SoftWindows 95*, page 12.

Other files on the installation CD

The SoftWindows 95 installation CD contains a number of additional useful files for use with SoftWindows 95. You can install these on your Macintosh from the installation CD.

Extras

The **Extras** folder contains the following items:



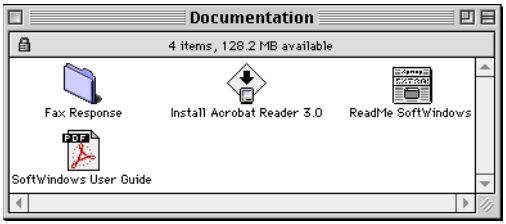
- **CD-ROM Software** is a folder containing an installer for the Apple CD-ROM extensions to provide support for Macintosh/PC dual-format CD-ROMs.
- **Internet Explorer** is an installer for the Macintosh version of Internet Explorer, Microsoft's browser for the World Wide Web.
- **NTRIGUE Net Client** contains an installer for a demo version of the NTRIGUE Net Client for Macintosh, which will allow you to access NTRIGUE servers across a TCP/IP network from your Macintosh.
- **Open Transport 1.1.1** contains an installer for the Open Transport networking software, which is recommended for better performance and greater functionality.
- **QuickTime™ 2.5** contains an installer for QuickTime. To play MIDI files from SoftWindows 95 you need the **QuickTime Musical Instruments** and **QuickTime PowerPlug** extensions which you can install with this installer.

PC Extras

The **PC Extras** folder contains installers for the additional Internet utilities and network clients provided with SoftWindows 95; refer to *Installing the Internet utilities* opposite for more information.

Documentation

The **Documentation** folder contains the following files:



- **Fax Response** contains copies of the Insignia fax response sheets in Adobe Acrobat format, providing additional information about using other networking packages with SoftWindows 95.
- **Install Acrobat Reader 3.0** is an installer for Adobe Acrobat on the Macintosh. For information about installing Acrobat refer to *To install Acrobat Reader, Microsoft Internet Explorer, PKZIP, Shockwave, or Stuffit*, page 23.
- **ReadMe SoftWindows** is a copy of the SoftWindows 95 read-me file.

Installing the Internet utilities

If you have upgraded an existing hard disk file from SoftWindows 2.0 or 3.0 to SoftWindows 95 5.0, you can install the Internet utilities from the **PC Extras** folder on the SoftWindows 95 installation CD. The utilities are provided in the following folders:

Folder	*Utility*
Acrobat	Acrobat Reader.
clients	Microsoft and NetWare clients (refer to *Networking with SoftWindows 95*, page 95).
MSIE3.01	Microsoft Internet Explorer.
OF97VWRS	Office 97 viewers.
PKZIP	PKZIP for Windows.
Shockwav	Shockwave viewers.
Stuffit	Stuffit for Windows.

To install any of these utilities you first need to set up the **PC Extras** folder as a shared folder, so you can access the files from SoftWindows 95. You should then follow the instructions for installing the individual utilities, as appropriate.

To set up PC Extras as a shared folder

➤ Drag the **PC Extras** folder on the **SoftWindows 95™ Install** CD, and drop it on the SoftWindows 95 window:

You can now access the Internet utilities on drive E:.

To install Acrobat Reader, Microsoft Internet Explorer, PKZIP, Shockwave, or Stuffit

➤ Set up **PC Extras** as a shared folder as described above.

➤ Double-click the **My Computer** icon on the Windows desktop.

➤ Double-click the **E:** drive icon.

➤ Double-click the appropriate folder icon.

➤ Double-click the utility's installer icon.

➤ When the **License Agreement** dialog box appears click **Yes**.

➤ If asked which components of the utility you want to install, click **Yes** to install all components.

➤ If asked where you want to install the utility, click **OK** to accept the default location.

The utility is then installed.

➤ When asked if you want to restart your computer, click **Yes** to restart SoftWindows 95.

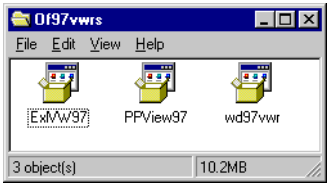
To install the Microsoft Office 97 viewers

➤ Set up **PC Extras** as a shared folder; refer to *To set up PC Extras as a shared folder*, page 23.

➤ Double-click the **My Computer** icon on the Windows desktop.

➤ Double-click the **E:** drive icon.

➤ Double-click the **Of97vwrs** folder icon to open the **Of97vwrs** folder:



➤ Double-click the appropriate installer icon: **ExlVW97** for Excel, **PPView97** for PowerPoint, or **wd97vwr** for Word.

The necessary installation files are copied to your hard disk, and the setup program then runs.

➤ When asked where you want to install the viewer click **OK** to accept the default location.

➤ Read the license agreement and click **Accept** to proceed.

➤ When the installation dialog box appears click the **Install** button to start the installation.

The viewer is then installed.

To run the Microsoft Office 97 viewers

➤ Click the **Start** button, point to **Programs**, and then click the appropriate viewer.

Upgrading from Virtual PC

You can upgrade to SoftWindows 95 from Virtual PC. SoftWindows 95 is compatible with hard disk files created by Virtual PC, so you can continue to use the applications and documents that you created with Virtual PC.

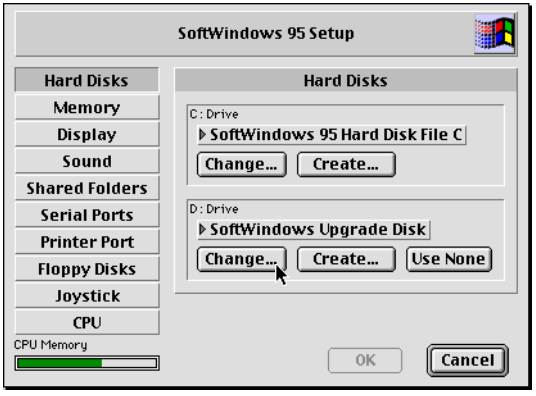
To install SoftWindows 95

Proceed as described in *Installing SoftWindows 95*, page 8.

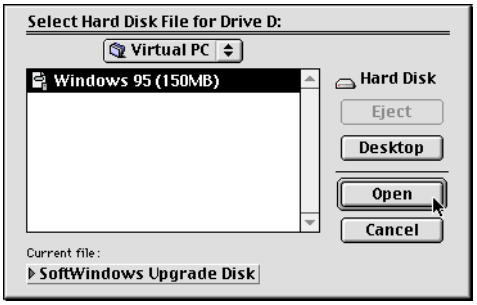
To use a Virtual PC hard disk file

➤ Choose **SoftWindows 95 Setup** from the **Setup** menu to display the **SoftWindows 95 Setup** dialog box.

➤ Click the **Hard Disks** button to display the **Hard Disks** panel.



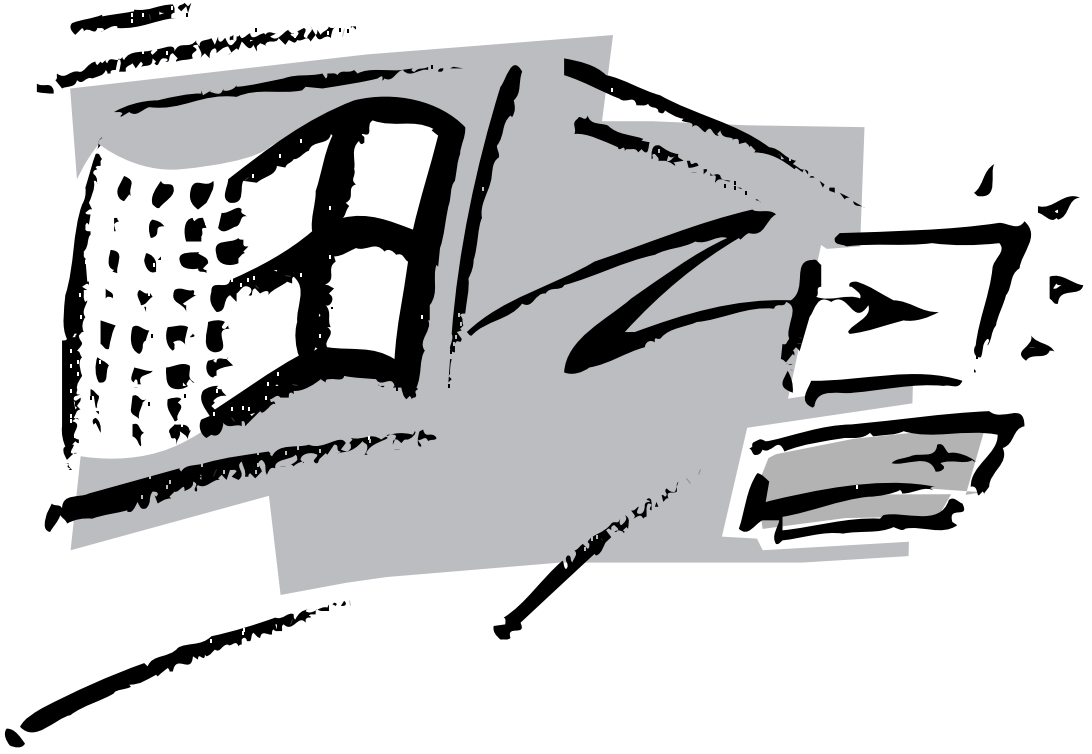
➤ Click the **Change...** button in the **D: Drive** section. This dialog box allows you to select the Virtual PC hard disk file to use:



➤ Select the Virtual PC hard disk file and click **Open**.

➤ Click **Restart** to restart SoftWindows 95 with the new drive.

Running SoftWindows 95



This chapter describes how to run SoftWindows 95, and use it to run Windows applications on your Macintosh.

Running SoftWindows 95

When you run SoftWindows 95 you get a PC in a window on your Macintosh, so that you can run PC applications at the same time as using your Macintosh applications.

To run SoftWindows 95

➤ Double-click the **SoftWindows™ 95** icon.

Windows will run automatically, and after the welcome screen the Windows desktop will be displayed. For more information about using Windows refer to *Using Windows*, page 75.

To run SoftWindows 95 with a specific startup hard disk file

➤ Drag the hard disk file icon and drop it onto the SoftWindows 95 icon.

The hard disk file will be set up as drive `C:`, overriding the setting in your SoftWindows 95 preferences.

For example, you can have two hard disk files, containing different applications, and use this method to select which one you use.

Restarting and quitting from SoftWindows 95

To restart SoftWindows 95

➤ Close any open Windows applications.

➤ Choose **Restart SoftWindows 95** from the **Setup** menu.

This dialog box warns you that work can be lost if you have not exited from PC applications or saved files before restarting:

Click **Cancel** to cancel the command or **Restart** to restart SoftWindows 95.

To quit from Windows with TurboStart

The **TurboStart** option saves your work so that Windows loads instantly the next time you run SoftWindows 95, allowing you to continue where you left off.

➤ Choose **TurboStart** from the **File** menu.

TurboStart requires additional space on your Macintosh hard disk of 1 Mbyte more than the PC memory setting.

To quit from Windows

➤ Close any open Windows applications.

➤ Choose **Quit** from the **File** menu.

This dialog box lets you confirm that you want to quit:

➤ Click **Quit**.

When you next run SoftWindows 95, Windows will be restarted in the usual way.

Getting help

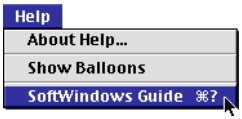
SoftWindows 95 includes Apple Guide help, to give you step-by-step instructions on the most important features of SoftWindows 95 as you work.

The Apple Guide help uses the **SoftWindows 95 Guide** file in the **SoftWindows 95** folder on your hard disk.

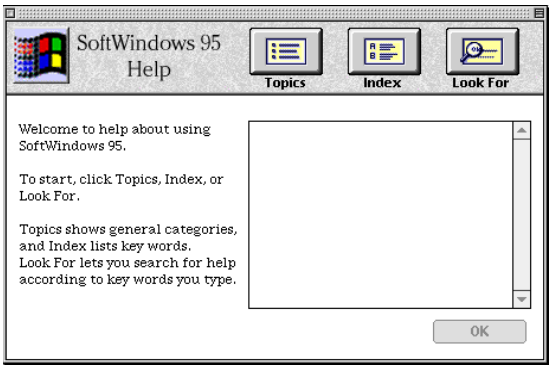
SoftWindows 95 also includes Balloon Help, which gives a brief explanation of each of the SoftWindows 95 menu commands and dialog boxes.

To use Apple Guide

➤ Choose **SoftWindows Guide** from the help menu:



The **SoftWindows 95 Help** window appears:



➤ Click one of the following buttons to choose what you want to do:

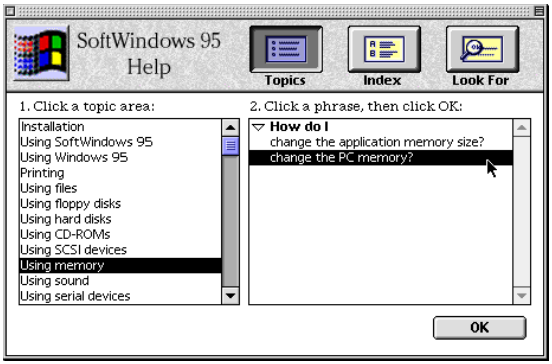
Click this	*To do this*
	Choose from a list of topics, organized by subject.
	Look up a topic in an alphabetical list.
	Type in the topic you need help with.

To choose from a list of topics

➤ Click **Topics** in the **SoftWindows 95 Help** window.

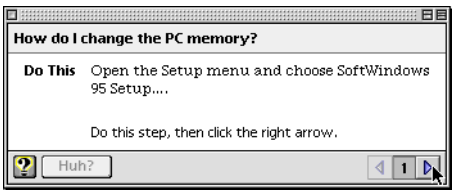
A list of topic areas is displayed.

➤ Select a topic area to display a list of topics, and then select the phrase you want to know about:



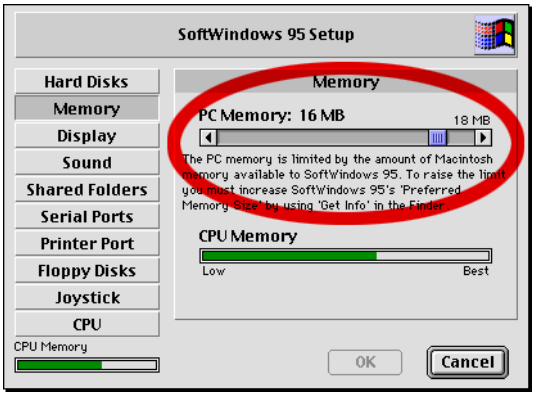
➤ Choose **OK** to see help.

The help consists of a series of panels, which tell you what to do:



➤ Follow the instructions on each panel.

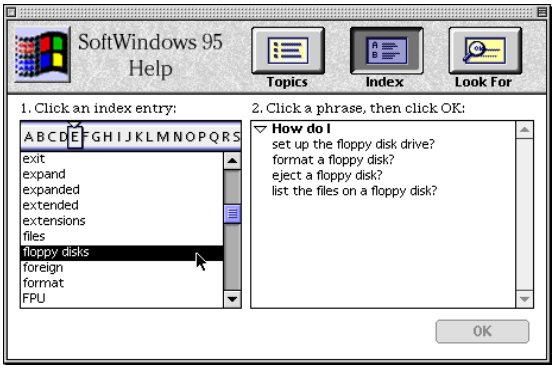
Where appropriate, areas of the screen will be highlighted to help you:



➤ When you have finished click the close box to exit from Apple Guide.

To choose a topic from the index

➤ Click **Index** in the **SoftWindows 95 Help** window to display the help index.

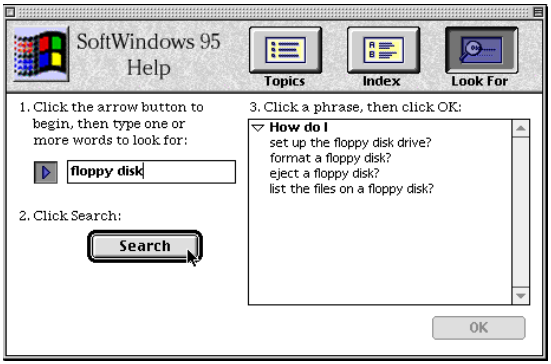


➤ Move the marker to the initial letter you are interested in.

➤ Select an index entry to display a list of topics, and then select the phrase you want to know about.

To look for a topic

➤ Click **Look For** in the **SoftWindows 95 Help** window.

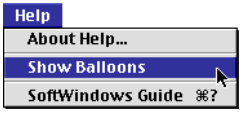


➤ Type in the topic you want to know about to display a list of the available topics, and then select the phrase you want to know about.

To get Balloon Help

You can also use Balloon Help to give you information about the SoftWindows 95 menus, menu commands, and dialog boxes.

➤ Choose **Show Balloons** from the **Help** menu.



To get help about an item move the mouse pointer over it.

Getting help on Windows

You can also get help on using Windows. For more information refer to *Getting help on Windows*, page 82.

Using the keyboard and mouse

SoftWindows 95 can use the various Macintosh keyboards to produce all the keys and key combinations you need to run PC applications.

The IBM 101-key keyboard

The illustration below shows the layout and keycap engravings of the 101-key US IBM keyboard emulated by SoftWindows 95.

The table opposite lists the Macintosh keyboard keys, or key combinations, needed to produce all the keys on this keyboard that do not correspond directly to Macintosh keys.

The following keys are used by the Macintosh to enter accented characters. To enter one of these key combinations in SoftWindows 95 you need to press the key combination twice:

Alt E, Alt I, Alt U, and Alt N.

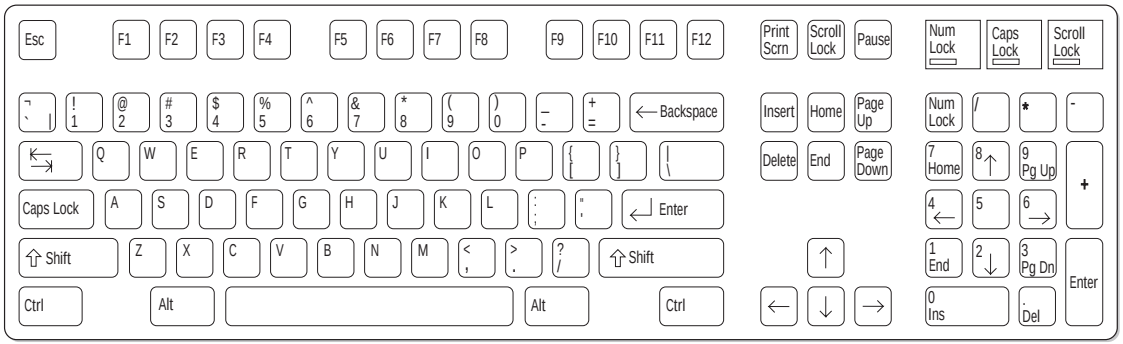
To use a PowerBook keyboard

Some PowerBook keyboards do not have function keys or a numeric keypad. SoftWindows 95 therefore provides two special modes to enable these keys to be entered.

- Press ⌘ F to select Function mode, which lets you type function keys.
- Press ⌘ K to select Keypad mode, to let you use the PC keypad.
- Press the same keys again to cancel the mode.

The PC mouse

The PC mouse usually has two buttons. SoftWindows 95 uses the Macintosh mouse button as the left PC mouse button. The right mouse button is obtained by using keypad =, or ⌘ R (or Enter on PowerBooks).



IBM 101-key keyboard

PC key	Extended keyboard	Standard keyboard	PowerBook keyboard Normal mode	Function mode (⌘F)
Alt	option	option	option	
Right Alt (Alt Gr)	right option	⌘←	⌘←	
Backspace	delete	delete	delete	
Break	control pause (F15)	control ⌘ keypad /	control ⌘\	
Ctrl	control	control	control	
Ctrl right	right control	⌘↓	⌘↓	
Delete	del	⌘D	⌘D	
End	end	⌘L	⌘L	
Escape	escape	escape or ⌘E	escape or ⌘E	
F1 to F9	F1 to F9	⌘ keypad 1 to 9	⌘1 to 9	1 to 9
F10	F10	⌘ keypad 0	⌘0	0
F11	F11	⌘ keypad .	⌘-	
F12	F12	⌘ keypad enter	⌘=	
Home	home	⌘O	⌘O	
Insert	⌘I	⌘I	⌘I	
Page Up	page up	⌘U	⌘U	
Page Down	page down	⌘W	⌘W	
Pause	pause (F15)	⌘ keypad /	⌘\	
Print Scrn	print screen (F13)	⌘ keypad = or ⌘P	⌘[or ⌘P	
Scroll Lock	scroll lock (F14)	⌘ keypad clear	⌘]	
Shift right	right shift	⌘→	⌘→	
Right mouse button	keypad = or ⌘R	keypad = or ⌘R	enter or ⌘R	

PC keypad key	NumLock off	NumLock off	Normal mode	Keypad mode (⌘K)
Del	keypad .	keypad .		. (period)
End	keypad 1	keypad 1		1
Enter	keypad enter	keypad enter		enter
Home	keypad 7	keypad 7		7
Ins	keypad 0	keypad 0		0
Num Lock	keypad clear or numlock	keypad clear or numlock	⌘N	⌘N
Pg Up	keypad 9	keypad 9		9
Pg Dn	keypad 3	keypad 3		3
↑	keypad 8	keypad 8		8
↓	keypad 2	keypad 2		2
←	keypad 4	keypad 4		4
→	keypad 6	keypad 6		6
/	/	/	⌘/	
*	*	*	⌘'	
+				+
-				-

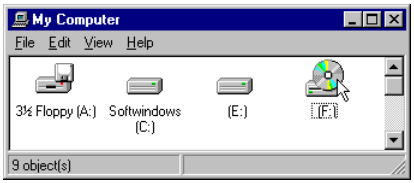
Using CD-ROMs, floppy disks, and SCSI disks

SoftWindows 95 allows you to read PC-format CD-ROMs, 3.5-inch floppy disks, and SCSI disks, using your Macintosh drives.

By default, drive F: is set up as the Macintosh CD-ROM drive, drive A: is set up as the Macintosh internal floppy disk drive, and drive E: will be used if you have a PC-compatible SCSI drive.

To show the files on a CD-ROM

➤ Double-click the **[F:]** CD-ROM icon in the **My Computer** folder:

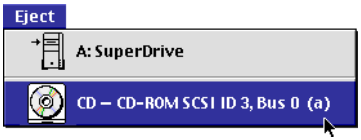


To run CD-ROM applications

➤ Follow the instructions supplied with the CD-ROM.

To eject a CD-ROM

➤ Choose the CD-ROM drive from the **Eject** menu:

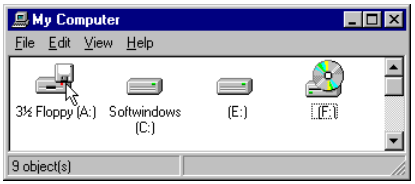


You may not be able to eject the CD-ROM if it is being shared, or if a file on it is in use by a Macintosh application. In this case either turn file sharing off, or close the Macintosh application.

To eject a dual-format CD-ROM you may also need to eject the Macintosh partition from the Macintosh desktop by dragging it to the Trash.

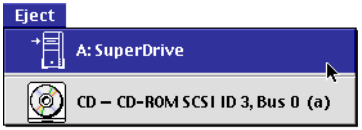
To show the files on a floppy disk

➤ Double-click the **[A:]** floppy disk icon in the **My Computer** folder:



To eject a floppy disk

➤ Choose the appropriate floppy disk drive from the **Eject** menu:

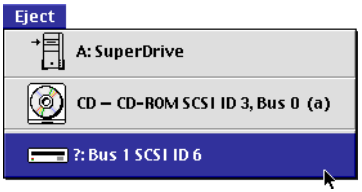


You can also eject a floppy disk by typing one of the following key combinations:

Type this	*To eject a disk in*
⌘ Shift 1	Internal drive 1.
⌘ Shift 2	Internal drive 2.
⌘ Shift 0	External drive.

To eject a SCSI disk

➤ Choose the SCSI drive from the **Eject** menu:



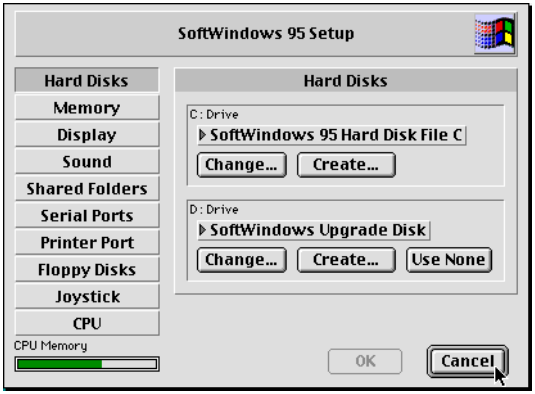
Setting up SoftWindows 95

This chapter describes how to build a PC to the specification you want, using SoftWindows 95 to emulate the PC's ports, disks, memory, and display.

Using the SoftWindows 95 Setup dialog box

Using the **SoftWindows 95 Setup** dialog box you can change the configuration of several features of SoftWindows 95 in one go, and then click the **OK** button to make the changes you have specified.

To display the **SoftWindows 95 Setup** dialog box choose **SoftWindows 95 Setup...** from the **Setup** menu:



Click a button on the left (or use the arrow keys) to show the current configuration of that feature of SoftWindows 95, or to change it:

Click this	*To change this*
Hard Disks	The emulated PC hard disk drives.
Memory	The amount of PC memory available.
Display	The display memory, Windows desktop size, and number of colors.
Sound	The Sound Blaster and MIDI emulation.
Shared Folders	The Macintosh folders set up as PC drives.
Serial Ports	PC serial ports settings.
Printer Port	Printing options.
Floppy Disks	The emulated PC floppy disk drive.
Joystick	The emulation of a PC joystick using a Macintosh joystick.
CPU	The MMX, FPU, and CPU emulation settings.

These options are described in greater detail in the following pages.

Restarting SoftWindows 95

After changing hard disks or PC memory, which would correspond to a hardware change on a real PC, SoftWindows 95 has to be restarted, and the **OK** button in the **SoftWindows 95 Setup** dialog box changes to **Restart** to warn you.

➤ Click **Restart** to restart with the new configuration you have specified.

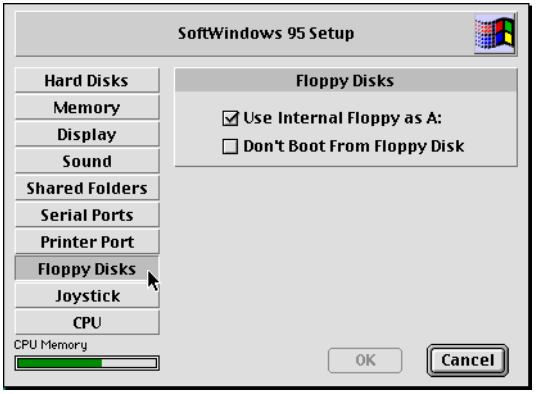
Setting up the floppy disk drive

PCs identify the different types of disk drive using the drive letters A: to Z:.

By default, PC drive A: is set up as the Macintosh internal SuperDrive.

To set up the PC floppy disk drive

➤ Display the **Floppy Disks** panel in the **SoftWindows 95 Setup** dialog box.

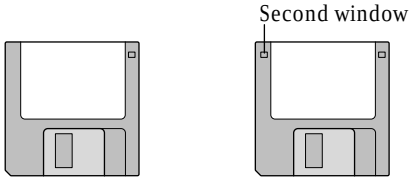


➤ Check the **Use Internal Floppy as A:** box to use the Macintosh internal SuperDrive as drive A:.

➤ Check the **Don't Boot From Floppy Disk** box to prevent SoftWindows 95 from attempting to boot from a floppy disk if you restart with a disk in the drive.

Which disks to use

The recommended floppy disks to use are 3.5-inch high-density disks. These are identified by a second window, opposite the write-protect window.



720 Kbyte
Double density

1.44 Mbyte
High density

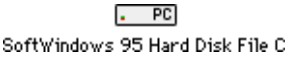
You cannot use Macintosh format floppy disks for the PC floppy disk drive.

On a PC, a double density (720 Kbyte) 3.5-inch disk can be formatted as 1.44 Mbytes, but it will not be recognized as a valid PC disk by your Macintosh. Likewise, a high density 3.5-inch disk will only be accepted if it is the correct 1.44 Mbyte format.

To use PC 1.6 Mbyte DMF-format floppy disks you need System 7.6 or later, or version 2.0.7 or later of Apple's PC Exchange control panel.

Setting up hard disk drives

SoftWindows 95 emulates each PC hard disk using a single file on the Macintosh.



The individual files within a SoftWindows 95 hard disk file are accessible only from within SoftWindows 95, and you cannot list them directly from the Finder.

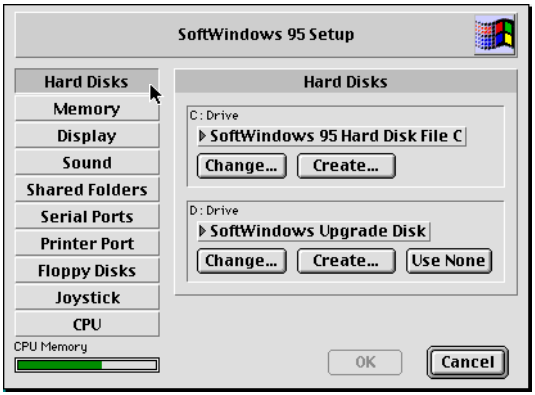
SoftWindows 95 hard disk files can be attached to and detached from either of the PC drives `C:` and `D:` without affecting the information stored within the hard disk file.

You can also use hard disk files from Virtual PC or Apple's PC Compatibility Card as drive `D:`.

SoftWindows 95 will attempt to boot from a floppy disk in drive `A:` when restarted, unless **Don't Boot from Floppy Disk** is selected in the **Floppy Disks** panel of the **SoftWindows 95 Setup** dialog box.

To see which hard disk files are set up as drives C: and D:

➤ Display the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box.



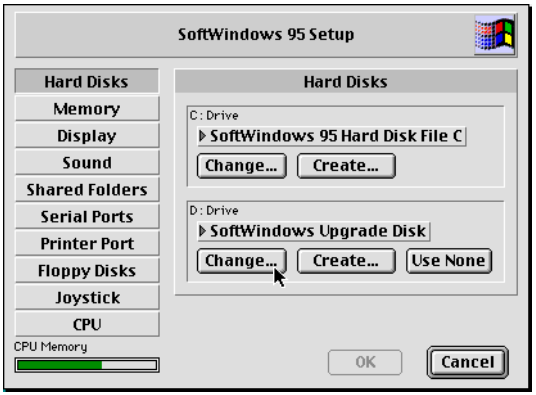
This shows the name of the hard disk file selected as the `C:` and `D:` drives, or **None Selected** if there is no `D:` drive.

➤ Click the ▶ button to the left of the filename to display the full path of the hard disk file:

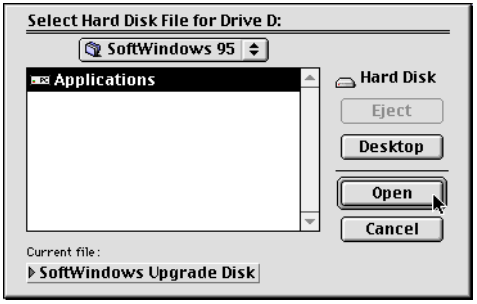
To choose the hard disk file for C: or D:

➤ Display the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box.

➤ Click the **Change...** button in the **C: Drive** or **D: Drive** section, as appropriate.



The following dialog box lets you select the hard disk file to use:



➤ Select the hard disk file you want to use and click **Open**.

In addition to SoftWindows 95 hard disk files you can select Virtual PC hard disk files, or Apple PC Compatibility Card container files for the D: drive.

➤ Click **Restart** to restart SoftWindows 95 with the new drive you have specified.

To detach the hard disk file from D:

➤ Display the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box.

➤ Click the **Use None** button in the **D: Drive** section.

➤ Click **Restart** to restart SoftWindows 95 with no D: drive.

Changing the size of hard disk files

The **HD Expander** utility, installed in the **SoftWindows 95** folder, allows you to:

- Increase the size of a hard disk file up to 505 Mbytes.
- Decrease its size to remove unused space.
- Defragment it to improve its performance.

To change the size of a hard disk file

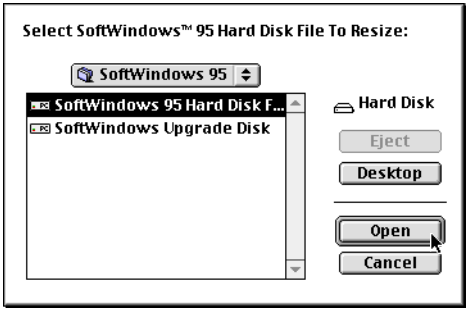
➤ Quit from SoftWindows 95 if the hard disk file you want to expand is set up as the `C:` or `D:` drive.

If the hard disk file contains valuable data make a backup before proceeding.

You may need free disk space equivalent to the size of the hard disk file, even if you are reducing its size.

➤ Double-click the **HD Expander** icon:

This dialog box appears:

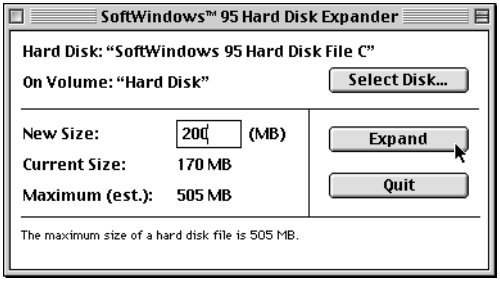


➤ Select the hard disk file you want to expand, and click **Open**.

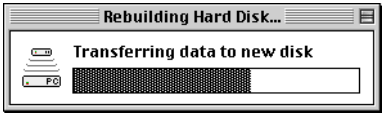
Alternatively, you can drag the hard disk file icon and drop it onto the **HD Expander** icon.

The **Hard Disk Expander** window shows the current size of your hard disk file.

- To increase its size enter a larger size and click **Expand**.
- To decrease its size enter a smaller size and click **Shrink**.
- To defragment the hard disk file enter the same size and click **Compact**.



HD Expander changes the size of your hard disk file, defragmenting it first if necessary:



➤ When the hard disk file has been resized click **Select Disk...** to select another hard disk file to expand, or **Quit** to quit from the HD Expander.

Creating new hard disk files

When you first install SoftWindows 95 two hard disk files are created to act as the C: and D: drives for SoftWindows 95.

The C: drive, called **SoftWindows 95 Hard Disk File C**, contains the startup files and Windows 95.

The D: drive, called **SoftWindows 95 Upgrade Disk**, contains additional utilities to upgrade hard disk files and install the Insignia drivers.

You can change the size of a hard disk file using the HD Expander utility; for more information refer to *Changing the size of hard disk files* opposite.

You can use the **Custom Install** option in the SoftWindows 95 installer to create additional copies of these hard disk files at any time.

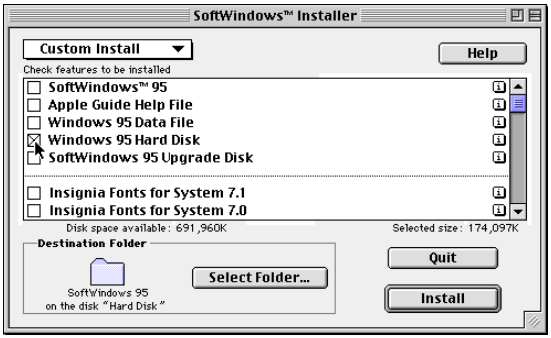
Alternatively you can create C: or D: drives from within SoftWindows 95, using the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box. This command allows you to create either bootable disks, for use as a C: drive, or non-bootable empty hard disk files, for use as a D: drive. In each case you can specify the size of the file you want to create. For more information refer to *To create a new hard disk file from SoftWindows 95*, page 44.

To create a new C: hard disk file using the installer

➤ Insert the first installation CD and double-click the **Installer** icon.

➤ When the **Welcome** screen appears click **Continue...** to display the **Easy Install** dialog box.

➤ Choose **Custom Install** from the pop-up menu to display the **Custom Install** dialog box:



➤ Select the **Windows 95 Hard Disk** option to create a bootable C: drive hard disk file containing Windows 95.

➤ Click **Install** to install the hard disk you have selected.

This dialog box appears:

➤ Enter a name for the new hard disk file.

➤ Select the size for the hard disk file from the **Size** pop-up menu, or type the size into the box.

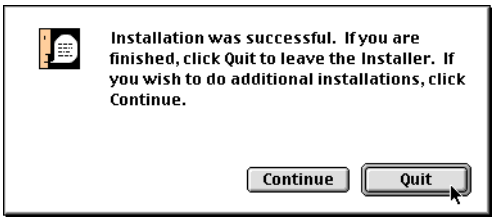
➤ Click **Create** to create the hard disk file.

The installer then copies files to the new hard disk file.

You will be asked to insert the second installation CD.

➤ Insert the specified CD.

Finally this dialog box informs you when the hard disk file has been copied successfully:



➤ Click **Quit** to quit from the installer.

The first time you use a new C: drive an update utility will run automatically to prepare it for use with SoftWindows 95.

To create a new hard disk file from SoftWindows 95

You can create a new hard disk file from within SoftWindows 95 using the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box.

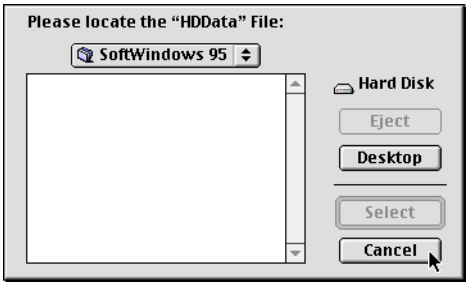
If you are creating a new C: drive you will need to have installed the **HDData** file using the installer's **Windows 95 Data File** option in the **Custom Install** dialog box.

➤ Display the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box.

➤ Click the **Create...** button in the **C: Drive** or **D: Drive** section, as appropriate.

This dialog box appears:

If necessary this dialog box lets you locate the **HDData** file:



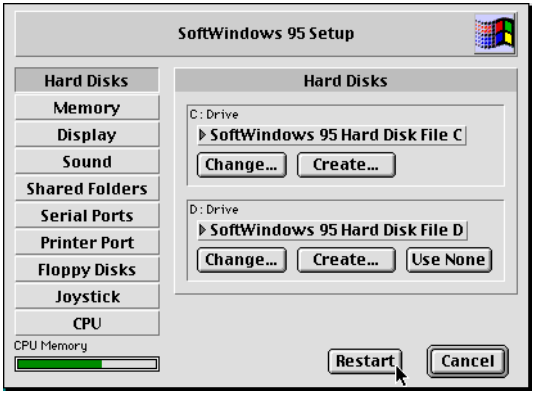
➤ Locate the **HDData** file and click **Select**.

➤ Enter a name for the new hard disk file.

➤ Select the size from the pop-up menu. The options available will depend on the amount of free space on your Macintosh hard disk.

➤ Click **Create** to create the hard disk file you have specified.

SoftWindows 95 will then need to be restarted to use the new drive you have created.



➤ Click **Restart** to restart SoftWindows 95 with the new drive you have created.

The first time you use a new `C:` drive an update utility will run automatically to prepare it for use with SoftWindows 95.

Sharing PC files between SoftWindows 95 and the Macintosh

SoftWindows 95 lets you designate one or more Macintosh folders to be used as PC drives.

You can then work with files in these shared folders using either Macintosh or MS-DOS and Windows applications.

Windows filenames

Windows 95 supports long filenames, which can contain up to 250 characters. The maximum length of Macintosh filenames is 31 characters, and you will not be allowed to save a Windows file to a shared folder if its name contains more than 31 characters.

Some Windows applications automatically add a four-character extension to the filename you specify, in which case the maximum length is 27 characters.

> Some Windows applications cannot be installed in a shared folder because they include files which contain more than 31 characters. If necessary, install onto a SoftWindows 95 hard disk file instead.

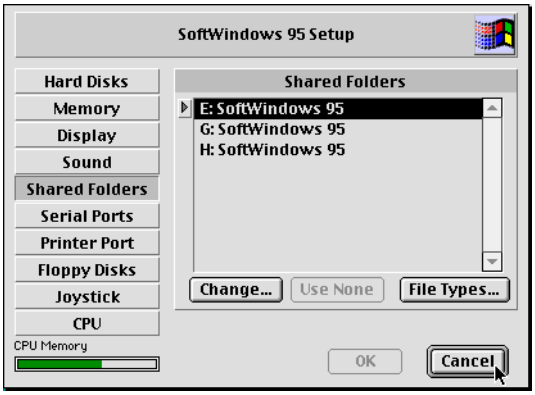
To see which Macintosh folders are set up as PC drives

➤ Choose **SoftWindows 95 Setup...** from the **Setup** menu.

The **SoftWindows 95** Setup dialog box is displayed.

➤ Click the **Shared Folders** button.

The **Shared Folders** panel shows the PC drives currently set up as Macintosh folders:



Initially drives `E:`, `G:`, and `H:` are set up as the **SoftWindows 95** folder.

➤ Click on the ▷ button to the left of the drive letter to display the full path of the folder:

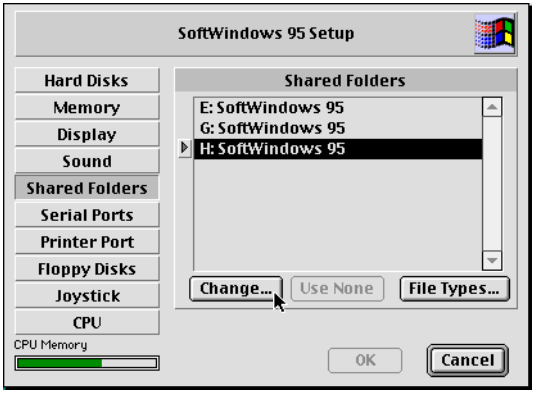
To set up a Macintosh folder as drive E:

➤ Drag the folder and drop it onto the SoftWindows 95 window.

To set up a Macintosh folder as a particular PC drive

➤ Click the **Shared Folders** button in the **SoftWindows 95 Setup** dialog box to display the **Shared Folders** panel.

➤ Select the PC drive you want to set up and click **Change...** (or double-click the PC drive):



This dialog box lets you select the folder you want to use and the PC drive to assign it to.

➤ Select the Macintosh folder you want to use, so that its name appears in the **Use** button below the list of files.

➤ Click the button to use the folder you have selected.

You can make more drive letters available for Mac/PC shared folders if necessary; refer to *To create additional shared folders in Windows*, page 48.

To create additional shared folders in Windows

By default only drives E:, G:, and H: are provided in Windows. To set up additional drives:

➤ Open the **Windows Explorer**.

➤ Choose **Map Network Drive** from the **Tools** menu.

➤ Enter the name of the Macintosh folder you want to map, in the format:

\\FSA_*X**disk**folder*

where *X* is the drive letter you want to map, *disk* is the name of the Macintosh hard disk, and *folder* is the name of the Macintosh folder.

To copy a PC file to the Macintosh

➤ In SoftWindows 95, copy the file to a drive which has been set up as a shared folder.

For example, if the **SoftWindows 95** folder is set up as drive E:, copy the file to the E: drive.

To run a PC file from the Macintosh

The SoftWindows 95 EasyLaunch feature lets you run a PC application simply by double-clicking an icon on your Macintosh.

➤ Set up the E: drive as a shared folder.

➤ Copy the application file to the E: drive.

You can now automatically run SoftWindows and Windows, and then run the Windows application, by double-clicking the icon.

To copy a Macintosh file to SoftWindows 95

➤ Put the file in a folder you have set up as a shared folder.

For example, if the **SoftWindows 95** folder is set up as drive E:, you can make a file available on the PC drive E: by putting it in the **SoftWindows 95** folder.

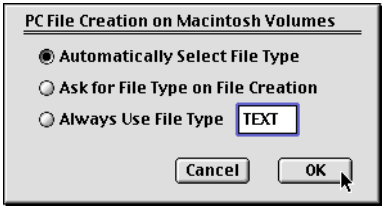
To specify the type of files created in shared folders

You can choose what types of Macintosh documents are created when SoftWindows 95 creates MS-DOS files in Macintosh shared folders.

➤ Click the **Shared Folders** button in the **SoftWindows 95 Setup** dialog box to display the **Shared Folders** panel.

➤ Click **File Types**.

This dialog box allows you to specify how files are created:

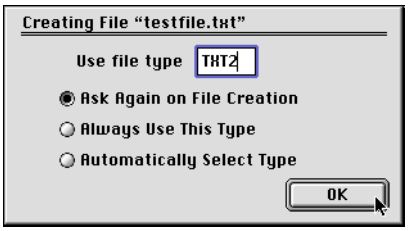


➤ Choose **Automatically Select File Type** to assign standard SoftWindows 95 file icons to the files you create, based on their extension:

Document icon	*Used to identify*	*Assigned to these extensions*
PCFA	MS-DOS programs.	.COM or .EXE
PCFL	PC binary files.	.BIN, .DVR, .OBJ, .OVL, .OVR, or .SYS
TEXT	MS-DOS data files.	All other extensions.

MS-DOS data files can be recognized by most Macintosh applications, including SimpleText, MacWrite Pro, Microsoft Word, Claris Works, Excel, and WordPerfect.

➤ Choose **Ask for File Type on File Creation** if you want to be prompted to enter the four-character type to be used each time a file is written to a shared drive from SoftWindows 95. This dialog box appears:



Enter the file type for the file you are creating. Alternatively, choose one of the options **Automatically Select Type** or **Always Use This Type** to specify the file type automatically and change the preferences for all subsequent files created by SoftWindows 95.

➤ Choose **Always Use This Type** if you want to use a specified file type for every file regardless of its extension. The default type is TEXT, but you can specify any other four-character type.

Setting up CD-ROM drives and SCSI devices

SoftWindows 95 allows you to read data CD-ROMs which are compatible with the Microsoft CD-ROM Extensions (MSCDEX) as PC drives. The files on a CD-ROM can be read just like the files on any other drive.

By default PC drive F: is set up as the Macintosh CD-ROM drive.

> To have full access to dual-format CD-ROMs from SoftWindows 95 on an Apple Macintosh, you need version 5.1.7 or later of the Apple CD-ROM driver. This version is supplied with SoftWindows 95 on the installation CD, in the **Extras** folder.

If you have other PC-compatible SCSI devices attached to your Macintosh, these will be recognized when SoftWindows 95 starts up, using the ASPI drivers.

They can then be used by running the appropriate PC software. For example, a SCSI disk drive will be assigned a drive icon in the Windows **My Computer** folder:

Removable Disk (J:)

Setting up CD-ROM drives

Windows uses a 32-bit CD-ROM driver ISLCDROM.PDR, which is loaded automatically on startup.

Setting up SCSI devices

By default Windows is set up with this CD-ROM driver, which gives optimum performance when reading CDs.

If you also want to access SCSI devices from Windows you need to replace this driver as follows:

- Rename the file ISLCDROM.PDR, in the C:\WINDOWS\SYSTEM\IOSUBSYS folder, to ISLCDROM.BAK.
- Click the **Start** button, point to **Settings**, and then click **Control Panel**.
- Double-click the **Add New Hardware** icon.
- When the **Add New Hardware** dialog box appears click **Next>**.
- When asked if you want Windows to search for your new hardware select **No** and click **Next>**.
- From the list of **Hardware types** select **SCSI controllers** and click **Next>**.
- In the list of SCSI controllers select **Insignia SCSI Adaptor** and click **Next>**.
- Accept the default settings by clicking **Next>**.
- Click **Finish**.

➤ When asked for the location of file `SWINSCSI.MPD` enter `C:\WINDOWS\SYSTEM` and click **OK**.

Windows will then install the Insignia SCSI controller.

➤ When asked if you want to shut down your computer click **Yes**.

SoftWindows 95 will now quit.

➤ Restart **SoftWindows 95**.

You will now be able to access SCSI devices.

Setting up memory

When you first install SoftWindows 95, a recommended PC memory configuration is set up for you, and this should not normally need to be changed.

If necessary, you can configure the PC memory using the following procedure:

➤ Increase the SoftWindows 95 application memory size.

➤ Change the SoftWindows 95 PC memory configuration in the **Memory** panel of the **SoftWindows 95 Setup** dialog box.

Any of the available memory not used for PC memory is allocated to the CPU Memory, which is used to improve the performance of SoftWindows 95.

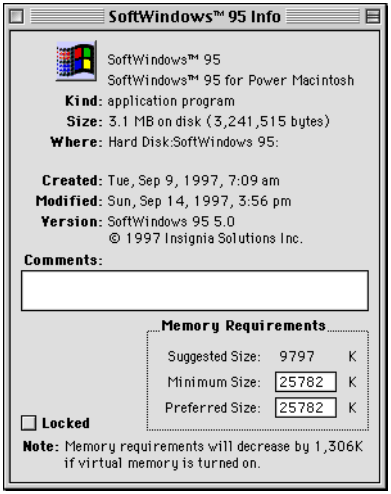
These steps are described in greater detail in the following sections.

To change the application memory size

➤ Select the **SoftWindows 95** icon.

➤ Choose **Get Info** from the Finder's **File** menu.

This dialog box shows the Minimum and Preferred sizes to be used for SoftWindows 95; for example:



For each 1 Mbyte of additional PC memory you want to use, you need to increase the Minimum and Preferred memory sizes by 1030 Kbytes.

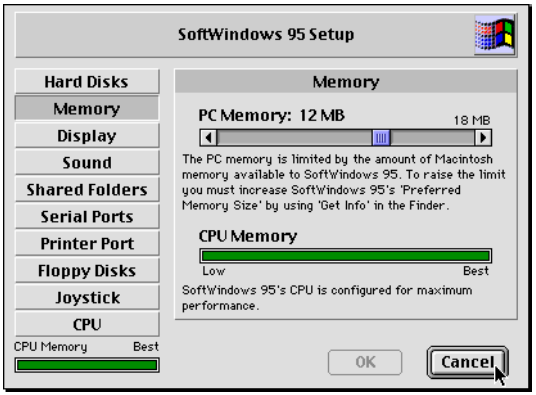
The amount of memory you need also depends on the size of the Windows desktop and the number of colors used for it. For best performance allocate as much memory as possible to SoftWindows 95.

➤ Click the close box, in the top left corner of the **SoftWindows 95 Info** dialog box, to use the size you have set.

To see the amount of PC memory

➤ Display the **Memory** panel in the **SoftWindows 95 Setup** dialog box.

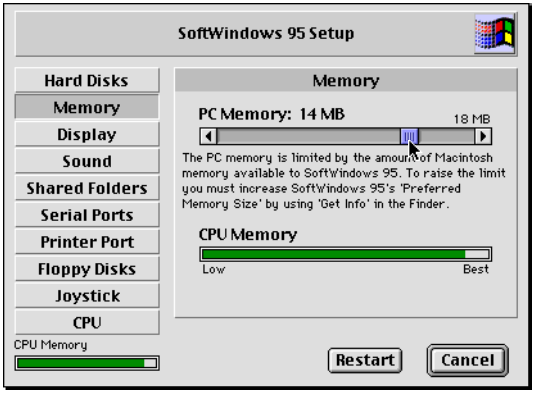
The **Memory** panel shows the current amount of PC memory:



To change the PC memory

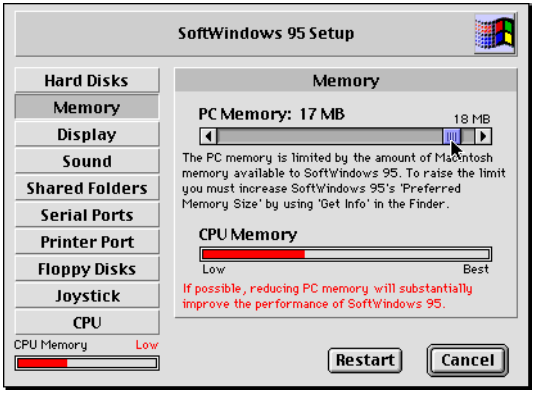
➤ Display the **Memory** panel in the **SoftWindows 95 Setup** dialog box.

➤ Drag the slider or use the left and right arrow keys to select the amount of memory:



You can choose any amount of PC memory up to the amount of available memory, as shown by the maximum setting of the slider.

For best performance the **CPU Memory** indicator should be at **Best**. If you set the **PC Memory** too high you will be warned that this will reduce the performance of SoftWindows 95:



In this case, increase the total amount of memory available by increasing the application memory size; refer to *To change the application memory size* opposite.

➤ Click **Restart** to restart SoftWindows 95 with the memory configuration you have selected.

If you increase the PC memory you need to quit and restart SoftWindows.

Setting up the display

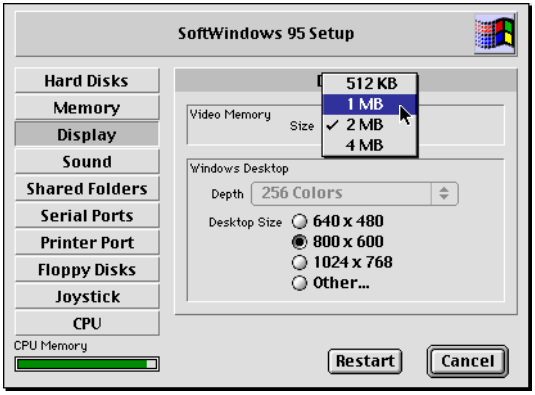
SoftWindows 95 provides a display resolution of up to 1600 x 1200, and from 16 colors to millions of colors.

The available resolution and number of colors are limited by the amount of video memory available. You can change the video memory using the **Display** panel in the **SoftWindows 95 Setup** dialog box.

To change the display memory

➤ Display the **Display** panel in the **SoftWindows 95 Setup** dialog box.

➤ Choose the amount of memory from the **Video Memory** pop-up menu.



To use more colors or a larger desktop size you may need to increase the **Video Memory** setting.

If this reduces the **CPU Memory** below the **Best** setting, make more memory available by reducing the amount of PC memory, or increasing the application memory size; refer to *Setting up memory*, page 52.

To optimize the position of the SoftWindows 95 window

➤ Choose **Best Window Position** to move the Windows desktop to the position on the screen that gives optimum performance.

Setting up the Windows desktop

SoftWindows 95 includes a Windows Display Driver that improves the performance of Windows graphics. It also allows you to run Windows in a window of any size, up to 1600 x 1200.

To use a larger desktop or more colors you may need to increase the **Video Memory** setting. If this reduces the **CPU Memory** below the **Best** setting, make more memory available by reducing the amount of PC memory, or increasing the application memory size; refer to *Setting up memory*, page 52.

To move the Windows desktop

➤ Hold down the option and ⌘ keys.

The cursor changes to a ✋ symbol.

➤ Drag the window to the position you want.

To select a size for the Windows desktop

➤ Choose the size you want from the **Windows Desktop** submenu on the **Setup** menu, or the **SoftWindows 95 Setup** dialog box.

The desktop will be resized immediately.

To change the size of the Windows desktop

➤ Hold down the option and ⌘ keys.

➤ Move the mouse pointer to the lower right corner of the Windows desktop.

The cursor changes to a ⧉ symbol.

➤ Drag the window to the size you want.

To zoom the Windows desktop to fill the screen

➤ Hold down the option and ⌘ keys.

➤ Move the mouse pointer to the top right corner of the Windows desktop.

The cursor changes to a ⛶ symbol.

➤ Click on the window to zoom it to fill the screen.

Alternatively you can choose **Zoom** from the **Windows Desktop** submenu on the **Setup** menu.

To restore the Windows desktop to its original size

➤ Hold down the option and ⌘ keys.

➤ Move the mouse pointer to the top right corner of the screen, so the pointer changes to a ⛶ symbol.

➤ Click on the window.

Alternatively hold down the ⌘ key to display the menu bar and choose **Zoom** from the **Windows Desktop** submenu on the **Setup** menu.

To specify the Windows desktop size and position

➤ Choose **Other...** from the **Windows Desktop** submenu on the **Setup** menu, or the **SoftWindows 95 Setup** dialog box.

The **Windows Setup** window is displayed, to allow you to specify the size and position of the Windows desktop.

The Macintosh menu bar is hidden so that you can use the full Macintosh screen if you wish.

You can move the **Windows Setup** window to the position you want it on the screen by clicking on any part of the window and dragging to the position you want.

To select the number of colors for Windows

➤ Click **Start**, then click **Settings** and **Control Panel**.

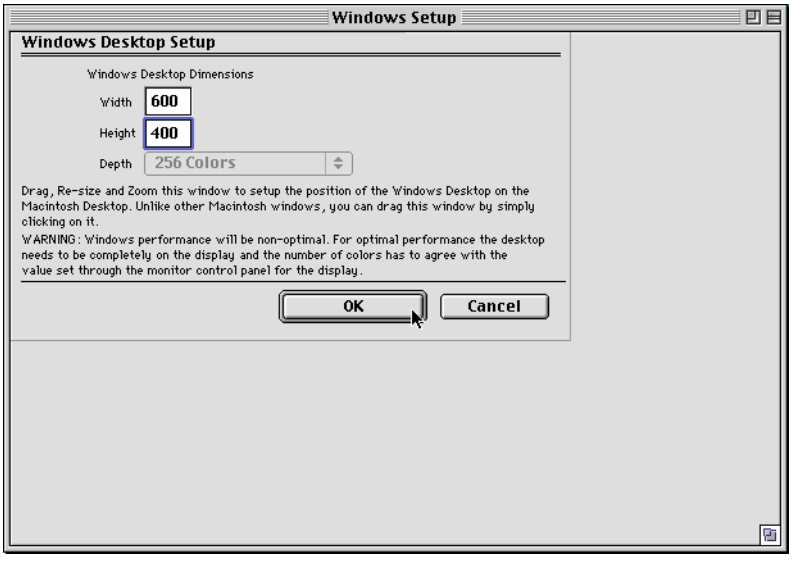
➤ Double-click the **Display** icon in the **Control Panel** folder.

➤ In the **Display Properties** dialog box click the **Settings** tab.

➤ Select **16 Color**, **256 Color**, **High Color** (thousands of colors), or **True Color** (millions of colors) from the **Color palette** drop-down list box, as required.

For best performance set the **Color palette** and your Macintosh **Monitors** control panel to the same setting. The **256 Color** option is optimal.

➤ Click **OK** to change the number of colors.



Setting up sound

SoftWindows 95 emulates a PC with both a Sound Blaster card and a generic Windows sound card. Either or both can be used to play sound using the Macintosh sound system.

Using Sound Blaster in Windows

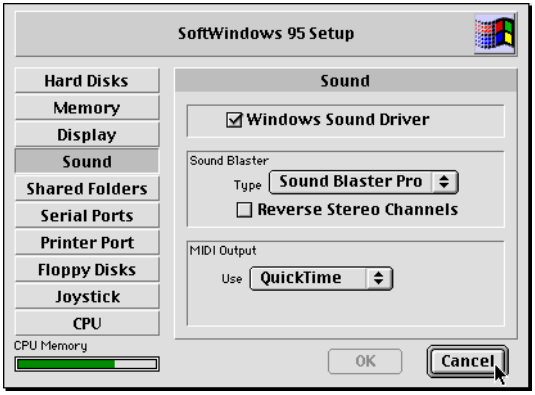
Both Sound Blaster cards emulated by SoftWindows 95 are plug-and-play devices, and will automatically be recognized by Windows. This also means that if you change between the emulated cards in the **SoftWindows 95 Setup** dialog box and restart Windows, the correct Sound Blaster driver will automatically be loaded for whichever card is in use. SoftWindows's 95 MPU-401 MIDI device is also a plug-and-play device.

If both the **Windows Sound Driver** and **Sound Blaster** options are selected in the **SoftWindows 95 Setup** dialog box, then Windows behaves like a PC with two separate sound cards installed. These sound cards are totally independent of one another and can, if you wish, be used simultaneously.

To provide Sound Blaster support

➤ Display the **Sound** panel in the **SoftWindows 95 Setup** dialog box.

➤ Select the **Sound Blaster** support you want from the **Sound Blaster** pop-up menu.



For best results choose **Sound Blaster Pro**. If your software supports **Sound Blaster 16** choose this option for optimum sound quality, although this may reduce performance.

For more information refer to *Using Sound Blaster in Windows* opposite.

The **Windows Sound Driver** box should normally be left checked, whether or not you select Sound Blaster.

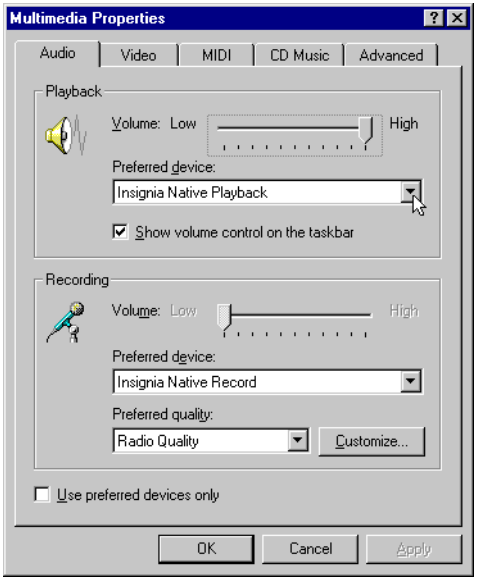
To disable Sound Blaster

➤ Display the **Sound** panel in the **SoftWindows 95 Setup** dialog box.

➤ Choose **None** from the **Sound Blaster** pop-up menu.

To specify the default audio playback device

➤ Change the **Preferred device** option for **Playback** in the **Audio** tab of the **Multimedia** control panel.



The following options are available:

Preferred device	*Description*
Insignia Native Playback	Insignia's Windows Sound Driver
Sound Blaster Playback (220)	Sound Blaster Pro
SB16 Wave Out [220]	Sound Blaster 16

Other audio devices in the selection list can be used for audio output by an application if the preferred device is busy, or if it does not support an audio format required by the application. For example, if an application requires CD audio quality, it will use the Windows Sound Driver even if Sound Blaster Pro is the preferred device.

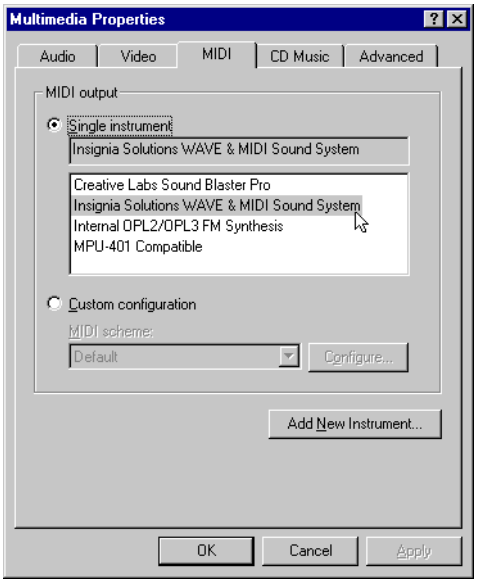
In general the Windows Sound Driver will produce clearer audio than the Sound Blaster emulation where simple streaming audio is required, such as playing `.WAV` files using MediaPlayer. On faster Macintoshes however, the difference becomes less marked or disappears altogether.

To record audio

SoftWindows 95 does not support the audio recording or MIDI input facilities of Sound Blaster cards. However, audio recording is supported from Windows 95 using Insignia's Windows Sound Driver. To record audio ensure that the **Preferred device** for recording in the **Multimedia** control panel is set to **Insignia Native Record**.

To specify the default MIDI playback device

➤ Change the selected device in the **MIDI** tab of the **Multimedia** control panel.



Up to four devices may be listed depending on which of the **Windows Sound Driver** and **Sound Blaster** options are enabled:

Preferred device	*Description*
Insignia Solutions WAVE & MIDI Sound System	Recommended if the Windows Sound Driver is enabled.
MPU-401 Compatible	Recommended if the Windows Sound Driver is not enabled.
Creative Labs Sound Blaster Pro	Not recommended.
Internal OPL2/OPL3 FM Synthesis	Not supported.

FM synthesis is used by older games for background music or effects. SoftWindows 95 does not emulate the FM synthesis hardware; however, many games that use FM synthesis can optionally be configured to use General MIDI instead which is fully supported by SoftWindows 95.

Games written to run under Windows will generally use Microsoft's new DirectSound interface to produce audio output. This can produce sound output using both digital audio and MIDI devices and is supported by both the Windows Sound Driver and both Sound Blaster emulations.

The preferred device for DirectSound output is the same as that specified in the **Audio** tab of the **Multimedia** control panel.

Large video clips played back using ActiveMovie may lose synchronization between the sound and video when using the Windows Sound Driver (the sound will complete before the video does). The same clip should play correctly if the Sound Blaster device is specified as the preferred device for audio playback.

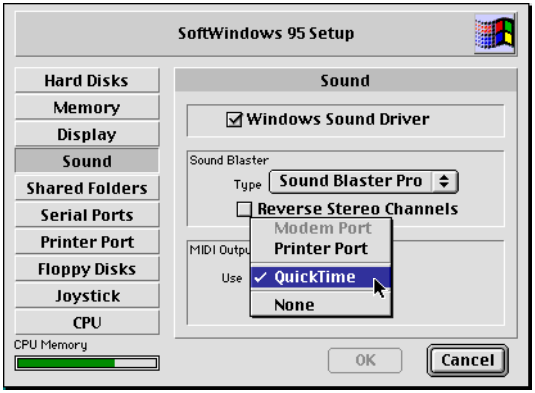
Setting up MIDI

SoftWindows 95 allows you to play PC MIDI files with the Macintosh sound system, using the **QuickTime** and **QuickTime Musical Instruments** extensions in your Macintosh **Extensions** folder. For information about installing these refer to *Other files on the installation CD*, page 22.

To play MIDI files using QuickTime

➤ Display the **Sound** panel in the **SoftWindows 95 Setup** dialog box.

➤ Choose **QuickTime** from the **MIDI Output Use** pop-up menu.



This is the default setting.

To play MIDI files to an external MIDI device

➤ Set the MIDI device to 38400 baud, 8 data bits, no parity, 1 stop bit.

➤ Connect the device to an unused Macintosh serial port, using a suitable serial cable or a Macintosh MIDI interface.

➤ Display the **Sound** panel in the **SoftWindows 95 Setup** dialog box.

➤ Choose **Modem Port** or **Printer Port**, as appropriate, from the **MIDI Output Use** pop-up menu.

➤ Choose **Serial Cable** from the **Interface** pop-up menu if you are connecting via a direct serial connection to a MIDI device such as a keyboard.

If necessary set **COM1:** or **COM2:** to **None** in the **Serial Ports** panel of the **SoftWindows 95 Setup** dialog box to make the port available.

Alternatively, if you are connecting to a MIDI device via a Macintosh MIDI translator box (such as Altech Systems' MIDI Interface for Macintosh) choose **0.5 MHz MIDI Interface**, **1.0 MHz MIDI Interface**, or **2.0 MHz MIDI Interface** from the **Interface** pop-up menu depending on the clock speed of the device.

To play MIDI files in Windows

For the best results set up Windows as described in *Playing and recording sound in Windows*, page 90.

Setting up serial ports

The SoftWindows 95 serial ports can be used to connect modems, printers, and other kinds of serial devices to your Macintosh computer's serial (modem or printer) ports.

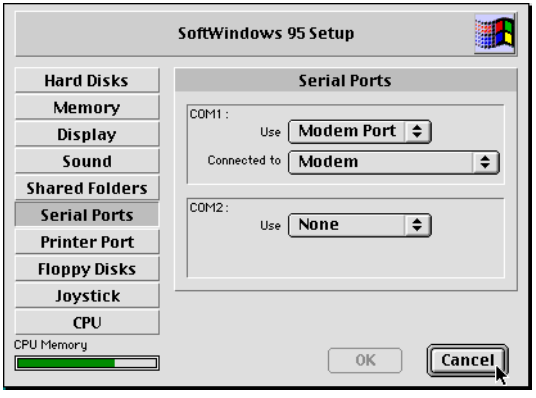
To use a serial device with SoftWindows 95 you need:

- An external serial device, internal modem, or network device that can be connected to a Macintosh serial port.
- A suitable cable.
- PC software that communicates via a serial port.
- `COM1:` or `COM2:` assigned to the Macintosh serial port.

To display the current serial port settings

➤ Display the **Serial Ports** panel in the **SoftWindows 95 Setup** dialog box.

This shows the Macintosh port assigned to the PC ports `COM1:` and `COM2:`, and the device type connected to each port:



To set up a serial port

➤ Display the **Serial Ports** panel in the **SoftWindows 95 Setup** dialog box.

➤ Choose the option from serial port's **Use** pop-up menu.

The following options are available:

Select this option	*To do this*
Modem Port, Printer, Port, Printer/Modem Port†, or Upper/Lower PC Card Slot†	Use the specified Macintosh port.
None	Leave the port unassigned.
Text File… (`COM1:` and `COM2:` only)	Send output to a Macintosh text file document. No input is allowed.

† PowerBook only.

If either Macintosh port is already in use the corresponding option will be dimmed on the pop-up menu.

The **Connected to** pop-up menu allows you to specify the type of device connected to the port. This provides the following options:

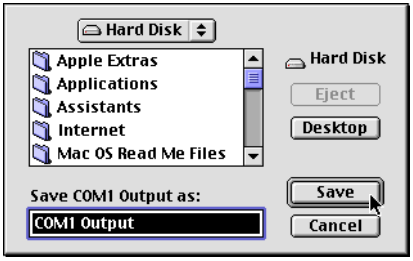
Select this option	*For*
Modem	To connect to a modem.
Another computer	To connect to another computer.
Printer	To connect to a printer.
Printer requiring flowcontrol	To connect to a slow serial printer using handshaking to avoid losing data.

For details of these options refer to *Serial device options* opposite.

To save output to a file

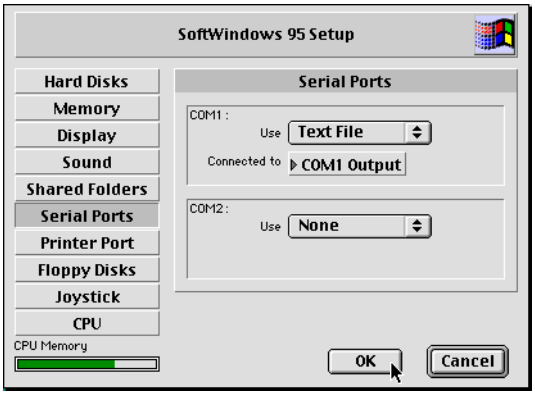
➤ Choose **Text File** from the **COM1:** or **COM2: Use** pop-up menu.

This dialog box allows you to specify the file to save the output as:



➤ Enter a name for the text file and click **Save** to create the file.

The filename is displayed in the **Serial Ports** panel of the **SoftWindows 95 Setup** dialog box:



Each time you send output to the serial port it will be added to the end of the file.

Serial port specifications

Data rates

SoftWindows 95 supports the following serial port transmission rates, in bits per second:

300 1200 2400 4800 7200

600 1800 3600 9600 19200

The data transfer rates which SoftWindows 95 can handle depend on the speed of your Macintosh. In general, note the following:

- When sending data from SoftWindows 95 any data rate (baud rate) can be used.
- When receiving data into SoftWindows 95 choose a lower data rate if you are running on a slower Macintosh.

You can trade off speed for block size – at higher speeds keep the data block size small (100–200 bytes).

If the incoming data rate is too high some of the data may be lost and serial communications programs will not be able to connect. Reduce the rate if you have problems.

Protocols

Supported serial port transmission protocols:

Parity: Even, Odd, None, Mark, or Space.

Data bits: 5, 6, 7, or 8.

Stop bits: 1, 1.5, or 2.

Default settings

By default, `COM1:` is set to have the following communications settings:

9600 baud, no parity, 8 data bits, 1 stop bit.

Serial device options

This section gives details of the different serial device options in the **PC Serial Ports** dialog box.

Modem

Hayes-compatible modems and PC communications programs work well with SoftWindows 95. Most modems that work with Macintosh applications will also work with PC software running in SoftWindows 95.

Printer

If you are using a serial printer with SoftWindows 95, and your PC program is sending output directly to it, you should make sure that you have the correct cable. The printer may need to be configured to match the serial port settings of SoftWindows 95; refer to *Serial port specifications* opposite.

Problems with serial printing may be due to handshaking; that is, the interchange of signals between the program and the printer to ensure that data is not sent before the printer can accept it.

Printer requiring flow control

This option converts XON/XOFF software handshaking into hardware handshaking as far as the PC program is concerned. This is only needed because most PC programs use hardware handshaking and a few devices, especially printers, use only software handshaking.

If you are using the correct cable to your printer, and both printer and PC program use hardware handshaking, you should print successfully.

If you have printing problems, try to configure your printer and PC program to use software handshaking.

If your program cannot be configured for software handshaking, make sure that the printer is using XON/XOFF and select **Printer requiring flow control** from the appropriate **Connected to** pop-up menu in the **PC Serial Ports** dialog box. SoftWindows 95 will then convert the software signals sent by the printer into emulated hardware signals that your PC program can understand.

Other devices

Other serial devices may or may not work, depending on their requirements and how configurable they are. Almost any device that uses software flow control will work.

Another computer

Select this option to connect to another computer.

Cables

The Apple Peripheral-8 cable or equivalent will work for connecting an Apple modem, an ImageWriter II, or LaserWriter printer to a serial port. For other modems use a Macintosh-to-Hayes cable. For other printers use a Macintosh-to-ImageWriter I cable.

Limitations

Programs that do not work well are those that are extremely timing-sensitive or rely on serial port lines that are not available on the Macintosh serial port.

SoftWindows 95 has no access to the DSR, DCD, or RI signals, and the RTS line cannot be set up due to the lack of lines. Instead, SoftWindows 95 makes the DSR and RLSD/DCD lines have the same status as the DTR line. RI is always set to off.

Copy-protection locks, also known as dongles, do not work on SoftWindows 95 due to unavoidable timing variations in its processing of serial port signals through the Macintosh serial port driver.

Setting up a joystick

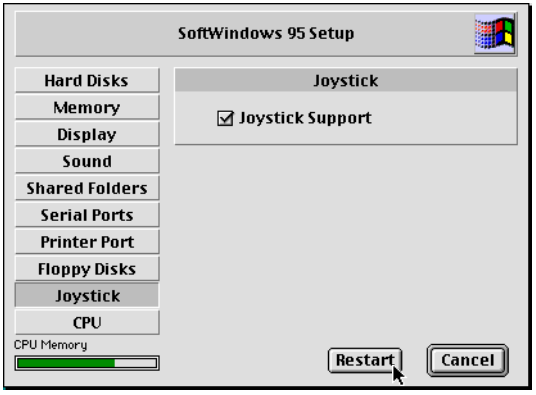
SoftWindows 95 allows you to use a Macintosh joystick with PC programs, such as games, that use a joystick.

To use a Macintosh joystick

➤ Install the Macintosh joystick software in the usual way.

➤ Turn off the joystick mapping features, so that the joystick does not control the mouse or keyboard.

➤ Display the **Joystick** panel in the **SoftWindows 95 Setup** dialog box:



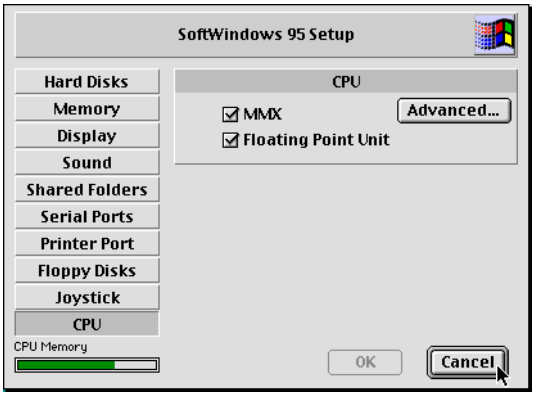
➤ Select **Enable Joystick Support** and click **Restart** to restart SoftWindows 95 to use a joystick.

Setting up the CPU emulation

The standard CPU emulation settings are ideal for running most PC programs. However, for some applications you may be able to improve performance or compatibility by selecting specific CPU settings.

To see the CPU emulation settings

➤ Display the **CPU** panel in the **SoftWindows 95 Setup** dialog box:



To disable the floating point unit (FPU)

You may need to disable the FPU if you are running a PC application which is written to use the FPU, and which does not appear to run properly with the emulated FPU. The Macintosh FPU has a different precision to the Pentium FPU, so there may be a few applications that do not run properly.

➤ Display the **CPU** panel in the **SoftWindows 95 Setup** dialog box.

➤ Uncheck the **Floating Point Unit** option.

➤ Check **Restart** to restart SoftWindows 95 without FPU emulation.

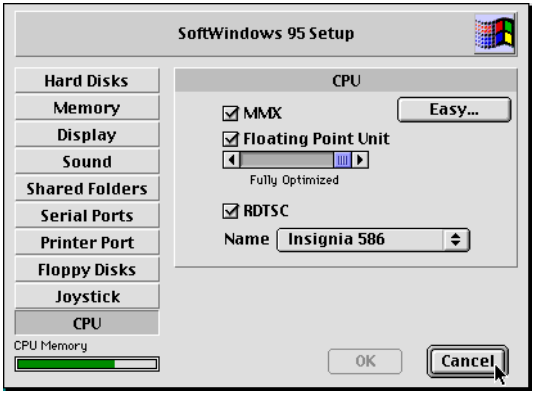
To disable the MMX instruction set

If MMX is not required, unchecking the **MMX** option may improve performance.

To select advanced CPU options

➤ Display the **CPU** panel in the **SoftWindows 95 Setup** dialog box.

➤ Click **Advanced...** to display the advanced CPU options:



The options are explained in the following table:

Option	*Default*	*Description*
MMX	On	Emulates the MMX instruction set. Unchecking this option may improve performance if MMX is not required.
Floating Point Unit	On, Fully Optimized	Allows you to adjust the level of optimization. The fastest setting, **Fully Optimized**, is recommended for most applications.
RDTSC	On	Required for some applications, including NASCAR 2. Unchecking this option may improve performance if it is not required.
Name	Insignia 586	Can be set to **Insignia 586** (recommended for highest performance) or **Industry Standard** (required by some applications, including NASCAR 2 and Power Chess).

Setting up printing

SoftWindows 95 allows you to print to any printer connected to your Macintosh, and take full advantage of all of its features, including color.

SoftWindows 95 provides an Insignia Printer Driver, which allows you to print from Windows applications to any Macintosh printer.

Alternatively, you can select an appropriate Windows printer driver for your printer, and then use one of the **Printer Port** options to emulate that type of printer.

Choose **PostScript** to print to a PostScript printer.

Choose **Epson LQ-2500** to emulate a dot-matrix printer on any Macintosh printer, for fast draft printing or to print from MS-DOS.

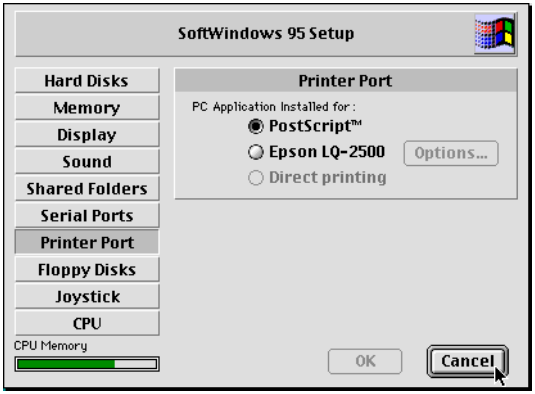
Choose **Direct Printing** to print directly to a PC printer using an appropriate Macintosh printer driver selected in the Chooser.

For more information about printing from Windows refer to *Printing from Windows*, page 87.

To see the printer emulation options

➤ Display the **Printer Port** panel in the **SoftWindows 95 Setup** dialog box.

This shows the current printer emulation:



To choose the printer emulation

➤ Display the **Printer Port** panel in the **SoftWindows 95 Setup** dialog box.

➤ Select the option you want to use.

The options are explained in the following sections.

Note that these options are ignored if you are using the Insignia Printer Driver from Windows.

PostScript

This is the default option. Choose this if your Macintosh has access to a PostScript printer, such as a member of the Apple LaserWriter family, and you are using a PostScript Windows printer driver. SoftWindows 95 will send the output to the printer without conversion.

Epson LQ-2500

Choose this option if you want to emulate an Epson LQ-2500 on any Macintosh printer. SoftWindows 95 will convert the output and format it appropriately for the printer selected in the Macintosh Chooser.

This option supports the IBM extended character set, including graphics characters, and you should choose this if you want to use the **Print Screen** command.

The **Epson LQ-2500** option uses the Insignia fonts to give the correct fonts when printing, and these are installed automatically by the Easy Install option. If you need to install them refer to *Installing additional SoftWindows 95 options*, page 19.

Direct Printing

Choose this option to print to a PC printer using an appropriate Macintosh printer driver selected in the Macintosh Chooser.

Macintosh printer drivers are available for a wide range of PC printers from Infowave Wireless Messaging Inc. They can also supply a cable to connect a PC printer to a Macintosh. For more information contact their Web site at:

`http://www.gdt.com`

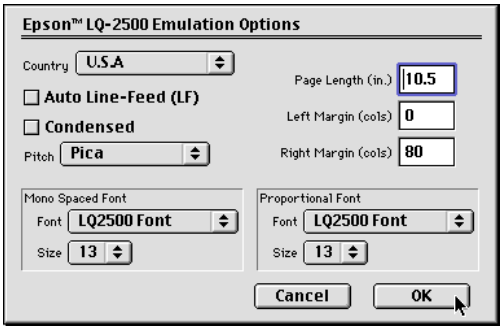
The **Direct Printing** option will only be available if a PC printer driver is selected in the Macintosh Chooser; otherwise it will be grayed out. To use direct printing you should also select an appropriate printer driver in the MS-DOS application or Windows.

To set Epson LQ-2500 emulation options

➤ Select **Epson LQ-2500** in the **Printer Port** panel of the **SoftWindows 95 Setup** dialog box.

➤ Click **Options** to set up the Epson LQ-2500 emulation options.

These correspond to the most important options available on the Epson LQ-2500:



Country

Allows up to 12 special characters to be printed, depending on the country selected. If you are using an application designed for a different national language, select the language you want to use from the pop-up menu.

Auto Line-Feed (LF)

Prints a line feed after every carriage return. If your printed output has unwanted double spacing, the application is already including line feeds and you should uncheck this option.

Condensed

Condenses the characters horizontally to 60%. Check this option if you want to fit 132 column printing across the width of US letter size or A4 paper.

Pitch

Choose the pitch setting you want from the pop-up menu.

Pica, the default, gives 10 characters per inch and is the recommended setting.

Elite (12 characters per inch) and **15 pitch** (15 characters per inch) reduce the horizontal spacing to fit more characters on a line. The character size and line spacing are set by the **Mono Spaced** font size.

Proportional selects proportional printing.

Mono Spaced Font and Proportional Font

By default, two LQ-2500 fonts are selected which emulate the character sets and spacing of the monospaced and proportional fonts found on an LQ-2500. Alternatively, you can select any font on your Macintosh for either of these two fonts. For best results you should use only monospaced fonts (such as Courier or Monaco) for the **Mono Spaced Font** option. The font size chosen for the **Proportional Font** option should be similar to that already chosen for the monospaced font, because the size selected for the monospace font governs the character size and line spacing of the proportional font as well.

Page Length

Specifies the length of the printed area to the nearest 0.5 inches.

The **Page Length** is initially set to the length of the paper selected in the **Page Setup** dialog box; for example, 11 inches for US Letter paper.

Left Margin

Specifies the number of columns used for the left margin. At the default **Pica** pitch there are 10 columns per inch.

You can ignore this option if you are using an application, such as a word processor, which sets the margins itself.

Right Margin

Specifies the number of columns to be used for the right margin. The right margin will only need to be set if the application is assuming a narrower page width and the lines of print are wrapped round, or the application is assuming a wider page width and the lines of print run over the paper edge.

International usage

To use an international keyboard for Windows

➤ Click **Start**, then click **Settings** and **Control Panel**.

➤ Double-click the **Keyboard** icon in the **Control Panel** folder.

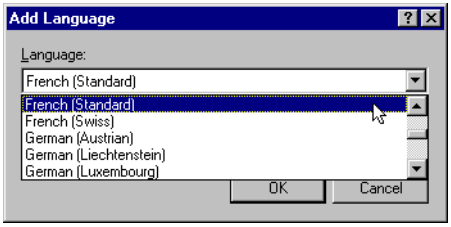
Keyboard

The **Keyboard Properties** dialog box is displayed.

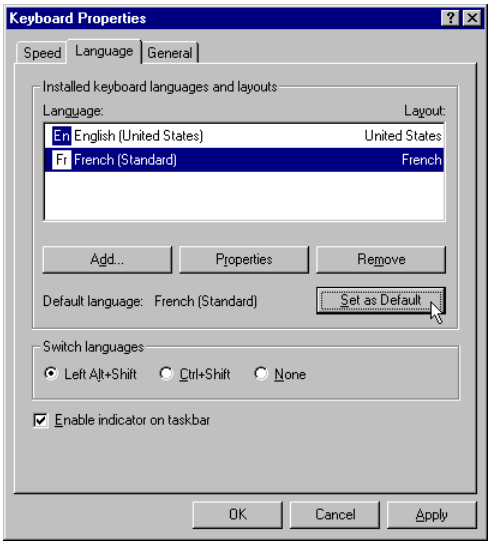
➤ Click the **Language** tab to display the **Language** panel.

➤ Click **Add...** to display the **Add Language** dialog box.

➤ Select the language you want to use from the drop-down list box, and click **OK**.



➤ Click **Set as Default** to choose it as the default language.



➤ Click **OK**.

Setting up SoftWindows 95 for multiple users

To install a multi-user pack

The following procedure describes how a system administrator should set up a multi-user pack.

- ➤ Install and personalize SoftWindows 95 for your company.
- ➤ Duplicate and distribute the installed SoftWindows 95 and hard disk file to users. If installation is to be server-based, only distribute the hard disk file.

If SoftWindows 95 is going to be run from a server:

- ➤ Install SharePC using the **Custom Install** installation option; refer to *Installing additional SoftWindows 95 options*, page 19.
- ➤ Run SharePC from the **Utilities** folder within the **SoftWindows 95** folder, and when prompted for an application select SoftWindows 95.

Now the specified number of users will be able to run SoftWindows 95 from the server.

To share data files for creating SoftWindows 95 hard disk files

You can provide the SoftWindows 95 **HDData** file on a server to allow any SoftWindows 95 user on the network to build their own bootable (`C:` drive) hard disk files.

To install this file use the installer's **Custom Install** option **Windows 95 Data File**; refer to *Installing additional SoftWindows 95 options*, page 19.

Each user will then be able to build their own bootable hard disk files from within SoftWindows 95 using the following procedure.

- ➤ Click **Create...** in the **C: Drive** or **D: Drive** section of the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box.
- ➤ When prompted to locate the HDData file, select the file on the file server.

Optimizing the performance of SoftWindows 95

This section explains how to set up SoftWindows 95 to obtain the best possible performance from your PC applications.

Application memory

The main factor affecting the performance of SoftWindows 95 is the amount of memory available to it. For information about changing this refer to *To change the application memory size*, page 52.

Increasing the application memory will allow you to increase the **PC Memory** setting within SoftWindows 95, which will improve the performance of PC applications.

For details of the latest information on recommended settings for different amounts of physical memory, see the SoftWindows 95 ReadMe file.

For optimum performance of SoftWindows 95 the **CPU Memory** indicator should be at **Best**; refer to *To change the PC memory*, page 53.

Memory-hungry PC applications such as Windows and Microsoft Excel may benefit from as much as 15 Mbytes or more of PC memory.

The Windows mouse pointer

For best performance with Windows use the Macintosh mouse pointer, which you can select by holding down the ⌘ key and choosing **Mac Mouse** from the **Setup** menu.

The Windows desktop

The performance of the Windows desktop is optimal when the whole window is visible on the screen, not obscured by another window. Pressing ⌘B places the window in the best position.

For best performance the **Monitors** control panel and Windows desktop should be set to 256 colors.

When the Windows desktop is optimal, and you are using the Windows mouse pointer, a ✓ is displayed in the title bar.

Alternatively, if the title bar is not visible press ⌘ and option to change the mouse pointer to a hand. The hand pointer includes a dot to indicate whether the Windows desktop is optimal:

Optimal

Non-optimal

The performance of SoftWindows 95 will decrease slightly as the size of the Windows desktop is increased.

Other factors

The following other factors also have a significant effect on the performance of SoftWindows 95.

Macintosh performance

The performance of your Macintosh will directly determine the performance of SoftWindows 95.

Level 2 Cache

If your Power Macintosh does not already include Level 2 Cache you can achieve an increase in performance of up to 30% by having it installed.

Other Macintosh applications

Other applications running on your Macintosh, particularly those that check the network regularly, can slow down SoftWindows 95.

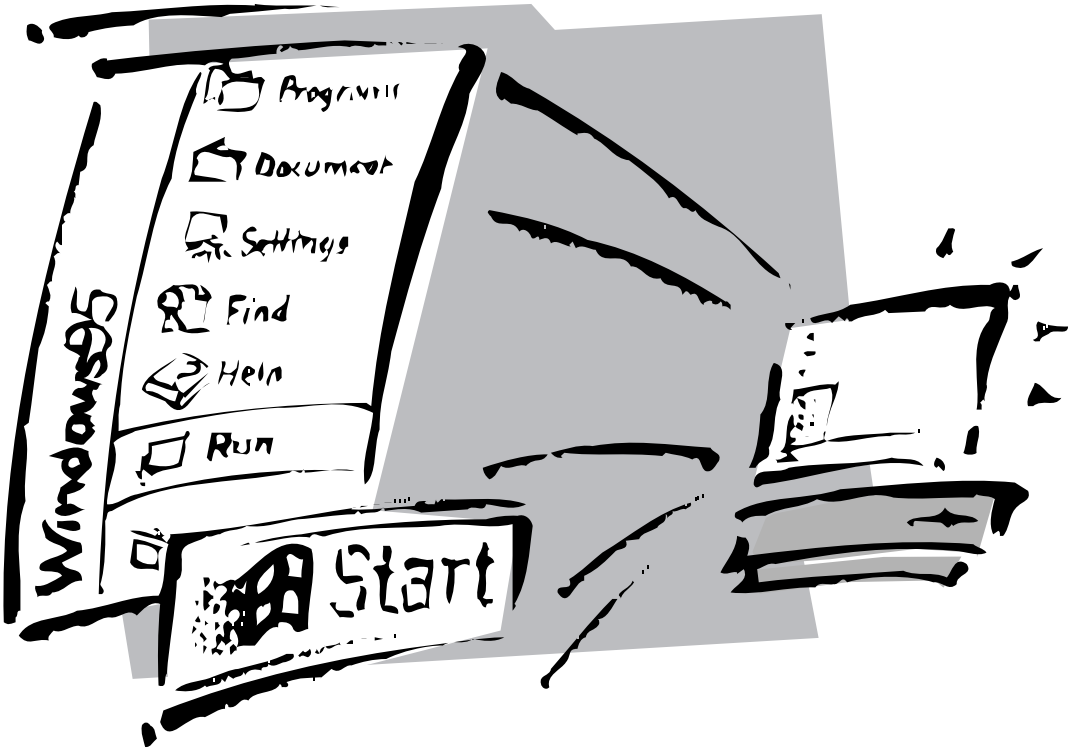
Macintosh extensions

You may find a performance improvement if you turn off any unnecessary extensions using **Extensions Manager**, as these can use system memory. Try restarting your Macintosh with the Shift key held down, to turn all extensions off, and see if there is a significant improvement in performance.

Macintosh hard disk

Defragmenting the Macintosh hard disk, using an appropriate Macintosh disk utility, may also improve performance.

Using Windows



This chapter explains how to run Windows, and gives information about working with Windows and running Windows applications.

It includes a short tutorial to introduce you to the procedures for working with Windows.

Windows starts in seconds with TurboStart, and you can resume your work where you left off when you quit.

The first time you run SoftWindows 95, the Windows desktop will be displayed as shown below.

A ✓ appears in the title bar when the Windows desktop is running at optimum performance; for more information refer to *Optimizing the performance of SoftWindows 95*, page 73.

To use the mouse

As you move the Macintosh mouse pointer onto the SoftWindows 95 window it automatically changes to the Windows mouse pointer, so that you can switch freely between Windows and Macintosh applications.

To improve performance the Windows mouse pointer is slightly reduced in size.

➤ Choose **Emulate PC Mouse** from the **Setup** menu if you prefer to work with the full size mouse pointer.

Graphics performance will be reduced, and the ✓ will not be displayed in the title bar, when using the full size mouse pointer.

Right mouse button

To simulate the right mouse button of a PC mouse press keypad = or ⌘R (or Enter on PowerBooks).

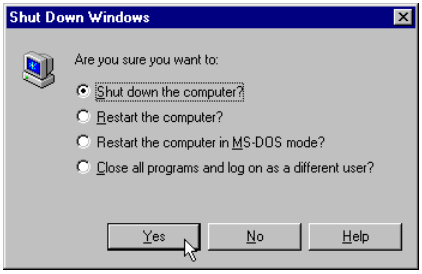
To exit from Windows

The recommended way to quit from Windows is to use **TurboStart**; refer to *To quit from Windows*, page 29.

However, if you specifically want to exit from Windows proceed as follows:

➤ Click the **Start** button, then click **Shut Down...**.

This dialog box lets you choose how to shut down:



➤ Click **Yes** to choose the first option and shut down Windows.

SoftWindows 95 will then automatically quit.

Windows basics

The following diagram gives a brief introduction to the most important components of Windows. It also gives a summary of the options available from the **Start** menu.

Double-click the **My Computer** icon to show the drives attached to the PC.

My Briefcase is used to keep multiple versions of a file in sync.

Online Services contains demos from Internet service providers.

Minimize button reduces the window to a button on the taskbar.

Maximize button enlarges the window to fill the entire desktop.

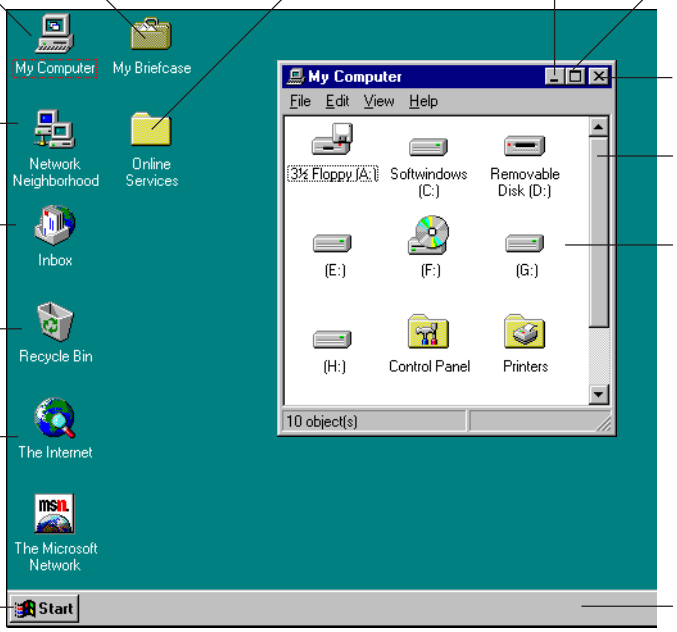
Network Neighborhood shows the network resources available.

Inbox is your in-tray for sending and receiving electronic mail.

The **Recycle Bin** stores deleted files like the Macintosh **Trash**.

The Internet lets you access the Internet and World Wide Web.

Click the **Start** button to perform an action from the **Start** menu; see below.



Close button closes the window.

Scroll bar.

The **My Computer** window shows an icon for each drive attached to the PC. Double-click an icon to show the files on the drive.

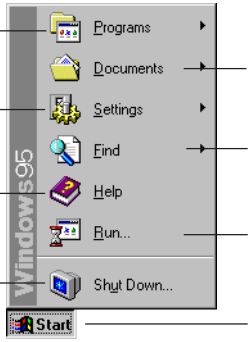
The **Taskbar** shows a button for each open window; click a button to switch to the corresponding window.

Programs displays the programs on your system. It also gives you access to the MS-DOS prompt.

Settings lets you change system settings.

Help gives help on Windows.

Click **Shut Down...** to shut down Windows, or exit to MS-DOS.



Documents displays a list of previously opened documents.

Find helps you find a file or folder.

Click **Run...** to run an MS-DOS or Windows program, or execute a command.

Click the **Start** button to display a menu of commands for using Windows.

Tutorial

This Tutorial is designed to help you become familiar with using SoftWindows 95 by installing and running a typical Windows application, and printing from Windows.

It is based on the award-winning Windows program WinPost, which is supplied with your SoftWindows 95 package. WinPost lets you create simple reminders which you can leave on your Windows desktop. It is a PC shareware application, so if you like it and decide to continue using it please send the author the registration fee, as described in the online manual.

1 Run Setup

Most Windows applications are installed by running a standard Windows setup procedure.

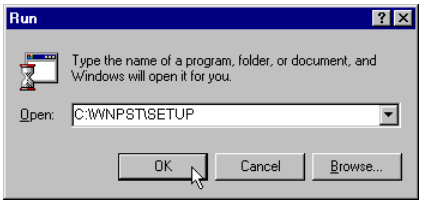
The installer and its associated files are supplied in the C:\WNPST folder.

➤ Click the **Start** button on the taskbar, and then click **Run...**.

The **Run** dialog box appears.

➤ Type:

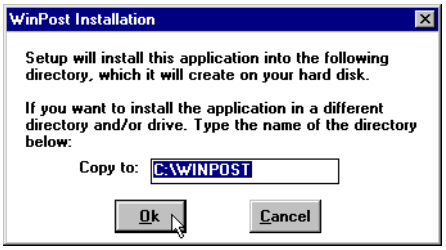
C:\WNPST\SETUP



➤ Click **OK** to run the setup program.

2 Specify where to install WinPost

This dialog box allows you to specify the directory into which WinPost should be installed:

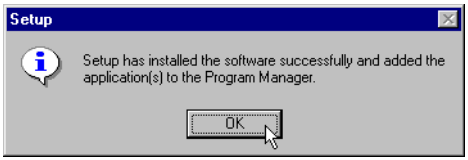


➤ Click **OK** to install in the WINPOST directory on your SoftWindows 95 hard disk file.

The files are then copied to the directory you specified.

3 Finish the installation

This dialog box informs you when the installation is complete:



➤ Click **OK** to return to the Windows desktop.

The installation creates a new WinPost folder containing the following shortcuts:

These are similar to Macintosh aliases to the actual files.

- **WinPost 3.2** is a shortcut to the WinPost application.
- **WinPost Manual** is a shortcut to documentation for WinPost. Double-click the icon to display the document so that you can read it or print it out.
- **Read Me!** is a shortcut to additional information about WinPost.

When you install a Windows application the installer usually creates shortcuts for the application, and for any other programs or documents that you might need to use with it. Often these are put in a separate folder.

For more information about the components of Windows you may want to read *Windows basics*, page 78.

To run WinPost

➤ Double-click the **WinPost 3.2** shortcut icon.

The first time you run WinPost, a shareware registration notice is displayed informing you that you can evaluate WinPost for 21 days.

➤ Click **OK** to dismiss the notice.

The WinPost program is now running and its icon is displayed in the taskbar at the bottom of the Windows desktop:

To display the WinPost menu

➤ Point to the WinPost icon in the taskbar and press keypad = or ⌘R (or Enter on PowerBooks).

This is equivalent to clicking the right PC mouse button.

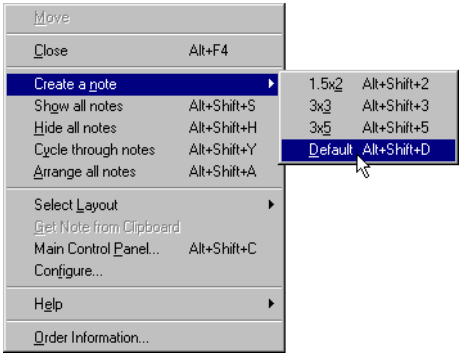
A pop-up menu appears above the taskbar.

Some of the commands on the WinPost menu are described opposite. For more information about all the commands refer to the **WinPost Manual** file.

To create a new note

➤ Display the WinPost menu, as described in the previous section.

➤ Choose **Default** from the **Create a note** submenu:



An empty **Note** window appears.

➤ Type in the information you want to remember.

The buttons along the top of the note provide useful functions. For example, the first three are cut, copy, and paste just like the equivalent commands in Macintosh programs.

To print from a Windows application

You can print from Windows applications to the printer available to your Macintosh, as set in your Macintosh Chooser.

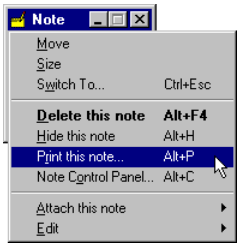
To illustrate printing from Windows try printing the note you have created.

Before printing you need to ensure that SoftWindows 95 is set up for the Macintosh printer you want to use. For more information refer to *Printing from Windows*, page 87.

To print a note

➤ Click the control menu button, in the top left corner of the **Note** window, to display the control menu.

➤ Choose **Print this note...**.



Alternatively, you can use the key shortcut Alt P. Note that you should use the Macintosh option key as Alt.

➤ When the **Print** dialog box appears click **OK** to print the note.

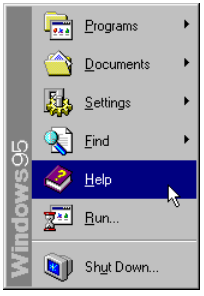
A few seconds after Windows has finished printing, the printouts will automatically be sent to your Macintosh printer.

Getting help on Windows

Windows includes a comprehensive help system, with answers to most problems you are likely to have.

To display Windows Help

➤ Click the **Start** button, then click Help.



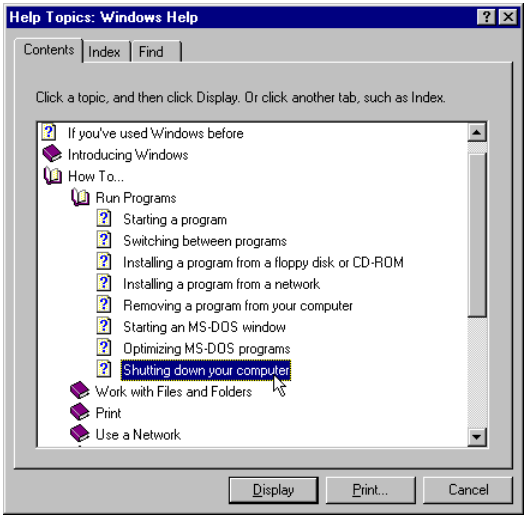
The Windows Help window appears showing the list of help topics.

To find help from the contents

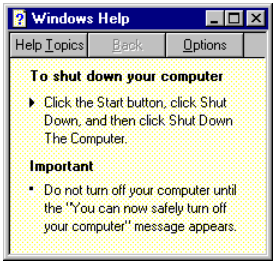
➤ Click the **Contents** tab to show the help topics grouped by subject.

➤ Click a book icon to display the contents of that book.

➤ Click a help topic icon and then click **Display** to display help on that topic:



The Windows help topic will be displayed:



To find help from the index

➤ Click the **Index** tab to show an alphabetical list of topics.

➤ Click a help topic and then click **Display** to display help on that topic.

To find help topics containing a word or phrase

➤ Click the **Find** tab, and then type in the word or phrase you want to find.

A list of matching topics will be displayed.

➤ Click a help topic and then click **Display** to display help on that topic.

To get help on an item on the screen

➤ Point to the item and press the = key on the numeric keypad.

This is equivalent to clicking the right PC mouse button.

A **What's This?** box appears.

➤ Click **What's This?** to display an explanation of the item.

Copying, pasting, and using drag and drop

SoftWindows 95 includes an Insignia utility called SmartCopy, which transfers text and graphics between the Macintosh and Windows clipboards, so that you can copy or cut and paste freely between Macintosh and Windows applications.

When SmartCopy is running, its icon appears at the right end of the taskbar:

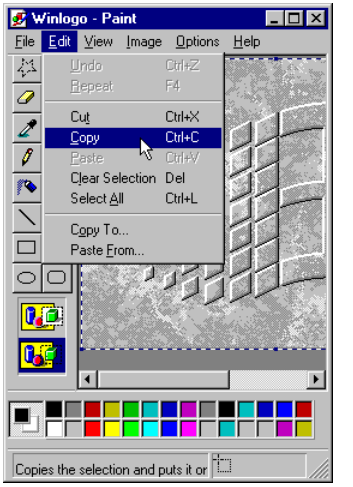
When you click the mouse button with the pointer outside the SoftWindows 95 window the **SmartCopy** icon changes to show whether text or graphics is ready to paste into a Macintosh application:

When you click the mouse button with the pointer inside the SoftWindows 95 window the **SmartCopy** icon changes to show whether text or graphics is ready to paste from a Macintosh application:

To copy text or graphics from Windows to the Macintosh

➤ Select the text or graphics you want to copy from the Windows application.

➤ Choose **Copy** from the Windows application's **Edit** menu:



The text or graphics is put onto the Windows clipboard.

➤ Switch to the Macintosh application you want to use.

SmartCopy translates the text or graphics to Macintosh format on the clipboard.

➤ Choose **Paste** from the Macintosh application's **Edit** menu to paste in the text or graphics that you copied.

To copy text or graphics from the Macintosh to Windows

➤ Select the text or graphics you want to copy.

➤ Choose **Copy** from the Macintosh application's **Edit** menu.

➤ Switch to SoftWindows 95.

SmartCopy translates the text or graphics to Windows format on the Windows clipboard, and you can use the **Clipboard Viewer** to view it.

➤ Choose **Paste** from the **Edit** menu of the Windows application you want to use, to paste in the text or graphics.

To drag text from the Macintosh to Windows

➤ Select the text you want to copy.

➤ Drag the text and drop it onto a Windows document in SoftWindows 95.

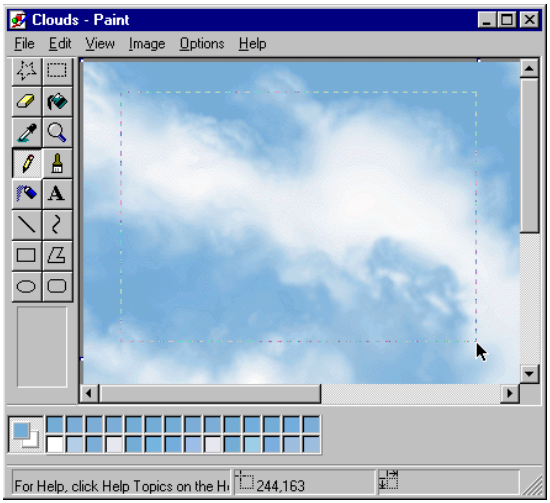
The text will be typed into the document at the current cursor position.

To copy graphics from the Windows desktop to the Macintosh

➤ Hold down the ⌘ key.

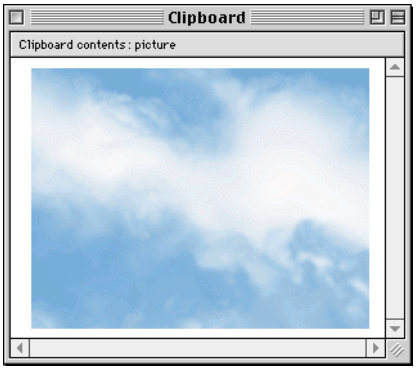
The Windows mouse pointer changes to the Macintosh mouse pointer.

➤ Press the mouse button, and drag to draw a rectangle enclosing the section of the Windows desktop you want to copy:



➤ Choose **Copy** from the SoftWindows 95 **Edit** menu.

The graphics will be put on the Macintosh Clipboard and you can use **Show Clipboard** on the Macintosh **Edit** menu to display it:



To drag graphics from the Windows desktop to the Macintosh

➤ Hold down the ⌘ key.

The Windows mouse pointer changes to the Macintosh mouse pointer.

➤ Press the mouse button, and drag to draw a rectangle enclosing the section of the Windows desktop you want to copy.

➤ Drag the selected area into the open window of a Macintosh application that supports drag and drop.

If you drag into a Finder window the graphic will be saved as a Picture Clipping file:

Printing from Windows

SoftWindows 95 allows you to print to any printer connected to your Macintosh, and take full advantage of all of its features, including color.

SoftWindows 95 provides an Insignia Printer Driver, which allows you to print from Windows applications to any Macintosh printer.

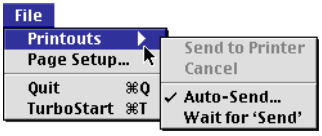
Alternatively, you can select an appropriate Windows printer driver for your printer, and then use one of the **Printer Port** options to emulate that type of printer.

Choose **PostScript** to print to a PostScript printer.

Choose **Epson LQ-2500** to emulate a dot-matrix printer on any Macintosh printer, for fast draft printing or to print from MS-DOS.

Choose **Direct Printing** to print directly to a PC printer using an appropriate Macintosh printer driver selected in the Chooser.

The options on the **Printouts** submenu on the SoftWindows 95 **File** menu allow you to specify when printing from your Windows program is sent to the printer.



Auto-Send... specifies that printing is automatically sent to the Macintosh printer; this is the default setting.

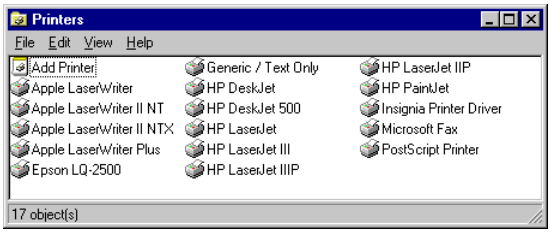
Wait for 'Send' specifies that output should not be sent until you select **Send to Printer**.

To set up printing to any Macintosh printer

➤ Select the printer connected to your Macintosh or to your network in the Macintosh Chooser.

➤ In Windows click **Start**, then click **Settings** and **Printers**.

The available printers are shown in the **Printers** folder:



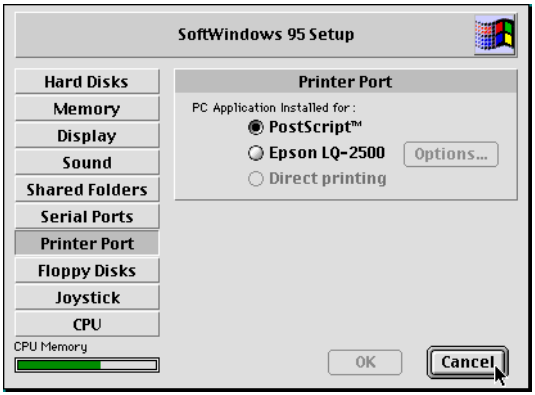
➤ Select **Insignia Printer Driver** and choose **Set As Default** from the **File** menu.

The Insignia Printer Driver does not support Windows shared printers.

To set up printing to a PostScript printer

➤ Select the PostScript printer connected to your Macintosh or to your network in the Macintosh Chooser.

➤ Choose **SoftWindows 95 Setup** from the **Setup** menu and click the **Printer Port** button to display the currently-selected printer support:



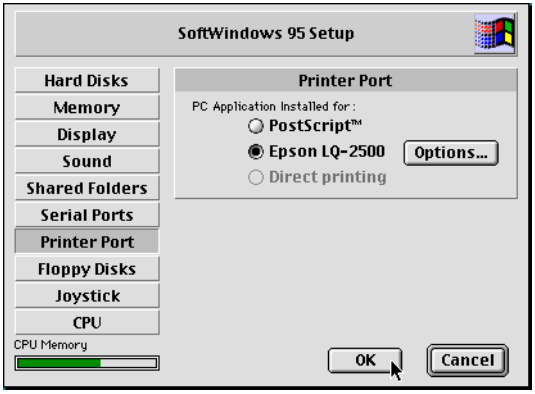
➤ If necessary, select **PostScript** and choose **OK**.

➤ In Windows click **Start**, then click **Settings** and **Printers** to display the **Printers** folder.

➤ Select **Apple LaserWriter**, and choose **Set As Default** from the **File** menu.

To set up printing using Epson LQ-2500 emulation

➤ Choose **SoftWindows 95 Setup** from the **Setup** menu and click the **Printer Port** button to display the currently-selected printer support:



➤ Select **Epson LQ-2500** and choose **OK**.

➤ In Windows click **Start**, then click **Settings** and **Printers** to display the **Printers** folder.

➤ Select **Epson LQ-2500**, and choose **Set As Default** from the **File** menu.

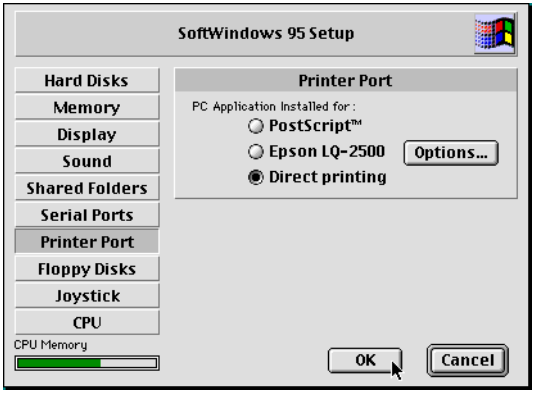
To set up printing to a PC printer

Macintosh printer drivers are available for a wide range of PC printers from Infowave Wireless Messaging Inc. They can also supply a cable to connect a PC printer to a Macintosh. For more information contact their Web site at:

`http://www.gdt.com`

➤ Select the appropriate printer driver in your Macintosh chooser.

➤ Choose **SoftWindows 95 Setup** from the **Setup** menu and click the **Printer Port** button to display the currently-selected printer support:



➤ Select **Direct Printing** and choose **OK**.

➤ Click **Start**, then click **Settings** and **Printers** to display the **Printers** folder.

➤ Select an appropriate printer driver for your PC printer, and choose **Set As Default** from the **File** menu.

To print from Windows

➤ Print from the Windows application; typically you do this by choosing **Print...** from the **File** menu.

The application will first print to the SoftWindows 95 printing buffer. The printing information will then be sent to the Macintosh printer. At this point the **Print** dialog box for the Macintosh printer will be displayed.

➤ Click **Print** to send the print job to the printer.

Playing and recording sound in Windows

SoftWindows 95 emulates Sound Blaster Pro, Sound Blaster 16, and Windows sound, allowing you to play Windows waveform or MIDI files on your Macintosh. These are identified with `.WAV` and `.MID` extensions, respectively.

SoftWindows 95 also supports ADPCM decompression, to allow ADPCM sound files to be played in SoftWindows 95.

You can choose an interesting sound for each of the events that can occur in Windows using the **Sound** control panel.

To use Windows sound you need to have **Windows Sound Driver** or **Sound Blaster** checked in the **Sound** panel of the **SoftWindows 95 Setup** dialog box; refer to *Setting up sound*, page 57.

To adjust the volume and balance of SoftWindows 95 sound output you should use the controls in the **Macintosh Sound** control panel.

To set up Windows to play MIDI files

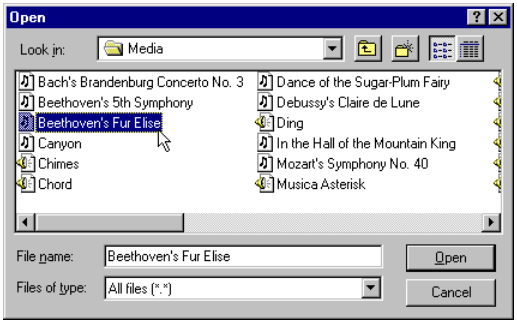
To play MIDI files using the Macintosh sound system you need to have the **Midi Output** pop-up menu set to **QuickTime** in the **Sound** panel of the **SoftWindows 95 Setup** dialog box, and the Macintosh **QuickTime** and **QuickTime Musical Instruments** extensions installed. For details refer to *Other files on the installation CD*, page 22.

To play a sound or MIDI file from Windows

➤ Click the **Start** button and click **Programs**, **Accessories**, **Multimedia**, and **Media Player**.

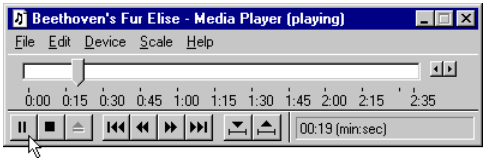
The **Media Player** window is displayed.

➤ Choose **Open...** from the Media Player **File** menu, and select a waveform file, such as **Chord**, or a MIDI file, such as **Beethoven's Fur Elise**:



➤ Click **Open** to load the file.

➤ Click the Media Player play button to play the file:



➤ Choose **Exit** from the **File** menu to exit from Media Player.

To record sound in Windows

➤ Click the **Start** button, and click **Programs**, **Accessories**, **Multimedia**, and **Sound Recorder**.

The **Sound Recorder** window is displayed.

➤ Click the record button to record a sound.

The sound will be recorded from the device selected for sound input on the Macintosh.

➤ Click the stop button to stop recording.

➤ Choose **Save** from the Sound Recorder **File** menu to save the sound.

You can then play the sound back using Media Player.

To set sounds for Windows events

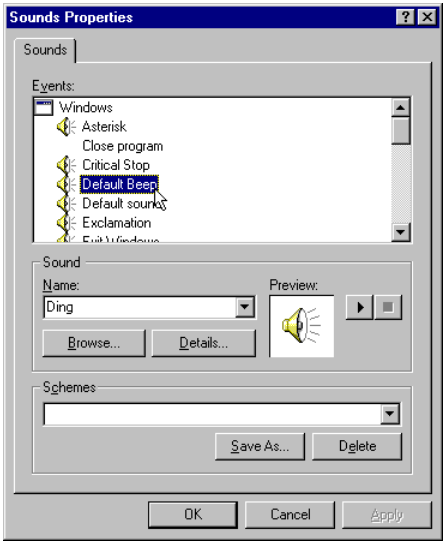
➤ Open the **Control Panel** folder, by choosing **Control Panel** from the **Settings** submenu on the **Start** menu.

➤ Double-click the **Sounds** icon:

The **Sound Properties** dialog box is displayed.

➤ Select the Windows event you want to identify with a sound.

The **Name** drop-down list box shows the current waveform file assigned to that event, or **(none)** if no sound is played.



➤ Select the waveform file you want to use.

➤ Click **Preview** to play the sound.

➤ When you have set up the sound you want to play for each event, click **OK** to exit from the dialog box.

Installing, running, and removing Windows applications

Most Windows applications are installed using the standard Windows setup procedure. Provided you have a CD-ROM or 3.5-inch disks for your Windows application, the procedure is similar to installing software on your Macintosh.

To install a Windows application

➤ Insert the application's installation CD-ROM or floppy disk into the Macintosh drive.

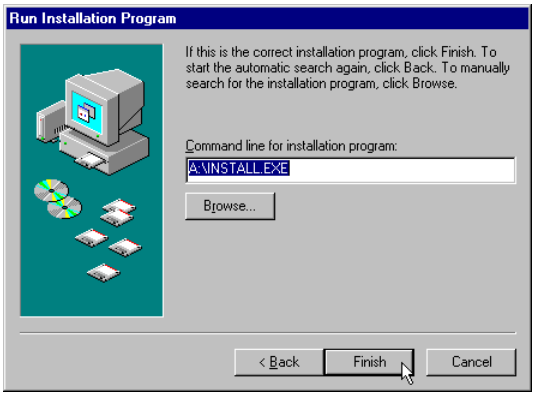
➤ Click **Start**, then click **Settings** and **Control Panel**.

➤ Double-click the **Add/Remove Programs** icon.

This dialog box appears:

➤ Click **Install...** to start the installation.

The installation program locates the installer on the disk you inserted:



➤ Click **Finish** to run the installer.

As the installation proceeds, dialog boxes will prompt you for any information needed for the installation.

To run a Windows application

➤ Click **Start**, then click **Programs**.

➤ Point to the folder containing the program, and then click the program.

To run a Windows application from the Macintosh

The SoftWindows 95 EasyLaunch feature lets you run a PC application simply by double-clicking an icon on your Macintosh.

➤ Set up the E: drive as a Macintosh shared folder.

For more information refer to *Sharing PC files between SoftWindows 95 and the Macintosh*, page 46.

➤ Double-click the **My Computer** icon on the Windows desktop.

➤ Drag the document or application file onto the E: drive icon to copy the file to the Macintosh shared folder.

You can now automatically run SoftWindows 95 and Windows, and then run the Windows application, by double-clicking the icon.

To remove a Windows application

➤ Click **Start**, then click **Settings** and **Control Panel**.

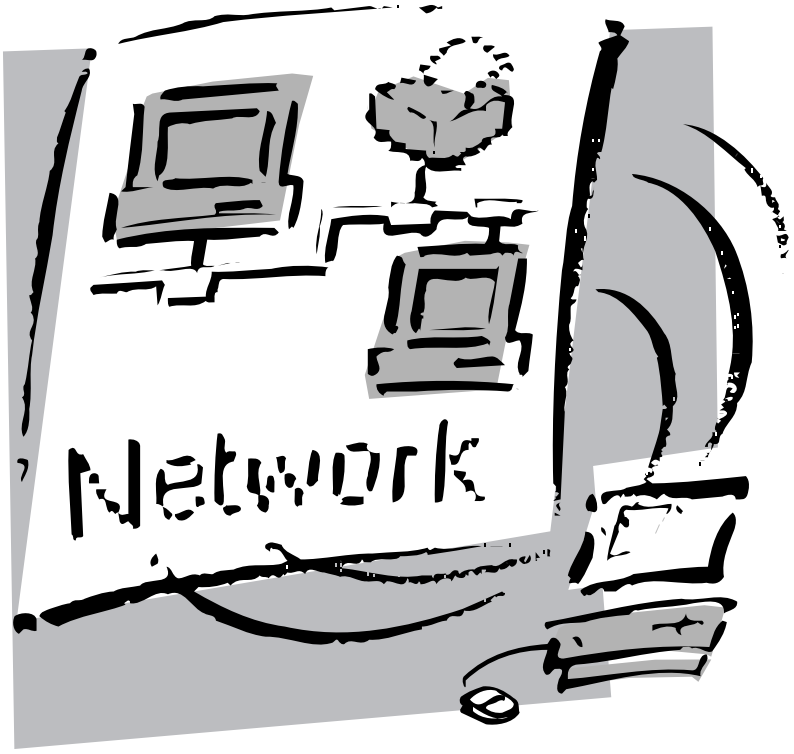
➤ Double-click the **Add/Remove Programs** icon.

This dialog box appears:

➤ Select the program you want to remove and click **Add/Remove...**.

The program will then be removed from the hard disk file.

Networking with SoftWindows 95



SoftWindows 95 includes Insignia's network drivers to enable you to share files with other PCs, or run multi-user applications on a network.

SoftWindows 95 offers you the same network functionality as any PC, enabling you to install a wide variety of PC networking packages. This is achieved using Insignia's network drivers which operate over both Ethernet and Token-Ring networks.

This chapter begins with a brief description of the network interfaces supported within SoftWindows 95, followed by instructions on how to install PC networking packages within these operating systems.

Network interfaces

In a PC networking environment, the operating system does not communicate directly with the network card itself, but through a software interface called a network driver. Modern network drivers and communication protocols are written to common interface standards, allowing multiple protocol stacks to be used with any network interface driver written to the same standard.

The most popular standards are currently the Network Driver Interface Specification (NDIS, developed by Microsoft and 3COM), and the Open DataLink Interface (ODI, developed by Novell and Apple).

Another driver standard is Winsock, which is one of the most popular PC network interfaces for TCP/IP applications.

SoftWindows 95 is supplied with the following drivers for both Ethernet and Token-Ring networks:

- NDIS, V3.1 miniport, Windows only.
- ODI, 16-bit real mode.
- Winsock, V1.1, 16-bit and 32-bit.

All the SoftWindows 95 networking drivers are stored in the `C:\INSIGNIA` directory, and have the following filenames:

Network driver	*Filename*
Ethernet NDIS	`ISETH.SYS`
Token-Ring NDIS	`ISTOK.SYS`
Ethernet ODI	`ETHERSPC.COM`
Token-Ring ODI	`TOKENSPC.COM`
Winsock (16-bit)	`WINSOCK.DLL`
Winsock (32-bit)	`WSOCK32.DLL`

Since the Insignia ODI and NDIS drivers access the same physical network interface they cannot be used simultaneously.

Requirements for network support

SoftWindows 95 network drivers (NDIS, ODI, Winsock) work with both of Apple's Classic and Open Transport network architectures. The preferred network architecture for SoftWindows 95 is Open Transport (v1.1.1 and above), the installer for which can be found on the SoftWindows 95 installation CD. Please consult the Open Transport readme file for system requirements.

If you are planning to use the DECnet protocol you will need to override your built-in Ethernet address. Refer to *DECnet Address Override*, page 118, for details.

The following section describes the configuration of networking within Windows.

Windows can be configured to use either the SoftWindows 95 NDIS or ODI network drivers. It is recommended that the NDIS drivers are used where possible as they are Windows specific and offer the best performance. Note also that some third-party clients and protocol stacks must be installed via NDIS drivers. The configuration of the Insignia NDIS and ODI drivers are outlined in the following sections.

SoftWindows 95 is supplied with both 16-bit and 32-bit Winsock (1.1) support pre-installed. This allows any Winsock-compliant application to be used without re-configuring Windows. If you need to access local area network servers, Windows must be re-configured to access the host's network device, either via NDIS or ODI.

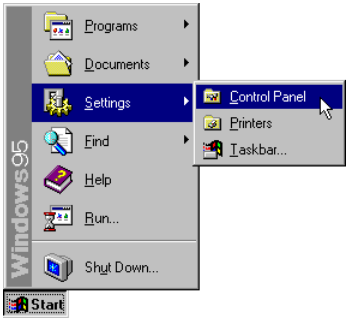
If you wish to use MacIPX and have NetWare connectivity within SoftWindows 95, Windows must be set up using the Insignia ODI drivers and Novell's NetWare 4 client. For more information refer to *Simultaneous protocol support*, page 115.

To use Insignia NDIS drivers

To use the SoftWindows 95 NDIS driver with the standard Microsoft Windows clients, follow the instructions below. To use the NDIS driver with other Windows network clients, follow the application installation instructions, installing the Insignia NDIS driver as described below when required.

➤ Ensure that the WIN95DATA CD is available to SoftWindows 95.

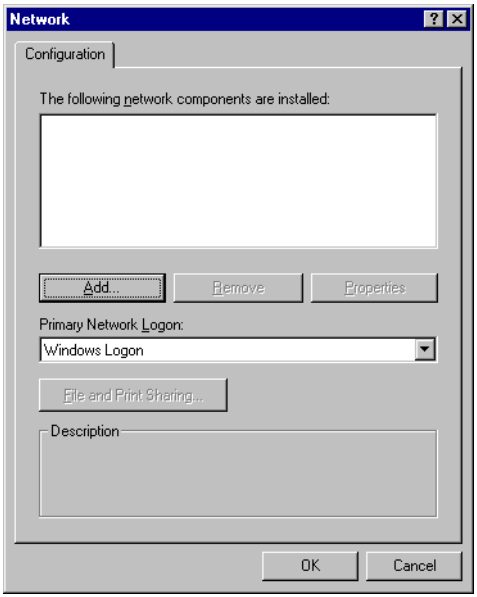
➤ Click the **Start** button, point to **Settings**, and then click **Control Panel**.



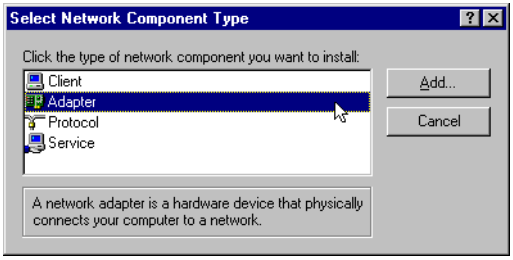
➤ Double-click the **Network** icon in the **Control Panel** folder.

The **Network** dialog box is displayed.

➤ If any existing drivers are displayed, select them and click **Remove**.

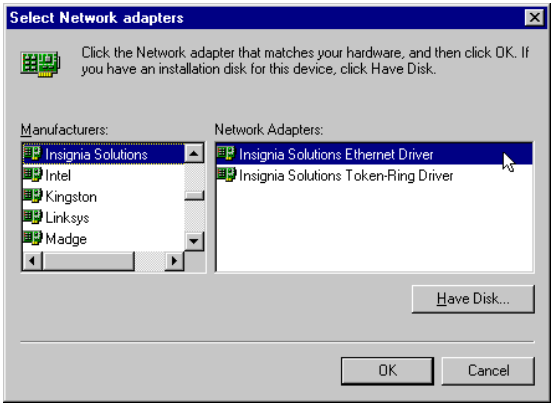


➤ Click **Add...**.



➤ Select **Adapter** and click **Add...**.

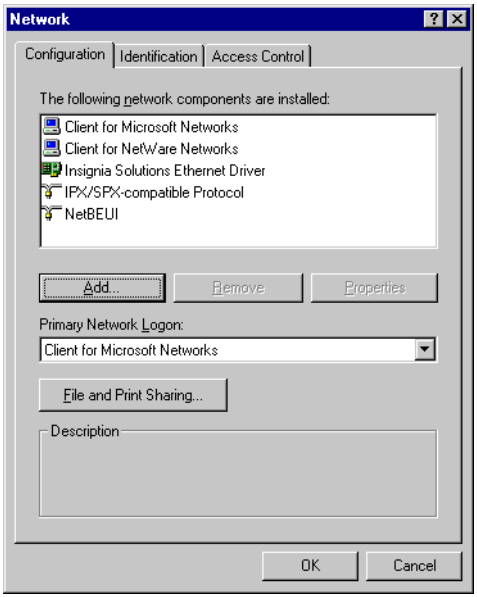
A number of network adapter cards will be presented.



➤ Select **Insignia Solutions**.

➤ Select **Ethernet Driver** or **Token-Ring Driver**, as appropriate, and click **OK**.

The **Network** dialog box should now include the following items:

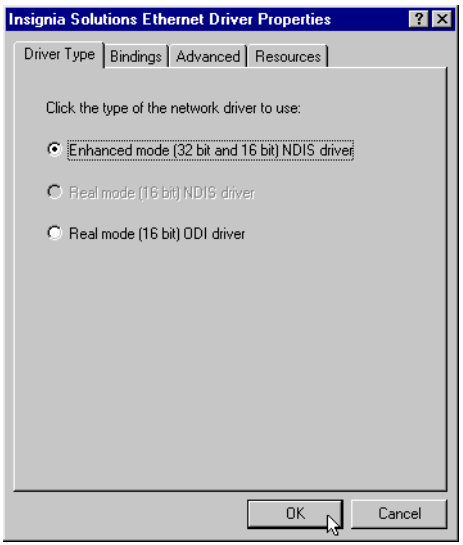


Windows adds the IPX/SPX and NetBEUI protocols and the Microsoft and NetWare clients by default.

The SoftWindows 95 network driver can be configured to be either NDIS (default) or ODI. To ensure that the NDIS driver has been chosen:

➤ Select the Insignia Network Driver and click **Properties**.

➤ Ensure that **Enhanced Mode (32 bit and 16 bit) NDIS driver** is selected.

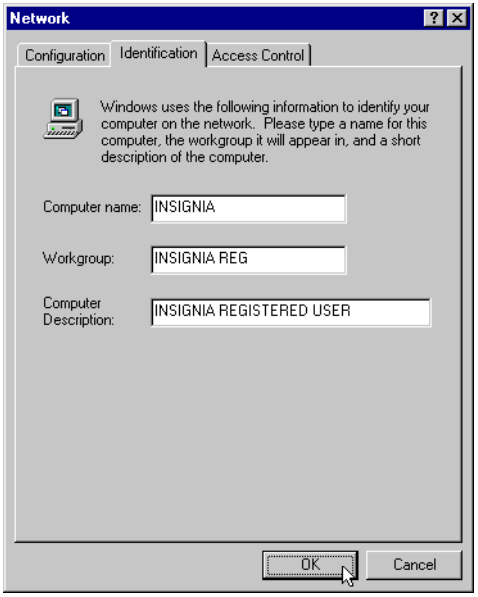


➤ Click **OK** to return to the **Network** dialog box.

➤ If you require additional protocols and clients, add these in a similar way.

➤ Remove any protocols and clients you do not need, and click **OK**.

➤ Select the **Identification** tab.



➤ Select a unique **Computer name**, the **Workgroup** you wish to be a member of, and a **Computer Description** for SoftWindows 95.

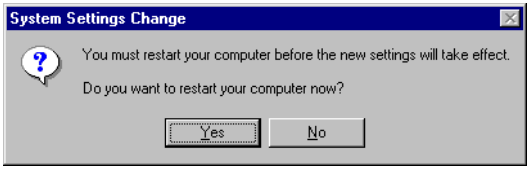
Other users identify your SoftWindows 95 installation from these settings. An informative **Computer name** and **Computer Description** can help when attempting to share network resources.

➤ Once you are sure that the configuration is complete click **OK**.

➤ When a dialog box appears asking you to confirm the resource allocation for the driver, accept the default (IRQ 10), and click **OK**.

Windows will now download the appropriate software and drivers. You may be prompted to supply the location of the Insignia network drivers, in which case specify `C:\INSIGNIA`.

The following dialog box will then appear:



➤ Click **Yes** to restart Windows.

After restarting Windows, double-click the **Network Neighborhood** icon on the Windows desktop to list the servers and machines that are visible to your computer.

To view all the network resources available to your machine, double-click the **Entire Network** icon.

To use TCP/IP

➤ Ensure that you have the Windows 95 upgrade CD or the SoftWindows 95 `D:` drive available to SoftWindows.

➤ Ensure that the `NET.CFG` file is set up as follows:

```
Link Driver ETHERSPC
   Frame ETHERNET_II
   Protocol IP 800 ETHERNET_II
   Protocol ARP 806 ETHERNET_II
```

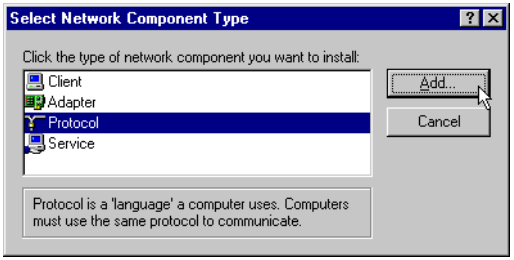
➤ Click the **Start** button, point to **Settings**, and then click **Control Panel**.

➤ Double-click the **Network** icon in the **Control Panel** folder:

The **Network** dialog box is displayed.

➤ Click **Add...**.

This dialog box appears:



➤ Select **Protocol** and click **Add...**.

➤ Select **Microsoft** in the **Manufacturers** list and **TCP/IP** in the **Network Protocols** list, then click **OK** to add it.

The **Network** dialog box should now include the **TCP/IP** protocol.

➤ Select **TCP/IP** and click **Properties**.

➤ Click the **DNS Configuration** tab.

➤ Select **Enable DNS**.

➤ Enter your Host name and domain name.

➤ Enter your DNS Server IP address in the **DNS Server Search Order** box.

➤ Click the **IP Address** tab.

➤ Select **Specify an IP address**.

➤ Enter your IP address and Subnet Mask.

If you are using MacTCP ensure that SoftWindows has a different IP address to your Macintosh.

➤ Select the **WINS Configuration** tab and ensure that **Disable WINS Resolution** is selected.

➤ Select the **Gateway** tab and add your gateway address.

➤ Click **OK** to confirm the changes.

Windows 95 will now download the appropriate software from your Windows 95 upgrade CD or the SoftWindows 95 `D:` drive. If Windows 95 cannot find the necessary files, ensure that the path is correct.

➤ When asked whether you want to restart Windows 95 click **Yes**.

Windows 95 restarts configured to use the TCP/IP protocol.

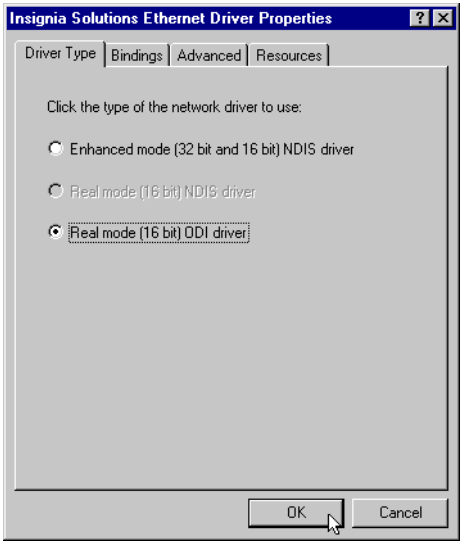
To use Insignia ODI drivers

This section describes how to configure Windows to use the Insignia ODI drivers, although this is not the recommended solution.

If you are using MacIPX you should not use this option; refer to *To install the Novell NetWare Workstation VLM Shell* below instead.

TurboStart is not available if you are using ODI networking with Windows.

➤ Follow the steps described in *To use Insignia NDIS drivers*, page 97, but select the **Real mode (16 bit) ODI driver** from the list of supported network drivers in the **SoftWindows 95 Network Driver Properties** dialog box.



➤ When asked whether you want to restart Windows click **No**.

Even though Windows has now been set up as required, the Insignia ODI driver needs to be configured to support the protocols and clients selected.

The Insignia ODI drivers are configured through the `C:\WINDOWS\NET.CFG` file. By default this is set to support both Ethernet and Token-Ring, with the frame types set to ETHERNET_802.2 and TOKEN-RING, respectively, for both Novell NetWare and Microsoft Networking; these are the same default protocols as those chosen by Windows during the network set-up.

If your network has different characteristics you will need to edit the `NET.CFG` file to select the appropriate options. To change the options, comment out the current setting by inserting a semicolon in front of the line and remove the semicolons from the lines you require. Refer to *Configuring ODI drivers*, page 109, for more details.

To install the Novell NetWare Workstation VLM Shell

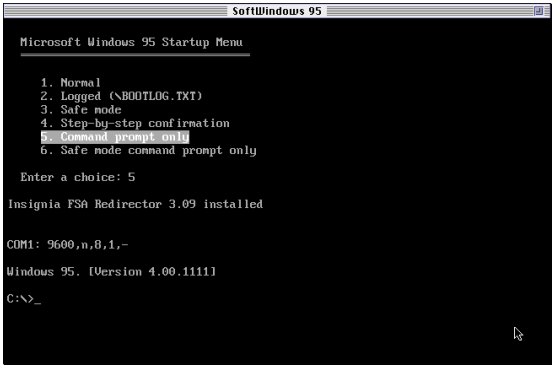
This section describes how to add Novell's Workstation Shell (VLMs) network support to Windows. You should only use this option if you are using MacIPX.

You may wish to consult your NetWare system administrator for the correct frame type to use.

➤ Run Windows.

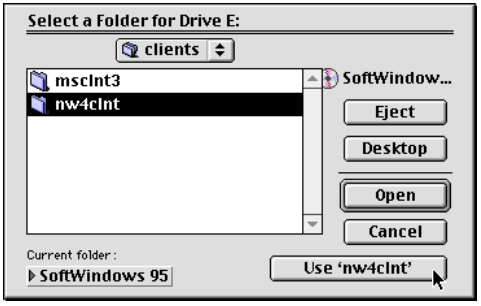
➤ When the message `Starting Windows 95...` appears, press F8 (⌘ `keypad 8` on the Macintosh).

➤ Select **Command Prompt only** and press ↵ to proceed.



➤ Choose **SoftWindows 95 Setup...** from the **Setup** menu, and click the **Shared Folders** button.

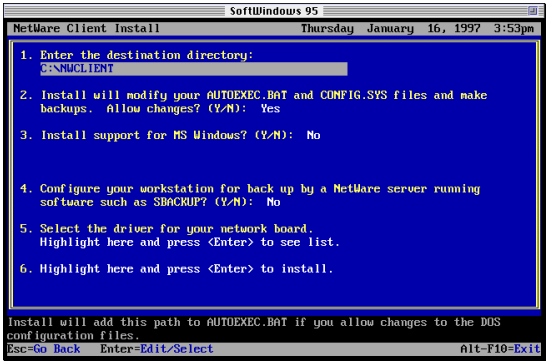
➤ Set up the `E:` drive as the **nw4clnt** folder on the SoftWindows 95 installation CD. It is located in the **PC Extras** folder in the **clients** folder.



➤ At the MS-DOS `C:\>` prompt type:

`E:` ↵

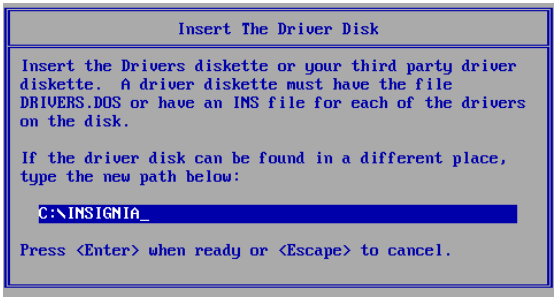
➤ Type `INSTALL` ↵.



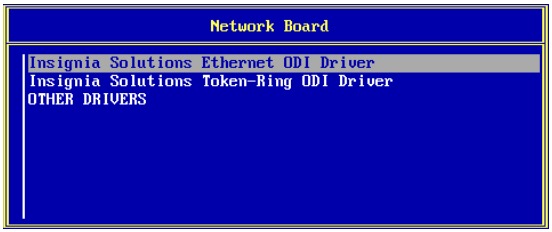
➤ Using the ↑ and ↓ keys to navigate through this screen, select the following options:

1. Select the default option: `C:\NWCLIENT`.
2. Select the default option: **Yes**.
3. Select **Yes** for Windows support and specify the Windows directory.
4. Select the default option: **No**.
5. Press ↵ to display the list of available drivers. Scroll down to the bottom of the driver list, select **OTHER DRIVERS**, and press ↵.

➤ In the following dialog box enter `C:\INSIGNIA` and press ↵.

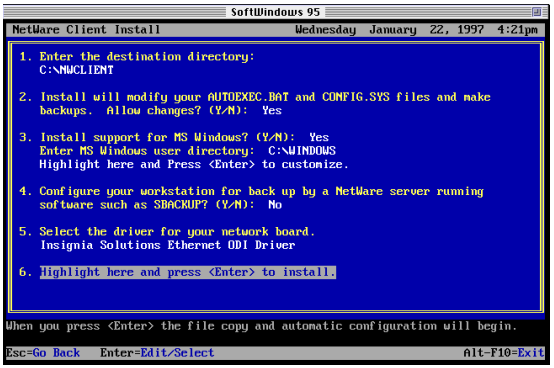


➤ Select the appropriate ODI driver (Ethernet or Token-Ring) and press ↵.



➤ Select which frame type you wish to use.

➤ When you have selected the required value press F10 (⌘ Keypad-0 on the Macintosh) to save.



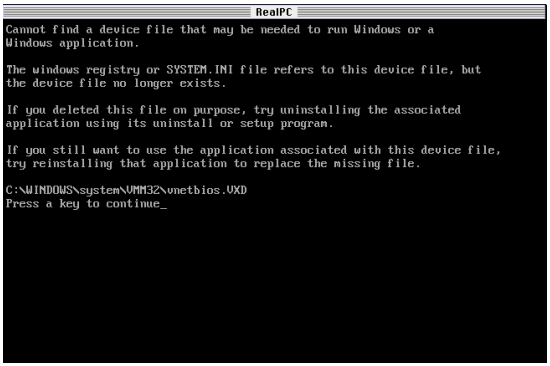
➤ Select option 6 and press ↵ to install.

Various files will be copied onto your hard disk.

➤ If prompted to **Use version on installation diskette**, select **No**.

➤ When the installation is complete choose **Restart SoftWindows 95** from the **Setup** menu to restart SoftWindows 95.

On restarting, Windows will encounter the following problem. This is because the Windows component of the Netware Client has not yet been installed:



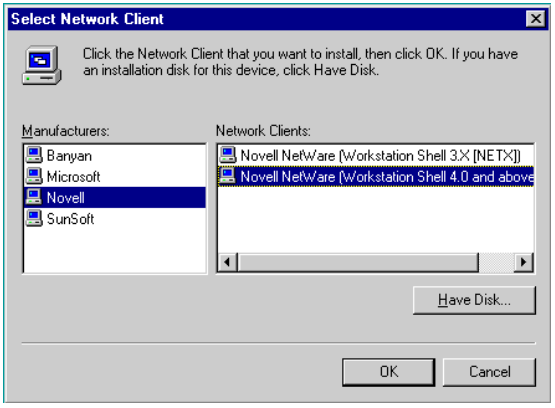
➤ Press any key to continue.

When Windows has started double-click the **Network** icon in the **Control Panel** folder.

➤ Click **Add...**.

➤ Select **Client** and click **Add...**.

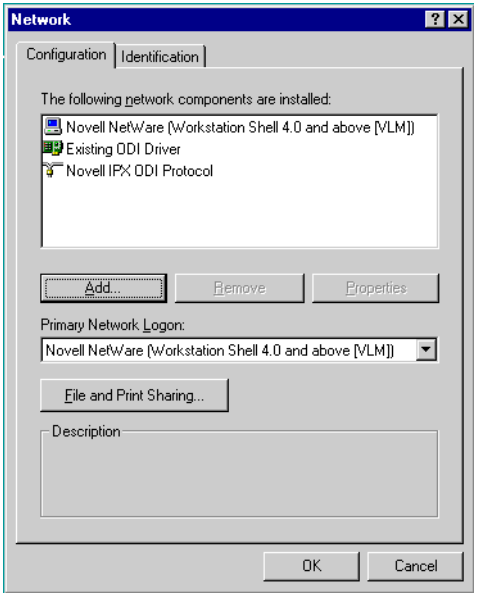
➤ Select **Novell** and select **Novell Netware (Workstation Shell 4.0 and above)**.



➤ Click **OK**.

➤ Select the **Identification** tab and identify your SoftWindows 95 as described earlier.

The **Network** control panel now shows the items you have installed:



➤ Click **OK**.

Windows will now download the appropriate software to your hard disk.

For changes to take effect you will be asked whether you wish to restart Windows.

➤ Click **Yes**.

PPP connections with Microsoft Dial-Up Adapter

This section describes how to configure PPP with Windows.

These instructions assume that you have Windows installed and running.

➤ Insert the WIN95DATA CD.

Setting up the appropriate drivers

➤ Click the **Start** button, point to **Settings**, and then click **Control Panel**.

➤ Double-click the **Network** icon in the **Control Panel** folder.

➤ When the **Network** dialog box appears, click **Add...**.

➤ Select **Adapter** and click **Add...**.

➤ Select **Microsoft** from the **Manufacturers** list, select **Dial-Up Adapter** from the **Network Adapter** list and click **OK** to add it.

➤ From the **Network** dialog box, click **Add...**.

➤ Select **Protocol** and click **Add...**.

➤ Select **Microsoft** from the **Manufacturers** list, select **TCP/IP** from the **Network Protocols** list and click **OK** to add it.

➤ Highlight **TCP/IP** and click **Properties**.

➤ If your Internet Service Provider automatically assigns an IP address each time you dial in, leave the defaults. If your ISP requires that you specify your IP configuration, click **Specify an IP address** to complete the IP Address and Subnet Mask according to the ISP's configuration instructions.

Also complete the DNS Configuration Gateway and set the WINS Configuration to **Disable WINS Resolution** according to the ISP's configuration instructions.

If you are logging into a Microsoft network via modem:

➤ Verify the Identification items by clicking on the **Identification** tab and completing the Computer Name and Workgroup fields. Also, turn on File Sharing by clicking on **File** and **Print Sharing**.

➤ Highlight **Client for Microsoft Networks** and click on **Properties**.

➤ Check the box to **Log on to Windows NT domain** and enter your domain.

Auto detecting your modem

➤ From the **Control Panels**, select **Modems** and **Add...**, **Next>**, and let it Auto Detect your Modem. Click on **Dialing Properties** and complete the fields.

➤ In **My Computer**, double-click on **Dial-Up Networking**. If the setup Wizard does not start automatically, double-click on **New Connection**.

➤ Click on **Next>**, name your connection and select your modem.

➤ Click on **Next>**. Enter your Area Code and Phone Number and click on **Next>**. Click on **Finish** to create your connection.

➤ In **My Computer**, select **Your Connection**. Enter your **User Name** and **Password**. Verify your phone number and click on **Connect**.

When the connection is made, SoftWindows 95 will be configured to work with your Internet applications.

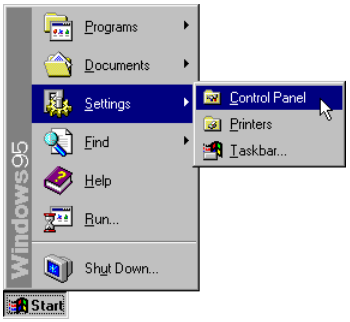
Troubleshooting

If you cannot Connect or Ping, verify the IP addresses in your **Network** Control Panel.

Configuring NDIS drivers

The Windows registry holds various configuration settings for the SoftWindows 95 NDIS drivers. Although these settings *can* be modified by editing the registry, the preferred approach is by the **Network** icon within the Windows **Control Panel**. The network settings can be viewed by performing the following steps:

➤ Click the **Start** button, point to **Settings**, and then click **Control Panel**.

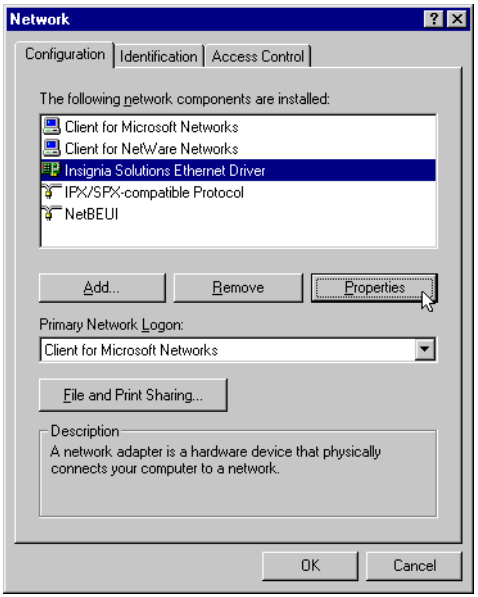


➤ Double-click the **Network** icon in the **Control Panel** folder.

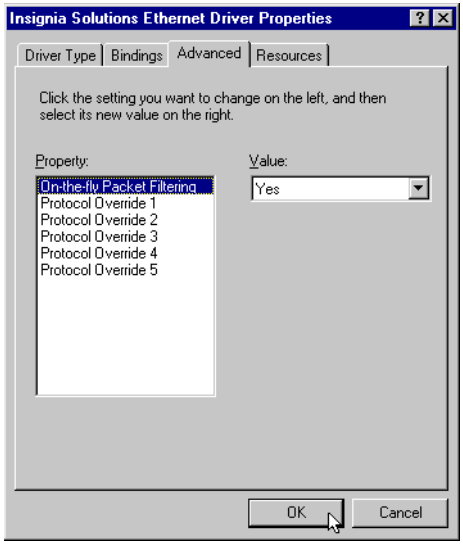
Network

To access the SoftWindows 95 NDIS driver's **Advanced** settings:

➤ Select the SoftWindows 95 NDIS driver and click on **Properties**.



➤ Select the **Advanced** tab to view the NDIS driver's settings:



The following **Advanced** settings are defined; note that some are Token-Ring specific.

Maximum Packet Size (Token-Ring only)

This option allows the SoftWindows 95 Token-Ring NDIS driver to be configured to support a smaller packet size defined by the host's network device. By default this is set to 4096 bytes. Note that a size greater than that supported by the host will be ignored.

On-the-fly Packet Filtering

In normal operation the SoftWindows 95 NDIS drivers filter received packets on-the-fly. That is, they only receive packets of protocol types which they have previously transmitted. In some circumstances this could cause a slight degradation in performance, and the functionality of the NDIS drivers can be changed to disable this on-the-fly filtering technique. Disabling this functionality can stop network packets being received by Windows if care is not taken.

If **On-the-fly Packet Filtering** is disabled valid Protocol Overrides *must* be supplied.

Ring Speed (Token-Ring only)

The SoftWindows 95 Token-Ring NDIS driver uses whatever the host Token-Ring network card is configured to. This advance setting is provided for information only.

Protocol Override 1–5

Five Protocol Override settings are provided. These force the SoftWindows 95 NDIS drivers to enable the selected protocol types.

The following table shows how to enable specific frame/protocol types:

Frame Type	*Value format*	*Example*
Ethernet_II	xxxx	0806
Ethernet_802.2	xx	F0
Ethernet_802.3	FF	FF
Ethernet_SNAP	AAxxxxxx	AA008137
Token-Ring	xx	E0
Token-Ring_SNAP	AAxxxxxx	AA000800

Where x represents a hex digit.

Note that ALL protocols must be added. For example, to enable TCP/IP you must enable both IP (0800) and ARP (0806). If **On-the-fly Packet Filtering** is enabled the protocol overrides are ignored.

Configuring ODI drivers

The ODI system is configured through a single file, NET.CFG.

The NET.CFG file is divided up into sections, each of which provides parameters to configure a different part of the ODI system. Each section of the file begins with a section heading at the start of the line, followed by a series of tab-indented configuration options under the section heading.

The following example shows a simple NET.CFG file:

```
LINK SUPPORT
        BUFFERS 8 1500
        MEMPOOL 8192
LINK DRIVER ETHERSPC
        FRAME ETHERNET_II
        PROTOCOL IPX 8137 ETHERNET_II
```

These sections are described in detail below.

LINK SUPPORT

The **LINK SUPPORT** section of the NET.CFG file is used to configure the Open Data-link Interface Link Support Layer (LSL.COM). This section is only needed when protocols require a non-default configuration.

LINK DRIVER

The **LINK DRIVER** section is the most important part of the NET.CFG file for configuring SoftWindows 95. The options set in this section govern the interface between the driver and the rest of the system, the protocols registered with the network interface, and the format of packets transmitted and received. There are also numerous other configuration options associated with the network interface card, but most of these are not relevant to SoftWindows 95.

The following options are the most important for SoftWindows 95:

FRAME

Syntax: FRAME *frame-type*

This configuration option enables a particular frame type.

PROTOCOL

Syntax: PROTOCOL *name protocolID frame-type*

This configuration option enables a particular protocol to be used with a particular frame type. The SoftWindows 95 ODI driver will only receive network packets for those protocols enabled within the NET.CFG file.

MAX PACKET SIZE

Syntax: MAX PACKET SIZE *value*

Some platforms limit the size of packets which can be transmitted. This option is only offered to resolve any platform-specific limitations which may occur in the future.

The default sizes are as follows:

Network	*Default max packet size*
Ethernet	1514
Token-Ring	4210

Example

A sample LINK DRIVER section is as follows:

```
LINK DRIVER ETHERSPC
      FRAME ETHERNET_802.2
      FRAME ETHERNET_II
      FRAME ETHERNET_802.3
      FRAME ETHERNET_SNAP
      PROTOCOL IPX 8137 ETHERNET_II

LINK DRIVER TOKENSPC
      FRAME TOKEN RING
      FRAME TOKEN RING_SNAP
      PROTOCOL IPX 8137 TOKEN-RING_SNAP
      MAX PACKET SIZE 4210
```

The FRAME lines in this LINK DRIVER section allow all four Ethernet and two Token-Ring frame types to be used with the driver. It is recommended that you always include all frame types in the LINK DRIVER section to allow the driver to transmit and receive frames in any of the common hardware packet formats. Note that the order of the lines is not significant. A configuration such as this prevents any FRAME and PROTOCOL mismatches occurring, and also makes configuring both ODI and NDIS (over ODI via the ODINSUP shim) identical.

The MAX PACKET SIZE option limits the size of any packets being transmitted and is only provided to solve platform-specific implementations in which the host is not able to transmit full size raw packets.

Since the SoftWindows 95 ODI drivers (ETHERSPC, TOKENSPC) and the other Novell ODI components all obtain their configuration data from the NET.CFG file, it is important that they all reference the same NET.CFG file. It is recommended that all the ODI components are loaded from the directory which contains the NET.CFG file, usually C:\NWCLIENT. For example:

```
CD \NWCLIENT
LSL
ETHERSPC
IPXODI
VLM
```

Configuration issues

IRQ level

Some network client software needs to know the interrupt number of the ODI driver during installation and configuration. SoftWindows 95 ODI and NDIS drivers use IRQ 10 (decimal).

ODI frame types

The following sections provide information on the FRAME types and PROTOCOL entries required in the NET.CFG file for common network clients and SoftWindows 95.

Windows/Microsoft LAN Manager/Windows for Workgroups

```
PROTOCOL SMB F0 ETHERNET_802.2
PROTOCOL SMB F0 TOKEN RING
```

Novell NetWare

```
PROTOCOL IPX E0 ETHERNET_802.2
PROTOCOL IPX 8137 ETHERNET_II
PROTOCOL IPX 8137 ETHERNET_SNAP
PROTOCOL IPX 0 ETHERNET_802.3
PROTOCOL IPX E0 TOKEN RING
PROTOCOL IPX 8137 TOKEN RING_SNAP
```

Novell's Protocol Burst support

Although by default this feature is disabled, it is possible to increase the performance of the NetWare 4 client within SoftWindows 95 by enabling Novell's Protocol Burst support for use with the SoftWindows 95 ODI driver. This should only be enabled when accessing NetWare 4 servers via the NetWare 4 client as no increase in performance will be seen in other circumstances.

To enable Protocol Burst support the SoftWindows 95 NET.CFG file must be edited. Remove the ; (semi-colon) at the beginning of the following line:

```
; MAX IPG = 1
```

Change the value of PB BUFFERS from 0 to 7.

Protocol Burst support will now be enabled whenever the NetWare 4 VLM client is loaded.

TCP/IP connectivity

```
PROTOCOL IP 800 ETHERNET_II
PROTOCOL ARP 806 ETHERNET_II
PROTOCOL IP 800 TOKEN RING_SNAP
PROTOCOL ARP 806 TOKEN RING_SNAP
```

Banyan VINES

```
PROTOCOL VINES BAD ETHERNET_II
PROTOCOL VINES BC TOKEN RING
```

Where two or more protocols of the same frame type are provided for the network client, all must be present in the NET.CFG file for the client to work correctly. For example, for the Microsoft network client to work over TCP/IP, and for access to NetWare servers to be enabled, the following must be defined in the Ethernet section of the NET.CFG file:

```
LINK DRIVER ETHERSPC
   FRAME ETHERNET_II
   PROTOCOL IP 800 ETHERNET_II
   PROTOCOL ARP 806 ETHERNET_II
   PROTOCOL IPX 8137 ETHERNET_II
```

Link Support Layer

No problems should be encountered when loading the Link Support Layer. If an error does occur, the most likely cause is an incorrect entry in the LINK SUPPORT section of the NET.CFG file.

The ODI driver

Several problems could cause the Insignia ODI driver to report a failure at load time. The following are common faults and solutions:

ODI driver cannot find the host's adapter

The message shown below indicates that the Insignia ODI driver has failed to initialize or find the host's network device:

```
C:\NWCLIENT>etherspc
Insignia Ethernet MLID v2.00E (950908).
(C) Copyright 1991-1995 Insignia Solutions Inc.
All Rights Reserved.
IRQ 10, Node Address 800690895E2 L
Max Frame 1514 bytes, Line Speed 10 Mbps, Bus ID 0
Board 1, Frame ETHERNET_802.2, LSB Mode
Board 2, Frame ETHERNET_II, LSB Mode
Board 3, Frame ETHERNET_SNAP, LSB Mode
Board 4, Frame ETHERNET_802.3, LSB Mode
Could not find a host Ethernet card.
ETHERSPC-DOS-6: The adapter did not initialize.
ETHERSPC did not load.
```

Ensure that the specified topology (Ethernet/ Token-Ring) is supported on your Macintosh.

ODI driver is loaded twice

The second attempt at loading the ODI driver will produce error output similar to the following:

```
C:\NWCLIENT>etherspc
Insignia Ethernet MLID v2.00E (950908).
(C) Copyright 1991-1995 Insignia Solutions Inc.
All Rights Reserved.
ETHERSPC-DOS-7: You need another ETHERSPC driver
section in the NET.CFG file in order to load the
LAN driver again.
```

The Insignia ODI drivers can only be loaded once. If you need to reload the ODI driver simply unload the previous instance first with the command:

```
ETHERSPC U ↵
```

Token-Ring line speed

The line speed for Token-Ring should be configured on your Macintosh since it cannot be configured from within the Insignia ODI drivers. The value displayed is the default and has no significance.

```
Insignia Token Ring MLID v2.00E (950908).
(C) Copyright 1991-1995 Insignia Solutions Inc.
All Rights Reserved.
IRQ 10
Max Frame 4210 bytes, Line Speed 4 Mbps, Bus ID 0
Board 1, Frame TOKEN RING, MSB Mode
Board 2, Frame TOKEN RING_SNAP, MSB Mode
```

SoftWindows 95 Winsock drivers

SoftWindows 95 is supplied with Winsock 1.1 compliant drivers. SoftWindows 95 will run Winsock-based applications without any modification. No configuration is required within the Windows environment. Unlike third-party Winsock drivers, which require a PC-based TCP/IP stack, the SoftWindows 95 Winsock drivers use the Macintosh's TCP/IP stack for all network activity. This not only removes the need for a third-party PC-based TCP/IP stack, but also reduces the overall amount of memory used within SoftWindows 95 to provide Winsock support.

The Insignia Winsock drivers are pre-installed within the Windows system and are ready to use. Copies are also provided in the `C:\INSIGNIA` directory. Note that since the SoftWindows 95 Winsock drivers use the Macintosh TCP/IP protocol stack they both share the same IP address.

The installation of third-party TCP/IP protocol stacks replace the Insignia Winsock drivers and will require full configuration (unique IP address and so on).

To restore the Insignia Winsock drivers

➤ Copy `WINSOCK.DLL` from the `C:\INSIGNIA` folder to the `C:\WINDOWS` folder.

➤ Copy `WSOCK32.DLL` from the `C:\INSIGNIA` folder to the `C:\WINDOWS\SYSTEM` folder.

Simultaneous protocol support

As the SoftWindows 95 networking functionality generally uses PC protocol stacks within SoftWindows 95, there can be conflicts between protocol resources (such as the port, socket, sequence numbers, and so on) when trying to use the same protocol stack from your Macintosh. SoftWindows 95, however, provides support for simultaneous protocol support for IPX and TCP/IP protocols.

Simultaneous IP connections

This section describes how to configure simultaneous TCP/IP network connections from Windows running in SoftWindows 95 and the MacOS environment. Open Transport TCP/IP is not provided by Insignia Solutions Inc. but is included with MacOS 7.5.x and later.

Apple Open Transport

Apple Open Transport TCP/IP 1.1.1 running on a Power Macintosh has a feature called Multisession IP that allows the MacOS to make IP connections while other applications, such as SoftWindows 95, make separate IP connections simultaneously. This setup requires a separate IP address for the MacOS and a separate one for the TCP/IP application running in SoftWindows 95. With this feature, the user may install TCP/IP packages such as Novell LAN WorkPlace for Windows in SoftWindows 95 without conflicting with the TCP/IP software in the MacOS.

The Open Transport TCP/IP can be configured to use the Ethernet, Token-ring or Apple IP configurations to get to the Internet. It can also use Open Transports PPP 1.0 which configures a modem for TCP/IP connections. The latest version of Open Transport PPP can be downloaded from Apple Computer's web site, `http://www.apple.com`. Regardless of the way TCP/IP is accessing the Internet or an intranet, the Insignia WinSock will still be able to provide a simultaneous IP connection through it.

The Insignia WinSock

Apple Open Transport TCP/IP 1.1.1 allows the user to run TCP/IP-compatible applications on your Power Macintosh. These applications will also allow the user to run WinSock 1.1-compatible applications in SoftWindows 95 simultaneously with MacOS TCP/IP applications. This feature is only available when the Insignia `WINSOCK.DLL` and `WSOCK32.DLL` files are installed properly.

The Insignia `WSOCK32.DLL` is a 32-bit WinSock that uses the IP stack provided by the Apple TCP/IP software. It will allow WinSock 1.1-compatible Windows applications, such as web browsers and FTP software, to connect to the Internet. The IP information configured in Open Transport TCP/IP is used by the Windows application.

Configuration

Refer to installation instructions from Apple Computer to install and configure Open Transport TCP/IP 1.1.1.

The Insignia WinSock was written specifically for the IP stack in the MacOS provided by Open Transport TCP/IP. When SoftWindows 95 is installed, the Insignia `WSOCK32.DLL` is in `C:\WINDOWS\SYSTEM` and the Insignia `WINSOCK.DLL` is in `C:\WINDOWS`.

No further configuration is needed in Windows provided that TCP/IP is configured correctly in the MacOS.

If, for some reason, these files are no longer in these locations, they may be copied from the SoftWindows 95 Upgrade Disk.

➤ Choose **SoftWindows 95 Setup...** from the **Setup** menu, to display the **Hard Disks** panel.

➤ In the **D: Drive** section click the **Change...** button, and select the **SoftWindows 95 Upgrade Disk**.

➤ Click **Restart** to restart SoftWindows 95 with the new `D:` drive.

Use Windows Explorer to copy the both the `WSOCK32.DLL` and `WINSOCK.DLL` files from the `D:\INSIGNIA` directory to the correct directories on the `C:` drive:

```
C:\WINDOWS\WINSOCK.DLL
C:\WINDOWS\SYSTEM\WSOCK32.DLL
```

Restart Windows to reinitialize the WinSocks:

➤ Click on the **Start** menu, select **Shutdown**.

➤ Select **Restart the computer?** and click **Yes**.

SoftWindows 95 should now be configured correctly for simultaneous IP connections.

Simultaneous IPX connections

Simultaneous protocol support for IPX is achieved by using Novell's MacIPX protocol stack. When using MacIPX it is necessary for SoftWindows 95 to use a modified version of Novell's PC IPX protocol stack, `ISIPXODI.COM` instead of the original `IPXODI.COM`. As a result of this, MacIPX can only be used when the NetWare 4 client is being used, whether from Windows or Windows 3.x.

To install MacIPX on the Macintosh

➤ Run the SoftWindows 95 installer.

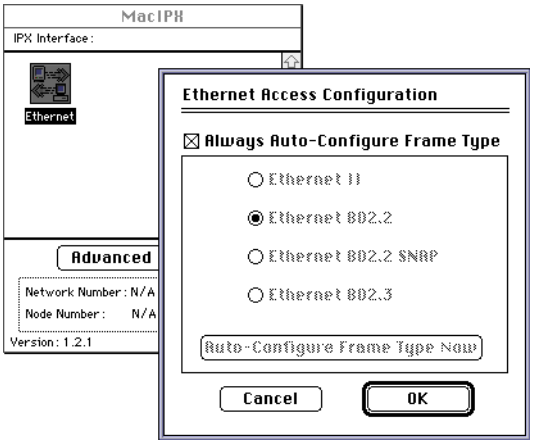
➤ Choose **Custom install**, and select the **MacIPX** option.

To configure MacIPX

➤ Choose **Control Panels** from the menu.

➤ Open the MacIPX control panel by double-clicking its icon.

The MacIPX control panel will be displayed:



➤ Select the frame type which matches that defined in your `NET.CFG` file in your Windows environment.

DECnet Address Override

The DECnet protocol requires the Ethernet card you use in your Macintosh to have a particular address based on the area and node you have been assigned in your DECnet network by your system administrator.

To override the default address first install the DECnet Address Override utility as follows:

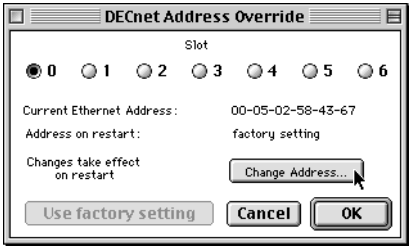
➤ Run the SoftWindows 95 installer, and select **DECnet Address Override Utility** in the **Custom Install** dialog box.

This installs the utility in the **Utilities** folder.

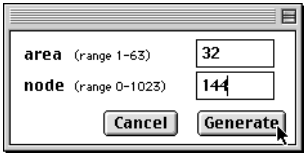
To run DECnet Address Override

➤ Double-click the **DECnet Address Override** icon:

➤ Click **Change Address...**.



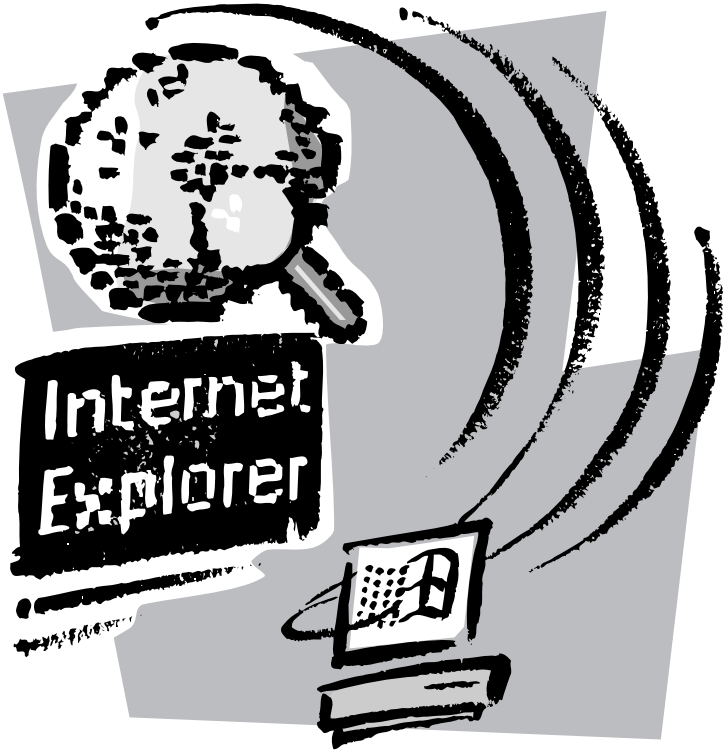
➤ Enter the area and node given to you by your system administrator, and click **Generate**.



➤ Click **OK** to save the new address.

➤ Restart your Macintosh to use the new address.

Using SoftWindows 95 with the Internet



SoftWindows 95 includes Microsoft Internet Explorer, and supports ActiveX and Java to give you full access to Web sites that use these features.

SoftWindows 95 also includes a range of Internet utilities, to allow you to access the World Wide Web from SoftWindows 95, and to download PC files from the Internet.

This chapter explains how to run Internet Explorer, and shows how to use it to access up-to-the-minute support from Insignia or Microsoft. It also describes how to use the demonstration version of the NTRIGUE Net Client for Macintosh provided with SoftWindows 95, to allow you to run Windows applications on an NTRIGUE server via the Internet.

Running Microsoft Internet Explorer

Microsoft Internet Explorer is usually supplied already installed on your SoftWindows hard disk file, and it is set up to enable you to use it to access the World Wide Web. Alternatively, it can be installed from the **PC Extras** folder on the installation CD; refer to *To install Acrobat Reader, Microsoft Internet Explorer, PKZIP, Shockwave, or Stuffit*, page 23.

Before running Internet Explorer your Macintosh needs to be connected to the Internet, either via a direct TCP/IP connection, or via a dial-up connection using PPP or SLIP.

To run Microsoft Internet Explorer

➤ Double-click the **The Internet** icon on the Windows desktop.

The Internet

➤ When the first dialog box appears click **Next** to get connected.

➤ When asked which set-up option you require, select **Current** and click **Next**.

➤ Click **Yes** to make Internet Explorer your default browser.

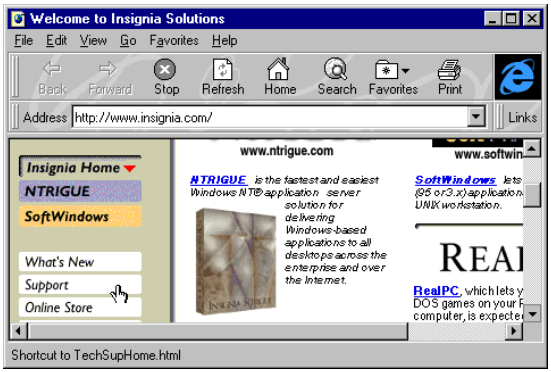
Internet Explorer will run and connect to the Microsoft home page by default.

To get support on Insignia products

➤ Enter the following address in the Internet Explorer address field:

```
http://www.insignia.com/
```

➤ Press ↵.



The Insignia technical support page will be displayed.

From this page you can:

- See a list of Macintosh, UNIX, or NTRIGUE technical support documents.
- Search for a document.
- Browse through all the titles of the technical support documents.

Getting Microsoft support

You can also use Internet Explorer to access Microsoft's World Wide Web support page, to get support on using Windows and other Microsoft products.

To reach Microsoft's support site

➤ Enter the following address in the Internet Explorer address field:

```
http://www.microsoft.com/support/
```

➤ Press ↵.

After a short delay the Microsoft support home page will be displayed:

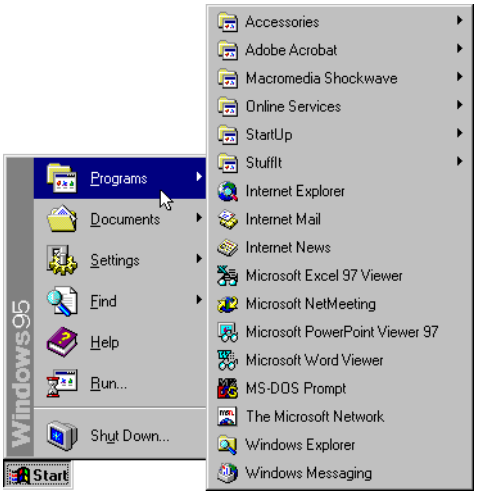
➤ Click on the button corresponding to the support topic that you are interested in.

Using Internet utilities

SoftWindows 95 includes several Internet utilities to help you work with the Internet.

These utilities are usually supplied already installed. Alternatively, you can install them from the **PC Extras** folder on the installation CD; refer to *Installing the Internet utilities*, page 23.

To run them from Windows click the **Start** button, then click **Programs**:

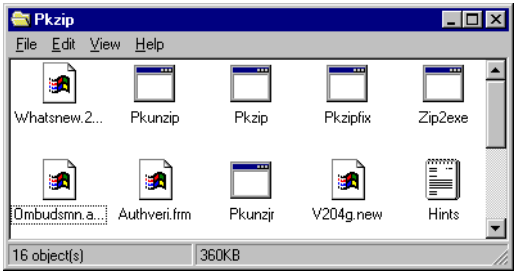


For more information about each utility double-click the Read-Me file icon in the appropriate folder on the `C:` drive.

Compressing and expanding files

These utilities allow you to compress files to save time when sending them as attachments to email, or to expand files that you have received with email or downloaded from the Internet.

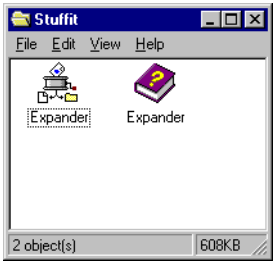
PKZIP, from PKWARE, compresses and expands files using the popular `.ZIP` format:



For more information contact PKWARE's Web site at:

`http://www.pkware.com`

Stuffit Expander expands and decodes files in a variety of formats, including Stuffit (`.SIT`), UUENCODE (`.UUE`), and Binhex (`.HQX`):



For more information contact Aladdin Systems' Web site at:

`http://www.aladdinsys.com`

Viewing files in different formats

A range of viewers are provided, to enable you to view files that have been downloaded from the Internet, even if you do not have the application that created them.

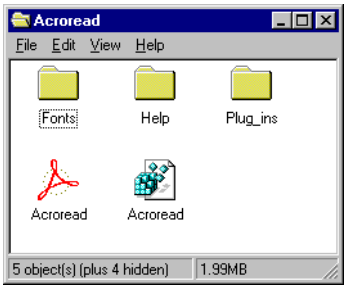
Shockwave provides viewers for documents and Web sites created with Macromedia's products: Director, FreeHand, and Authorware:

For more information and sample files contact Macromedia's Web site at:

`http://www.macromedia.com`

Xlview, **Ppview32**, and **Wordview** are viewers for documents in Microsoft Office 97 Excel, PowerPoint, and Word format:

The **Acrobat Reader** allows you to read on-line versions of documents created in Acrobat (`.PDF`) format:



For more information about setting up your Web browser to recognize Acrobat Reader, and sample Acrobat files, contact Adobe's Web site at:

`http://www.adobe.com`

Playing sound files

RealAudio is a compact sound format for transmitting sound files over the Internet. RealAudio is included with Internet Explorer.

To hear a sample sound double-click the **Example 1** or **Example 2** icons. For more information contact the RealAudio Web site at:

`http://www.realaudio.com`

Using the NTRIGUE Net Client for Macintosh

SoftWindows 95 includes a demonstration version of the NTRIGUE Net Client for Macintosh, to allow you to access an NTRIGUE server across the Internet or via a TCP/IP network.

A Macintosh version of Microsoft Internet Explorer is provided on the first SoftWindows 95 installation CD in the **Extras** folder.

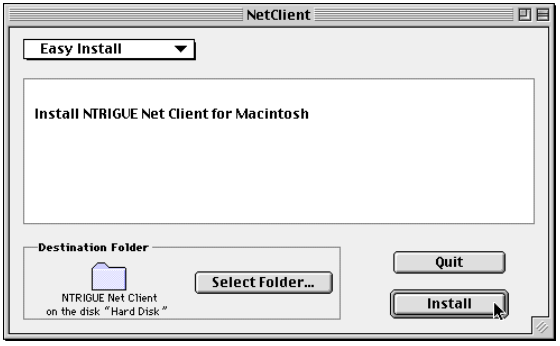
To install the NTRIGUE Net Client

➤ Insert the SoftWindows 95 installation CD.

➤ Open the **NTRIGUE Net Client** folder in the **Extras** folder.

➤ Double-click the installer icon.

➤ When the welcome screen is displayed click **Continue...** to display the **Easy Install** dialog box:



➤ Click **Install** to install the NTRIGUE Net Client.

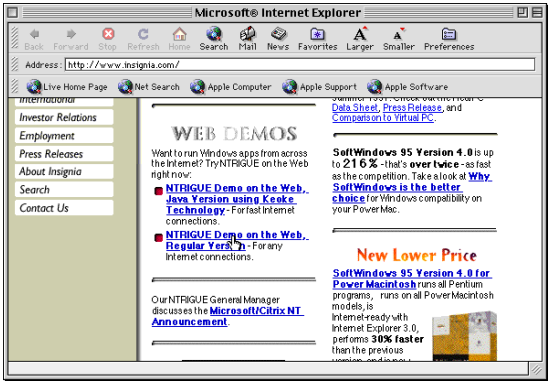
➤ Refer to the Read-Me file for the serial number.

To connect to the Insignia demonstration NTRIGUE server

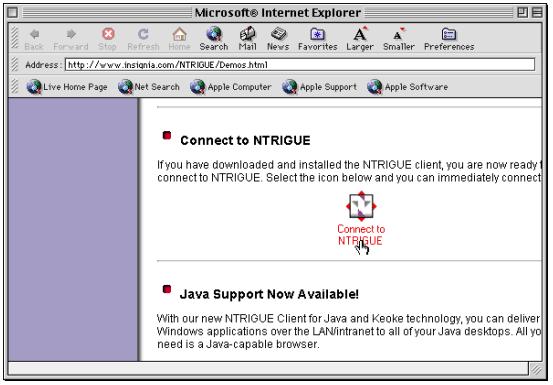
➤ Run a Web browser on your Macintosh, such as Netscape Navigator or Microsoft Internet Explorer.

➤ Connect to Insignia's home page at:

`http://www.insignia.com`



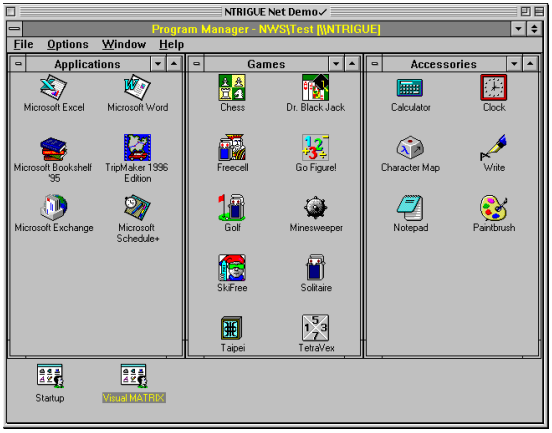
➤ Click **NTRIGUE Demo on the Web, Regular Version** to go to the NTRIGUE page and locate the **Connect to NTRIGUE** link:



➤ Click on the link to make the connection.

➤ Follow the Web browser's instructions.

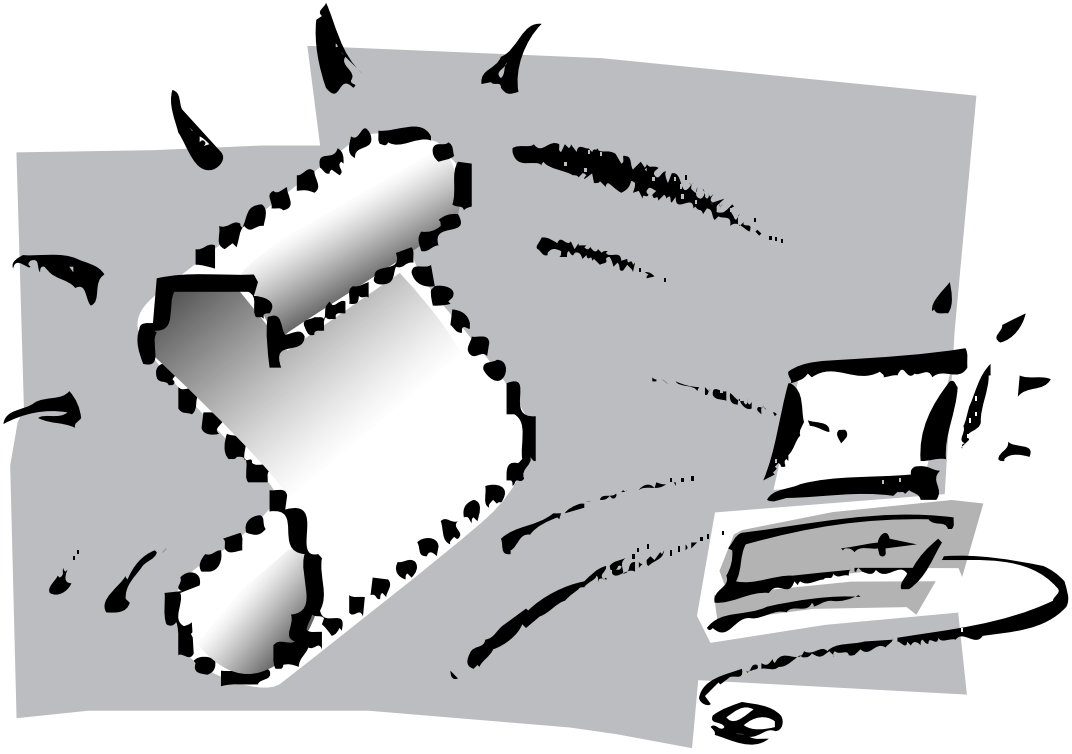
You will be connected to Insignia's NTRIGUE server, and the Windows NT desktop will be displayed.



You can now run the Windows applications by double-clicking their icons on the desktop.

For more information about the NTRIGUE Net Client refer to the Acrobat version of the User Guide in the **NTRIGUE Net Client** folder on the first SoftWindows 95 installation CD.

Scripting SoftWindows 95



SoftWindows 95 includes support for AppleScript, to allow experienced programmers to write scripts that run SoftWindows 95, execute commands, read information from the screen, or quit from SoftWindows 95.

To use AppleScript you need to install Apple's AppleScript software and the Script Editor.

This chapter provides several simple examples of using AppleScript with SoftWindows 95, and gives a full description of the AppleScript commands supported in SoftWindows 95.

For full information about using the AppleScript language and Script Editor refer to the documentation provided with AppleScript.

Using scripting

This section illustrates how you can use scripting by giving some simple scripting examples.

Running SoftWindows 95

The following script runs SoftWindows 95:

```
tell application "SoftWindows 95"
   run
end tell
```

Reading information from the MS-DOS window

The following example copies line 22 of the MS-DOS window into the clipboard. It uses `activate` to bring the window to the front, and this should be used whenever copying or pasting text or graphics.

```
tell application "SoftWindows 95"
   activate
   set key "F8" to press
   set key "6" to press
   set key "Return" to press
   write "DIR" & return
   set bounds of selection to {0,22,44,23}
   copy
end tell
```

The numbers in the `selection` list specify an area of the SoftWindows 95 window in the format:

{*left*, *top*, *right*, *bottom*}

where *left* and *right* are the horizontal start and end in characters, and *top* and *bottom* are the vertical start and end in lines.

The following example gives the command `DIR` to SoftWindows 95. It then reads line 22 of the MS-DOS window, to get the hard disk space available, and displays it in a dialog box:

Note that the `repeat` section of the script keeps checking the result until it has stopped changing, to ensure that the `DIR` command has completed. It does this using the two variables `TheResult` and `OldResult`.

```
tell application "SoftWindows 95"
activate
   set key "F8" to press
   set key "6" to press
   set key "Return" to press
   write "DIR" & return
   set bounds of selection to {0, 22, 44, 23}
   set OldResult to ""
   repeat
     set TheResult to contents of selection
     if character 1 of TheResult = space and
       TheResult = OldResult then exit repeat
     set OldResult to TheResult
   end repeat
   display dialog OldResult
end tell
```

Pasting into a Windows application window

The following script pastes the contents of the clipboard into the frontmost application in Windows:

```
tell application "SoftWindows 95"
   activate
   set key "Alt" to down
   set key "E" to down
   set key "Alt" to up
   set key "E" to up
   set key "P" to press
end tell
```

Running a Windows application

The following example illustrates how to run SoftWindows 95, and then start a Windows application such as Paintbrush.

The script runs the application using an MS-DOS command at the command prompt:

```
tell application "SoftWindows 95"
   run
   activate
   set key "F8" to press
   set key "6" to press
   set key "Return" to press
   write "WIN PBRUSH" & return
end tell
```

Here F8 displays the Load menu, 5 chooses the command prompt option, and Return loads the command prompt. Note that this example assumes that you are not using TurboStart.

Quitting from SoftWindows 95

The following example quits from SoftWindows 95:

```
tell application "SoftWindows 95"
   quit
end tell
```

Scripting reference

The following sections give reference information about the SoftWindows 95 scripting commands.

Required suite

These must be supported by all applications which support high level events. They are:

quit

Quits SoftWindows 95.

For example:

```
tell application "SoftWindows 95"
   quit
end tell
```

run

Runs SoftWindows 95.

For example:

```
tell application "SoftWindows 95"
   run
end tell
```

Core suite

SoftWindows 95 does not support the entire AppleScript Core Suite because many of the events in the suite have no relevance to SoftWindows 95.

get

Gets the data for an object.

The following example will return the location of the top left corner of the SoftWindows 95 main window.

```
get position of window 1
```

The window number is ignored, and is only required for consistency with other scriptable applications.

set

Sets the data for an object.

data size

Returns the size of an object in bytes.

For example:

```
data size selection
```

application

The SoftWindows 95 application itself.

The `application` has the following properties:

Property	*Description*

`clipboard`	The clipboard for the application. Returns a list containing the data in the clipboard. The clipboard can contain text or PICT data. To specify a particular type write:
	`get clipboard as text`
	or
	`get clipboard as picture`

`frontmost`	Returns `true` if SoftWindows 95 is in the foreground, or `false` otherwise.

`selection`	The selection visible to the user. For example:
	`tell application "SoftWindows 95"`
	`  get contents of selection`
	`end tell`

`name`	Returns the name displayed in the MS-DOS window title bar. For example, a demo version would return: `SoftWindows 95 - For Demonstration Purposes Only.`
`version`	Returns the SoftWindows 95 major version number. This is 1.

window

The SoftWindows 95 main window.

The `window` can have the following properties:

Property	*Type*	*Description*
`closeable`	Boolean, read-only	Does the SoftWindows 95 window have a close box? Always `false`.
`titled`	Boolean, read-only	Does the SoftWindows 95 window have a title bar? Always `true`.
`resizable`	Boolean, read-only	Is the SoftWindows 95 window resizable? Always `false`.
`position`	QuickDraw Point, read/write	The location of the top left corner of the SoftWindows 95 window.
`contents`	Text, read-only	The textual contents of the SoftWindows 95 window. This contains an extra ↵ at the end of each line to maintain the formatting with the script editor results window.

selection

The SoftWindows 95 main window selection.

The `selection` can have the following properties:

Property	*Type*	*Description*
`bounds`	QuickDraw rectangle, read/write	Bounds of the current SoftWindows 95 selection rectangle.
`contents`	Text, read-only	The contents of the SoftWindows 95 selection rectangle.

Miscellaneous suite

This suite consists of standard Apple Events which do not belong to any other suite.

copy

Copy the selection to the clipboard.

For example:

```
tell application "SoftWindows 95"
  copy
end tell
```

paste

Paste the selection from the clipboard.

For example:

```
tell application "SoftWindows 95"
  paste
end tell
```

SoftWindows 95 suite

This suite consists of custom events specific to SoftWindows 95

key

SoftWindows 95 key.

This command has no properties.

Its syntax is:

`set key` *`named-key-form`* `to` *`keystate`*

The valid *`keystate`* values are as follows:

Keystate	*Description*
`press`	The key behaves as if pressed once and released.
`down`	The key behaves as if held down. If key is repeatable it will start auto-repeating on the keyboard.
`up`	The key behaves as if released. If the key was auto-repeating because it was in the down state for the required time it should stop.

Note that there is no way to guarantee the number of times that a character is repeated while the key is in the down state because this depends on how long it is held down.

The possible values of *named-key-form* are as follows:

0 to 9	Arrow Right	Insert	Shift
A to Z	Arrow Up	Num *	Shift, right
'	Caps Lock	Num +	Space
`	Ctrl	Num -	Tab
-	Ctrl, right	Num /	[
.	Del	Num 0 to Num 9	\
/	Delete	Num Lock	]
;	End	Page Down	`
=	Esc	Page Up	§
Alt	F1 to F9	Pause	
Alt Gr	F10	Print Scrn	
Arrow Down	F12	Return	
Arrow Left	Home	Scroll Lock	

The following example types a ↵:

```
tell application "SoftWindows 95"
   set key "Return" to press
end tell
```

Note that you can use the `key` command to perform actions in Windows.

LaunchWindowsApp

Runs a Windows application. Its syntax is:

`LaunchWindowsApp` *`command`*

where *`command`* is a string that could be entered in the Windows **Run...** dialog box. The command may need to include a full pathname if the application is not in the current directory.

This command is only valid in Windows and is ignored in Windows 3.x.

reset

Reset SoftWindows 95.

TurboStart

Quits from SoftWindows 95 and activates TurboStart.

write

Insert a text string into the keyboard buffer as if it were typed in at the keyboard. Only normal ASCII characters can be entered in this way. The key event (described below) is provided to enter function keys, modifier keys and so on.

The following example gives a `DIR` command:

```
write "DIR\r"
```

Note that the `\r` produces a ↵.

Troubleshooting

This chapter gives suggested solutions to problems that you may encounter when running PC applications on your Macintosh with SoftWindows 95.

It also includes details of the SoftWindows 95 and MS-DOS error messages, with explanations and suggested solutions.

Common problems

The following sections give solutions to the most commonly-encountered problems when using SoftWindows 95.

Using the mouse

The mouse pointer has disappeared

While the mouse is selected for use by MS-DOS applications it is not available to the Macintosh. To restore it type ⌘M.

How do I get the right mouse button for PC applications?

Type `keypad =` or ⌘R (or `Enter` on PowerBooks).

Using floppy disks

How do I eject a floppy disk?

Choose the appropriate drive from the **Eject** menu.

Alternatively, press ⌘Shift1, ⌘Shift2, or ⌘Shift0 to eject a disk from the internal, second internal, or external drive, respectively.

Using hard disks

How do I create a new hard disk?

Use the Customize option of the SoftWindows 95 installer. Alternatively, use the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box; refer to *Creating new hard disk files*, page 43.

How do I make a hard disk file larger?

Use the Hard Disk Expander utility; refer to *To change the size of a hard disk file*, page 42.

Using CD-ROM

How do I read a PC CD-ROM?

Insert the CD-ROM, and then access it as drive `F:`.

How do I eject a CD-ROM?

Choose the CD-ROM drive from the **Eject** menu.

Using memory

How do I set up memory for PC applications?

Use the **Memory** panel in the **SoftWindows 95 Setup** dialog box; refer to *Setting up memory*, page 52.

Using keyboards

How do I get PC keys on the Macintosh keyboard?

Refer to *Using the keyboard and mouse*, page 33.

How do I set up a foreign keyboard?

Refer to *International usage*, page 71.

Using the screen

The SoftWindows 95 screen becomes corrupted by my Macintosh screen saver

Make sure you are running the SmartCopy utility.

Using printers

How do I set up the COM and LPT ports?

Refer to *Setting up serial ports*, page 61, or *Setting up printing*, page 68.

How can I print from a PC application?

Refer to *Setting up serial ports*, page 61, or *Setting up printing*, page 68.

Printing is not working properly

Check that the correct port is selected in the PC application: `LPT1:` for a printer selected in the Macintosh Chooser, or `COM1:` or `COM2:` for a directly connected printer.

If you are using `LPT1:` check that Windows or the PC application is set to the correct printer option.

Check that you are using the Insignia Printer Driver, or that the PC application is set up for the same type of printer as the setting in the **Printer Port** panel of the **SoftWindows 95 Setup** dialog box.

Check that the **Auto-Send...** command is specified to ensure that data is being sent to the printer, or choose **Send to Printer**; refer to Refer to *Printing from Windows*, page 87.

Using serial devices

How do I use the Macintosh serial ports with PC applications?

Refer to *Setting up serial ports*, page 61.

Configuring SoftWindows 95

Where are the SoftWindows 95 preferences stored?

In the **SoftWindows 95 Prefs** file in the **Preferences** folder in your Macintosh System Folder.

How do I install PC software with SoftWindows 95?

Refer to *Installing, running, and removing Windows applications*, page 92.

How do I run Windows?

Refer to *Running Windows*, page 76.

I get an error “application requires a VGA display”

If you try to run some Windows applications, such as Microsoft Dinosaurs, after a default installation you may get this message. To solve this problem use the **Windows Desktop...** command to change the desktop size to 640 x 480.

SoftWindows 95 shared drive errors

These errors appear in the SoftWindows 95 MS-DOS window and relate to the use of shared drives.

Error	*Explanation*	*Suggestion*
`Illegal drive specification`	The drive letter you are using for a shared drive is either missing or further along the alphabet than the limit set by `LASTDRIVE`.	Refer to *Sharing PC files between SoftWindows 95 and the Macintosh*, page 46.
`SoftWindows 95 couldn't find that folder`	This usually means that since the last time SoftWindows 95 ran the shared drive folder or disk was moved or renamed.	Use the **Shared Folders** panel in the **SoftWindows 95 Setup** dialog box to select a new folder.
`SoftWindows 95 couldn't read that folder`	The folder specified for a shared drive cannot be read.	Check your access privileges.
`That name is not a folder`	Only folders or disks, not documents, can be used as shared drives.	

SoftWindows 95 errors

These errors are displayed in a Macintosh dialog box.

SoftWindows 95 licensing

Error	*Explanation*	*Suggestion*
`Sorry, this demonstration version of SoftWindows 95 has expired`	Only relevant to demos.	Buy a full copy of SoftWindows 95.
`Sorry - Incorrect Password`	The password is incorrect.	Retype it.
`Sorry - Incorrect type of Password`	The password is incorrect.	You should retype the password.
`Thank you for trying this demonstration version of SoftWindows 95`	Only relevant to demos.	Buy a full copy of SoftWindows 95.
`Both the 'Name' and 'Company Name' fields must be entered`	You have omitted a field in the **Personalization** dialog box.	Enter the missing field.
`Sorry - there are too many SoftWindows 95 users. SoftWindows 95 may quit in 2 minutes. Please save your work`	Your concurrent use license allows a maximum number of simultaneous users of SoftWindows 95, and this number has been exceeded.	Save your files and try again later, or ask another user to quit.
`Sorry - there are still too many SoftWindows 95 users. SoftWindows 95 has to quit now`	The number of users has not decreased.	Buy another copy of SoftWindows 95.

Error	*Explanation*	*Suggestion*
`The number of SoftWindows 95 users is now below the limit. This copy will continue running`	Another user has finished and you can now use SoftWindows 95.	
`Sorry - there are too many SoftWindows 95 users. Please try again later`	The program already has the maximum number of users allowed by your particular license.	Save your documents and try again later, or ask another user to quit.
`Please enter your SoftWindows 95 Password…`		Enter the password.

Note

If these errors occur regularly you may need to upgrade your software license to allow a larger number of users. For more information refer to *Product upgrades*, page 159.

Error	*Explanation*	*Suggestion*
`The SoftWindows 95 CPU has encountered an illegal instruction`	The PC program you are running has an illegal instruction in it and SoftWindows 95 cannot process it.	Try again. If the error recurs reinstall the program. Try running the program in a slightly different way. If the error occurs consistently contact Insignia technical support.
`Internal error in SoftWindows 95 procedure`	This is a rare, but fatal, error the and there is no way to recover.	Restart SoftWindows 95 and retry operations that produced the error. If the error recurs contact Insignia technical support.
`SoftWindows 95 does not support a ROM BASIC`	You have no bootable partition on your first hard disk drive.	Check the drive attached to `C:`.
`SoftWindows 95 is in a continuous reset state`	The CPU is being continuously reset. A PC would lock up in this state, but SoftWindows 95 will detect it. It has been caused by the application you are running.	If the problem persists, contact Insignia technical support.
`Unknown type of video adapter currently in use`	An earlier version of SoftWindows 95 was used with a video adapter not supported in SoftWindows 95 5.0.	Only SVGA is available in SoftWindows 95.
`SoftWindows 95 has been damaged. Please reload the application from your original disk`	The SoftWindows 95 application must be reinstalled.	Refer to *Installing SoftWindows 95*, page 7.
`Sorry - can't modify resources. Please make sure that your SoftWindows 95 application is writable`	The SoftWindows 95 application is locked or on a read-only disk.	Unlock SoftWindows 95 and try again.

SoftWindows 95 hard disk files

Error	*Explanation*	*Suggestion*
`Can't find …`	This message will have named a hard disk file which cannot be found.	It may have been moved or renamed.
`Document is not a SoftWindows 95 hard disk file`	The selected hard disk file is not a valid SoftWindows 95 hard disk file or SoftWindows 95 will not properly recognize a hard disk file.	Make sure you do not have QuickFolder or Shield INIT in your System Folder. Another application may have written into the document – only SoftWindows 95 should do this.
`The hard disk document name must not be empty`	The hard disk filename in your SoftWindows 95 settings file is blank.	Use the **Hard Disks** panel in the **SoftWindows 95 Setup** dialog box to assign a valid hard disk file.
`Locked or already in use:…`	The hard disk file specified is either locked, in use by another user.	
`SoftWindows 95 could not create the new hard disk document`	You probably do not have the correct access privileges on a file server, are using an anti-virus extension, or the size of the hard disk was not large enough for the PC software to be loaded.	Either change the access privileges, disable the anti-virus extension, or specify a larger Macintosh hard disk.
`There isn't enough space for the new Hard Disk file`	There is insufficient space on the selected Macintosh drive.	Make more space available on your hard disk or create a smaller SoftWindows 95 hard disk file.

Memory

Error	*Explanation*	*Suggestion*
`Out of memory`	You are running close to the minimum amount of memory needed by SoftWindows 95.	Increase the application memory size; refer to *To change the application memory size*, page 52.
`SoftWindows 95 couldn't allocate the requested number of Memory pages`	There is not enough memory available to provide the requested amount of Memory.	You can try allocating less. Refer to *Setting up memory*, page 52.
`SoftWindows 95 couldn't use that drive`	SoftWindows 95 has a memory problem in setting up the shared drive.	Refer to *Setting up memory*, page 52.

Floppy disk drives

Error	*Explanation*	*Suggestion*
`The IBM hardware-compatible floppy disk drive is no longer attached to this machine`	The floppy disk drive that was selected for drive `A:` has been removed since the last time SoftWindows 95 ran.	Uncheck **Use Internal Floppy as A:** in the **Floppy Disks** panel in the **SoftWindows 95 Setup** dialog box.

Network drives

Error	*Explanation*	*Suggestion*
`Mac files must be accessed from a folder`	A shared drive has been given a document name; only folders or disks are valid.	

Serial ports

Error	*Explanation*	*Suggestion*
`Both serial port emulations cannot use the same serial port`		Ensure that `COM1:` and `COM2:` are assigned to different ports.
`One of the serial port emulations is configured to use your AppleTalk port`	The port that you have requested for `COM1:` or `COM2:` on SoftWindows 95 is already in use by AppleTalk.	Either use the Macintosh Chooser to disable AppleTalk or use the **Serial Ports** panel in the **SoftWindows 95 Setup** dialog box to reassign `COM1:` or `COM2:`.
`Unable to open the serial port output file`	The file that you selected for use for the serial port output may be locked, or in use by another application or network user.	

Networking errors

PC software error messages

These error messages may appear in the SoftWindows 95 MS-DOS window.

Error	*Explanation*	*Suggestion*
`A File Server cannot be found (vlm.com)`	You have the wrong frame type set.	Correct your `NET.CFG` file. Refer to *Configuring ODI drivers*, page 109.
`FATAL Could not find a host Ethernet/Token Ring board (etherspc/ tokenspc.com)`	You are running `etherspc.com/ tokenspc.com` when your Macintosh does not have an Ethernet/Token Ring board.	Check your Macintosh installation.
`FATAL Board failed to initialize correctly (etherspc/tokenspc.com)`	You are running `etherspc/ tokenspc.com` when your Macintosh does not have an Ethernet/Token Ring board, or there is an error with the board.	Check your Macintosh installation.
`Warning Protocol already in use. Protocol=IP, Frame=xx, PID=xx (etherspc.com/ tokenspc.com)`	Other software on your Macintosh is already using the TCP/IP protocol. Examples are Telnet, FTP, or Internet browsing software.	Quit from the Macintosh TCP/IP software. Alternatively, if the PC TCP/IP software is Winsock compliant, you can use the SoftWindows 95 Winsock driver concurrently with the Macintosh TCP/IP software.
`Warning Protocol already in use. Protocol=IPX, Frame=xx, PID=xx (etherspc/ tokenspc.com)`	Other software on your Macintosh is already using the IPX protocol.	Select a different frame type in SoftWindows 95.

Specification

This chapter gives a full technical specification of SoftWindows 95.

General specification

Feature	*Specification*
Processor	Pentium MMX.
ROM BIOS	AT-compatible.
Windows	Microsoft Windows 95.
Memory	640 Kbytes. Extended: up to 255 Mbytes.
Hard disk drives	Two drives, `C:` and `D:`.
Network drives	Multiple drives, `E:` to `Z:`.
Floppy disk drives	Drive `A:`.
Video	VESA standard Super Video Graphics Array (SVGA) supporting a diasplay resolution of up to 1600 x 1200, and from 16 colors to millions of colors.
Display	Color on a Macintosh with at least 16 colors or grayscales; otherwise monochrome.
Sound	Windows sound, Sound Blaster Pro, Sound Blaster 16, and MIDI support. Samples: 8 or 16 bit, mono or stereo. Sample rates: 11.025, 22.05, or 44.1 kHz.
Windows desktop	Black & white, 16 colors, 256 colors, thousands, or millions. Size: 436 x 240 to 1600 x 1200.
Printer port	One port, `LPT1:`.

Feature	*Specification*
Printer	Insignia Printer Driver, PostScript printer, Epson LQ-2500 (132 columns), or direct printing with PowerPrint.
Serial ports	Two ports, `COM1:` and `COM2:`.
Keyboard	101-key, AT-style keyboard supported by any Macintosh keyboard.
Joystick	Macintosh compatible joystick.
Mouse	Microsoft Bus Mouse compatible.
CD-ROM drives	One drive; Microsoft CD-ROM extension software included.

Networking specification

Feature	*Specification*
Network drivers	ODI, NDIS, and WINSOCK.
Novell NetWare	NetWare 4.x client.
Compatible Ethernet or Token Ring hardware	Any Ethernet or Token Ring adapter and driver conforming to the Apple standard.

Refer to the **ReadMe SoftWindows 95** file for details of the supported Token Ring and Ethernet cards.

Glossary

Application window	In Windows, the window containing the work area and menu bar for an application. The name of the application appears at the top of the window.
ASPI	Advanced SCSI Programming Interface. A standard developed by Adaptec to allow PCs to access a wide range of SCSI devices.
AUTOEXEC.BAT	A special batch file that is executed each time a PC restarts.
Batch file	A text file containing MS-DOS commands that can be executed to run the commands it contains as if they were typed in at the keyboard.
Boot	The PC terminology for starting up the computer.
CD-ROM	A read-only form of data storage, using standard Compact Disc media, capable of providing over 600 Mbytes of data.
CONFIG.SYS	A special MS-DOS text file that contains commands to configure the MS-DOS operating system.
Control menu box	An application running in Windows has a control menu box at the top left of the application window. This allows you to control the characteristics of the window and switch between applications.
Directory	The PC name for a folder. As on the Macintosh, it can contain files and other directories.
Ethernet	A widely used network system. The Ethernet cabling system and communications method have been standardized by the IEEE 802.3 committee and by ISO. Ethernet has a default frame type of Ethernet_802.2.
Ethernet II	One of the standards that can be used on an Ethernet cabling system.
EtherTalk	Apple's data-link product that allows an AppleTalk network to be connected by Ethernet cables. It is an Apple Computer networking standard which is based on, and is compatible with, Ethernet.

Expanded memory	The LIM (Lotus, Intel, Microsoft) standard for extending the amount of memory available to PC applications beyond their original 640 Kbytes.
Extended memory	The XMS (Extended Memory Specification) for extending the amount of memory available to PC applications using 80286 or better protected mode.
Extension	The last part of an MS-DOS filename which can be used to specify the type of file. It consists of a period and up to three letters; for example, .BAT.
FDHD	An alternative name for the Macintosh SuperDrive.
Frame	A unit of information that is transmitted over the network. It is also referred to as a message packet. Your frame structure can differ depending on the frame type in use. You should ensure that your computer is configured for the appropriate frame type.
Frame type	A variation of a protocol, defining the internal structure of a packet. When setting up networking you need to ensure the correct frame type is selected for your network.
IEEE (or ISO) 802.3	A standard developed for Ethernet networks, defining the physical cabling and software protocols. See *Frame type*.
Internet	An internet is an interconnected group of networks. When written as Internet it refers specifically to the Information Superhighway.
IPX	The Novell communication protocol, standing for Inter-network Packet eXchange. It creates, maintains, and terminates the connections between network devices (such as computer file servers and routers). It also addresses and routes the outgoing data packets across the network.
ISO 9660 standard	An international format standard for CD-ROMs.
Local Area Network	A Local Area Network (or LAN) consists of computers and shared devices connected to a single network transmission cable in a limited area, usually a single building or section of a building.
MIDI	Musical Instrument Digital Interface; a standard format for digitally encoding music.

MMX	A technology integrated with recent releases of Intel's Pentium processors to provide multimedia extensions for use by games, education, and entertainment software.
MS-DOS	Microsoft Disk Operating System; the original system software and filing system used on IBM PC or compatible computers.
NDIS	Network Driver Interface Specification, a standard defined by Microsoft and 3Com. It is the media- and protocol-independent driver standard used by network operating systems such as LAN Manager. SoftWindows 95 includes NDIS drivers for Ethernet and Token Ring.
Network drive	A general name for disk drives that are treated by the PC as being on a different computer. Network drives cannot be formatted or partitioned.
Network number	A number which identifies a network in an internet, so that data can be sent to the correct destination. Ethernet and Token Ring networks have network numbers.
NetWare	Novell's operating system that runs on file servers and routers. It controls system resources and information processing on an entire network or inter-network.
NuBus	A standard expansion slot for Macintosh computers, which allows Token Ring or other cards to be added. Some Macintosh computers may require a PDS to NuBus adapter to allow them to accept NuBus cards.
ODI	Novell's Open Data-Link Interface. It supports media- and protocol-independent communications by providing a standard interface that allows multiple protocols to share a single network board without conflict. SoftWindows 95 includes ODI drivers for Ethernet and Token Ring.
ODINSUP	A Novell converter program which allows the use of NDIS client applications, such as Microsoft LAN Manager, with ODI drivers.
Packet	A unit of information that has been formatted for transmission on a network. A packet contains not only data but also its destination and source.

PCI	Peripheral Component Interconnect, a standard for PC and Macintosh interface cards supported by recent Macintosh computers.
PDS	Processor Direct Slot. An expansion slot found in many Macintosh computers, the PDS provides direct connection to the processor. Some network cards are installed in the PDS rather than a NuBus or PCI slot.
Protocol	A set of procedural rules that permit the orderly exchange of information within and across a network. These rules govern the content, format, timing, sequencing, and error control of the messages being exchanged on a network.
RISC	Reduced Instruction Set Computer. A microcomputer architecture designed with a simpler instruction set to allow faster execution speeds to be achieved.
SCSI	Small Computer Systems Interface (pronounced 'scuzzy'), the industry standard for connecting peripheral devices to host computers. Most Macintosh computers have SCSI ports as standard.
SNAP	Sub Network Access Protocol frame type. There are SNAP frame types for both Ethernet and Token Ring. They are extensions of the basic 802.3 and 802.2 frame types, allowing more addressing flexibility.
Sound Blaster	A hardware sound interface for the PC developed by Creative Technology Ltd.
SuperDrive	The dual-format 3.5-inch floppy disk drive provided on all recent Macintosh computers. It can read, write, and format both Macintosh disks and MS-DOS disks.
SVGA	Super Video Graphics Array, an extension to VGA providing higher resolution and more colors.
SYSTEM.INI	A Windows initialization file.
TCP/IP	Transmission Control Protocol/Internet Protocol. A widely-used industry standard for connecting different types of computers. An internet is an interconnected set of networks.

Type	A four-character code which identifies the type of document created by an application on the Macintosh. SoftWindows 95 allows you to specify what type code is allocated to the files it creates.
Token Ring	A network with a ring layout, where all network devices are connected in a daisy chain system and pass tokens from one attached device to another.
VESA	Video Electronics Standards Association, a widely-adopted set of display standards for PCs.
VGA	Video Graphics Array, the most widely-accepted standard for PC graphics displays.
Volume	An alternative name for a disk.
VRAM	Video Random Access Memory, memory used to store the displayed image. The amount of VRAM required depends on the display resolution and the number of colors.
WIN.INI	A Windows initialization file that allows you to customize your Windows environment.

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