






















Windows 95 Care Package

-  [How to Use the Care Package](#)
-  [Common Questions and Answers about Windows 95](#)
-  [Troubleshooting Strategy](#)
-  [Assessing the Operational Impact of Problems](#)
-  [Technical Assessment of Problems](#)
-  [Setup](#)
-  [Startup](#)
-  [Networking](#)
-  [Other](#)

Windows 95 Care Package

-  [How to Use the Care Package](#)
-  [Common Questions and Answers about Windows 95](#)
-  [Troubleshooting Strategy](#)
-  [Assessing the Operational Impact of Problems](#)
-  [Technical Assessment of Problems](#)
-  [Setup](#)
-  [General Setup Information](#)
-  [Troubleshooting](#)
-  [Error Messages](#)
-  [Startup](#)
-  [Networking](#)
-  [Other](#)

Windows 95 Care Package

- [!\[\]\(6302aad5aed157b291fddf37b4870784_img.jpg\) How to Use the Care Package](#)
- [!\[\]\(a9ca2c237943a6d0a9f22252f295b6f3_img.jpg\) Common Questions and Answers about Windows 95](#)
- [!\[\]\(9a01a64e0b4ff865df7d32ee7991fe8b_img.jpg\) Troubleshooting Strategy](#)
- [!\[\]\(6aefe9a3d997eb8b55c40ecd5fa7053f_img.jpg\) Assessing the Operational Impact of Problems](#)
- [!\[\]\(baa8f8ba8c970db55300f5bb45bb3460_img.jpg\) Technical Assessment of Problems](#)
- [!\[\]\(a6e28495607b2299466d3d5d3193848c_img.jpg\) Setup](#)
- [!\[\]\(ed205fcb6e75c95529564351570724d7_img.jpg\) General Setup Information](#)
- [!\[\]\(27a992a1de9d3e89591e2e26256c5a71_img.jpg\) Common Questions and Answers](#)
- [!\[\]\(4e3fbe2ef35291baab7a42cb80921f3b_img.jpg\) Installing for the First Time; Common Questions and Answers](#)
- [!\[\]\(7e07afcbfd46dd92c708e363ec417c00_img.jpg\) Installing Over an Existing Windows Version; Common Questions and Answers](#)
- [!\[\]\(7e5084a8da4d5ff6d50d22c09ead9317_img.jpg\) Checking for Disk Corruption](#)
- [!\[\]\(8c0fccc5cb44cb6c2349621b2f03ed16_img.jpg\) If You Have Floppy Disk Problems During Setup](#)
- [!\[\]\(9a272a5aed417ba1b638a5decd49d86e_img.jpg\) Installed Items at Setup](#)
- [!\[\]\(41c0e1b925839722a4d1554dd00e2252_img.jpg\) Reading the BOOTLOG.TXT File](#)
- [!\[\]\(00ff213f4755bda2684037849bc00d38_img.jpg\) Reading the SETUPLOG.TXT File](#)
- [!\[\]\(8ff4178385db741643d613d0a7d58379_img.jpg\) Reading the Windows 95 DETLOG.TXT](#)
- [!\[\]\(7def4de0a99ddfe75d69cf0afe068e7a_img.jpg\) Setup Disables OS/2 Boot Manager](#)
- [!\[\]\(79069f1973dd6e00fc1d60da2889cbd5_img.jpg\) WINBOOT.INI and MSDOS.SYS Entries](#)
- [!\[\]\(4f508e5d117c93060193de6e24fe377b_img.jpg\) Troubleshooting](#)
- [!\[\]\(cb019e7dc64ba1bb8bebbe5bffe6e051_img.jpg\) Error Messages](#)
- [!\[\]\(eb48a4dd3e934293628d697e7cf3388e_img.jpg\) Startup](#)
- [!\[\]\(eccf00db8ce906ca827ef08d7ba852be_img.jpg\) Networking](#)
- [!\[\]\(9514d4e17183bd788e8152b14b4a8a94_img.jpg\) Other](#)

Windows 95 Care Package

- [!\[\]\(a22ba4e13c745edbf29e51af246c4c12_img.jpg\) How to Use the Care Package](#)
- [!\[\]\(33b18af9a4b997eb52666cfeb3c44157_img.jpg\) Common Questions and Answers about Windows 95](#)
- [!\[\]\(262b158440b847a82f89a14cab8644ec_img.jpg\) Troubleshooting Strategy](#)
- [!\[\]\(f51929fecf7b0dc947ac13f4c4835e8f_img.jpg\) Assessing the Operational Impact of Problems](#)
- [!\[\]\(dfbf0e54bcca114319aa65c906feb8d0_img.jpg\) Technical Assessment of Problems](#)
- [!\[\]\(64792950f1b7ee883a860b5f0af110c3_img.jpg\) Setup](#)
- [!\[\]\(a4c91228d412dab12bd635819fc28c10_img.jpg\) General Setup Information](#)
- [!\[\]\(c6956848df6ff9e9b3dad161d5adefac_img.jpg\) Troubleshooting](#)
- [!\[\]\(a8426952ff919f2600e76f3323526877_img.jpg\) Troubleshooting If Setup Fails](#)
- [!\[\]\(0fb7605bbd46a254dc450a278ff2f6f9_img.jpg\) Error Messages](#)
- [!\[\]\(d3775df7c3b7065aa22c91a03bb88dca_img.jpg\) Startup](#)
- [!\[\]\(245ba948a3d2a15e4e94f33933d3d19f_img.jpg\) Networking](#)
- [!\[\]\(d5b34b598b2841916e43f7acaa9d00c7_img.jpg\) Other](#)

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? General Setup Information](#)
- [? Troubleshooting](#)
- [? Error Messages](#)
- [? Bad or Missing <Filename> When Starting Windows](#)
- [? Cannot Open File *.INF](#)
- [? Computer Stops During Hardware Detection](#)
- [? Computer Will Not Start After Windows 95 Is Installed](#)
- [? Error 1002 Occurs During Setup](#)
- [? IFSMGR Unable to Install Helper Hooks](#)
- [? Problems Occur While Setup Is Copying Files](#)
- [? Setup Conflicts with Virus Protection Software](#)
- [? Setup Error Message: Invalid Path](#)
- [? Setup Error: Incorrect MS-DOS Version](#)
- [? Setup Unable to find Valid Boot Partition](#)
- [? Version Conflicts Occur When Upgrading](#)
- [? Startup](#)
- [? Networking](#)
- [? Other](#)

Windows 95 Care Package

- [?](#) How to Use the Care Package
- [?](#) Common Questions and Answers about Windows 95
- [?](#) Troubleshooting Strategy
- [?](#) Assessing the Operational Impact of Problems
- [?](#) Technical Assessment of Problems
- [?](#) Setup
- [?](#) Startup
- [?](#) General Startup Information
- [?](#) Starting Windows 95 in Safe Mode
- [?](#) Troubleshooting
- [?](#) Error Messages
- [?](#) Networking
- [?](#) Other

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? General Startup Information](#)
- [? Bad or Missing Command Interpreter](#)
- [? COM Port Devices Not Detected](#)
- [? Data Loss and Non-Windows 95-Aware Hard Disk Utilities](#)
- [? Display Problems](#)
- [? Error Initializing Video Adapter](#)
- [? Interactive Start with Hardcard Drives](#)
- [? Missing Operating System Error](#)
- [? Rebuilding, Converting, and Troubleshooting Folders](#)
- [? Starting Programs at the MS-DOS Prompt](#)
- [? WD 8514/a Fails to Load In 8514/A High-Resolution Mode](#)
- [? Windows 95 Hangs at Logo Screen or Missing Device Message](#)
- [? Windows 95 Startup Error: Incorrect MS-DOS](#)
- [? Windows 95 Startup Menu](#)
- [? Starting Windows 95 in Safe Mode](#)
- [? Troubleshooting](#)
- [? Error Messages](#)
- [? Networking](#)
- [? Other](#)

Windows 95 Care Package

- [?](#) How to Use the Care Package
- [?](#) Common Questions and Answers about Windows 95
- [?](#) Troubleshooting Strategy
- [?](#) Assessing the Operational Impact of Problems
- [?](#) Technical Assessment of Problems
- [?](#) Setup
- [?](#) Startup
- [?](#) General Startup Information
- [?](#) Starting Windows 95 in Safe Mode
- [?](#) Safe Mode Start
- [?](#) Safe Mode Command Line Start (SHIFT+F5)
- [?](#) Safe Mode Start with Networking
- [?](#) Safe Mode Start without D??SPACE (CTRL+F5)
- [?](#) Safe Mode Troubleshooting Switches
- [?](#) Troubleshooting
- [?](#) Error Messages
- [?](#) Networking
- [?](#) Other

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? General Startup Information](#)
- [? Starting Windows 95 in Safe Mode](#)
- [? Troubleshooting](#)
- [? Troubleshooting Booting to Previous Operating System](#)
- [? Troubleshooting Replacing Windows 95](#)
- [? Troubleshooting Safe Mode Startup](#)
- [? Troubleshooting When Windows 95 Does Not Start](#)
- [? Error Messages](#)
- [? Networking](#)
- [? Other](#)

Windows 95 Care Package

- [!\[\]\(467d80e979964f7f8c752fb22248b5b7_img.jpg\) How to Use the Care Package](#)
- [!\[\]\(b71552d33dbf62adf5e5199a70ee02bf_img.jpg\) Common Questions and Answers about Windows 95](#)
- [!\[\]\(03134b765d1473836ff001925b1b0550_img.jpg\) Troubleshooting Strategy](#)
- [!\[\]\(aed6947356668967079310026052edc0_img.jpg\) Assessing the Operational Impact of Problems](#)
- [!\[\]\(e61aeb0d9066d5d9e54d9b655f50da3d_img.jpg\) Technical Assessment of Problems](#)
- [!\[\]\(f7af41ce0777e13bda91fa715111c02a_img.jpg\) Setup](#)
- [!\[\]\(476ddb2354d4ad1cb23a2236b1e49873_img.jpg\) Startup](#)
- [!\[\]\(1d505a46c82c5cefa23b88c2eee900ce_img.jpg\) General Startup Information](#)
- [!\[\]\(3a98690f11ee4baf67262bd776464219_img.jpg\) Starting Windows 95 in Safe Mode](#)
- [!\[\]\(35522fe6386206890679adb7b63391b6_img.jpg\) Troubleshooting](#)
- [!\[\]\(d28d4a3445dac344f03b5cebc14c5170_img.jpg\) Error Messages](#)
- [!\[\]\(3e37ae08976ee7fa41b108254fcb66a7_img.jpg\) Bad or Missing COMMAND.COM](#)
- [!\[\]\(7b30e10e474a15019e378034a5556dd2_img.jpg\) Corrupt CVF Error](#)
- [!\[\]\(be2bdf77bab097eb6ddf17878ba7ec4d_img.jpg\) Device Configuration Tools](#)
- [!\[\]\(a3b6961c19ef9a7399ba4d220fbe1b94_img.jpg\) Driver Fails to Load](#)
- [!\[\]\(f8936a35f239803f29013161729262d8_img.jpg\) Driver Locks Up During Startup](#)
- [!\[\]\(1450f2e803fc906eeaaad04363880ce9_img.jpg\) Removing Unnecessary Drivers or TSRs](#)
- [!\[\]\(e1133a641f38be314cd75f50ed4924a6_img.jpg\) Required System Drivers](#)
- [!\[\]\(64b8231e633e9e03e4b21734881f56cf_img.jpg\) Step-By-Step Confirmation](#)
- [!\[\]\(aee5e761ba1b99a3cd9435e499b75672_img.jpg\) WIN.COM Switches](#)
- [!\[\]\(52709e745fb7eb31be4b8579af786742_img.jpg\) Networking](#)
- [!\[\]\(75d779d4d319b7a003931ddd37118216_img.jpg\) Other](#)

Windows 95 Care Package

- [!\[\]\(6302aad5aed157b291fddf37b4870784_img.jpg\) How to Use the Care Package](#)
- [!\[\]\(a9ca2c237943a6d0a9f22252f295b6f3_img.jpg\) Common Questions and Answers about Windows 95](#)
- [!\[\]\(9a01a64e0b4ff865df7d32ee7991fe8b_img.jpg\) Troubleshooting Strategy](#)
- [!\[\]\(6aefe9a3d997eb8b55c40ecd5fa7053f_img.jpg\) Assessing the Operational Impact of Problems](#)
- [!\[\]\(baa8f8ba8c970db55300f5bb45bb3460_img.jpg\) Technical Assessment of Problems](#)
- [!\[\]\(a6e28495607b2299466d3d5d3193848c_img.jpg\) Setup](#)
- [!\[\]\(ed205fcb6e75c95529564351570724d7_img.jpg\) Startup](#)
- [!\[\]\(27a992a1de9d3e89591e2e26256c5a71_img.jpg\) Networking](#)
- [!\[\]\(4e3fbe2ef35291baab7a42cb80921f3b_img.jpg\) General Networking Information](#)
- [!\[\]\(7e07afcbfd46dd92c708e363ec417c00_img.jpg\) Installing Support for Other Networks](#)
- [!\[\]\(7e5084a8da4d5ff6d50d22c09ead9317_img.jpg\) NetWare](#)
- [!\[\]\(8c0fccc5cb44cb6c2349621b2f03ed16_img.jpg\) Browsing](#)
- [!\[\]\(9a272a5aed417ba1b638a5decd49d86e_img.jpg\) Troubleshooting](#)
- [!\[\]\(41c0e1b925839722a4d1554dd00e2252_img.jpg\) Other](#)

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? Networking](#)
- [? General Networking Information](#)
- [? Networking: Common Questions and Answers](#)
- [? After Upgrade, Different Network Adapter Is Listed](#)
- [? Canceling the Network Install Wizard Causes Error on Restart](#)
- [? Disabled Network Card Detected on Compaq XL560](#)
- [? Installing Drivers and Protocols](#)
- [? NDIS 3.1 Protocol Does Not Function Properly](#)
- [? No Support for "Connect As" Option](#)
- [? NWPOPOP](#)
- [? PROTOCOL.INI: Real-Mode Network Initialization File](#)
- [? Setting Up Banyan VINES in Windows 95](#)
- [? Shared Network Printer Driver Is Installed](#)
- [? Unable to Bind Network Services to Protocols](#)
- [? Unable to Use RAS with Windows 95 Dial-Up Networking Server](#)
- [? UNC Connection Generates Error Message on Shutdown](#)
- [? Windows 95 Cannot Print to a Unix Computer](#)
- [? Installing Support for Other Networks](#)
- [? NetWare](#)
- [? Browsing](#)
- [? Troubleshooting](#)
- [? Other](#)

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? Networking](#)
- [? General Networking Information](#)
- [? Installing Support for Other Networks](#)
- [? Windows 95 on Other Networks: The Basics](#)
- [? Issues for Windows 95 on Other Networks](#)
- [? Installing Client for Microsoft Networks with Other Networks](#)
- [? Installing Support for Other Networks: An Overview](#)
- [? Artisoft LANtastic](#)
- [? Banyan VINES](#)
- [? Beame and Whiteside NFS](#)
- [? DEC Pathworks](#)
- [? IBM OS/2 LAN Server](#)
- [? SunSelect PC-NFS](#)
- [? TCS 10-Net](#)
- [? NetWare](#)
- [? Browsing](#)
- [? Troubleshooting](#)
- [? Other](#)

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? Networking](#)
- [? General Networking Information](#)
- [? Installing Support for Other Networks](#)
- [? NetWare](#)
- [? Windows 95 on NetWare Networks: The Basics](#)
- [? Setting Up Microsoft Client for NetWare Networks](#)
- [? Setting Up Windows 95 with a Novell NetWare Client](#)
- [? Error Message: A Device Is Not Functioning](#)
- [? Mapped NetWare Drives Not Available](#)
- [? Net View Command Fails to List Print Queues](#)
- [? NetWare Administrator Does Not Work](#)
- [? NETX Technical Notes](#)
- [? Novell NetWare Utilities That Don't Work In Windows 95](#)
- [? Sharing Violation When Using NetWare 3.x FILER.EXE](#)
- [? Trouble Detecting Second Novell Network](#)
- [? Trouble Printing to Printer on Novell Network](#)
- [? Using Novell Btrieve with Windows 95](#)
- [? VLM Technical Notes](#)
- [? VOLINFO Utility Reports Incorrect Values](#)
- [? Troubleshooting NetWare NETX Client Setup](#)
- [? Troubleshooting NetWare VLM Client Setup](#)
- [? Browsing](#)
- [? Troubleshooting](#)
- [? Other](#)

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? Networking](#)
- [? General Networking Information](#)
- [? Installing Support for Other Networks](#)
- [? NetWare](#)
- [? Browsing](#)
- [? Network Browsing Basics](#)
- [? Browsing Overview](#)
- [? Browsing in Command Dialog Boxes](#)
- [? Browsing with the Net View Command](#)
- [? Building the Browse List for Microsoft Networks](#)
- [? Customizing Windows 95 with WRKGRP.INI Files](#)
- [? Designating a Browse Master for Microsoft Networks](#)
- [? Using Network Neighborhood](#)
- [? Troubleshooting](#)
- [? Other](#)

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? Networking](#)
- [? General Networking Information](#)
- [? Installing Support for Other Networks](#)
- [? NetWare](#)
- [? Browsing](#)
- [? Troubleshooting](#)
- [? Troubleshooting Internet Connections Using PPP](#)
- [? Troubleshooting Network Problems](#)
- [? Troubleshooting Real-Mode Network Installation](#)
- [? Other](#)

Windows 95 Care Package

- [? How to Use the Care Package](#)
- [? Common Questions and Answers about Windows 95](#)
- [? Troubleshooting Strategy](#)
- [? Assessing the Operational Impact of Problems](#)
- [? Technical Assessment of Problems](#)
- [? Setup](#)
- [? Startup](#)
- [? Networking](#)
- [? Other](#)
- [? General Information: Questions and Answers](#)
- [? Application Error: SUWIN Caused an Illegal Instruction](#)
- [? Basic Configurations for COM Ports in Windows 95](#)
- [? Contents of the Windows 95 MSDOS.SYS File](#)
- [? Deciphering the Windows 95 DETLOG.TXT File](#)
- [? Font Not Moved from SYSTEM Subdirectory](#)
- [? Intel SatisFAXtion Inaccessible: "Write Fault Error..."](#)
- [? Keyboard Shortcuts for Windows 95](#)
- [? Running Programs that Require Windows 3.1 or Later](#)
- [? Setting Up an Extended Capabilities Port](#)
- [? Windows and Third-Party Programs](#)

Common Questions and Answers

The following topics cover the most common questions and answers about Windows 95.

- [Setup: Installing for the first time](#)
- [Setup: Installing over an existing Windows version](#)
- [Common questions and answers about Setup](#)
- [Common questions and answers about Networking](#)
- [Windows and third-party programs](#)
- [General Information](#)

Setup: Installing for the First Time

If you're installing Windows over a network

If you have a network, make sure your network is fully functional before you start Setup. If your network is not fully functional, your network cards may not be detected or configured correctly.

Can I run the Windows 95 Setup program from MS-DOS? Do I lose any functionality?

If you have a running installation of Windows 3.x or Windows for Workgroups 3.1x, it is recommended that you run Setup from your existing version of Windows. This will provide the safest and smoothest installation. If you do run Setup from MS-DOS and it detects Windows on your computer, Setup will recommend that you quit Setup and rerun it from Windows. If you do choose to run Setup from MS-DOS, all devices may not be detected and Setup may run more slowly (especially if you are installing from floppy disks).

Will Windows 95 work okay if I have compressed my hard drive using Stacker?

Yes, Windows 95 is fully compatible with Stacker versions 2.x and later and all versions of Superstore. The disadvantage of third-party disk compression is that all drivers will run in real-mode.

I want to install Windows 95 in a clean directory so I can dual-boot. Is there any way to retain my settings so that I do not have to reinstall all of my programs?

No, there is no way to retain the current settings of a Windows installation without installing Windows 95 into the Windows directory.

How do I set up Windows 95 to dual boot with Windows NT?

With Windows NT, the OS Loader still has a choice of MS-DOS on its menu. Selecting this will then start Windows 95. For this configuration to work, Windows 95 must be set up in a separate directory and a FAT partition must be available.

Can I install Windows 95 on a computer running OS/2 and MS-DOS/Windows? Can I still dual boot?

Windows 95 won't set up over OS/2, but you can install it by booting from an MS-DOS startup disk and then running Setup. A FAT partition must be available, as Windows 95 cannot access HPFS partitions. To dual boot in this configuration, you must either reset or install the OS/2 Boot Manager.

Setup hangs during Scandisk or tells me there are errors with my drive. I have run Scandisk at the MS-DOS prompt and it could not find any errors. Is there a way I can bypass it?

Yes, you can rerun Setup using the command `SETUP /IS`. This will bypass running ScanDisk at the beginning of Setup. However, you should make sure that you have checked all hard drives for errors by using ScanDisk or a similar disk utility to ensure that there are no errors on your drives before running Setup.

Note: Run ScanDisk from your Windows 95 CD-ROM or disks rather than from your hard disk. Setup expects that the Windows 95 version will be run. If you run an older version, you will be prompted to run Scandisk again.

I am seeing Setup error messages "su0410, su0409, and su129." Setup claims that there is a virus-protection software running. I checked my CONFIG.SYS and AUTOEXEC.BAT files, but there is no virus software running. What do I do?

Check for the existence of virus detection programs in the Advanced CMOS (BIOS) configuration. Please contact the Bios Manufacturer for support in changing any settings to the BIOS.

I was running Setup for the first time and it stopped responding during hardware detection. What do I do now?

If your computer stops responding during the hardware detection phase of Setup, turn off the power on your computer, wait 10 seconds, and then turn the power back on. Do not press `CTRL+ALT+DELETE`. When your computer restarts, rerun Setup and choose Smart Recovery when prompted. Setup will skip the portion of detection that caused a problem. If your computer stops responding again, it will be in a different detection module. Follow the steps outlined above as many times as necessary to allow Setup to complete detection.

I am seeing an error during Setup that will not allow me to create a startup disk. What do I do?

This problem can be caused by programs that were running before Setup started. To work around this problem, close all files and quit all running programs before starting Setup, or run Setup from MS-DOS.

I received a GP fault in USER.EXE when running Setup. Now when I try to rerun Setup, I see the following error message: "SU0410 cannot open WORDPAD.INF, file missing, damaged, or in wrong format."

To work around these problems, either run Setup from Windows 3.x or 95, or run Setup from MS-DOS without Smartdrv loaded. Use the SETUP /IC switch so Setup doesn't load SmartDrv automatically.

Setup: Installing Over an Existing Windows Version

How do I know if I have bad disks?

Use the CHKDSK or SCANDISK command to check the disks.

If you are running MS-DOS 6 or earlier, type **chkdsk a:** at the command prompt.

If you are running MS-DOS 6.2 or later, type **scandisk a:** at the command prompt.

When I upgrade over my previous version of Windows, will it retain all of my group files?

Yes, provided your Windows shell was Program Manager. Program groups are automatically converted to menu items under Programs in the Start menu.

I have 25 megabytes (MB) free on my hard disk. When I try to upgrade to Windows 95, it tells me I do not have enough disk space. How much do I need if I am upgrading?

When you upgrade over Windows 95, you need a considerable amount of temporary working space: Setup needs about seven MB of temporary space to copy the files that it needs to run. In addition, there are about 10 to 12 MB of Windows 95 system files that can't be replaced while Windows is running. Setup must copy the new versions of these files to a temporary filename, and then rename the files after you restart your computer. The net effect is that after the new version of Windows 95 has been installed, it appears that the upgrade didn't require much additional space, but during Setup, it needed that space.

Setup: Common Questions and Answers

My drive is partitioned with Ontrack Disk Manager. Will it work with Windows 95?

Yes, Windows 95 is compatible with all versions of Ontrack Disk Manager.

How do I make copies of my original disks to install from?

The DMF disk format is not compatible with the DISKCOPY, COPY, or XCOPY commands and increases the amount of data stored on a standard 1.44/3.5" diskette. There is no way to make a direct copy of these disks in this beta version of Windows 95.

Can I make floppy disk images from the CD-ROM?

You can make disks from the CD-ROM by using the TRANSFER.BAT program in the WIN95 directory. The "Cabinet" files are sized to fit on a 1.44" floppy disk.

I installed Windows 95 into a different directory than my previous Windows 3.x or Windows for Workgroups 3.1x installation. How do I dual boot between them?

When installing Windows 95 into a different directory, dual booting is enabled by default. To access this feature, you must have upgraded from MS-DOS version 5.0 or later. If this is not the case, you cannot dual boot. If you were running MS-DOS version 5.0 or later, when you restart your computer you can access the previous version of MS-DOS in two ways:

- Press F4 when you see the "Starting Windows 95" message just before the logo appears.
- Press F8 when you see the "Starting Windows 95" message, and then select the option that enables you to boot to a previous version of MS-DOS.

I have added the BootMulti=1 line to the MSDOS.SYS file in the root directory of drive C, but I still do not get the F4 functionality when I boot. Why?

You may be using Drvspace. If you are using some form of disk compression, BootMulti=1 must be added to the [Options] section of the MSDOS.SYS file on the host drive of the computer.

We had a power failure during Setup. The power is back on now. Is there a way to continue the Setup that failed?

Depending on where Setup was interrupted, you may not be able to start your previous version of Windows. If this occurs, you should start Setup from the MS-DOS prompt. Setup should detect that the installation process was incomplete, and will prompt you to either begin a new installation or use Smart Recovery. Choose Smart Recovery to continue Setup.

Is there a Maintenance Mode available for Setup?

Yes. If you would like to add or remove Windows 95 components, double-click the Add/Remove Programs icon in Control panel, and then click the Windows Setup tab. Select the components you would like to add, and deselect the components you would like to remove.

Is it possible to direct the temporary file to a different drive or directory during Setup?

If you would like to specify where Windows 95 setup will place its temporary files during Setup, use the following command line when you start Setup:

```
SETUP /T:<tempdir>
```

where <tempdir> is the name of the directory Setup will use for temporary files. This directory must already exist, and any files in the directory will be deleted. Example: SETUP /T:D:\MYDIR

How do I uninstall Windows 95?

To uninstall Windows 95, you will need to have a bootable MS-DOS disk with the SYS.COM command on it (the first MS-DOS 6.x Upgrade disk contains the SYS.COM command). If you have a third-party disk-compression program, you will also need any support files to access that compressed drive. To uninstall Windows 95, carry out the following procedure:

- 1 Insert the MS-DOS system disk into your startup disk drive, and then restart your computer.
- 2 Change to your startup drive, and then type the following command:
sys c: a:
- 3 Remove the startup disk, and then restart your computer.
- 4 Reinstall MS-DOS, because some of the files were removed during Windows 95 Setup.
- 5 Use the DELTREE command to remove the Windows 95 directories.
- 6 Reinstall Windows 3.x or Windows for Workgroups 3.x.
- 7 Reinstall your programs.

After running Setup, I can no longer access my CD-ROM drive. Why?

If your CD-ROM is proprietary (Sony, Mitsumi, and Panasonic), Windows 95 will install the drivers for them. If the CD-ROM is not being detected, there is a conflict with the device or the controller. Try carrying out the following procedure:

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the System icon in Control Panel, and then click the Device Manager tab.
- 3 Click your CD-ROM device in the list, click remove, and then click OK
- 4 Double-click the Add New Hardware icon in Control Panel, and then follow the instructions on your screen to reinstall your CD-ROM.

If your CD-ROM is not detected automatically, Windows will prompt you to specify which device you want to install.

If you have a hardware conflict, check your settings against the suggested settings in your hardware manual. You can also use the Hardware Conflict Troubleshooter in Windows Help to resolve the problem.

Networking: Common Questions and Answers

I cannot see any NetWare servers, but I can see servers on other networks. What's going on?

Your IPX/SPX frame type may have been set incorrectly.

If you have the IPX/SPX-compatible protocol installed, try carrying out the following procedure:

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon in Control Panel.
- 3 Click the IPX/SPX protocol, and then click Properties.
- 4 Click the Advanced tab, and then click Frame Type.
- 5 Check to see that the Frame Type is set properly. NetWare 3.11.x servers default to 802.3. NetWare 3.12 & 4.x servers default to 802.2. If the frame type is set to Auto, try changing it to your specific Frame Type.

Once I have set up my Windows 95 computer to act as a Novell Pass-Through server, can actual Novell clients connect to my computer?

Yes. Computers running NETX or VLM (the Novell DOS redirectors) will be able to connect to a Windows 95 Pass-Through server. (The Novell server must be using the Bindery or Binder emulations.)

Once I have set up my Windows 95 computer to act as a Novell Pass-Through server, can actual Novell clients connect to my 'shared' printers?

Yes.

Will the Windows 95 Netware client be able to store files with long filenames on a Netware server? Is there any special software needed on the server side?

Yes, Windows 95 will be able to store long filenames on a Netware server. To set this up, you need to add the OS2 name space NLM to the Netware server.

I've turned off the banner page through the Windows 95 graphical interface, but it still prints from my MS-DOS programs. How do I disable banner pages for my MS-DOS programs?

To turn off the banner page in MS-DOS, run the CAPTURE /NOBANNER utility.

What versions of Sun PC-NFS does Windows 95 support?

Windows 95 supports versions 5.0 or later.

I heard that Banyan is working on a 32-bit protected-mode client for Windows 95. When will this be available?

Banyan has recently released a beta of their protected-mode drivers for Windows 95. The drivers are on their bulletin board at (508) 836-1834. The filename is W95eap2.ZIP. Support for these drivers is available through Banyan.

How do I set up the IPX/SPX (only use that protocol) protocol to connect to a Windows NT server?

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon in Control Panel.
- 3 Remove all protocols except for IPX/SPX.
- 4 Click the IPX/SPX protocol, click Properties, and then click the Advanced tab.
- 5 Click Set This Protocol To Be The Default Protocol.
- 6 Click the NETBIOS tab, and then click I Want to Enable NetBIOS OVER IPX/SPX.
- 7 Click OK, and then restart your computer.

My network adapter card is software configurable. When I configure my adapter in the Network icon in Control Panel, will my network adapter be configured properly under Windows95?

Although most new network adapter cards are software configurable, it is still necessary to run the utility

software that came with the network adapter to properly configure it. Once this has been done, double-click the Network icon in Control Panel to confirm that the settings for the adapter match the settings specified through the utility software.

I cannot set up my PCMCIA network adapter. What do I do?

To use a PCMCIA net card, both your socket services and net card driver must be in real mode, or both must be in protected mode. To determine what kind of net card driver you're using, carry out the following procedure:

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon in Control Panel.
- 3 Click your network adapter, and then click Properties.
- 4 View or change your network driver type.

To enable protected-mode socket services, double-click the PC Card ((PCMCIA) icon in Control Panel and follow the instructions on your screen. This wizard removes the real-mode drivers from your CONFIG.SYS, AUTOEXEC.BAT, and SYSTEM.INI files. After the real-mode drivers have been removed, protected-mode services will start automatically.

Windows and Third-Party Programs: Common Questions and Answers

What types of tape backup units does Windows 95 support?

The following table lists the types of tape drives supported in Windows 95:

Floppy Controller Drives:

Tape sizes	Compatible drives
DC2000	QIC 40 & QIC 80
DC2120	QIC 40 & QIC 80
MC3000	XL/QIC 3010
*	Conner QIC Wide Tapes are not supported

Parallel Port Drives:

Colorado Trakker 120, 250 and 3010

Tape backup units that are not supported:

SCSI Tape Backup Units

Proprietary Controller Tape Backup Units

SCSI tape backup units that use an external SCSI controller connected to the parallel port

Will I be able to use my backup sets from Microsoft Backup 6.0 and 6.22 with Windows 95 Backup?

No, you will only be able to use Windows 95 Backup sets with Windows 95.

What is Briefcase?

If you use the same files on two different computers, Briefcase will help you keep those files in sync with each other. For more information, look up "Briefcase" in the Windows 95 Help Index.

Briefcase is not installed by default unless you installed Windows 95 on a portable computer. To add it later, Click the Start Button, point to Settings, and then click Control Panel. Double-click the Add/Remove icon and then click the Windows Setup tab.

Can I back up my floppy disk drive to a tape drive?

If the tape backup is attached to the floppy disk controller, this type of operation may fail. If the tape backup is not attached to the floppy disk controller, you can perform a backup this way.

If the SYSTEM.DAT file is corrupted, does Windows 95 automatically default to Safe Mode or use SYSTEM.DA0? If SYSTEM.DA0 is used, does Windows 95 try to update the corrupted SYSTEM.DAT file?

If SYSTEM.DAT is corrupted, Windows 95 uses SYSTEM.DA0 first. Windows will not try to fix the corrupted SYSTEM.DAT file. Windows 95 just renames the file extension from DA0 to DAT.

If you delete your SYSTEM.DAT file, then the next time you restart your computer you will see a message telling you that your registry is corrupted. If you choose OK, Windows 95 will restart using a backup version of the registry (SYSTEM.DA0).

Is there a way to prevent HIMEM.SYS, IFSHLP.SYS, and SETVER.EXE from loading automatically when Windows 95 is starting? It is my understanding that these files are called from IO.SYS.

Yes. To prevent IO.SYS from automatically calling these drivers, add the line **dos=noauto** to your CONFIG.SYS file. You will have to manually add these lines in the CONFIG.SYS file if NOAUTO is installed.

I noticed a file named SYSTEM.1st on my computer. What is this file and can I delete it?

The SYSTEM.1ST file is a copy of your registry the first time your computer started successfully. This file is very important for troubleshooting purposes and should NOT be deleted.

I notice that Smartdrv was remarked out by Windows 95. Should I add it back?

Smartdrv is not needed unless you are booting to a command prompt only, or running in (single) MS-DOS Mode. Windows 95 uses a protected-mode cache that is dynamic (shrinks and grows as needed).

I noticed that after I installed Windows 95, the FILES= and BUFFERS= statements were remarked out. Should I add these back manually?

Windows 95 automatically includes the following default settings in the IO.SYS file:

```
FILES=60
STACKS=9,256
BUFFERS=30
```

These defaults can be overridden by greater entries in the CONFIG.SYS file.

How do you boot your computer to a Windows 95 MS DOS Prompt instead of to the graphical interface?

There are several possible to do this.

- Restart your computer, and press SHIFT+F5 when you see the message "Starting Windows 95."
- Restart your computer, and press F8 when you see the message "Starting Windows 95," Step through each line of your AUTOEXEC.BAT file, and then choose No when prompted to run the WIN command.
- Edit the MSDOS.SYS file and change BOOTGUI=1 to BOOTGUI=0. This will automatically boot the computer to the Windows 95 MS-DOS prompt.

General Information: Questions and Answers

Windows 95 does not detect my SCSI CD-ROM. Why is this?

Windows 95 detects CD-ROMs such as Panasonic, Mitsumi, Sony, and NEC. It also detects SCSI controllers; thus, it will detect any SCSI CD-ROMs connected to the SCSI controller. If Windows 95 contains support for the SCSI controller you are using, it should support Panasonic, Mitsumi, Sony, and any other SCSI (or IDE) CD-ROMs.

Device Manager shows an entry for an UNKNOWN? device. What is this?

Unknown devices are devices that are enumerated by some bus enumerator but that do not have a class. Unknown devices are devices that consume some type of resource (such as I/O or IRQ). A protected-mode driver is not loaded for an unknown device.

My fonts are all missing from the WIN.INI file. Where did they go?

They are now recorded in the registry (SYSTEM.DAT). The registry is a data structure designed to store configuration information about the system in a secure and orderly way.

How do I regenerate the WIN.COM file?

This file cannot be regenerated. To replace WIN.COM, you must manually extract WIN.CNF for the disks or CD-ROM. Once it is extracted, copy it to your Windows 95 directory as WIN.COM.

Some of my programs print correctly to a network printer using a UNC, while others run into various problems. What could be wrong?

Some programs have a hard time printing to a UNC path. The workaround is to map the printer to a virtual LPT port instead of using a UNC.

When I start Windows 95, all my icons are black. How do I correct this?

This can be caused by a corruption in the ShellIconCache (SHELL~1) file. To fix this problem, delete this file and restart your computer. The file (which is a hidden file in the WINDOWS directory) is rebuilt automatically. If deleting this file does not fix the problem, try restarting your computer in Safe Mode, and then restarting it again as usual.

To make a hidden file visible so that you can delete it, carry out the following procedure.

- 1 In My Computer or Windows Explorer, click the View menu, and then click Options.
- 2 Click the View tab, make sure Show All Files is selected, and then click OK.

How can I delete files from Windows Explorer without having them go automatically to the Recycle Bin?

Press SHIFT+DELETE to delete a file completely from your hard disk.

How do I remove or prevent certain icons from being displayed in Control Panel?

The System Policy Editor enables you to restrict the Display, Network, Printers, System, and Security icons on a per-user basis. Also, there are plans for the Resource Kit to include per machine, per user, and per user group restrictions. The settings in each .CPL file (the file accessed through the Control Panel icons) define what registry keys are valid and what portions can be hidden from a user. Third-party .CPL's may or may not implement any system policy registry keys to hide parts of its property sheets. NOTE: The System Policy Editor is in the \ADMIN\APPTOOLS\POLEDIT directory on the CD-ROM.

How do you exclude an upper memory block (UMB) through the Windows 95 interface?

To do this, carry out the following procedure:

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the System icon, and then click the Device Manager tab.
- 3 Click Computer, and then click Properties.
- 4 Click the Reserve Resources tab, click Add, and then type the range to be excluded.

How do I make an emergency boot disk if I did not create one during Setup?

To create a complete emergency boot disk, double-click the Add/Remove Programs icon in Control Panel, and then click the Startup Disk tab. Follow the instructions on the screen.

Network Browsing Basics

Network Neighborhood is the central point for browsing in Windows 95, offering the following benefits:

- You can browse the network as easily as browsing the local hard disk.
- You can create shortcuts to network resources on the desktop.
- You can easily connect to network resources by clicking the Map Network Drive button that appears on most toolbars.



You can open files and complete other actions by using common dialog boxes in programs. These new dialog boxes provide a consistent way to open or save files on both network and local drives.

You can plan ahead to set up workgroups for effective browsing by using the

WRKGRP.INI Customizing_Windows_95_with_WRKGRP.INI_Files file to control the workgroups that people can choose.

Note



If your enterprise network based on Microsoft Networking is connected by a slow-link wide area network (WAN) and includes satellite offices with only Windows 95, then workstations in the satellite cannot browse the central corporate network. Consequently, they can only connect to computers outside of their workgroups by typing the computer name in a Map Network Connection dialog box. To provide full browsing capabilities, the satellite office must have a Windows NT server.

Browsing Overview

Windows 95 makes browsing networks easy, independent of the network provider (such as Windows NT Server, Novell NetWare, or Windows 95 itself).

You can browse network resources to access information or connect to resources available on the network. For example, users on NetWare networks can see NetWare servers and printers, plus computers running File and Printer Sharing for NetWare Networks.

Users on Microsoft networks can find network resources by scrolling through a list of available workgroups, a list of available computers in a workgroup, or a list of available resources on a computer.

See the following topics for more information:

[Using Network Neighborhood](#)

[Browsing in common dialog boxes](#)

[Browsing with the Net View command](#)

Using Network Neighborhood

The Network Neighborhood icon on the desktop is the primary means by which you browse the network. In both Network Neighborhood and Entire Network views, you can access shared resources on a server without having to map a network drive. To connect to and browse the resource, simply double-click an icon.

To create a shortcut on the desktop to a network resource

- 1 Browse Network Neighborhood until you find the network resource you want.
- 2 Use the right mouse button to click the resource, and then drag the icon for that resource onto the desktop.
- 3 On the context menu, click Create Shortcut(s) Here.
- 4 Close the Network Neighborhood window.
- 5 Double-click the shortcut icon to view the contents of the network folder.

The administrator can use system policies to create a custom Network Neighborhood for individuals or multiple users. Other system policies can be set to control users' access to browsing.

To create a custom Network Neighborhood

- 1 Create a folder that will contain the custom Network Neighborhood. Place it in a central location if multiple users will access it, or place it in the following location on a local computer:
c:\windows\profiles\username\nethood
- 2 Place any shortcuts that you want in the custom Network Neighborhood. Make sure that the path specified in the Target box on the Shortcut Properties dialog box is a UNC name rather than a mapped directory. Otherwise, users who access resources using these shortcuts must have the same drives mapped in their logon scripts.

Caution: Do not place folders in the custom Network Neighborhood. Windows 95 does not support this, and unpredictable results can occur.

- 3 In System Policy Editor, enable the policy named Custom Network Neighborhood.



You can use Registry mode to enable this option on a local or a remote computer.



You can use Policy mode to create or modify a policy file for one or more users. The next time you log on, the Custom Network Neighborhood will appear on the desktop.

Browsing in Common Dialog Boxes

The new common dialog boxes such as File Open and File Save are standard in applications that use the Windows 95 user interface and provide a consistent way to open or save files on both network resources and local drives. Users can browse Network Neighborhood directly from the common dialog boxes and can perform most basic file-management tasks while working in a common dialog box.

Note



Windows-based applications created for earlier versions of Windows do not use the new common dialog boxes.

In Windows 95, you can create new folders when you are saving a document (unlike Windows 3.1, where you had to start File Manager or switch to the command prompt), as shown in the following procedure for an application that uses the common networking dialog boxes.

To create a new folder from within a common dialog box (an example)

- 1 Click the Start button, point to Programs, point to Accessories, and then click Paint.
- 2 On the File menu, click Open, and then click the Look In list.
- 3 Click a network resource in Network Neighborhood.
- 4 Click the Create New Folder button. The button is represented by a small yellow folder icon. Move the pointer over the folder to receive a ToolTip.

Notice that the new folder is created on the network resource.

Browsing with the Net View Command

Browsing network resources at the command prompt is handled by the real-mode networking components. Use the **net view** command to request a list of computers in a given workgroup. The **net view** command requests a list of computers directly from the master browse server.

► To display a list of computers with shared resources in a workgroup, at the command prompt, type **net view** and then press ENTER.

Net View Syntax

net view [\\computername]

or

net view [/workgroup:workgroupname]

Net View Parameters

computername

Specifies the name of the computer that has shared resources you want to view.

workgroup

Specifies that you want to view the computers that share resources in another workgroup.

workgroupname

Specifies the workgroup that has computer names you want to view.

Browsing on Microsoft Networks

The Windows 95 browsing scheme for Microsoft Networks is based on the scheme currently used for Windows NT and Windows for Workgroups. The Windows 95 browse service attempts to minimize the network traffic related to browsing while supporting both small and large networks. This topic describes how the browse service designates browse servers and maintains the browse list.

Designating a Master Browse Server for Microsoft Networks

The Windows 95 browse service uses the concept of a master browse server and a backup browse server to maintain the browse list. There is only one master browse server per workgroup for each protocol used in the workgroup; however, there may be one or more backup browse servers for each protocol for a given workgroup.

The master browse server maintains the master list of workgroups, domains, and computers in a given workgroup. To minimize the network traffic when handling browsing services, backup browse servers can be designated in a workgroup to help off-load some query requests. Usually there is one browse server for every 15 computers in a given workgroup.

When Windows 95 is started, it first checks to see if a master browse server is already present for the given workgroup. If a master browse server doesn't exist, Windows determines which server will be the master browse server for the workgroup.

If a master browse server already exists, Windows 95 detects the number of computers in the workgroup and the number of browse servers present. If the number of computers in the workgroup exceeds the defined ratio of browse servers to computers in a workgroup, an additional computer in the workgroup may become a backup browse server.

The Browse Master parameter in the Advanced properties for File and Printer Sharing for Microsoft Networks controls which computers can become browse servers in a workgroup. If this parameter is set to Automatic, the master browse server can designate that computer as a backup browse server when needed.


Tip for Using the Net View Command to Check the Browse Server

The **net view** command is a valuable troubleshooting tool if you suspect the browse list maintained by a backup browse server is incomplete or inaccurate. You can use the **net view** command to get the list of known computers directly from the master browse server.

If the list of computers returned by a master browse server is inaccurate, you can quit Windows to reset the computer. Another computer will then become the designated master browse server for the workgroup.

Building the Browse List for Microsoft Networks


In Windows 95, the browse service maintains an up-to-date list of domains, workgroups, and computers, and provides this list to applications when requested. The user sees the list in the following circumstances:

 If a Windows 95 user requests a list of computers in a workgroup, the browse service on the local computer randomly chooses a browse server and sends the request.


 If a user selects a workgroup to which the computer does not belong, Windows 95 requests a list of the workgroup computers from a browse server in the selected workgroup.


The selected browse server also sends a list of other workgroups it knows about, which are defined on the network, along with a list of computers in the workgroup to which the user belongs.


The browse list is displayed in Map Network Drive and Connect Network Printer dialog boxes, or anywhere that Windows 95 presents lists of resources that can be browsed. You can also display the browse list by using the **net view** command. The list can contain the names of domains, workgroups, and computers running the File and Printer Sharing service, including the following:

 Computers running Windows 95, Windows for Workgroups, and Windows NT Workstation

 Windows NT Server domains and servers

 Workgroups defined in Windows 95, Windows for Workgroups, and Windows NT

 Workgroup Add-On for MS-DOS peer servers

 LAN Manager 2.x domains and servers

Adding New Computers to the Browse List

When a computer running Windows 95 is started on the network, the master browse server adds that computer to the list of available computers in the workgroup. The master browse server then notifies backup browse servers of the change to the browse list. The backup browse servers then request the new information to update their local browse lists. It may take as long as 15 minutes before a backup browse server receives an updated browse list, so a new computer on the network may not appear in a user's request for a browse list until this time has elapsed.




Removing Computers from the Browse List

When a computer shuts down properly (for example, when a user shuts down Windows 95 before powering off the computer or restarting the computer), Windows tells the master browse server that the computer is shutting down. The master browse server then notifies backup browse servers of the change to the browse list. The backup browse servers request the changes to the browse list.

If a user turns off the computer without shutting down Windows first, the computer does not send a message to the master browse server, and the computer name may continue to appear in the browse list until the name entry times out, which can take up to 45 minutes.

Customizing Windows 95 with WRKGRP.INI Files

Windows 95 Setup recognizes an initialization file named WRKGRP.INI that system administrators can use to specify a list of valid workgroups that users can join. You can use WRKGRP.INI in these ways:

-  To help reduce the proliferation of workgroup names at your site
-  To control the workgroup choices that users can make
-  To specify defaults for the preferred server and domain on a per-workgroup basis

The WRKGRP.INI file is stored in the Windows directory on the server that contains the Windows 95 source files.

Windows 95 Setup maps the workgroup to the proper logon domain, preferred server, and other values to values defined in WRKGRP.INI, and stores these values in the registry. The same values are used to control the related options available in the Network properties in Control Panel. The WRKGRP.INI file contains the following sections.

Section	Description
[Options]	Specifies the recognized options for using WRKGRP.INI.
[Workgroups]	Contains a list of workgroups from which the user can choose.

For each workgroup, administrators can specify the domain, preferred server, and so on, that everyone in a workgroup will use, depending on the network providers used. The entry that defines the network providers for each workgroup has the following format in the [Workgroups] section:

```
workgroup_name=mapping1,mapping2,mapping3,...
```

By default, workgroups can be mapped to both Windows NT domains and NetWare preferred servers. (This is because Windows 95 includes network providers for these two networks.) For example:

```
MktMain=MktDom1,Master1
```

This example specifies that the workgroup named MktMain has these two mappings: MktDom1 is the logon domain for the Windows NT network, and Master1 is the preferred server for the NetWare network.

Administrators can specify the 32-bit, protected-mode network providers that can be mapped for a workgroup by setting the Mapping= parameter in the [Options] section of WRKGRP.INI. For example, if the network uses two network providers (MSNP32 for Microsoft networks and NWN32 for NetWare networks), the following is defined in WRKGRP.INI:

```
[options]  
mapping=msnp32,nwnp32
```

If you use an additional network provider at your site, you can specify it by adding the network provider filename to the comma-separated list of Mapping= values. The Mapping= line specifies which network provider is related to a mapping and the registry key where it is stored, because the locations of domains, preferred servers, and so on, are stored under the network provider's key in the registry. For example, domain names are stored in the following key:

```
Hkey_Local_Machine\System\CurrentControlSet\Services_\MSNP32\NetworkProvider\AuthenticatingAgent
```


You can also use the Default= line to specify a default mapping for workgroups that do not have an explicit mapping. This allows you to use an existing WRKGRP.INI created for Windows for Workgroups 3.11, and add one line to take advantage of Windows 95 functionality. For example, add the entry Default=MktDom1,Master1 to use the servers described in the previous example as the default mapping.

If a WRKGRP.INI exists, the Workgroup field in Windows 95 Setup and the Network properties in Control Panel show all the workgroups listed in WRKGRP.INI. Users can choose a workgroup from the list or type one in. If Required=true in WRKGRP.INI, the user must choose from the list.

In WRKGRP.INI, ForceMapping= controls whether mapped values can be changed in the Windows 95 user interface. For example, if ForceMapping=true and the user selects a workgroup that is mapped to a domain, the

value in the Logon Domain box in the Network properties in Control Panel and in the logon dialog box is not available for the user to change. In Control Panel, these parameters are always saved directly in the registry, so canceling the Network properties dialog box doesn't cancel related settings.

Note

 When Windows 95 Setup finds WRKGRP.INI in the Windows 95 source files, it copies the file to the shared Windows directory.

The format of the Windows 95 WRKGRP.INI is described in the following table.

WRKGRP.INI Settings section or entry	Description
[Options] section:	
ANSI=true false	Specifies whether the workgroups need to be converted from an OEM character set to ANSI. Default is false.
Required=true false	Specifies whether users can type their own workgroup name or have to choose from those listed.
ForceMapping=true false	Specifies whether users can change values that are set by a mapping.
Mapping= NP1, NP2, NP3,... (comma-separated list of network providers)	Specifies a comma-separated list of the network providers to which workgroups can be mapped. Also specifies the order in which values will be listed in the [Workgroups] section. Implicitly, this specifies where in the registry to store settings. This parameter is optional. By default, workgroups map to domain, preferred server.
Default=NP1 default,NP2 default, NP3 default,...	Specifies the default mapping for workgroups listed in the [Workgroups] section that don't have a mapping defined. This allows administrators to add a single line to existing Windows for Workgroups WRKGRP.INI files to get minimal mapping functionality. The format is the same as for specifying a mapping in [Workgroups].
[Workgroups] section:	
workgroup=optional_mapping	Specifies a workgroup that users can choose, and its mappings will automatically be defined in the order specified in Mapping=. There









can be a workgroup= entry in the file for every workgroup that users can choose.

Note Each name of a workgroup must be followed by an equal sign (=) for the workgroup name to be interpreted correctly

Windows 95 on Other Networks: The Basics

Integrated networking support is a key feature of Windows 95. The new architecture that supports multiple network providers means that it's easier to install and manage a single network or multiple networks simultaneously than in earlier versions of Windows. Windows 95 can simultaneously support up to ten 32-bit, protected-mode network clients and one 16-bit, real-mode client.

Windows 95 includes two protected-mode network clients (Client for Microsoft Networks and Client for NetWare Networks), plus built-in support for the following types of 16-bit, real-mode network clients. In most cases, you also need to use supporting software from the network vendors:

-  [Artisoft LANtastic version 5.0 and later](#)
-  [Banyan VINES version 5.52 and later](#)
-  [Beame and Whiteside BW-NFS version 3.0c and later](#)
-  [DEC Pathworks version 5.0 and later](#)
-  [IBM OS/2 LAN Server](#)
-  [Novell NetWare version 3.11 and later](#)
-  [SunSelect PC-NFS version 5.0 and later](#)
-  [TCS 10-Net version 4.1 and later](#)

Installing Support for Other Networks: An Overview

This topic describes how to install Windows 95 with network support from another vendor. For installation details related to your specific network, see the topic for that network.

Installing Network Support During Windows 95 Setup

If you want to install Windows 95 on a computer that already has networking support from a network vendor other than Microsoft or Novell NetWare, you should be sure the network client from that vendor is correctly installed under MS-DOS, Windows version 3.1, or Windows for Workgroups.

The network software should be running when you start Windows 95 Setup. If Setup detects a network adapter, but the computer is not running network software, Setup installs Client for Microsoft Networks by default. Although the Network icon in Control Panel provides the same controls for adding and removing networking components after Windows 95 is installed, Microsoft recommends that you install networking support during Windows 95 Setup.

To add a network client while running Windows 95 Setup

- 1 Be sure the network client from your vendor is already installed under MS-DOS, Windows 3.1, or Windows for Workgroups. The network software should be running.
- 2 Start Windows 95 Setup, and then choose Custom as the setup type.
- 3 When the Network Configuration screen appears, your network client should appear in the list. If it does, click OK to continue with Setup.

If you need to add the network client, click Add. Then double-click Client. Click the network vendor in the Manufacturers list, and then click the name of the client in the Network Clients list.

Because the network clients keep track of the network adapter and protocols, no protocols or adapters should be listed in the Network Configuration dialog box.

- 4 If you want to install Client for Microsoft Networks in addition to the network client from your vendor, follow the steps in [Installing Client for Microsoft Networks with Other Networks](#). Otherwise, click Next and continue with Windows 95 Setup.
- 5 After Windows 95 is installed, check the AUTOEXEC.BAT file to ensure that all commands point to the correct directory for your network software.

In Windows 95, all real-mode networking components, including PROTOCOL.INI, are located in the root directory. The settings in PROTOCOL.INI only affect real-mode network components. Changing these values has no effect on the protected-mode network. If you need to change any settings in PROTOCOL.INI, use the Network option in Control Panel to make changes. For details about PROTOCOL.INI entries, see [PROTOCOL.INI: Real-Mode Network Initialization File](#).

Installing Client for Microsoft Networks with Other Networks

Use the following procedure to install the 32-bit, protected-mode Client for Microsoft Networks in addition to a network client from another vendor.

Note



Artisoft LANtastic cannot be used with a 32-bit, protected-mode networking client such as Client for Microsoft Networks. This client must be installed as the sole network client on the computer.

To install Client for Microsoft Networks after another network has been installed


- 1 Start Windows 95 Setup, and then choose Custom as the setup type.
or
If Windows 95 is installed, double-click the Network icon in Control Panel.
- 2 Click Add, and then double-click Client.
- 3 Click Microsoft in the Manufacturers list, and click Client for Microsoft Networks in the Network Clients list.
- 4 Usually, Windows detects the correct network adapter and selects the corresponding driver. If you must add a network adapter, click Add and then double-click Adapter. Click the adapter vendor in the Manufacturers list, and then click the name of the adapter in the Network Adapters list. Click OK.
- 5 In the Network Configuration dialog box, double-click the network adapter in the list of components. Verify the settings for the network adapter, and then click OK.
Setup automatically installs a protected-mode version of any protocol that the installed network clients are using. If you need to install another protocol, follow the steps in [Installing Drivers and Protocols](#); see also the documentation for your network adapter to verify its software settings.
- 6 Click Next to continue with Setup.
or
If Windows 95 has already been installed, restart the computer.


Issues for Windows 95 on Other Networks


Although you can simultaneously run up to ten, 32-bit network clients, you can only run a single 16-bit, real-mode network client.

The network software should be installed and running on the workstation when you start Windows 95 Setup so that Setup can detect the network and install support for it automatically.

If your network vendor does not provide a 32-bit, protected-mode client that is compatible with Windows 95, and if you don't (or can't) run Client for Microsoft Networks in addition to your other network client, you cannot take advantage of the protected-mode networking features of Windows 95. For example:

 You won't gain the performance advantages of 32-bit, protected-mode network components, including Plug and Play networking support, long filenames, client-side caching, automatic reconnections, and other performance enhancements.

 You can't take advantage of the Windows 95 unified logon and user interface for navigating the network, or use the Windows 95 network management tools.

 You can't take advantage of user profiles for management of desktop configurations, or use Windows 95 File and Printer Sharing services.

Specific issues for particular 16-bit network clients are presented in the section for that network, including whether support for a particular network includes browsing in Network Neighborhood and whether you can also use a 32-bit, protected-mode client such as Client for Microsoft Networks simultaneously with that network.

Artisoft LANtastic

Windows 95 can be installed to run with Artisoft LANtastic version 5.x. or later client software, but LANtastic servers will not appear in Network Neighborhood. You can connect to servers at the command prompt.

Note



You can only configure Artisoft LANtastic as the Primary Network Logon. Additional 32-bit network providers, such as Client for Microsoft Networks or Client for NetWare Networks, cannot be used.

To set up Windows 95 with an Artisoft LANtastic real-mode network client

- 1 Make sure the LANtastic server is not running.
- 2 Make sure that the LANtastic client is already installed under MS-DOS, Windows 3.1, or Windows for Workgroups. The network software should be running when you start Windows 95 Setup.
- 3 Follow the steps in [Installing Support for Other Networks: An Overview](#).

Banyan VINES

Windows 95 can be installed and run with Banyan VINES version 5.52(5) or later. Banyan VINES servers do not appear in Network Neighborhood. You can use the Map Network Drive dialog box in Windows 95 to connect to servers.

Banyan VINES as the primary network

If Banyan is installed using a Banyan LAN driver, Windows 95 can support Banyan as the primary network.

Banyan VINES as an additional 16-bit Windows 95 client

If Banyan is installed with an NDIS 2 network adapter driver, then it can be installed as an additional 16-bit network client, and you can also install 32-bit, protected-mode clients such as Client for Microsoft Networks or Client for NetWare Networks.

To set up Windows 95 with Banyan VINES real-mode network client support

- 1 Make sure that the Banyan VINES client is already installed under MS-DOS, Windows 3.1, or Windows for Workgroups. The network should be running when you start Windows 95 Setup.
- 2 Follow the steps in Installing Support for Other Networks: An Overview.

Note



If you have Banyan VINES version 5.53(6) or 5.52(5), and are having problems with the Banyan pop-up dialog box the first time Windows 95 starts, you can edit the VINES.INI file in your Windows directory so that it contains these entries:

```
[newrev]dontcopy=1vines.version=5.53 (6) USA_; or vines.version=5.52(5) USAwindows.version=3.95
```

Beame and Whiteside NFS

You can run Windows 95 with Beame and Whiteside version BW-NFS 3.0c, however, BW-NFS servers will not appear in Network Neighborhood. You can connect to servers at the command prompt.

BW-NFS as the primary network

If BW-NFS is installed using a BW-NFS LAN driver, Windows 95 can support BW-NFS as the primary network. BW-NFS uses NDIS packet drivers or ODI network adapter drivers.

BW-NFS as an additional 16-bit Windows 95 client

If BW-NFS is installed with an NDIS 2 network adapter driver, then BW-NFS can be installed as an additional 16-bit network client, and you can install 32-bit, protected-mode clients such as Client for Microsoft Networks or Client for NetWare Networks.

To set up Windows 95 with BW-NFS real-mode network client support

- 1 Ensure that the Beame and Whiteside BW-NFS network client is already installed under MS-DOS, Windows 3.1, or Windows for Workgroups. The network should be running when you start Windows 95 Setup.
- 2 Follow the steps in Installing Support for Other Networks: An Overview.

DEC Pathworks

Windows 95 can be installed and run with DEC Pathworks version 5.x. You must install Client for Microsoft Networks plus the DEC Pathworks protocol provided by DEC (there is no DEC Pathworks 5.x client). DEC Pathworks uses NDIS 2 network adapter drivers.

After Windows 95 is installed, you can use Network Neighborhood to browse DEC Pathworks servers running version 5.x.

Note

 DEC Pathworks users must install DEC Pathworks support for Windows for Workgroups 3.x before running Windows 95 Setup. This software is available on the DECPCI forum on CompuServe.

To set up Windows 95 with DEC Pathworks 5.x real-mode network support

- 1 Make sure that DEC Pathworks support is already installed under Windows for Workgroups. The network should be running when you start Windows 95 Setup.
- 2 Run Windows 95 Setup, and then choose Custom Setup.
- 3 In the Network Configuration dialog box, click Add, and then double-click Client.
- 4 Click Microsoft in the Manufacturers list, and then click Client for Microsoft Networks in the Network Clients list. Click OK.
- 5 In the Network Configuration dialog box, click Add again, and then double-click Protocol.
- 6 Click DEC in the Manufacturers list, and then click a DEC Pathworks 5.x protocol in the Network Protocols list. Click OK.


Note For DEC Pathworks 5.x, you can use a DECnet protocol, or you can use NetBEUI or Microsoft TCP/IP.

- 7 Click Next to continue with Setup.

Your AUTOEXEC.BAT file must contain the following line to refer to the batch file that is used to start DEC Pathworks:




```
startnet.bat
```

Tip


 Supporting software for the DEC print monitor is available on the Windows 95 compact disc in the ADMIN directory.

IBM OS/2 LAN Server

Windows 95 can be installed and run with these versions of IBM OS/2 LAN Server:

-  Version 1.3 CSD
-  Version 2.0
-  Versions 1.2 and 1.3

Note

 If OS/2 LAN Server is installed using a OS/2 LAN Server LAN driver, Windows 95 can support OS/2 LAN Server as a primary network only. You cannot install Client for Microsoft Networks as an additional network client.

OS/2 LAN Server servers will appear in Network Neighborhood. Users can also connect to servers using the Map Network Drive dialog box or the command prompt.

To set up Windows 95 with IBM OS/2 LAN Server real-mode network client support

▶ Make sure the OS/2 LAN Server client is already installed under MS-DOS, Windows 3.1, or Windows for Workgroups. The network should be running when you follow the steps in [Installing Support for Other Networks: An Overview](#).

Important Windows 95 does not support installation of IBM DOS LAN Requestor. You must remove all references to DOS LAN Requestor from your CONFIG.SYS and AUTOEXEC.BAT files before starting Windows 95.

To access an IBM LAN Server, install Client for Microsoft Networks. Then all networking operations should be successful with the LAN Server.

SunSelect PC-NFS

Windows 95 can be installed and run with SunSelect PC-NFS version 5.0. SunSelect servers will not appear in Network Neighborhood. You can use the Map Network Drive dialog box to connect to servers.

Sun PC-NFS as the primary network

If Sun PC-NFS is installed using a Sun PC NFS LAN driver, Windows 95 can support Sun PC-NFS as the primary network. Additional 32-bit network providers will not work.

Sun PC-NFS as an additional 16-bit Windows 95 client





If Sun PC-NFS is installed with an NDIS 2 network adapter driver or with an ODI driver, then Sun PC-NFS can be installed as an additional 16-bit network client, and you can install 32-bit, protected-mode clients such as Client for Microsoft Networks or Client for NetWare Networks.

To set up Windows 95 with SunSelect PC-NFS real-mode network client support

- ▶ Make sure the SunSelect PC-NFS client is already installed under MS-DOS, Windows 3.1, or Windows for Workgroups. The network should be running when you follow the steps in [Installing Support for Other Networks: An Overview](#).

TCS 10-Net

Windows 95 can be installed and run with these versions of TCS 10-Net:

-  TCS 10-Net version 4.1x with DCA 1M
-  TCS 10-Net version 4.1x
-  TCS 10-Net version 4.2 and above
-  TCS 10-Net version 5.0

TCS 10-Net servers will appear in Network Neighborhood, so users can browse and connect to resources.

TCS 10-Net as the primary network

If TCS 10-Net is installed using a TCS 10-Net LAN driver, Windows 95 can support TCS 10-Net as the primary network.

TCS 10-Net as an additional 16-bit Windows 95 client.




If TCS 10-Net is installed with an NDIS 2 network adapter driver, then TCS 10-Net can be installed as an additional 16-bit network client, and you can install 32-bit, protected-mode clients such as Client for Microsoft Networks or Client for NetWare Networks.

To set up Windows 95 with TCS 10-NET real-mode network client support

- 1 Make sure that the TCS 10-Net client is already installed under MS-DOS, Windows 3.1, or Windows for Workgroups. The network should be running when you start Windows 95 Setup.
- 2 Follow the steps in Installing Support for Other Networks: An Overview.

Windows 95 on NetWare Networks: The Basics

Windows 95 runs on NetWare workstations that use Novell NetWare versions 2.15 and later, 3.x, and 4.x servers. You have several choices for the networking client to use, as described later in this section:

-  [The New 32-Bit, Protected-Mode Microsoft Client for NetWare Networks](#)
-  [Novell NetWare 3.x Real-Mode Networking Client \(NETX\)](#)
-  [Novell NetWare 4.x Real-Mode Networking Client \(VLM\)](#)

Note

"NETX" is used to refer to the Novell NetWare workstation shell for NetWare version 3.x; VLM is used to refer to the NetWare workstation shell for version 4.x.

Whichever client you choose, you can use the built-in features and commands in Windows 95 to perform most common network operation and administration tasks. Microsoft Client for NetWare Networks can process logon scripts, and also supports the 16-bit NetWare 3.x and 4.x command-line utilities for both users and administrators, so that you can use these utilities in the same way as with NETX or VLM clients running under MS-DOS or an earlier version of Windows.

Windows 95 provides complete 32-bit, protected-mode software for running on Novell NetWare networks, including a network client (sometimes called the redirector or requestor), an IPX/SPX-compatible protocol, network adapter drivers, and administrative tools. With the Microsoft Client for NetWare Networks in Windows 95, users can access NetWare server services, browse and connect to NetWare servers, and queue print jobs using the Windows 95 network user interface or Novell NetWare utilities.

Setting Up Microsoft Client for NetWare Networks

When using Client for NetWare Networks, you do not need to load any Novell-supplied drivers or components. This client runs with the Microsoft IPX/SPX-compatible protocol and NDIS-compliant, protected-mode drivers, which Windows 95 Setup installs automatically when you select this client.

When Windows 95 is installed with Client for NetWare Networks, Windows 95 Setup automatically moves any relevant NET.CFG settings to the registry. You can configure the related settings by double-clicking the Network icon in Control Panel. You can also configure the network adapter driver and the IPX/SPX-compatible protocol.

If you did not install Client for NetWare Networks during Windows 95 Setup, you can switch to this client any time after Windows 95 is installed on your computer, as described in the following procedure.

Tip



To quickly display the Network properties sheets without opening Control Panel, use your right mouse button to click the Network Neighborhood icon on the desktop. Then click Properties on the menu that appears.

To use Client for NetWare Networks

- 1 Double-click the Network icon in Control Panel, and then click the Configuration tab.
- 2 Select the currently installed NetWare Workstation Shell client, and then click Remove.
- 3 Click Add, and then double-click Client.
- 4 In the Manufacturers list, click Microsoft.
- 5 In the Network Clients list, click Client for NetWare Networks.
- 6 Click OK, and then click OK in the Network properties sheet. Then shut down and restart the computer.

Note

When you install Client for NetWare Networks, Windows 95 Setup adds the value lastdrive=32 to the parameters for the network client in the registry. This value makes room for entries in a table to store drive information. For Microsoft networking, the last drive would be set to Z (or 26), but NetWare allows six additional entries in its drive table. The extra drives are used only by NetWare-aware programs; these drives are not available to users.

Setting Up Windows 95 with a Novell-Supplied NetWare Client

In most cases, Windows 95 Setup automatically installs the Microsoft Client for NetWare Networks if it detects Novell networking software on the computer. The following sections describe how to install Windows 95 to work with a Novell-supplied client.

For specific information related to your Novell-supplied workstation shell, see [NETX Technical Notes](#) or [VLM Technical Notes](#).

Important

To help you ensure successful installation of Windows 95, make sure that the Novell-supplied NetWare client software is running before you start Windows 95 Setup. To verify that the Novell-supplied software is running, make sure you can successfully connect to and use resources on a NetWare server. Running the Novell-supplied software helps to ensure that Windows 95 can properly detect the network configuration during Setup.

Also, if you currently use IPX.COM, you should upgrade to the latest versions of NetWare client software that use ODI drivers before installing Windows 95.

Installing Windows 95 with a Novell NetWare Client

This section presents the following procedures for installing Windows 95 to run with a Novell-supplied client:



Installing Novell-supplied NetWare client support during Windows 95 Setup



Installing Client for Microsoft Networks in addition to a Novell-supplied NetWare client

Note

The method for installing VLM support is different, as described in VLM Technical Notes. Also, if the NetWare client software is not running when Windows 95 is installed, you must manually configure Windows 95 after Setup to work in conjunction with the NetWare client software.

By default, Windows 95 Setup upgrades the network client to Microsoft Client for NetWare Networks if it detects NetWare software. You can select Custom Setup and specify that the Novell-supplied software be retained during Setup.

To select the Novell-supplied NETX client support during Windows 95 Setup

- 1 Start the computer as usual, making sure that the Novell-supplied network software is running. Then run Windows 95 Setup, and select Custom as the Setup type.
- 2 When the Network Configuration dialog box appears, click Client for NetWare Networks in the list of components, and then click Remove.
- 3 Click Add, and then double-click Client.
- 4 In the Manufacturers list, click Novell.
- 5 In the Network Clients list, click Workstation Shell 3.X [NETX], and then click OK.
- 6 In the Network Configuration dialog box, click Next.

If you want to use only the NETX client, you do not need to specify settings for your network adapter driver or protocols. Setup adds support for the ODI adapter and IPXODI automatically by reading settings from NET.CFG. If you want to also use Client for Microsoft Networks, follow the steps in the next procedure.

- 7 Continue with Windows 95 Setup.

Note

You cannot install Client for Microsoft Networks as an additional networking client if you are installing Windows 95 to run with an IPX monolithic configuration.

To install Client for Microsoft Networks with a Novell NetWare client

- 1 Double-click the Network icon in Control Panel, and then click the Configuration tab.
- 2 Click Add, and then double-click Client.
- 3 In the Manufacturers list, click Microsoft.
- 4 In the Network Clients list, click Client for Microsoft Networks, and then click OK.

To determine whether the correct adapter driver is installed

- 1 Double-click the Network icon in Control Panel, and then click the Configuration tab.
- 2 Double-click the network adapter.
- 3 Click the Driver Type tab.
- 4 Make sure the Real Mode (16-bit) ODI driver is selected, and then click OK.

Switching Back to NETX from Client for NetWare Networks

If you install the protected-mode Client for NetWare Networks and later decide to return to your original Novell NetWare NETX configuration, carry out the following procedure. For details about adding or returning to VLM, see [VLM Technical Notes](#).



To return to NETX after installing Client for NetWare Networks

- 1 Double-click the Network icon in Control Panel, and then click the Configuration tab.
- 2 Click the IPX/SPX-compatible protocol, and then click Remove.
- 3 Click Client for NetWare Networks, and then click Remove. Click Add, and then double-click Client.
- 4 In the Manufacturers list, click Novell.
- 5 In the Network Clients list, click Workstation Shell 3.X [NETX], and then click OK. Windows 95 automatically installs IPXODI support.
- 6 Click the Configuration tab, double-click the network adapter, and then click the Driver Type tab.
- 7 Select the Real Mode (16-bit) ODI driver, and then click OK.
- 8 Click OK, and provide a disk or a location for any files that Windows 95 requests to complete the installation. Restart the computer.

Important

You will typically have to reinstall Novell-supplied files at this stage, because Windows 95 Setup previously replaced these files with versions required by Client for NetWare Networks. You must also make sure that NET.CFG is present and contains correct settings, and that the required settings are present in CONFIG.SYS and AUTOEXEC.BAT. For information about these required settings, see your Novell documentation.

See Also

-  [Netware Client Installation for Windows 95 \(NETX\)](#)
-  [Netware Client Installation for Windows 95 \(VLM\)](#)

This project was created by:

Brian Boston

Denise Wynn

and built by:

Travis Barth Brian Boston Martina Crimps





Geoff Gray Becky Lawson Scott Graff

Matthew Metcalf Larry Morando Mitch Rundle

Doug Lance Sheresh Steve Taylor Denise Wynn

NETX Technical Notes

This section discusses specific issues related to using the Novell-supplied NetWare 3.x client software with Windows 95. The following topics are included:

-  Using NETX with Client for Microsoft Networks
-  Using NETX as the Sole Client
-  Specifying the LastDrive= Parameter
-  Setting Show Dots and File Access Limits

Using NETX with Client for Microsoft Networks

When running NETX with Windows 95, you keep all the same functionality that you had when running with MS-DOS or Windows 3.x. If you are using NETX as the network client, you might also choose to install the 32-bit, protected-mode Client for Microsoft Networks if you want to connect to other Microsoft network computers, such as computers running Windows 95, Windows for Workgroups 3.x, LAN Manager, or Windows NT.



When you run the NetWare NETX client with Windows 95 in this configuration, you should continue to load the necessary Novell-supplied client components and MS-DOS based TSRs (LSL, ODI driver, IPXODI, and NETX) in AUTOEXEC.BAT or STARTNET.BAT, just as you did with MS-DOS or Windows 3.1. Windows 95 Setup automatically adds the configuration lines if they are not present. For information about required configuration lines, see your Novell documentation.

Note

You cannot install Client for Microsoft Networks as an additional networking client if you are using the IPX monolithic configuration.

Using NETX as the Sole Client

This configuration is for use in either of these cases:

-  The IPX monolithic configuration is used.
-  You do not need to connect to other computers running Windows 95, Windows for Workgroups 3.x, LAN Manager, or Windows NT.

To use only NETX client support, double-click the Network icon in Control Panel to remove Client for NetWare Networks and Client for Microsoft Networks, if either of these clients is installed. Then add the Novell NetWare (Workstation Shell 3.X [NETX]) client, as described in [Setting Up Windows 95 with a Novell NetWare Client](#).

The following table lists the required and optional settings for CONFIG.SYS and AUTOEXEC.BAT files if you use NETX as the sole network client.

Configuration File Settings for NETX as the Sole Client

Filename	Required settings
CONFIG.SYS	LASTDRIVE= <i>drive letter</i>
AUTOEXEC.BAT *	LSL.COM
	ODI driver
	IPXODI.COM
	NETX.EXE
	Q: (that is, LASTDRIVE+LOGIN *)
	C:

* Or this could be the name of a batch file called from AUTOEXEC.BAT.

The following table summarizes the minimum settings that you should see in the Network option in Control Panel if you use NETX as the sole client.

Network Settings for NETX as the Sole Network Client

Network	Options
---------	---------

component

NetWare (Workstation Shell 3.X [NETX])	If logging onto NetWare servers, Novell NetWare (Workstation Shell 3.X [NETX]) should be selected in the Primary Network Logon box. All other settings are configured in NET.CFG.
Network adapter	On the General properties for the adapter, the Real Mode (16-Bit) ODI Driver option should be selected.
Novell IPX ODI	Settings are configured in NET.CFG.

Setting the LastDrive Parameter for NETX

Windows 95 uses the value of the LastDrive= entry in the registry (or CONFIG.SYS) to allocate enough storage space in the internal memory structures to recognize drive letters for devices. For example, a setting of LastDrive=Z tells Windows 95 to recognize drive letters from A through Z.

Windows 95 uses all drive letters up to the letter assigned as the last drive. NetWare servers use all the drive letters. For example, if LastDrive=P is specified, you can assign drive letters D through P for networks other than NetWare (assuming drive C is the only physical hard disk in the system). In this same example, NetWare begins mapping NetWare volumes with Q.

Setting Show Dots and File Access Limits

A NetWare file server does not include the directory entries dot (.) and double dot (..) as MS-DOS and Windows 95 do. However, the NetWare workstation shell version 3.01 or later can emulate these entries when programs attempt to list the files in a directory.

To Turn on the Show Dots Feature

- ▶ If you have problems listing files or deleting directories, add the following line to the beginning of NET.CFG:
show dots=on

By default, NetWare client software allows you access to only 40 files at a time. When you are running programs under Windows 95, you can exceed this limit rather quickly. If you do, you might see unexpected error messages.

To Increase the File Access Limit

- 1 Add the following line to the beginning of NET.CFG:
file handles=60
- 2 Add the following line to CONFIG.SYS for the local computer:
files=60

See Also

- [? Netware Client Installation for Windows 95 \(NETX\)](#)

PROTOCOL.INI: Real-Mode Network Initialization File

For real-mode networking, Windows 95 uses a file named PROTOCOL.INI in the Windows directory to determine the parameters for the protocol and network adapter drivers. Setup uses information in INF files to create and modify PROTOCOL.INI if any real-mode networking components, such as NDIS 2.x adapter drivers, are installed. If you typically run Client for Microsoft Networks, the PROTOCOL.INI file is used to support starting up in Safe Mode Command Prompt Only with networking.

Important

Do not modify PROTOCOL.INI unless absolutely necessary. Windows 95 relies on the format and configuration information in PROTOCOL.INI to run and to install other network components. Inadvertent errors in PROTOCOL.INI can damage the integrity of the Windows 95 environment.

PROTOCOL.INI also contains network adapter configuration information, such as the I/O address, DMA, and IRQs. The PROTOCOL.INI file contains sections for [network.setup] and [protman], and separate sections for each configured network adapter and network protocol.

Tip for Configuring Adapters with Real-Mode Networking

When multiple hardware adapters are used on a computer, some entries in PROTOCOL.INI, such as interrupt settings and shared memory addresses, may need adjustments to avoid hardware conflicts. Because Windows 95 Setup cannot anticipate every possible conflict, watch for error messages when you start the computer with real-mode networking.

For example, if a network adapter and a video controller adapter both try to use the same memory address, you must adjust one of the adapters to a different address, using either the setup software for the adapter or the switches on the adapter (or both, which is necessary in most cases). The PROTOCOL.INI entries must agree with the jumper setting on each adapter.

[network.setup]

This section provides information from Setup for the network installation.

version=

Current network software version.

netcard=

The network adapter driver name for each adapter that is used in the computer.

transport=

The name of the network transport driver protocol.

lana#=

Identifies the binding between the network adapter and the network protocol, as configured by Setup.

The [network.setup] entries are shown in the following example:

```
[network.setup]
```

```
version= 0x400
```

```
netcard= ms$ee16, 1, MS$EE16
```

```
transport= ms$netbeui, MS$NETBEUI
```

```
lana0= ms$ee16, 1, ms$netbeui
```

[protman]

This section provides the settings for the Protocol Manager. The following list shows the format for this section.

drivename=

Defines the driver name for the Protocol Manager.

priority=

Determines the order in which incoming frames are processed. If used, the highest priority is given to the first protocol stack, MS\$NETBEUI

The following shows an example of entries in this section for a computer configured with NetBEUI:

```
[protman]
drivename= PROTMAN$
priority= MS$NETBEUI
```

[netcard]

This section lists the set of parameters for an NDIS network adapter. A [netcard] section is present for each network adapter configured in the computer, and the specific entries present in this section will vary depending on the network adapter installed. The following shows an example of entries in this section for an Intel EtherExpress 16 or 16TP adapter:

```
[ms$ee16]
drivename= EXP16$
IOADDRESS=0x300
IRQ=5
IOCHRDY=Late
TRANSCIEVER=Thin Net (BNC/COAX)
```

[protocol]

This section defines the settings used by a network protocol. A [protocol] section is present for each network transport protocol installed on the computer, and the specific entries present in this section will vary depending on the protocol installed. The following list shows the format for entries common to each configured protocol.

bindings=

Indicates the network adapter drivers to which each transport protocol binds. The netcard name for the network adapter driver and protocol must appear in the bindings= entry for at least one of the protocol drivers. The bindings= entry may specify one or more [netcard] sections (separated by commas).

lanabase=

Defines the first LANA number the protocol is to accept. Refer to lana#= in the [network.setup] section.

The following is an example of the entries present in this section for the Microsoft NetBEUI protocol:

```
[MS$NETBEUI]
drivename= NETBEUI$
sessions= 10
NCBS= 32
bindings= MS$EE16
lanabase= 0
```

Installing Drivers and Protocols

Windows 95 supports up to four network adapters in a single computer. (Network adapters are also called network interface cards, or NICs.) Windows 95 Setup automatically detects most network adapters, installs the appropriate driver for the adapter, and provides appropriate default settings to configure the adapter.

Adding a Driver or Protocol after Setup

When you install a network adapter in a computer, you can install the appropriate driver by using the Network option in Control Panel. The network adapter driver is automatically bound to all NDIS protocols currently running on the computer. If any protocols are added later, they will also be bound automatically to the network adapter driver. When you choose to add a network adapter, Windows 95 displays a list of supported network adapters.

To add a driver for a network adapter





- 1 Double-click the Network icon in Control Panel, and then click the Configuration tab.
- 2 Click Add, and then double-click Adapter.
- 3 In the Manufacturers list, click a network adapter manufacturer.
- 4 In the Models list, click the appropriate model, and then click OK.

To add a network protocol provided by Microsoft

- 1 Double-click the Network icon in Control Panel, and then click the Configuration tab.
- 2 Click Add, and then double-click Protocol.
- 3 In the Manufacturers list, click Microsoft.
- 4 In the Models list, click the protocol you want, and then click OK.

VLM Technical Notes

VLM stands for Virtual Loadable Module, the network client provided with Novell NetWare version 4.x. You should choose to run VLM rather than Client for NetWare Networks in the following cases:





-  If you need to run Novell NWAdmin or NetAdmin utilities.
-  If you need NetWare Directory Services (NDS) support. When using VLM, you can access NDS using the Novell-supplied NWUSER utility and the WinNet16 dialog boxes.
-  If you need to run VLM services such as PNW that are not supported under Client for NetWare Networks.
-  If you experience incompatibilities in a NetWare-aware program when running Client for NetWare Networks.

When you use VLM with Windows 95, the behavior of the NetWare workstation shell is the same as it is with MS-DOS or Windows 3.1. You should still load the Novell-supplied client components and TSR programs, and log on from either AUTOEXEC.BAT or STARTNET.BAT. Logon scripts also work the same way they do with MS-DOS and Windows 3.1. After Windows 95 starts, you can use the Windows 95 user interface to make drive and printer connections, or you can run NetWare utilities by running NWUser or by typing commands at the command prompt. However, you cannot use NDS names in Windows 95 dialog boxes.

Note

Installing Windows 95 with the VLM client requires special steps. For information, see the steps below.

This section discusses specific issues related to using the Novell-supplied NetWare 4.x client software with Windows 95. The following topics are included:

-  Setting Up Windows 95 with VLM
-  Using VLM with Client for Microsoft Networks
-  Using VLM as the Sole Client
-  Specifying the LastDrive= Parameter for VLM


Setting Up Windows 95 with VLM

If you install Windows 95 into the existing Windows directory on a computer where VLM is already configured to run with an earlier version of Windows, then to install VLM support, follow the steps provided in [Setting Up Windows 95 with a Novell NetWare Client](#).

However, if you are installing Windows 95 into another directory, or if you are installing it on a computer that currently has only the MS-DOS operating system, you must follow special steps to set up the system properly. This is because Windows support for VLM requires software available only through the Novell-supplied VLM installation program. Follow the instructions under the procedure in this section that most closely describes your configuration.

Windows 95 Setup tries to detect VLM by looking for an NLS directory. If NLS is present, it begins installing Windows 95 for VLM. If the NLS directory is not present but you select the VLM client to install in Setup, Windows 95 Setup asks you to first install VLM using the Novell installation program. Then you can continue with Windows 95 Setup.

Important

-  Automatic logon from your AUTOEXEC.BAT file needs to be configured before running Windows 95 Setup, or the network will not be available under Windows 95.

If you already run VLM with Windows 3.x and upgrade Windows 95 over Windows 3.x

- ▶ Start the computer as usual, and make sure that the Novell software is running. Then run Windows 95 Setup and choose support for Novell NetWare 4.0, as described in [Setting Up Windows 95 with a Novell NetWare Client](#).

Or

- 1 After Setup has finished, double-click the Network icon in Control Panel, click Client for NetWare Networks (if this has been installed), and then click Remove.
- 2 Click Add, and then double-click Client.

- 3 In the Manufacturers list, click Novell.
- 4 In the Network Clients list, click Novell NetWare (Workstation Shell 4.0 and above [VLM]), and then click OK.
- 5 If you want to install Client for Microsoft Networks at this time, repeat this procedure from step 2.

If you already run VLM with Windows 3.1 and install Windows 95 in a new directory or if you are running VLM with MS-DOS

- 1 Start the computer as usual, making sure that the Novell-supplied network software is running. Then run Windows 95 Setup, and select Custom as the Setup type.
- 2 When the Network Configuration dialog box appears, click Client for NetWare Networks, and then click Remove.
- 3 Click Add, and then double-click Client.
- 4 In the Manufacturers list, click Novell.
- 5 In the Network Clients list, click Novell NetWare (Workstation Shell 4.0 And Above [VLM]), and then click OK. Setup will partially configure Windows 95, and then present a message that asks you to run the Novell Workstation Shell Install program after Windows 95 has been installed.

Caution



You should run the Novell Workstation Shell Install program when Windows 95 starts for the first time after you run Windows 95 Setup—that is, after the Copying Files phase is complete, when Setup asks you to remove all disks and restart the computer.

- 6 As soon as the "Starting Windows 95" message appears when the computer is restarted during Setup, press F8, and then choose Command Prompt Only.
- 7 From the command prompt, run the Novell Workstation Shell Install program to install the Novell-supplied support for Windows.
- 8 Restart the computer again, and let Windows 95 start normally.
- 9 Install Novell NetWare, Workstation Shell 4.0 And Above [VLM], as described in the previous procedure, and then install the appropriate network adapter as described in the following procedure.

To install a network adapter

- 1 Double-click the Network icon in Control Panel, and then click the Configuration tab.
- 2 Click Add, click Adapter, and then click Add again.
- 3 In the Manufacturers list, click the appropriate manufacturer.
- 4 In the Network Adapters list, click the name of the adapter you are using, and then click OK.

The information from NET.CFG is used to automatically configure the other supporting network components with Windows 95.

Using VLM as the Sole Client

This configuration can be used if you do not need to connect to other computers that are running Windows 95, Windows for Workgroups 3.x, LAN Manager, or Windows NT. (Of course, you can connect to a Windows 95 computer running Microsoft File and Printer Sharing for NetWare.)

To get VLM client support, you must add the Novell NetWare (Workstation Shell 4.0 and above [VLM]) client by using the Network option in Control Panel, as described earlier in this section. With this configuration, you will see only VLM listed in Control Panel. No network adapter or protocol will be listed.

The following table lists the required settings for the CONFIG.SYS and AUTOEXEC.BAT files if you use VLM as the sole network client.

Configuration File Settings for VLM as the Sole Client

Filename	Required settings
CONFIG.SYS	LASTDRIVE=drive letter
AUTOEXEC.BAT	STARTNET.BAT
STARTNET.BAT	LSL.COM ODI driver

IPXODI.COM
VLM.EXE
F: ; that is, First Network Drive in
NET.CFG
LOGIN
C:

The following table summarizes the minimum settings that you should see in the Network option in Control Panel if you install Windows 95 with VLM as the sole client.

Network Settings for VLM as the Sole Client

Network component	Options
NetWare (Workstation Shell 4.X [VLM])	If logging onto NetWare servers, Novell NetWare (Workstation Shell 4.X [VLM]) should be selected in the Primary Network Logon box. All other settings are configured in NET.CFG.
Network adapter	On the General properties sheet for the adapter, the Real Mode (16- Bit) ODI Driver option should be checked.
Novell IPX ODI	Settings are configured in NET.CFG.

Setting the LastDrive Parameter for VLM

Windows 95 uses the value of the LastDrive= entry in the registry to allocate enough storage space in the internal memory structures to recognize drive letters for devices. For example, a setting of LastDrive=Z tells Windows 95 to recognize drive letters from A through Z.

The Novell-supplied NetWare 4.x redirector handles the LastDrive= entry the same way that Windows 95 does. That is, both the NetWare 4.x redirector and Windows 95 allow drive letters to be used to connect to redirected network drives up through the drive letter specified by the LastDrive= entry. By default, Windows 95 sets the entry to read LastDrive=Z when the NetWare 4.x workstation shell is selected as the additional network.






The NetWare 4.x redirector uses the First Network Drive= entry in the NET.CFG file to identify the first network drive that can be mapped. For more information about this setting, consult your NetWare documentation.

See also [Netware Client Installation for Windows 95 \(VLM\)](#).

How to Use the Care Package

Use the Microsoft Windows 95 Care Package to help you resolve problems with setting up and running Windows 95.


To use the Care Package


-  Before installing Windows 95, click "Common Questions and Answers About Windows 95" on the Contents screen. This section lists common questions and answers that will help you before you begin.
-  To search for the information you want, click Search (in Windows 3.x) or Index (in Windows 95).
-  To return to the Care Package Contents, click Contents.
-  To move back a screen, click Back.
-  To move through the Care Package sequentially, click the << or >> button.

Troubleshooting Strategy


To establish your troubleshooting strategy after gathering information, follow these basic steps.


Analyze symptoms and develop a strategy

 Analyze the symptoms to determine your approach to resolving the problem. Under what conditions does the problem occur and not occur? Which aspects of the system control those conditions? Is the problem specific to a subsystem (for example, networks or video)?


 Modify your system or the program, and then test again. Minimize the number of things you change between tests. If you find the problem goes away at some point, try adding things back in until you isolate the cause of the problem.


Isolate the error condition

 Try to isolate the specific cause of the error by changing a specific value, and then testing for whether the error condition is corrected or altered. For example, if you suspect the system registry is corrupted, you might want to rename the system registry (SYSTEM.DAT) and replace it with SYSTEM.NEW, and then test again.


 If a component fails after you have upgraded to a new driver, replace the new driver with the original driver, and then retest. If startup hangs on a real-mode device driver, or if you suspect that any device driver is causing the error condition, you can restart your computer, press F8 when you see the "Starting Windows 95" message, and then choose "Step-by-Step Confirmation" to test the effect of not loading a suspect device driver.


Test and then write down the results

 Test each modification individually to see if it fixed the problem.


 Note all symptoms, causes, and solutions. This will provide you with the information you need if you have to contact product support personnel, and it also provides an excellent reference for future troubleshooting.


Check to see if the problem you're having is a known problem

 Make sure you check the Release Notes, the online Help, and the Frequently Asked Questions (FAQs) posted in the Windows 95 CompuServe forum, plus the README.TXT, PRINTERS.TXT, NETWORKS.TXT, and/or FLASH.TXT files included on the Windows 95 distribution disks.


 For persistent problems, you may want to post the problem on the appropriate CompuServe forum. Other users may already have discovered, reported, and found workarounds for your problem. Suggestions from others may save you time tracking down the source of the problem and give you ideas that can help you.

Verify software fixes


 If you are told that a problem is fixed in a new file or release, it's important to verify that the original problem has been fixed.


 If you used a workaround for a specific problem, make sure you try removing the workaround when you receive updated software. It's easy to forget that you've changed the system to allow something to work and forget to test the original problem after it's been fixed.


Restore the system

 Before you leave a computer that you are troubleshooting, return the computer to a state that is as close as possible to the way you found it. Obviously, you will have made changes that affect the computer; but you should make sure the computer is entirely operational.

Tips for troubleshooting

 Always make backup copies of configuration files (especially the SYSTEM.DAT file).

 Create and maintain a startup disk.

 Test your startup disk for complete functionality before you need it.

Assessing the Operational Impact of the Problem

Ask these questions to get a general idea of the problem and to assess the operational impact



How many computers are affected? Does the problem occur on just one computer or device?



Is mission-critical data at risk? Is any data at risk?



Are backups of critical information available? If not, can backups be performed immediately?



What are the costs of the system being down?



What are the primary and secondary effects that the system being down has upon your operations?



Does the problem prevent necessary tasks from being completed? If so, what workarounds are available?

Technical Assessment

First, determine the general nature of the problem

- ? Does the error occur only within a specific program? Under what conditions does the problem occur and not occur ?
- ? Which aspects of the system control those conditions?
- ? Is the problem specific to a subsystem (for example, networks, printing, or video)?
- ? If it is a network problem, check the following:
- ? Is it a network printing problem?
- ? Is it a network connectivity problem?
- ? If it is a printing problem, check the following:
- ? Is it a local or network printing problem?
- ? Is the printing problem specific to this computer ?
- ? Is the problem more general, such as that a computer won't start or Windows 95 won't run?
- ? Is it a General Protection Fault?

After determining the nature of the problem, identify the symptoms

- ? Is the error condition reproducible or random?
- ? If the problem seems to be program-specific, determine the following:
- ? Has the program ever worked? If so, what changed?
- ? What hardware and other software are involved?
- ? Does the problem occur in just one program?
- ? Does the order in which you start programs make a difference?
- ? Does the error still occur when you restart the computer in F5-Safe Mode Start or F6-Safe Mode Start with Networks?
- ? If you restart the computer by using SHIFT-F8 Interactive Start, can you identify any errors when drivers are loaded?

Windows 95 Startup Menu

When you start Windows 95, it typically displays the Windows 95 logo and starts the load process. But if you are having problems, you may want to use one of the startup options.

To use a Windows 95 startup option

▶ Restart your computer. When you see the "Starting Windows 95" message, press F8, and then choose an option from the Windows Startup menu.

The following table describes the options in the Windows Startup menu.

Startup Menu option	Description
Normal	Runs system startup as usual.
Logged (.TXT)	Logs system driver and boot information into BOOTLOG.TXT.
Safe Mode	Starts Windows 95 using Safe Mode, which limits the amount of configuration information that is processed during Startup. This is the equivalent of pressing F5.
Safe Mode With Network Support (option appears only on networked systems)	Start Windows 95 using Safe Mode, but allowing Network connectivity. This is the equivalent of pressing F6. This option is available only if the computer is on a network.
Step by Step Confirmation	Enables you to step through each part of the Startup process, responding [Enter=Y or Esc=N] for each line in the CONFIG.SYS and AUTOEXEC.BAT files, as well as the loading of compression drivers and WIN.COM. This is the equivalent of pressing SHIFT+F8.
Command Prompt Only	Enables you to use the WIN.COM command-line switches to start Windows 95. This is the equivalent of pressing ALT+F5.
7. Safe Mode Command Prompt Only	Clean boots to MS-DOS, bypassing the CONFIG.SYS and AUTOEXEC.BAT files. This is the equivalent of pressing CTRL-F5.
Previous Version of MS-DOS	Starts the previous version of MS-DOS that was on your computer before you installed Windows 95. This option appears only if BootMulti=1 is added in the [Options] section of the MSDOS.SYS file. This is the equivalent of pressing F4.

Note



You can control whether the Windows Startup menu is displayed, the options available on the menu, and


the selected default by defining values in the Windows 95 MSDOS.SYS file.


Safe Mode Start


You can use Safe Mode start to get Windows 95 running when normal system startup fails. Windows 95 automatically initiates a Safe Mode start if it detects that system startup failed, the registry is corrupted, or a program requests Safe Mode start.

Safe Mode start loads only the mouse, keyboard, standard VGA, and Device Manager drivers. The Safe Mode start function keys can be used when a Windows 95 computer is using incorrect drivers or settings, so that you can start Windows 95 and reconfigure the computer by using the options in Control Panel. Safe Mode start can also be used to avoid loading drivers from the AUTOEXEC.BAT or CONFIG.SYS files.

You can also choose to use Safe Mode start in the following ways:

 When you restart the computer, wait until the message "Starting Windows 95" appears, and then press F8. Choose Safe Mode.

 When you restart the computer, wait until the message "Starting Windows 95" appears, and then press F5 to start Safe Mode without networking.

 When you restart the computer, wait until the message "Starting Windows 95" appears, and then press F6 to start Safe Mode with networking.

Each function key sequence disables a different combination of portions of the startup process.

Action	Normal start	F5	SHIF T +F5	CTR L +F5
Process CONFIG.SYS and AUTOEXEC.BAT	Y	N	N	N
Load HIMEM.SYS and IFSHLP.SYS	Y	Y	N	N
Process registry information	Y	N	Y	N
Load COMMAND.COM	Y	Y	Y	Y
Load DoubleSpace or DriveSpace if used	Y	Y	Y	N
Automatically execute Windows 95	Y	Y	N	N

If your registry has been deleted or badly corrupted, then Safe Mode will not start automatically. If this happens, copy the files IFSHLP.SYS and HIMEM.SYS from the Windows directory into the root directory. When you press F5, the startup sequence may stop if Windows cannot find the WIN.COM file. To continue Safe Mode start, change to the Windows directory, and then type **win /d:m** at the command prompt. This should be necessary only when the registry is very badly damaged.

Using Safe Mode Start with Networks






In corporate networking environments, users often require network connectivity to recover from a system problem. Therefore, Windows 95 provides a way to start in Safe Mode and still have network connectivity.

To use Safe Mode Start with networking

▶ When you restart the computer, wait until the message "Starting Windows 95" appears, and then press F8. Choose Safe Mode With Network Support. Or, you can press F6 when the "Starting Windows 95" message appears.

Also, Windows 95 automatically initiates a Safe Mode start if it detects that system startup failed, if the registry is corrupted, or if a program requests Safe Mode start. In this case, you can choose to press F6 to use Safe Mode with networking.

When you use Safe Mode with networking, Windows 95 completes the following startup actions:

-  Loads HIMEM.SYS and IFSHLP.SYS, regardless of CONFIG.SYS settings
-  Processes registry information
-  Loads DoubleSpace or DriveSpace, if present
-  Loads Windows 95
-  Loads network drivers

Safe Mode with networking does not process the CONFIG.SYS and AUTOEXEC.BAT files, and it does not load the COMMAND.COM file.

The following Safe Mode with network scenarios are supported

Computer configuration	Run with F6	Run automatically	Run due to corrupt registry
STANDALONE COMPUTER:			
Protected mode	Supported	Supported	Not supported (1).
Common real mode	Supported	Supported	Supported
Other real mode	Use F8 (2)	Use F8 (2)	Use F8 (2).
NETWORK CLIENT:			
Real and protected mode	Supported	Supported	Not supported
Common real mode	Supported	Supported	Supported
Other real mode	Supported	Supported	Supported

- 1 Protected-mode networks cannot be supported if Safe Mode start is used when the registry is corrupted, because the registry is used to load drivers for the protected-mode network.
- 2 On computers running a third-party real-mode network, Safe Mode start cannot be supported except by using the F8 key at startup because Windows 95 will not know how to start the network outside of AUTOEXEC.BAT and CONFIG.SYS.

Safe Mode Start with Protected-Mode Networks

To support loading the protected-mode network during Safe Mode start, all network components are flagged in the registry as required for startup. Plug and Play runs normally, but loads only devices that have this flag set.

In a normal Safe Mode start, the registry is not available during protected-mode startup. Thus, there is no way to load the network in protected mode. Safe Mode start with networking enables you to access the registry and to use Configuration Manager to load only the network-related drivers. The network will load as if it were loading

normally.

Safe Mode Start with Real-Mode Networks

All real-mode networks start from AUTOEXEC.BAT or CONFIG.SYS. In a Safe Mode start, however, AUTOEXEC.BAT and CONFIG.SYS normally are not run. But clients that run from the network must start the network. Safe Mode start for standalone computers is handled differently than Safe Mode start for computers that run Windows 95 from the network.

The commands to start networks that Windows 95 knows how to start (such as Microsoft, NetWare, and Banyan) are placed in a batch file named NETSTART.BAT in the Winboot directory so that IO.SYS can find it. This allows Windows 95 to start most real-mode networks on standalone computers without running AUTOEXEC.BAT and CONFIG.SYS.


Other networks run only from AUTOEXEC.BAT and CONFIG.SYS. The only way to start these networks in Safe Mode is to carry out the following procedure:


- 1 When the "Starting Windows 95" message appears, press F8.
- 2 Choose Step-by-Step Confirmation.
- 3 Step through each line of the CONFIG.SYS and AUTOEXEC.BAT files, answering Yes to all network lines.
- 4 Answer Yes when prompted to use Safe Mode start.


Because of this, although Windows 95 can automatically detect that a Safe Mode start should occur, automatic Safe Mode start does not start the network on these computers.

Safe Mode Start for Windows 95 Running from the Network

A number of issues affect computers that run Windows 95 from the network:

 Without starting the network, the computer cannot access Windows 95 and thus cannot start in Safe Mode.

 For an automatic Safe Mode start, Windows 95 must be able to write to a file somewhere to indicate that the next system startup should be a Safe Mode start. On diskless workstations or computers that start from read-only floppy disks (the most common scenario), there is nowhere locally to store this information. The network must be started to read or write the information.

 All of these computers use some real-mode network that runs from AUTOEXEC.BAT and CONFIG.SYS. These files are needed to start the network to determine whether a Safe Mode start must occur. Because Safe Mode start does not execute CONFIG.SYS and AUTOEXEC.BAT, Safe Mode start cannot work.


For all of these reasons, Safe Mode start on client computers that run Windows 95 from the network always run CONFIG.SYS, AUTOEXEC.BAT, and NETSTART.BAT. This implies that the real-mode portion of system startup is not causing the problem that requires a Safe Mode start. This should be true almost all of the time.

Administrators can set up and debug the startup floppy disk that contains all the real mode components the computer uses. After this disk is debugged, the startup disk is usually made read-only. Thus, the startup disk will usually not be the source of the problem.

In the rare case that the startup disk is the problem, little can be done, because almost all of the operating system is stored on the network. In this case, the administrator can put a different startup disk in the computer or, if it is a diskless workstation, point it at another disk image.

Computers that transition from real-mode to protected-mode networks work under this scheme. Windows 95 can start both real-mode and protected-mode networks, as described earlier in this section. Both types of networks start normally, so they automatically handle the transition.

Reading the SETUPLOG.TXT file

 [Click here if you want to view the SETUPLOG.TXT file.](#)

What is the SETUPLOG.TXT file?

The SETUPLOG.TXT file is an ASCII text file created during Windows 95 installation that contains Setup information. As Windows 95 is installed, corresponding entries are being written to the SETUPLOG.TXT file providing information on the specific steps, sequence, and error conditions encountered. This file can be useful for troubleshooting if Setup errors during installation.

Setup also uses this file if it needs to perform a Smart Recovery after an installation fails to make sure that the installation does not fail twice for the same problem. If Setup fails, you can restart the computer. Setup reviews the SETUPLOG.TXT file to determine what steps were successfully completed. If a process has a start indication but no complete indication, that part of the installation process is skipped and the next part is processed.

The SETUPLOG.TXT file can be found in the root directory.






Structure of the SETUPLOG.TXT file

The SETUPLOG.TXT file is structured in the order of the installation information written into it (as each step of the installation process is carried out, a corresponding entry is written into the SETUPLOG.TXT file).

If the system errors during installation, you can determine the probable cause of the error by examining the last entries written in the SETUPLOG.TXT file.

The structure of the SETUPLOG.TXT file can be subdivided into these basic categories:

Setup Start Parameters

-  Directory Selection
-  Begin Installation Process
-  Queue Needed Files
-  Copy Needed Files
-  Prepare for Reboot

Selected Setup Sections (can be copied to an MSBATCH.INF file)

[Optional Components]

[System]

[NameAndOrg]

[] batch settings: [Setup] section in an MSBATCH.INF

Setup Start Parameters

[Started]

[Dummy]

[Dialogues]

Load SETUPPP.INF as main INF

Directory Selection

[Choose Directory]

Begin installation process

[Setup]

InstallDir

Create LDIDs

Initialize Registry

Load INFs

Selected component messages

[Detection]

[Dummy]

SUEXPAND.DLL

Queue Needed Files

Node Duplicate

Node Dup-ldid!

Unique

Copy Needed Files

[FileCopy]

<srcfile>=Fully qualified destination pathname, compressed size, extracted size

Marked

Failed to mark

[Disk #]

CAB

Next Cabinet

DCsuccess

DC::Read

DC::Written

DCstart

LDID x set to

Prepare for Reboot

[Reboot]

SrcLdid

ERROR:

TPS_Flush Rename didn't succeed

VcpClose

Resolve Conflict

RootFilesRenamed

Safe Mode Command Line Start (SHIFT+F5)

If you start Windows 95 in Safe Mode at the command prompt by pressing SHIFT+F5 when the "Starting Windows 95" message appears, the registry is not accessed. HIMEM.SYS and IFSHLP.SYS are not loaded. Windows 95 is not loaded, though the registry is processed. Use this option when you want to use the MS-DOS Editor to change a configuration file when you're having problems while working in the Windows 95 graphical interface.

Note that when you do not allow the system to read the registry, IO.SYS has no information about the location of the Windows 95 directory.

Safe Mode Start without DoubleSpace (CTRL+F5)

If you start Windows 95 in Safe Mode at the command prompt by pressing CTRL+F5, DoubleSpace or DriveSpace drivers are not loaded, AUTOEXEC.BAT and CONFIG.SYS are not processed, and the registry is not examined. Use this option any time you are trying to eliminate all possible variables, but in particular to identify problems related to DoubleSpace or DriveSpace.

Check for Disk Corruption

To check for disk corruption from within Windows 95

- 1 In Windows Explorer, use the right mouse button to click a drive, and then click Properties.
- 2 Click the Tools tab.
- 3 In the Error-checking Status box, click Check Now.

To check for corruption from MS-DOS

- 1 Shut down and restart your computer.
- 2 When the "Starting Windows 95" message appears, press **SHIFT+F5** to bypass your startup files and start in MS-DOS.
- 3 Change to the `\WINDOWS\COMMAND` directory, and then type **scandisk**.

WARNING Do not run any disk utilities that are not specifically designed for Windows 95.

To check for disk corruption from an MS-DOS prompt within Windows 95

- 1 Click the Start button, point to Programs, and then click MS-DOS Prompt.
- 2 To prevent conflicts with other programs, type **lock** at the command prompt.
- 3 Change to the `\WINDOWS\COMMAND` directory, and then type **scandisk** at the command prompt.
- 4 When Scandisk has finished, type **unlock** at the command prompt.

WARNING Do not run any disk utilities that are not specifically designed for Windows 95.

If the system boot software or operating system data on the disk has become corrupted, the computer will probably not start properly. Key operating system data structures that may prevent successful startup if damaged are the master boot record, the boot sector, the file allocation table, and the core operating system files.

To rewrite the master boot record

- 1 Insert the startup disk (created during Windows 95 Setup) in your startup drive.
- 2 Restart your computer.
- 3 Change to your startup drive (or to the `\WINDOWS\COMMAND` directory), and then type **fdisk /mbr** at the command prompt.


To rewrite the boot sector and the real-mode operating system files

- 1 Insert the startup disk (created during Windows 95 Setup) in your startup drive.
- 2 Restart your computer.
- 3 Change to your startup drive, and then type **sys c:** at the command prompt.

To detect and repair a damaged File Allocation Table (FAT)

- 1 Shut down and restart your computer.
- 2 When the "Starting Windows 95" message appears, press **SHIFT+F5** to bypass your startup files and start in MS-DOS.
- 3 Change to the `\WINDOWS\COMMAND` directory, and then type **scandisk** at the command prompt.

Reading the Windows 95 DETLOG.TXT file

 [Click here to view DETLOG.TXT](#)

What is the DETLOG.TXT file?

DETLOG.TXT is an ASCII text file that contains hardware detection information created during Windows 95 Setup. The file contains information about IO ranges queried, device resources used (if detected), and error conditions encountered during detection. This file can be useful for troubleshooting if Setup fails during the detection process.

Structure of the DETLOG.TXT file

As each step of the detection process is carried out, a corresponding entry is written into DETLOG.TXT. If the computer hangs during hardware detection, you can determine the probable cause of the error by examining the last entries written in DETLOG.TXT.

Start of DETLOG.TXT file

[System Detection: 10/12/94 - 13:40:01]

Provides the date and time that the detection was performed.

Parameters="xxxxxx"

Shows the switches specified in the SETUP command line (i.e., SETUP /p xxxxxx).

Parameters "", Flags=01002233

SDMVer =

Shows the version of SYSDETMG.DLL. The upper word is the Windows version (usually 0400), the lower word is the build number in hexadecimals. For this release of Windows 95, the SDMVer should always be 040000bd.

SDMVer=040000bd,

WinVer =

Shows the environment in which detection is run. The MS-DOS version is in the high word and the Windows version in the low word. For example, Windows 3.1 will have the low word 030a, Windows for Workgroups 3.11 will have the low word 030b, and Windows 95 will have the low word 0400.

WinVer=0614030b,

WinFlags =0000#1#

or =0000#2#

1 = Run in standard mode. Detection was probably run from Mini-Windows (i.e. SETUP).

2 = Run in Enhanced mode. Detection was run from Windows 3.1, Windows for Workgroups 3.1, Windows for Workgroups 3.11, or Windows 95.

WinFlags=0000c29

AvoidMem=#####h-#####h

If these lines appear at the beginning of the DETLOG.TXT file, specifies upper memory blocks (UMBs). Detection avoids UMBs.

For example: AvoidMem=cd4a0-cd50f

DetectClass: Skip Class Media

Specifies that detection found no hints that the computer may have a sound card (no sound drivers in the CONFIG.SYS or SYSTEM.INI files), so it skips all the sound card detection modules.

For example: DetectClass: skip class MEDIA

DetectClass: Skip Class Adapter

Specifies that detection found no hints that the computer may have a proprietary CD-ROM adapter, such as Sony, Mitsumi, and Panasonic.

DetectClass: skip class ADAPTER

DetectClass: Skip Class Net

Specifies that detection found no hints that the computer may have a network adapter.

DetectClass: skip class NET

DetectClass Override:

If one or more skip-class lines mentioned above appears in DETLOG.TXT, you will see the detection wizard page to confirm skipping those classes. At that point, you can override the decision by checking the appropriate class boxes. For each class that you check, an override line is added to DETLOG.TXT.

Custom Mode:

In Detection dialog box in Setup, you may choose to change the hardware detected during installation. The devices you tell Windows 95 not to detect are shown in DETLOG.TXT as CustomMode entries.

CustomMode: resetting class MEDIA

CustomMode: resetting class ADAPTER

; Deselected via Detection Dialog

; Don't detect EtherLinkIII

CustomMode: DETECTELNK3=0

CustomMode: DETECTELNKII=0

CustomMode: DETECTELNKI=0

CustomMode: DETECTELNK16=0

CustomMode: DETECTELNKPLUS=0

; Don't detect The following video adapters

CustomMode: DETECTCIRRUSMMAPPED=0

CustomMode: DETECTWDLAPTOP=0

CustomMode: DETECTTSENG=0

CustomMode: DETECTTRIDENT=0

CustomMode: DETECTVGA=0

; Don't detect HardCard

CustomMode: DETECTHARDCARD=0

; Don't detect Parallel port

CustomMode: DETECTLPT=0

; Don't detect the following CD-ROM drives

CustomMode: DETECTMITSUMI=0

Devices verified =

Indicates the number of devices from the registry that have been verified. If the number is 0, it usually means there was no existing registry or that the registry was clean (if you did a clean install).

Devices verified: 0

Checking for system devices

Checking for:

When system detection looks for a device, a Checking for: entry is added to DETLOG.TXT, followed by a description of the device or class being looked for. When detection is checking for a device such as the

Programmable Interrupt Controller, the Checking For entry will be followed by a QueryIOMem entry specifying the IO range checked. If a device is detected, then a Detected entry specifying the device resource information is added.

Checking for: Manual Devices

Checking for: Programmable Interrupt Controller

QueryIOMem: Caller=DETECTPIC, rcQuery=0

IO=20-21,a0-a1

Detected: *PNP0000000 = [1] Programmable Interrupt Controller

IO=20-21,a0-a1

IRQ=2

QueryIOMem:

Describes the Caller, rcQuery, and IO range examined by detection.

Detected:

Added when a device is detected and verified, followed by the Plug and Play device ID, device description, and assigned resources.

Checking for: Manual Devices

Checking for: Programmable Interrupt Controller

QueryIOMem: Caller=DETECTPIC, rcQuery=0

IO=20-21,a0-a1

Detected: *PNP0000000 = [1] Programmable Interrupt Controller

IO=20-21,a0-a1

IRQ=2

Checking for: Direct Memory Access Controller

QueryIOMem: Caller=DETECTDMA, rcQuery=0

IO=0-f,81-83,87-87,89-8b,8f-8f,c0-df

Detected: *PNP0200000 = [2] Direct Memory Access Controller

IO=0-f,81-83,87-87,89-8b,8f-8f,c0-df

DMA=4

Detecting Net Cards

Checking for: Network Cards using Novell ODI Driver

Checking for: Network Cards using Novell IPX.COM

Checking for: EISA Network Cards

Checking for: Network Cards using Microsoft Windows (Chicago)

Checking for: Network Cards using Microsoft LanMan

PROTOCOL.INI Section in DETLOG.TXT

If detection finds a PROTOCOL.INI file, it saves the net card section in DETLOG.TXT.

Checking for: Network Cards using Microsoft Windows For Workgroups

; path to WFW protocol.INI

WFW: path=d:.ini

; protocol.ini mac driver section

Protocol.ini: [MS\$EE16]

Protocol.ini: DriverName=EXP16\$

Protocol.ini: IRQ=10
Protocol.ini: IOADDRESS=0x300
Protocol.ini: IOCHRDY=Late
Protocol.ini: TRANSCEIVER=Twisted-Pair(TPE)
Protocol.ini: netcard key=ms\$ee16

NCD: detecting net card

Indicates that detection has found a net card via safe detection (usually PROTOCOL.INI), but since we have hardware detection code for this net card, we call the this code to verify the card. If the card is verified, a "Detected" line will follow.

NCD: detecting net card *pnp812d
QueryIOMem: Caller=DETECTWFW, rcQuery=0
IO=300-30f
Detected: *PNP812D000 = [9] Intel EtherExpress 16 or 16TP
IO=300-30f
IRQ=10
Protocol.ini: [ASYMAC]
Protocol.ini: Ports=1
Protocol.ini: MaxFrameSize=1514
Protocol.ini: CompressSend=1
Protocol.ini: CompressRecv=1
Protocol.ini: FramesPerPort=2
Protocol.ini: XonXoff=0
Protocol.ini: CompressBCast=0
Protocol.ini: netcard key=asymac
Detected: *PNP8387000 = [10] Microsoft Remote Access Driver

Further checking for system devices

The detection process continues examining system hardware. In the example below, the | in the IO= line (for example IO=200-201 | 3e0-3e1) is used to denote a range of IO entries checked during the detection process. The actual DETLOG.TXT file will contain a QueryIOMem: and an IO= line for each IO address checked.

For most devices, multiple IO addresses are checked; and for some devices, many IO addresses are checked, which can result in a detailed and redundant device detection list. For the sake of brevity, these IO address ranges checked during detection are grouped on one IO line.

Each IO= line usually has only a single address specified (for example, IO=200-201). If multiple addresses are specified, they are separated by a comma (for example, IO=3b0-3bb,3c0-3f).

Checking for SCSI adapters

Checking for: Acculogic EISAport SCSI Host Adapter
Checking for: UltraStor 24F/24FA EISA SCSI Host Adapter
Checking for: Adaptec AHA-174x EISA SCSI Host Adapter
Checking for: System Bus
Detected: *PNP0A03000 = [11] PCI Bus
Checking for: Advanced Power Management Support
Checking for: PS/2 Style Mouse

QueryIRQDMA: Caller=DETECTPS2MOUSE, rcQuery=0
IRQ=12
Detected: *PNP0F0E000 = [12] PS/2 compatible mouse
IRQ=12
Checking for: ATI Ultra Pro/Plus (Mach 32) Display Adapter
QueryIOMem: Caller=DETECTMACH32, rcQuery=0
IO=3b0-3bb,3c0-3df
QueryIOMem: Caller=DETECTMACH32, rcQuery=0
Mem=a0000-affff
Detected: *PNP090A000 = [13] ATI Ultra Pro (mach32)
IO=3b0-3bb,3c0-3df
Mem=a0000-affff
Checking for: Standard Floppy Controller
QueryIOMem: Caller=DETECTFLOPPY, rcQuery=0
IO=3f0-3f5,3f7-3f7
QueryIOMem: Caller=DETECTFLOPPY, rcQuery=0
IO=370-375,377-377
Detected: *PNP0700000 = [14] Standard Floppy Disk Controller
IO=3f0-3f5,3f7-3f7
IRQ=6
DMA=2
Checking for: Serial Communication Port
QueryIOMem: Caller=DETECTCOM, rcQuery=0
IO=3f8-3ff
Detected: *PNP0500000 = [15] Communications Port
IO=3f8-3ff
IRQ=4
QueryIOMem: Caller=DETECTCOM, rcQuery=0
IO=2f8-2ff
Detected: *PNP0500001 = [16] Communications Port
IO=2f8-2ff
IRQ=3
QueryIOMem: Caller=DETECTCOM, rcQuery=0
IO=3e8-3ef
QueryIOMem: Caller=DETECTCOM, rcQuery=0
IO=2e8-2ef
Checking for: Serial Mouse
Checking for: Generic IDE/ESDI Hard Disk Controller
QueryIOMem: Caller=DETECTESDI, rcQuery=0
IO=1f0-1f7 |3f6-3f6
Detected: *PNP0600000 = [17] Generic IDE/ESDI Hard Disk Controller
IO=1f0-1f7,3f6-3f6

IRQ=14

Checking for: Bus Mouse

QueryIOMem: Caller=DETECTBUSMOUSE, rcQuery=0

IO=23c-23f

Miscellaneous Notes

If you are setting up Windows 95 from within an earlier version of Windows, or if you are using the Add New Hardware wizard in Control Panel, detection calls the Configuration Manager to verify the existing detected devices in the registry.

If you run the Add New Hardware wizard in Control Panel and choose to detect your device automatically (which is recommended), detection will create a new DETLOG.TXT file.

Detection does not detect enumerated devices; for example, ISAPnP devices, PCI devices, and PCMCIA devices.

If the computer hangs or crashes during detection, and you choose Smart Recovery when you rerun Setup, detection will append new information to the previous DETLOG.TXT file instead of creating a new one. If you run Setup again without choosing Smart Recovery, and a DETLOG.TXT file already exists, the existing file is renamed DETLOG.OLD. Only one instance of the *.OLD file is saved.

This project was created by:

Brian Boston

Denise Wynn

and built by:

Travis Barth

Brian Boston

Martina Crimps

Geoff Gray

Becky Lawson

Scott Graff

Matthew Metcalf

Larry Morando

Mitch Rundle

Doug Lance Sheresh

Steve Taylor

Denise Wynn

If Setup produces errors during installation

To search for additional information about a Setup error message or problem, click Search at the top of this topic.

Check for missing or damaged file

If the error refers to a driver or system component file, check to see if the file exists, is in the expected location, and has the correct size, date, and version.

Check the Windows 95 Release Notes

Check the Windows 95 Release Notes for known information about hardware and software issues.

What to do if you expect Setup to conflict with a device

Start Setup by typing **setup /i**, or deselect the specific hardware device from the Detection dialog during Setup.

Check Windows 95 Smart Recovery, note the error, and then restart Setup


Setup will detect the failed installation and prompt you to run Smart Recovery.

Smart Recovery examines the SETUPLOG.TXT and DETCRASH.LOG files to determine what caused the failed installation (for example, device detection on a particular adapter may have caused the computer to hang). Smart Recovery uses this information and avoids performing detection on that specific device during Setup.

If Setup fails after using Smart Recovery, use Smart Recovery again

It is possible that more than one condition could interrupt the Setup process. However, each time Setup is run by using Smart Recovery, the error is noted in SETUPLOG.TXT so that it can be avoided in future attempts.

Make sure hardware and adapters are on the hardware compatibility list

 [Click here if the system stops during the hardware detection process.](#)

Use Setup error messages

If you have problems during Setup, you may be able to get useful troubleshooting information from the SETUPLOG.TXT log file that Setup creates. This file is located in the root directory of your startup drive. All errors that occur during Setup are logged in SETUPLOG.TXT.

WINBOOT.INI/MSDOS.SYS Entries

Windows 95 uses the MSDOS.SYS file to store INI entries that control startup factors. The MSDOS.SYS file is located in the root directory of your startup drive (and your startup host drive, if compressed), and it serves the same purpose as the WINBOOT.INI file in earlier versions of Windows.

Windows 95 IO.SYS will open this INI file as WINBOOT.INI or as MSDOS.SYS.

Reading the BOOTLOG.TXT file

 [Click here if to view the BOOTLOG.TXT file.](#)

What is the BOOTLOG.TXT file?






BOOTLOG.TXT is an ASCII text file that contains Windows 95 startup information. During Setup and every time Windows 95 starts (if boot logging is selected), Windows 95 writes log entries that provide information about the specific steps in the startup sequence and any error conditions. This file can be useful for troubleshooting if Setup fails during startup.

BOOTLOG.TXT is created during installation. It can also be created by starting your computer and pressing F8 when you see the "Starting Windows 95" prompt, and then choosing the option to create a BOOTLOG.TXT file. BOOTLOG.TXT is located in the root directory of the startup drive (usually drive C).

Structure of the BOOTLOG.TXT file

As each step of the startup process occurs, a corresponding entry is added to BOOTLOG.TXT. If an error occurs, you may be able to determine the cause by examining the entries in BOOTLOG.TXT.

BOOTLOG.TXT is divided into five areas:

-  Loading of real-mode drivers
-  Loading of VxDs
-  System-critical initialization of VxDs
-  Device initialization of VxDs
-  Successful VxD initialization

Loading of real-mode drivers (example of section)

```
; Loading of real mode drivers.

; If W95 is unable to load due to lack of XMS memory, check the loading of HIMEM.SYS.
Loading Device = G:\WIN95\HIMEM.SYS
LoadSuccess    = G:\WIN95\HIMEM.SYS
Loading Device = G:\WIN95\SETVER.EXE
LoadSuccess    = G:\WIN95\SETVER.EXE
Loading Device = G:\WIN95\EMM386.EXE
LoadSuccess    = G:\WIN95\EMM386.EXE
Loading Device = G:\WIN95\DBLBUFF.SYS
LoadSuccess    = G:\WIN95\DBLBUFF.SYS

; If W95 on your SCSI HD is unable to load, check the loading of DBLBUFF.SYS.
Loading Device = G:.\SYS
LoadSuccess    = G:.\SYS
```

Loading of VxDs (example of section)

```
; Loading of W95 Virtual Device Drivers
Loading Vxd = VMM
LoadSuccess = VMM

Loading Vxd = G:\DBLSPACE.BIN
LoadSuccess = G:\DBLSPACE.BIN

; If you cannot access D??SPACE drives, check the loading of compression driver.
Loading Vxd = CONFIGMG
LoadSuccess = CONFIGMG
Loading Vxd = IOS
```

LoadSuccess = IOS

Loading Vxd = VFAT

LoadSuccess = VFAT

Loading Vxd = vserver.vxd

LoadFailed = vserver.vxd

--(the above is an example of load failure of a VxD)

System-critical initialization of VxDs (example of section)

SYSCRITINIT = VMM

SYSCRITINITSUCCESS = VMM

SYSCRITINIT = CONFIGMG

SYSCRITINITSUCCESS = CONFIGMG

SYSCRITINIT = VFAT

SYSCRITINITSUCCESS = VFAT

Device initialization of VxDs (example of section)

DEVICEINIT = VMM

DEVICEINITSUCCESS = VMM

DEVICEINIT = CONFIGMG

DEVICEINITSUCCESS = CONFIGMG

DEVICEINIT = VFAT

DEVICEINITSUCCESS = VFAT

Initialization success of VxDs (example of section)

INITCOMPLETE = VMM

INITCOMPLETESUCCESS = VMM

INITCOMPLETE = COMFIGMG

INITCOMPLETESUCCESS = CONFIGMG

INITCOMPLETE = SCSIPIORT

INITCOMPLETESUCCESS = SCSIPIORT

INITCOMPLETE = VFAT

INITCOMPLETESUCCESS = VFAT

Glossary of Terms

A

ACK

Active Window

ASCII File

Associate

AUTOEXEC.BAT

B

Batch Program

Binding

BIOS Enumerator

Browsing

Buffer

Buffering

Bus Enumerator

C

Compressed Volume File

CONFIG.SYS

CVF

D

Disk Space

E

EISA

I

Interactive Start

IRQ

ISA

M

Memory

MSN

N

NDIS2

NDIS3.1

Network Adapter

Network Neighborhood

P

Point

PPP

Primary Click

Protocol

S

SCSI

Shortcuts

System Files

T

Text File

W

Wizard

ACK

An acknowledgment signal.

Active Window

The window in which you are currently working. An active window is typically at the top of the window order and is distinguished by the color of its title bar.

ASCII File

A text file conforming to the specifications defined by the American Standard Code for Information Interchange.

Associate

To identify a filename extension as "belonging" to a certain program, so that when you open any file with that extension, the program starts automatically.

AUTOEXEC.BAT

A batch file that is run automatically by the MS-DOS operating system whenever the computer is started or restarted. The batch file loads memory-resident programs and basic commands that configure the system to user preferences.

Batch Program

An ASCII file (unformatted text file) that contains one or more commands. A batch program's filename has a .BAT extension. When you type the filename at the command prompt, the commands in the file are processed sequentially.

Binding

The process of associating a protocol with the network adapter and establishing a communication channel between the two.

BIOS Enumerator

In a Plug and Play system, responsible for identifying all hardware devices on the motherboard of the computer. The BIOS supports an API that allows all Plug and Play computers to be queried in a common manner.

Browsing

Viewing or "exploring" network resources to access information or connect to resources available on the network.

Buffer

A reserved portion of memory in which data is temporarily held, pending an opportunity to complete its transfer to or from a storage device or another location in memory.

Buffering

The process of using buffers to hold data that is being transferred, particularly to or from I/O devices such as disk drives and serial ports.

Bus Enumerator

A new type of driver required for each specific bus type (ISA, EISA, SCSI, etc.), responsible for building ("enumerating") the hardware tree on a Plug and Play system.

Compressed Volume File (CVF)

Files stored on a drive compressed by using DoubleSpace or DriveSpace are actually stored on an uncompressed drive in a hidden file called a compressed volume file, or CVF. The CVF has Read-Only, Hidden, and System attributes.

CONFIG.SYS

A text file that contains commands to configure your computer's hardware components, such as a CD-ROM drive, sound card, and modem, so that MS-DOS and your programs can use them.

CVF

A compressed volume file.

Disk Space

Space on the hard disk that is allocated or unallocated to software or data. Unallocated space is the free area on the hard disk; it is available for storing software and documents. Disk space is often confused with memory; both are described in megabytes (MB).

EISA

Enhanced Industry Standard Architecture, a bus design specified by an industry consortium for x86-based computers. EISA devices use cards that are upwardly compatible from ISA.

Interactive Start

Enables you to step through startup files line by line, loading only those commands you choose.

IRQ

An IRQ (interrupt request line) is a hardware line over which devices such as input/output ports, the keyboard, and disk drives can send interrupts (requests for service) to the microprocessor. IRQs are built into the computer's internal hardware and are assigned different levels of priority so that the microprocessor can determine the relative importance of incoming service requests.

ISA

Industry Standard Architecture bus design of the IBM PC/AT.

Memory

Also referred to as RAM (random-access memory). Temporary storage for programs and data while you are working with them.

MSN

The Microsoft Network, Microsoft's online service.

NDIS2

Network Driver Interface Specification real-mode drivers. NDIS is the interface between the Network Interface Card (NIC) and the transport layers.

NDIS3.1

Network Driver Interface Specification enhanced-mode drivers. NDIS 3.1 includes Plug and Play awareness.

Network Adapter

A hardware card that is installed in a computer so it can function on a network. The network adapter provides one or more ports for the network cable to physically connect to, and it physically transmits data from the computer onto the network cable and vice versa. Also referred to as a network interface card, or NIC.

Network Neighborhood

The Network Neighborhood on the desktop is the primary means by which users can browse through the network.

Point

Placing the mouse cursor on an object.

PPP

Point to Point Protocol.

Primary Click

The clicking of the primary mouse button. The default on a two-button mouse is the left mouse button.

Protocol

The protocol works between the upper-level network software and the network adapter to package data that is to be sent on the network in a way that computers on the receiving end can understand.

SCSI

A SCSI (small computer standard interface) is a multidevice, chained interface used in many devices such as hard disk drives and CD-ROM drives.

Shortcuts

Shortcuts are pointers to files that are actually stored somewhere else on the computer. Generally identified by a small arrow in the lower left corner of the icon.

System Files

IO.SYS, MSDOS.SYS, COMMAND.COM.

Text File

A file containing only letters, numbers, and symbols. A text file contains no formatting information, except possibly linefeeds and carriage returns. A text file is an ASCII file.

Wizard

A program that guides you through a process (such as Setup, installing a printer, or installing a modem) by asking appropriate questions and carrying out key functions.

If your computer stops during hardware detection

Make sure that at least three minutes have passed with neither disk nor screen activity (signified by the moving magnifying glass). Some detection routines are lengthy, and the computer may appear to stop temporarily while they are running. If the computer has truly stopped, carry out the following procedure:

To restart Setup after a failure

- 1 Press F3 or the Exit button. If the computer responds to the Exit button, click No to continue the Setup process.
- 2 If the computer does not respond to the Exit button, try restarting your computer by pressing CTRL+ALT+DEL. If that method fails, then turn your computer off, wait at least 10 seconds, and then turn it back on again.
- 3 Rerun Setup. Setup will ask you whether you want to use Smart Recovery to recover the failed installation. Choose Smart Recovery, and then click Continue. The hardware detection will run, but it will skip the portion that caused the initial failure.
- 4 If the computer stops again during the hardware detection process, go back to step 2 and repeat the process until the hardware detection portion of Setup completes successfully.

Once Setup has finished and Windows 95 is running, you may want to look in the following files to find specific information about what caused the problem:



C:\SETUPLOG.TXT



C:\DETLOG.TXT



C:\BOOTLOG.TXT



SYSTEM.DAT

To copy the SYSTEM.DAT file, use the ATTRIB command at the MS-DOS prompt to remove the System and Hidden attributes. After you have copied the file, use the ATTRIB command again to reset the file attributes to their original state.

Error 1002 occurs during Setup

If you get Setup Error 1002 when running Setup, there might be a conflict with your CD-ROM drivers. Try carrying out the following procedure:

- 1 Use the XCOPY command to copy all of the files and subdirectories in the RETAIL directory on the CD-ROM to your hard disk or to a network drive.
- 2 Comment out all of the CD-ROM drivers (such as MSCDEX and ASPI drivers) from your AUTOEXEC.BAT and CONFIG.SYS files.
- 3 Install Windows 95 from the hard disk or network.

The error "Cannot open file *.INF..." occurs

If you receive this error during Setup, you may need to free up memory. You can do this by disabling SMARTDRV from AUTOEXEC.BAT or by quitting any running programs in Windows.

The error "Bad or Missing <Filename>" occurs when starting Windows 95

If you receive a "Bad or missing filename" message when the computer is starting, where filename may contain HIMEM.SYS, IFSHLP.SYS, or EMM386.EXE, your computer may need a device driver to access the drive Windows 95 is installed on. If this is the case, you will need to move the device= line that contains the device driver to the beginning of your CONFIG.SYS file so that the driver is available when CONFIG.SYS tries to load files from the Windows 95 directory.

Problems occur while Setup is copying files

If this occurs, exit Setup, restart your computer, and then rerun Setup. When you are asked whether you want to use Smart Recovery, select the Smart Recovery option, and then click Continue. The file-copying process should complete at this point.

The error "Incorrect MS-DOS version. MS-DOS 3.1 or greater required" occurs

You may see this error when starting Setup from MS-DOS if you are using the 386MAX software utility. If you receive this error, you will need to temporarily disable the 386MAX commands from AUTOEXEC.BAT and CONFIG.SYS, and then run Setup again.

Version conflicts occur when upgrading Windows for Workgroups 3.x

When installing over Windows for Workgroups 3.1 or 3.11, you may get warnings during Setup that the existing files on your computer are newer than the files that Windows 95 is trying to install. This error is incorrect, and you should answer YES or YES TO ALL, and install the Windows 95 files. You may see this error for the following files:

LOGONOFF.EXE NETWATCH.EXE NDIS.386
NDIS2SUP.386 NETBEUI.386 NWLINK.386
NWBLINK.386 VNETSETUP.386 VREDIR.386
VSERVER.386

The error "Setup unable to find valid Boot Partition" occurs

If you receive this error message, you may have disk-compression software or network components that are mapping over the startup drive. An example of this is if you are mapping a network drive to E:\, but E:\ is the hidden host drive for your disk-compression software. Another example is if you are using LANtastic Software, and your drive C is being mapped or shared. To work around these problems, remove the drivers from your CONFIG.SYS and AUTOEXEC.BAT files, and then run Setup again.

If you are using disk-compression software, ensure that none of your mapped network drive letters conflict with the host drive for your disk compression.

The error "IFSMGR Unable to Install Helper Hooks" occurs when starting Windows 95



Make sure that you have not made a connection to a network server in real mode.



Check your AUTOEXEC.BAT file to eliminate such things as net time commands.

Setup conflicts with virus protection software

If your computer stops responding after all files have been copied, or if you receive an error at this point, it may be due to virus protection software. Some computers have virus protection built into the ROM BIOS. You should disable the virus-protection software, or run your computer's configuration program to disable virus checking, and then rerun Setup.

The computer will not start after Windows 95 is installed

If your computer will not start after you install Windows 95, you may need to disable the ISA enumerator. This software detects a new type of PC adapter that can be detected and configured from the operating system. The detection sequence requires the ISA enumerator to do I/O on some ports. Although every effort has been made to avoid ports commonly in use, you may have hardware which is also trying to use these I/O ports.

To disable the ISA enumerator

- ▶ Remove the following line from the [386Enh] section of SYSTEM.INI:
device = ISAPNP.386

Launching SETUPLOG.TXT

You are about to view SETUPLOG.TXT using NOTEPAD.EXE. If SETUPLOG.TXT is not in the root directory of your C drive, you will receive the following error message:

Cannot find the C:\SETUPLOG.TXT file.

Do you want to create a new file?



Display SETUPLOG.TXT



Cancel

Launching CONFIG.SYS

You are about to view CONFIG.SYS using NOTEPAD.EXE. If CONFIG.SYS is not in the root directory of your C drive, you will receive the following error message:

Cannot find the C:\CONFIG.SYS file.

Do you want to create a new file?



Display CONFIG.SYS



Cancel

Launching DETLOG.TXT

You are about to view DETLOG.TXT using NOTEPAD.EXE. If DETLOG.TXT is not in the root directory of your C drive, you will receive the following error message:

Cannot find the C:\CONFIG.SYS file.

Do you want to create a new file?



Display DETLOG.TXT



Cancel

Launching DETLOG.TXT

You are about to view DETLOG.TXT using NOTEPAD.EXE. If DETLOG.TXT is not in the root directory of your C drive, you will receive the following error message:

Cannot find the C:\CONFIG.SYS file.

Do you want to create a new file?



Display DETLOG.TXT



Cancel

Launching System Device Manager

You are about to launch the Device Manager. If you attempt this and you are not running Windows 95, you will receive the following error message:

Routine not found.



Launch the Device Manager



Cancel

Launching Microsoft Diagnostics

You are about to launch Microsoft Diagnostics. If you attempt this and MSD.COM or MSD.EXE is not in your path, you will receive the following error message:

Cannot find or run program "MSD". (under Windows 95)

Unable to run the specified file. (under Windows 3.x)



Launch Microsoft Diagnostics



Cancel

Launching Microsoft System Information

You are about to launch Microsoft System Information. If you attempt this and MSINFO.EXE is not in your path, you will receive the following error message:

Cannot find or run program "MSINFO.EXE". (under Windows 95)

Unable to run the specified file. (under Windows 3.x)



Launch Microsoft System Information



Cancel

Launching System Device Manager

You are about to launch the Device Manager. If you attempt this and you are not running Windows 95, you will receive the following error message:

Routine not found.



Launch the Device Manager



Cancel

Launching BOOTLOG.TXT

You are about to view BOOTLOG.TXT using Notepad. If BOOTLOG.TXT is not in the root directory of your C drive, you will receive the following error message:

Cannot find the C:\BOOTLOG.TXT file.

Do you want to create a new file?



Display BOOTLOG.TXT




Cancel

Viewing/Editing SYSTEM.DAT

You are about to view SYSTEM.DAT using RegEdit. If you are running Windows 3.1, you will be loading REG.DAT, the Windows 3.1 OLE registry database. If you are running Windows 95, you will be accessing the full system registry for Windows 95.

It is not recommended that you edit the registry unless you are specifically directed to do so by Microsoft Product Support Services. This should be attempted only by advanced users. You should back up SYSTEM.DAT and USER.DAT before attempting to edit the registry.

 Display SYSTEM.DAT


 Cancel

Viewing/Editing MSDOS.SYS

You are about to view MSDOS.SYS using Notepad. Do not perform this operation except from within Windows 95. If you edit MSDOS.SYS in an earlier version of MS-DOS or Windows, you may be unable to restart your computer.

In case you encounter a problem, you should have a system boot disk available and make a copy of the current MSDOS.SYS file before proceeding with this operation.

 Display MSDOS.SYS

 Cancel

Care Package Credits

Lead Editor and Designer: Brian Boston

Developer Lead: Denise Wynn

PSS Management Coordination: Robert Cooper

Developers:

Travis Barth	Brian Boston	Martina Crimps
Geoff Gray	Becky Lawson	Scott Graff
Matthew Metcalf	Larry Morando	Mitch Rundle
Doug Lance Sheresh	Steve Taylor	Denise Wynn

Researchers:

Matthew Anderson	Mike Barrett	Travis Barth
Brian Boston	Janet Carey	Martina Crimps
Robert Eggleston	Scott Graff	Brian Gregor
Dewitt Hurst	Becky Lawson	Corbin Links
Hazel Lloyd	Scott McArthur	Randy McLaughlin
David Reeck	Leah Richmond	Prodipto Roy
Doug Lance Sheresh	Mark Slezak	Chris Styles
Victor Tovar	Lewis Umbenhower	Denise Wynn

Thanks also to the many authors and editors who contributed to both the Microsoft Knowledge Base and the Windows 95 Resource Kit.

If You Have Floppy Disk Problems During Setup

Symptoms

The following floppy disk problems may occur when you are running Windows 95:



You cannot access your floppy disk drive.



When you choose a floppy disk drive, it attempts to read the wrong drive.



Your floppy disk drive does not appear or appears incorrectly.

Cause

If the CMOS settings of your computer do not indicate that a floppy disk drive is installed, Windows 95 may not be able to display your floppy disk information correctly. MS-DOS, or the real-mode portion of Windows 95, may allow you to access the floppy disk drive.


Resolution

Refer to your computer documentation, or consult with your hardware vendor regarding how to access and update your CMOS settings.


Windows 95 Hangs at Logo Screen or Missing Device Message

Symptoms

When you try to start Windows 95, one of the following problems occurs:

 Windows 95 stops responding (hangs) at the logo screen.

or

 Windows 95 reports the following error message where <device name> is a device such as HIMEM.SYS:
Missing <device name>.


Make sure that the file is in your Windows directory and that its location is correctly specified in your CONFIG.SYS file.

Cause


These problems can occur if you have added the NOAUTO parameter to the DOS= statement in the CONFIG.SYS file. For example:

```
DOS=HIGH,UMB,NOAUTO
```

Resolution

 Remove the NOAUTO parameter from the DOS= statement in the CONFIG.SYS file.

or

 Insert the required DEVICE= statements in the CONFIG.SYS file so that the necessary devices are loaded during startup.

More Information

The NOAUTO parameter prevents Windows 95 from loading devices such as HIMEM.SYS and IFSHLP.SYS automatically while booting. If you use this parameter, you must specify the devices that need to be loaded by adding them to the CONFIG.SYS file.

Error Initializing Video Adapter

Symptom

As Windows 95 is starting, you receive the following error message:

An error occurred while trying to initialize the video adapter.

Press any key to continue.

If you press a key, it has no effect, but pressing CTRL+ALT+DELETE does restart your computer.

Cause

This problem occurs if you are using a video accelerator card and you change the display from the default setting (640 x 480, 16 colors) to 1024 x 768, 256 colors in the Display properties dialog box. Although Windows 95 may accept the changes, the above error message occurs.

The super VGA (SVGA) driver (1024 x 768) included with Windows 95 is designed for non-accelerated SVGA video adapters only.

Resolution

To correct this problem, change your video driver back to the default VGA setting. To do this, first restart your computer, and then press the F5 key when the "Starting Windows 95" message appears on your screen. This enables you to bypass your startup files.

To change your video driver back to VGA

- 1 Click the Start button, and then point to Settings.
- 2 Click Control Panel, and then double-click the Display icon.
Tip: You can skip steps 1 and 2 if you click the desktop by using the right mouse button, and then click Properties.
- 3 Click the Settings tab.
- 4 Click Change Display Type, then click the Change button for the Adapter Type.
- 5 Click Standard Graphics Adapter (VGA), and then click OK. When asked whether your computer should use the current driver or a new driver, click Current.

More Information

If you want to use a high-resolution video driver with Windows 95, consult your video adapter manufacturer for the proper driver to use.

Data Loss and Non-Windows 95-Aware Hard-Disk Utilities

Most hard-disk utility programs released before Windows 95 require updating to work correctly with Windows 95. If you use a non-Windows 95-aware hard-disk utility, you may lose long filenames and you are at risk of losing data.

Examples of such programs include the following:



Norton Utilities by Symantec



PC-Tools by Central Point



Defragmenter by Microsoft Corporation

If you using the Microsoft Defragmenter utility (Defrag) from MS-DOS version 6.0, 6.2, 6.21, or 6.22, you will lose long filenames. For more information about the problems caused by third-party hard-disk utilities, contact the manufacturer.

More Information

If you need to use an earlier version of a hard-disk utility, carry out the following procedure:

- 1 Run LFNBK.EXE, which is a long filename (LFN) backup utility currently available in the Section 8 Library of the WINBTU forum on CompuServe (LFNBK.ZIP).

(LFNBK.EXE removes your long filenames and saves them to a data file. For more information, read the LFNBK.TXT file.)

- 2 Restart your computer, and then use the appropriate step below:

If you need to run an MS-DOS-based utility, press the F8 key when you see the "Starting Windows 95" message. Choose Yes in response to all the questions until you are prompted to load Windows 95, then choose No.

or

If you need to run a Windows-based utility, allow Windows 95 to start normally.

- 3 After you run the utility, restart your computer, and then run LFNBK.EXE to restore your long filenames.

The products included here are manufactured by vendors independent of Microsoft; we make no warranty, implied or otherwise, regarding these products' performance or reliability.

Installed Items at Setup

This topic lists the items that are installed by default when you select the Typical, Portable, or Compact Windows 95 Setup option. If an item that you want is not installed when you use one of the predefined Setup options, you can choose Custom Setup and select the items you want. You can also choose to add or remove programs after Windows 95 is installed.

To add or remove programs:

- 1 Click the Start Button, point to Settings, and then click Control Panel.
- 2 Double-click the Add Or Remove Programs icon.
- 3 Click the Windows Setup tab.

More Information

Note Items that are included only on CD-ROM must be selected manually by using the Custom Setup option.

Component	Typical	Portable	Compact	CD-ROM only
Accessories				
Accessibility Options	no	no	no	yes
Calculator	yes	no	no	no
Character Map	no	no	no	yes
Clipboard Viewer	no	no	no	yes
Desktop Wallpaper				
Autumn Leaves	no	no	no	yes
Windows Logo	no	no	no	yes
Document Templates	yes	no	no	no
Extra Cursors	no	no	no	yes
Games				
FreeCell	no	no	no	yes
Hearts	no	no	no	yes
Minesweeper	no	no	no	yes
Solitaire	no	no	no	yes
NetWatcher	no	no	no	yes
Object Packager	yes	no	no	no
Online User's Guide	no	no	no	yes
Paint	yes	no	no	no

Quick View				
AMI, AMI Pro	yes	yes	no	no
ASCII	yes	yes	no	no
Configuration Files	yes	yes	no	no
Corel Draw 4 and 5	yes	yes	no	no
Dynamic Link Libraries	yes	yes	no	no
Encapsulated PostScript	yes	yes	no	no
Excel Chart	yes	yes	no	no
Excel Spreadsheet	yes	yes	no	no
Executable Files	yes	yes	no	no
Lotus 1-2-3	yes	yes	no	no
MS Works Database	yes	yes	no	no
MS Works Documents	yes	yes	no	no
MS Works Spreadsheet	yes	yes	no	no
Quattro Pro for MS-DOS	yes	yes	no	no
Quattro Pro for Windows	yes	yes	no	no
Registration Entries	yes	yes	no	no
Rich Text Format	yes	yes	no	no
Setup Files	yes	yes	no	no
Text	yes	yes	no	no
Windows 3.x Write	yes	yes	no	no
Windows Bitmap (DIB)	yes	yes	no	no
Windows Bitmap Graphics	yes	yes	no	no
Quick View, Extra				
Compuserve GIF	no	no	no	yes
Freelance for Windows	no	no	no	yes

Micrographix Draw	no	no	no	yes
Multiplan	no	no	no	yes
PowerPoint	no	no	no	yes
TIFF	no	no	no	yes
Windows Metafile	no	no	no	yes
WordPerfect Demo	no	no	no	yes
Screen Savers				
Blank Screen	yes	no	no	no
Curves and Colors	no	no	no	yes
Flying Through Space	no	no	no	yes
Mystify Your Mind	no	no	no	yes
Scrolling Marquee	yes	no	no	no
System Monitor	no	no	no	yes
Windows 95 Tour	no	no	no	yes
WordPad	yes	no	no	no
Communica- tions				
Dial-Up Networking	no	yes	no	no
Direct Cable Connect	no	yes	no	no
Hyper Terminal	yes	no	no	no
Phone Dialer	yes	yes	no	no
Disk Tools				
Backup	yes	no	no	no
Disk Defragmenter	yes	yes	yes	no
Disk Compression Tools	no	yes	yes	no
Microsoft Exchange	no	no	no	no
CompuServe Mail Services	no	no	no	no

Internet Mail Services	no	no	no	yes
Microsoft Fax	no	no	no	no
Microsoft Network	yes	yes	no	no
Multi-Language Support	no	no	no	yes
MultiMedia				
Audio Compression	yes	yes	no	no
CD Player	yes	yes	no	no
Media Player	yes	no	no	no
Musica Sound Scheme	no	no	no	yes
Nature Sound Scheme	no	no	no	yes
Robotz Sound Scheme	no	no	no	yes
Sound and Video Clips	no	no	no	yes
Sound Recorder	yes	no	no	no
Utopia Sound Scheme	no	no	no	yes
Video Compression	yes	yes	no	yes
Volume Control	yes	no	no	yes

Display Problems

This article describes switches that correct some display problems that can occur in Microsoft Windows 95.

More Information

For any Windows 95 version of a display driver, the [boot] section of the SYSTEM.INI file should contain the following line:

```
display.driv=pnpdrv.driv
```

The actual video driver (such as VGA.DRV or S3.DRV) is loaded from the registry. This allows support for dockable personal computers that have different adapters for the laptop versus the docking station.

Setting the monitor type in the Display properties does not affect your display adapter's refresh rate. To change this, you must run a utility supplied by your display adapter manufacturer or computer manufacturer. Some display utilities must be run in the AUTOEXEC.BAT file; however, on other computers display type is set in BIOS configuration programs.

Examples of display utilities from adapter manufacturers include the following:

ATI INSTALL.EXE

Cirrus	MONTYPE.EXE,
Logic	CLMODE.EXE
Diamond Stealth	STLMODE.EXE
Tseng Labs	VMODE.EXE
Western Digital	VGAMODE.EXE

The sections below describe different video cards and the requirements for these drivers to work correctly in Windows 95.

ATI Mach 8/32/64

To use high-resolution modes properly, this adapter must be configured correctly using the ATI INSTALL.EXE program for Windows 95. Configuring your monitor type is especially important because high-resolution modes may not be available for selection, or the computer may fail when attempting to switch to that mode.

Compaq QVision 2000

These adapters use the Matrox MGA controller.

Matrox MGA

These adapters are not currently supported with Windows 95 drivers. The VGA driver is installed by Setup. However, early versions of a Windows 95 MGA driver are available on the Windows 95 CD-ROM in the DRIVERS directory.

This driver is also available on CompuServe in the WINBTU library. The filename is MATROX.ZIP.

Diamond Viper


If you run Setup from within Windows 3, Setup preserves Microsoft Windows 3.1 drivers for this adapter. If you run Setup from MS-DOS, the Windows 95 VGA driver is installed. If this occurs, use the Diamond Viper setup program to install the Windows 3.1 drivers into Windows 95. Copy the latest Viper files from the DRIVERS directory on the Windows 95 CD, or download them from the WINBTU library on CompuServe.

IBM ThinkPad


This laptop computer uses Western Digital controllers. Versions of these laptops require the IBM VESA driver to be loaded from the AUTOEXEC.BAT file for 256-color and high-resolution modes to be supported by the Windows 95 Western Digital display driver.


S3-Based Video Adapters


The S3 driver has a number of switches that can be used to work around the problems mentioned below. These lines can be added to the [display] section of the SYSTEM.INI file.

 The Refresh_Rate= switch corrects monitor-synchronization and refresh-rate problems (where <number> is 56, 60, 72, or 75).

Refresh_Rate=<number>

 The SWCursor= switch corrects problems with the mouse pointer by disabling the hardware cursor.
SWCursor=1

 The HighColor= switch corrects problems with incorrect color at 16 bits per pixel using a 555 format.
HighColor=15

 The MMIO= switch corrects problems with miscellaneous crashes on some adapters by disabling memory-mapped I/O.
MMIO=0

More Information

The products included here are manufactured by vendors independent of Microsoft; we make no warranty, implied or otherwise, regarding these products' performance or reliability.

Starting Programs at the MS-DOS Prompt

In Microsoft Windows 95, you can start a Windows-based or MS-DOS-based program from the command prompt in an MS-DOS window. To do so, you type the program's executable filename (or **start** plus the program's executable filename) at the MS-DOS command prompt.

For example, to start ScanDisk for Windows, you can type **scandskw** or **start scandskw** at the MS-DOS command prompt.

More Information

If you type only the program's executable filename, Windows 95 searches the current directory and then the directories on the path statement for the executable file. If the file is not found, you receive the following error message:

Bad command or filename

If you type **start** before the program's executable filename, Windows 95 searches the current directory, the directories on the path statement, and the registry. If the file is not found, you receive the following error message:

Cannot find file '<filename>' (or one of its components).

Check to ensure the path and filename are correct and that all required libraries are available.

Windows 95 Setup Error Message: The Path Is Invalid

Article Information

Symptom

When you try to set up Windows 95, you receive the following error message:

The path <xxx> is invalid

where <xxx> is the path to the specified setup directory (for example, C:\WINDOWS).

Cause

The drive you are trying to install Windows 95 on has zero (0) bytes available.

Resolution



Install Windows 95 to a different drive, or free additional space on your hard disk.

More Information

If you receive one of the following error messages:

Insufficient disk space

or

Not enough disk space

it means that you have more than zero bytes of hard disk space available, but not enough for Windows 95 to be installed successfully.


Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q117509

Contents of the Windows 95 MSDOS.SYS File

Article Information

 [Click here to view MSDOS.SYS.](#)

Summary

The Windows 95 Setup program creates a file called MSDOS.SYS in the root directory and sets the file's Read-Only, System, and Hidden attributes. Unlike the MSDOS.SYS file in MS-DOS, this file is a text file. It contains a [Paths] section that lists the locations of other Windows 95 files (such as the registry file) and an [Options] section that you can use to personalize the startup process.

More Information

The [Paths] section can contain the following settings:

HostWinBootDrv=<Root of Boot Drive>

Default: C

Purpose: Specifies the location for the root of the startup drive.

WinBootDir=<Windows Directory>

Default: Directory specified during Setup (for example, C:)

Purpose: Lists the location of the necessary files for startup.

WinDir=<Windows Directory>

Default: Directory specified during Setup (for example, C:)

Purpose: Lists the location of the Windows 95 directory specified during Setup.

The [Options] section can contain the following settings and must be manually inserted:

BootDelay=<Seconds>

Default: 2

Purpose: Sets the amount of time that the "Starting Windows 95" message remains on the screen before Windows 95 continues to start up.

BootFailSafe=<Boolean>

Default: 0

Purpose: A setting of 1 forces your computer to start in safe mode.

BootGUI=<Boolean>

Default: 1

Purpose: A setting of 1 forces the loading of the graphic interface. A setting of 0 disables the loading of the graphic interface.

BootKeys=<Boolean>

Default: 1

Purpose: A setting of 1 enables the use of the function-key startup options (that is, F4, F5, F6, and F8). A setting of 0 disables the use of these function keys during the startup process

Note



A setting of BootKeys=0 overrides the use of BootDelay=n.

BootMenu=<Boolean>

Default: 0

Purpose: A setting of 1 enables the startup menu. If this setting is 0, then to invoke the startup menu you must press F8 when "Starting Windows 95" appears.

BootMenuDefault=<Number>

Default: 1 if the computer is running correctly
4 if the computer locked up in the previous instance of Setup

Purpose: Use this setting to set the default menu item for startup.

BootMenuDelay=<Number>

Default: 30

Purpose: Sets the number of seconds your computer will pause on the startup menu. If the number of seconds counts down to 0 without intervention, the BootMenuDefault is activated.

BootMulti=<Boolean>

Default: 0

Purpose: A setting of 0 disables the multi-boot option. (For example, with a setting of 0 you cannot boot your previous operating system.) A setting of 1 enables the F4 and F8 keys to boot your previous operating system.

Note



This setting is set to 0 by default, to avoid the corruption of data by allowing you to inadvertently boot MS-DOS and run a disk utility that does not recognize long filenames.

BootWarn=<Boolean>

Default: 1

Purpose: A setting of 0 disables the safe-mode startup warning message and the startup menu.

BootWin=<Boolean>

Default: 1

Purpose: A setting of 1 forces Windows 95 to load at startup. A setting of 0 disables Windows 95 as your default operating system (this is useful only if you have MS-DOS version 5.x or 6.x on the computer).

Note



Pressing F4 inverts the default only if BootMulti=1. (For example, pressing the F4 key with a setting of 0 forces Windows 95 to load.)

DoubleBuffer=<Boolean>

Default: 0

Purpose: A setting of 1 enables double-buffering for controllers that need it (for example, SCSI controllers).

DBLSpace=<Boolean>

Default: 1

Purpose: A setting of 1 allows the automatic loading of the DBLSPACE.BIN file. A setting of 0 prevents the automatic loading of this file.

DRVSpace=<Boolean>

Default: 1

Purpose: A setting of 1 allows the automatic loading of the DRVSPACE.BIN file. A setting of 0 prevents the automatic loading of this file.

LoadTop=<Boolean>

Default: 1

Purpose: A setting of 0 does not let Windows 95 load COMMAND.COM or DRVSPACE.BIN/DBLSPACE.BIN above 640K. If you are having compatibility problems with software that makes assumptions about available memory, try setting this to 0.

Logo=<Boolean>

Default: 1

Purpose: A setting of 1 forces the default Windows 95 logo to appear. A setting of 0 prevents the animated logo from being displayed. A setting of 0 also avoids hooking a variety of interrupts that can create incompatibilities with certain third-party memory managers.

Network=<Boolean>

Default: 0

Purpose: A setting of 1 means the network was installed and adds "Start Windows, bypassing startup files, with network support" as an option on the Windows 95 startup menu.

The MSDOS.SYS file also contains a section that contains seemingly useless information. This information is necessary to support programs that expect MSDOS.SYS to be at least 1024 bytes in length. For example, if an anti-virus program detects that the MSDOS.SYS file is less than 1024 bytes, it may assume that the file is infected with a virus. If you delete MSDOS.SYS, your computer will not start.

The following statement, followed by a series of X's, appears in MSDOS.SYS:

```
;The following lines are required for compatibility with other programs.
```

```
;Do not remove them (MSDOS.SYS needs to be >1024 bytes).
```

Since each line begins with a semicolon (;), the lines are not read by the computer.

To edit the MSDOS.SYS file

- 1 Click the Start button, point to Find, and then click Files Or Folders.
- 2 In the Named box, type **msdos.sys**
In the Look In box, click your startup drive (usually drive C), and then click Find Now.
- 3 Use the right mouse button to click the MSDOS.SYS file, and then click Properties.
- 4 Click the Read-Only and Hidden check boxes to remove these attributes from the MSDOS.SYS file, and then click OK.
- 5 Use the right mouse button to click the MSDOS.SYS file, and then click Open With.
- 6 Click WORDPAD, and then click OK.
- 7 Make the changes you want to the MSDOS.SYS file. When you are done, save the file, and then quit WordPad.

8 Use the right mouse button to click the MSDOS.SYS file, and then click Properties.

9 Click the Read-Only and Hidden check boxes to set these attributes for the file, and then click OK. Close the Find window.

When you have finished, restart Windows.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q118579

WD 8514/a Fails to Load in 8514/a High-Resolution Mode

Article Information

Symptom

After installation, Windows 95 returns to VGA mode and displays the following error message:

Windows was unable to use the requested display settings. Please adjust them now.

Cause

During an upgrade from Windows 3.1, Windows 95 Setup may incorrectly detect a Western Digital or Paradise 8514/a video adapter as an adapter that can use the default Western Digital video driver included with Windows 95.

Resolution

Install the drivers for the 8514/a-compatible video adapter. These drivers can be found on CompuServe and on the Windows 95 installation CD-ROM in the 8514 directory.

More Information

The products included here are manufactured by vendors independent of Microsoft; we make no warranty, implied or otherwise, regarding these products' performance or reliability.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q119368

Windows 95 Setup Disables OS/2 Boot Manager

Article Information

Symptom

When you run Windows 95 Setup on a computer that has the OS/2 Boot Manager partition active, the following message appears:

Setup has detected a boot manager partition on your computer. Continuing Setup will disable Boot Manager.

<Exit Setup> or <Continue>

Continuing Windows 95 Setup disables the Boot Manager.

Cause

Windows 95 Setup disables the Boot Manager to ensure that after installation the computer will boot into Windows 95, not a different operating system. This allows Windows 95 to finish the installation procedure.

Resolution



To re-enable the Boot Manager, start the computer from the OS/2 boot disk, and then run the Fdisk utility to activate the Boot Manager partition.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q119432

Intel SatisFAXtion Inaccessible: "Write Fault Error..."

Article Information

Symptoms

After you turn off and then restart your computer, the installed Intel SatisFAXtion internal fax modem is inaccessible. The following error message may appear:


Write fault error writing comm<x> when attempting to access the fax modem from an MS-DOS prompt.
where <x> is the number of the serial port on which the modem is configured.

Also, when you try to dial in HyperTerminal, the computer may stop responding or fail to dial without indicating any problem.

Cause

The Intel SatisFAXtion internal fax modem requires that its real-mode device drivers be loaded from the CONFIG.SYS and AUTOEXEC.BAT files at system startup.

Resolution

 Install the real-mode device drivers from the installation disks provided with the Intel SatisFAXtion internal fax modem card.

More Information

The Intel SatisFAXtion internal fax modem is manufactured by Intel Corporation, a vendor independent of Microsoft; we make no warranty, implied or otherwise, regarding this product's performance or reliability.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q119566

Windows 95 Startup Error: Incorrect MS-DOS Version...

Article Information

Symptom

After you install Windows 95 and restart the computer, the following error message appears:

Incorrect MS-DOS version

Cause

This problem can occur if SETVER.EXE is being loaded in the CONFIG.SYS file and has a setting indicating that COMMAND.COM should look for a version of MS-DOS earlier than 7.0.

Resolution

- 1 Start the computer by using the Windows 95 Startup disk.
- 2 Change to the WINDOWS directory by typing:
cd <Windows 95 directory name>
- 3 Rename the SETVER.EXE file by typing:
ren setver.exe setver.old
- 4 Remove the Windows 95 Startup disk from the drive, and then shut down and restart the computer. Windows 95 loads at this point.
- 5 Click the Start button, point to Programs, and then click MS-DOS Prompt.
- 6 Change to the Windows directory by typing:
cd\<Windows 95 directory name>
- 7 Rename the SETVER.EXE file again by typing:
ren setver.old setver.exe
- 8 Remove the COMMAND.COM entry by typing:
setver command.com /d
- 9 Restart the computer.

This procedure allows SETVER to maintain compatibility with existing MS-DOS-based programs.

More Information

When Windows 95 is installed, the new SETVER.EXE assumes the settings of the currently loaded SETVER.EXE in an effort to maintain compatibility with existing MS-DOS-based programs.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q119876

How to Rebuild, Convert, and Troubleshoot Folders in Windows 95


Article Information

Summary

This article discusses how Windows 95 converts existing Windows and Windows for Workgroups groups to Windows 95 folders, how to rebuild folders, how the [Restrictions] section in the PROGMAN.INI file is transferred to Windows 95, and how to troubleshoot failed conversions.

More Information

Note

 In this article, the term "Windows" refers to Windows versions 3.1 and 3.11 and Windows for Workgroups versions 3.1 and 3.11.

Groups Versus Folders

Windows uses groups and group items represented by icons to provide access to programs. The default groups for Windows are Main, Accessories, Games, and StartUp. An example of an item within the Main group is Control Panel.

Windows 95 uses folders and shortcuts to provide the same functionality as groups and items in previous versions of Windows.

Converting Groups to Folders

To facilitate the upgrade from Windows to Windows 95, a program named GRPCONV.EXE is included with Windows 95. This file provides the translation of groups and group items to folders and shortcuts.

Each group is converted to a folder, and the items in it are converted to shortcuts, which are placed within that particular folder.

GRPCONV.EXE uses information from the registry to track changes in group files that have occurred since the last time GRPCONV.EXE was run. There are no entries in either the SYSTEM.INI or WIN.INI file that take precedence over these system registry entries.

The last modified date and time of the PROGMAN.INI file and all group files are stored in the system registry HKEY_CURRENT_USER.

GRPCONV.EXE runs automatically after Setup has copied most of the files needed for a complete installation and restarted your computer. You can also run GRPCONV.EXE manually.

GRPCONV.EXE supports the following switches:

`/R`

Rebuilds the default Windows 95 folders. A status dialog box titled Start Menu Shortcuts appears during the rebuilding process.

`/S`

Rebuilds the default Windows 95 folders. A status dialog box titled Start Menu Shortcuts appears during the rebuilding process.

`/M`

Enables you to manually convert existing Windows groups to Windows 95 folders. You can convert only one group at a time using this method. If the groups are in the directory in which you install Windows 95, they are automatically converted during Setup.

To recreate the default folders that ship with Windows 95

- 1 Click the Start button, and then click Run.
- 2 Type one of the following commands:

grpconv /r

or


grpconv /s

To convert existing Windows groups to the Windows 95 format


- 1 Click the Start button, and then click Run.
- 2 Type the following:

grpconv /m


- 3 Click the group you want to convert.
- 4 Do one of the following:


 Click Open, and then click Yes in the "Program Manager Group Converter" dialog box.


or


 Convert the group by double-clicking the group name. For example, if you have a group called MYGROUP.GRP, you can double-click MYGROUP.GRP to convert it to the Windows 95 folder format.


Other GRPCONV.EXE Specifics


 The first time GRPCONV.EXE runs, the search-path criteria for finding existing groups is based strictly on the contents of the PROGMAN.INI file in the current Windows directory (if it exists).


 Group names and item names are not sorted prior to conversion. Group conversion begins with the first group in the directory, and shortcuts are created beginning with the first item in a group.

 **Memory** required for conversion of groups is allocated per group item as needed and then released all at once at the end of processing each group. No temporary files are created during conversion.

 All data in a .GRP file, except icon location (x, y coordinates in a group), is used during conversion and migrated to folders in the Windows 95 folder.

 GRPCONV.EXE calls the shell link creation APIs directly, and as such does not call any executables during conversion.

 Windows Program Manager has been known to create corrupted .GRP files that may work in their native environment, but that have the potential to cause errors during conversion in Windows 95. GRPCONV.EXE recognizes corrupted .GRP files and properly converts them.

 If one or more groups are not converted to folders, or if one or more items in a group are not converted to shortcuts, follow the methods outlined in the "Troubleshooting Group Conversion" section later in this topic.

Restrictions Migration for Upgrades


GRPCONV.EXE moves the [Restrictions] section of the PROGMAN.INI file from previous versions of Windows into the Policies section of the system registry.

Troubleshooting Group Conversion

If a group fails to be converted or if an error is displayed during conversion, use the following steps to troubleshoot the problem:

- 1 Use GRPCONV.EXE to convert a group file that was previously converted successfully. If this fails, GRPCONV.EXE has been corrupted, and you must replace this file with the GRPCONV.EXE file from your original Windows 95 disks. If this step is successful, continue with step 2.
- 2 Run the PROGMAN.EXE file that ships with Windows 95 and view the group that did not convert. If it is displayed and acts correctly in Program Manager, create a new group and copy (do not move) the items from the original group to the new one.
- 3 Close Program Manager, and then run GRPCONV.EXE in interactive mode (**grpconv /m**) to convert the newly created group. If this step fails, continue with step 4.
- 4 Run Program Manager, delete the items in the newly created group, and copy a few of the items from the original group into the new group. If this fails, repeat this step with different items until you have determined which item is causing the failure.

Note

 It is also possible for a virus to cause conversion failure.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q119941

Cannot Interactively Start Windows 95 with Hardcard Drives

Article Information

Symptom

After you press F8 at the "Starting Windows 95" message or choose Previous Operating System from the Windows Startup menu, Windows 5 still loads.

Cause

If a hard disk requires that device drivers (such as a hardcard driver) load from the CONFIG.SYS file, an interactive start is not possible. Such devices are read-only until their drivers are loaded.

Workaround



To work around this situation, use a system disk from the previous operating system and start your computer from the floppy disk drive.

More Information

Most hardcards must load drivers from the CONFIG.SYS file to provide read and write capabilities. If these device drivers do not load, you can only read information from the hard disk. Without the ability to write information to the hard disk, Windows 95 cannot rename the CONFIG.DOS, AUTOEXEC.DOS, IO.DOS, and MSDOS.DOS files in order to boot to MS-DOS. (Other operating systems may use different filenames.) This forces Windows 95 to start up using the Windows 95 IO.SYS file. Because the file-rename process occurs before the CONFIG.SYS file is read, the device drivers are not yet loaded; therefore, the files cannot be renamed.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q120139

Running Programs That Require Windows 3.1 or Later

Article Information

Symptom

When you install or run a program, you receive an error message stating that it requires Windows version 3.1 or later.

Cause

When you start a program, it checks the Windows version number to determine whether it can run safely. Some programs check this version number incorrectly and return an error.

Workaround

Try contacting the software manufacturer to see if an upgrade is available, or follow the steps below to try to install or run your program under Windows 95.

To try installing or running your program under Windows 95

- 1 Double-click the My Computer icon, or open Windows Explorer.
- 2 Go to the drive and directory (or folder) that contains the executable file you are trying to run.
- 3 Use the right mouse button to click the executable file or icon, and then click Quick View and note the Module Name.

Note that QuickView is not installed by default.

- 4 Open the WIN.INI file in a text editor (such as Microsoft WordPad).

- 5 In the [Compatibility] section, add the following statement

```
<ModuleName>=0x00200000
```

where <ModuleName> is the name you noted in step 3.

- 6 Save this change, and then try running your program again.

Note



If the module name is INSTALL or SETUP, remove the change you made to the WIN.INI file after you have successfully installed your program. The presence of this statement can cause other installation programs to fail.

If these steps do not work, contact your software manufacturer to ensure that you are using the correct module name and to get information about other possible workarounds.

More Information

The following programs are known to incorrectly check the Windows version number. The preceding procedure may work with these programs:

Outpost 1.0, 1.0a, and 1.0b by Sierra On-line

When you install Outpost, you receive the following error message:

```
Outpost requires Windows 3.1, or higher
```

The module name for Outpost is INSTALL. Add the following statement to the [Compatibility] section of the WIN.INI file:

```
INSTALL=0x00200000
```

Remember to remove this statement after Outpost is installed correctly.

Status

This situation is most likely caused by design changes in Windows 95. Microsoft has confirmed that it is not caused by a problem in Windows 95. For more information about resolving this issue, contact the third-party software manufacturer.

Copyright Microsoft Corporation 1995

PSS ID Number: Q120174

Error Message: Bad or Missing Command Interpreter

Article Information

Symptom

When you restart your computer, you receive the following error message:

Bad or missing Command Interpreter

Cause

This error message can occur when the Windows 95 or MS-DOS command interpreter (COMMAND.COM) is missing or has become corrupted.

The Windows 95 COMMAND.COM is renamed COMMAND.W40 when the computer is booted to an MS-DOS command prompt. If this file is corrupted or missing, the above error message appears when you start Windows 95 normally.

The MS-DOS COMMAND.COM is renamed COMMAND.DOS when the computer is booted into Windows 95. If this file is corrupted or missing, the above error message appears when you bypass the normal Windows 95 startup by pressing either F4 or F8 at the "Starting Windows 95" message.

Resolution

To restore the Windows 95 operating system and make the disk bootable:

- 1 Start the computer by creating a Windows 95 Emergency Boot Disk.
- 2 At the command prompt, type:

sys c:

- 3 After the system is transferred, remove the disk, and then restart the computer.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q120822

Windows 95 Error Message with a DISCTEC Drive: Missing Operating System [win95x]

Article Information

Symptom

When Windows 95 restarts after Setup is complete, you receive the following error message:

Missing operating system

Cause

This error message occurs when your DISCTEC removable hard disk drive is set as the startup drive.

DISCTEC removable hard disk drives set the CMOS to drive type 2. The DISCTEC removable drive device driver (DISCTEC.SYS) then uses an INT 13 function 9 call to reset the BIOS with the proper hard disk drive type. The hard disk drive type is stored in the partition sector.

Windows 95, as well as some earlier versions of MS-DOS, rewrites the partition sector when installed. This causes the code the DISCTEC device driver inserted to be removed. Therefore, the BIOS can no longer identify the proper hard disk drive type.

Workaround

If you have already installed Windows 95

- 1 Start your computer with a bootable floppy disk.
- 2 Insert the DISCTEC installation disk in the floppy disk drive, and then change to this drive (drive A or drive B).
- 3 Use the DISCTEC hard disk drive partitioning software to rewrite the partition table as follows:

HDPRT /w /0

Note



The last character above is a zero. You are returned to a drive prompt without any messages being displayed. This step works correctly as long as the formatting of the hard disk has not changed.

- 4 Remove the floppy disk, and then restart your computer.

If you have not yet installed Windows 95

- 1 Manually set the CMOS to the proper hard disk drive type. For more information, please refer to your manufacturer's documentation.
- 2 Remove the DISCTEC.SYS device driver from the CONFIG.SYS file, and then restart your computer.
- 3 Install Windows 95.
- 4 Reinstall the DISCTEC software.

If you continue to receive the above error message or experience other problems with your DISCTEC removable drive, contact DISCTEC technical support at (407) 671-5500.

More Information

After starting your computer from a floppy disk and attempting to access your hard disk drive, you may encounter "Sector not found" error messages. To correct these errors, make sure that the DISCTEC device driver (DISCTEC.SYS) is loading in the CONFIG.SYS file on the floppy disk.

The DISCTEC removable hard disk drive is manufactured by Disk Technologies Corp., a vendor independent of Microsoft; we make no warranty, implied or otherwise, regarding this product's performance or reliability.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q121294

Upgrade Does Not Move Font Files from SYSTEM Subdirectory

[Article Information](#)


Symptom

After you upgrade Windows 3.x or Windows for Workgroups 3.x to Windows 95, your font files are not moved from the Windows SYSTEM subdirectory to the Windows FONTS subdirectory.

Cause

Windows 95 does not have a means to move your existing font files.

Workaround

 If you prefer to keep your fonts in one central location, manually move the font files from the Windows SYSTEM subdirectory to the Windows FONTS subdirectory.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q121910

COM Port Devices with Nonstandard IRQs Are Not Detected

Article Information

Symptoms

When you change a communications (COM) port, or an internal device assigned to a COM port, to a nonstandard interrupt request (IRQ), Windows 95 does not detect the IRQ of the device and cannot use it. Also, the COM port diagnostic tool does not detect the device.

For example, this problem would occur on a computer that has an internal fax modem assigned to COM 3, with the IRQ set to 5 instead of to the default, which is 4.

Cause

Neither the Windows 95 detection process nor the COM diagnostics tool can communicate successfully with devices on COM ports or devices that are assigned to COM ports that have nonstandard IRQs. After you have manually set up Windows 95 to recognize the IRQ, it works properly.

Resolution

Even though WINDOWS 95 does not detect the IRQ of the device, you can still use it by carrying out the following steps.

To set the IRQ for a COM port

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the System icon.
- 3 On the Device Manager tab, double-click Ports (COM & LPT).
- 4 Double-click the COM port for which you need to change the IRQ.
If the COM port is not listed, you need to use the Add New Hardware wizard in Control Panel to set up the device. For instructions on how to do this, see "To adding a COM Port" later in this topic.
- 5 On the Resources tab, double-click the Interrupt Request resource setting.
If you receive a message stating "You cannot modify the resources in this configuration," click Setting Based On, and change this value by clicking the next highest Basic configuration setting. Then double-click Interrupt Request again.
For example, if the setting is based on Basic Configuration 4, click Basic Configuration 5.
- 6 Change the IRQ value to whatever you have the hardware set to, and make sure that the message "No devices are conflicting" appears in the Conflicting Devices List.
- 7 Click OK until you are prompted to shut down your computer.
- 8 Shut down and restart your computer.

To add a COM Port

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the Add New Hardware icon.
- 3 Click Next, and then click Automatically Detect Installed Hardware.
If automatic detection does not find the COM port, add the COM port manually by clicking Install Specific Hardware and then double-clicking Ports.
- 4 After the COM port has been installed, perform the steps outlined in the previous procedure, "To set the IRQ for a COM port."

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q122124

SafeMode Troubleshooting Switches Defined

Article Information

Windows 95 supports two new switches that are useful for troubleshooting video problems. These switches can be added to the [Windows] section of the WIN.INI file:

SafeMode=1

Purpose: A setting of 1 disables the hardware cursor.

Note



This is similar to the /Y switch that can be used with some versions of the MS-DOS-level Microsoft Mouse driver.

SafeMode=2

Purpose: A setting of 2 disables all video card acceleration. For example, the graphical device interface (GDI) calls the device-independent bitmap (DIB) engine directly for screen drawing rather than going through the display driver.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q122161

How to Set Up an Extended Capabilities Port in Windows 95

Article Information

Summary

This article lists the steps necessary to enable extended capabilities port (ECP) support in Windows 95.

Resolution and more information

- 1 Consult your hardware manual to determine the IRQ and DMA settings for the ECP port(s) you want to use. (This information is required to enable ECP support.)
- 2 Click the Start button, point to Settings, and then click Control Panel.
- 3 Double-click the System icon.
- 4 On the Device Manager tab, double-click Ports (COM & LPT).
- 5 Double-click the Extended Capabilities Port (ECP).
This port appears only if Windows 95 detected it.
- 6 Click the Resources tab, and then click Basic Configuration 2 in the Setting Based On field.
See below for a description of the basic configuration settings for extended capabilities ports.
- 7 Change the IRQ and DMA values to whatever you have the ECP set to, and make sure that the message "No devices are conflicting" appears in the Conflicting Devices List.
If you have multiple ECP ports, you must repeat these steps to configure the DMA and IRQ values of each port.
- 8 Click OK until you are prompted to shut down your computer.
- 9 Shut down and restart your computer.

An extended capabilities port has five possible configurations (0 through 4):



Basic Configuration 0: Standard I/O ranges for LPT ports only



Basic Configuration 1: Standard I/O ranges for LPT ports and any IRQ setting



Basic Configuration 2: Standard I/O ranges for LPT ports, any IRQ setting, and any DMA setting



Basic Configuration 3 : Any I/O ranges for LPT ports only



Basic Configuration 4: Any I/O ranges for LPT ports and any IRQ setting

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q122495

Deciphering the Windows 95 DETLOG.TXT File

Article Information





 To view the DETLOG.TXT file, click [here](#).

What is the purpose of the DETLOG.TXT file? Is there any reason to manually edit this file?

DETLOG.TXT is provided as a support tool only—Windows 95 does not read information from this file.

When is the DETLOG.TXT file created?

DETLOG.TXT is created in the following circumstances:

-  Each time Detection is invoked from Setup.
-  Each time Detection is invoked from the Add New Hardware icon in Control Panel.
-  When your computer first starts after the docking state has changed (for example, docked or undocked).
-  When you enable 32-bit PCMCIA support (called by the PCMCIA [Wizard](#)).

How can you tell whether the DETLOG.TXT file was created during Setup or after choosing "Add New Hardware"?








Because Add New Hardware can be invoked only from within Windows 95, WinVer is equal to 07000400. If Flags=00000#2#, the DETLOG.TXT file was created during Setup.

What happens if Detection causes your computer to stop responding?

When Detection is restarted, it looks in the root directory for a file named DETCRASH.LOG. If Detection finds this file, it uses the original DETLOG.TXT file and appends the new information to the end of the file. If it does not find this file, it renames the original DETLOG.TXT file to DETLOG.OLD and creates a new DETLOG.TXT file.

How do I read the DETLOG.TXT file? What are the keywords and what do they mean?

The following list contains the keywords that can appear in a DETLOG.TXT file and their corresponding explanations:

-  Checking for:
 - Detection Manager is about to call a detection module.
-  Detected:
 - The detection module reported the device with the following resources.
-  QueryIOMem: or QueryIRQDMA:
 - The detection module called Detection Manager to determine whether a range of resources has been taken. This is one of the most important calls because crash recovery check is also done here.
-  AvoidMem= (at the beginning of DETLOG.TXT)
 - Detection Manager checks the upper memory block region and enters areas in detection to avoid. This is based on the assumption that if a memory manager maps RAM over the UMB region, there cannot be a working device in that area. Detection Manager marks these regions as "off-limits" to detection modules because some detection modules may try to write to the UMB RAM without restoring it. If you have a memory-mapped I/O device (for example, a Future Domain fd8xx or 950) with EMM386.EXE installed incorrectly (either you did not use the exclude option or you explicitly include the device I/O region as UMB), Windows 95 cannot see the device, and the real-mode driver should not work. Therefore, it is safe to assume that if the device is working in realmode, you should not encounter this problem.
-  SDMVer=
 - Version of Detection Manager (SYSDETMG.DLL). Format is <xxxx>.<yyy>, where <xxxx> is the Windows version (usually 0400) and <yyy> is the build number.
-  Parameters
 - These are command-line parameters passed to Detection (for example, if you run "Setup /p <xxxxxxx>," <xxxxxxx> are passed to Detection as parameters).
-  WinVer=<xxxx><yyyy>
 - This contains the MS-DOS and Windows versions that Detection was running in (where the high-word, <xxxx>, is the MS-DOS version; and the low-word, <yyyy>, is the Windows version).
 - yyyy=030a means Windows or Windows for Workgroups 3.10
 - yyyy=030b means Windows or Windows for Workgroups 3.11

yyyy=0400 means Windows 95

? WinFlags=00000#1# (standard mode)
WinFlags=00000#2# (enhanced mode)

This is the result of the Windows API call GetWinFlags. 0x10 and 0x20 are the most important bits. The 0x10 bit indicates that Detection was run in standard-mode Windows (most likely from the Compact of Windows [which occurs when Setup was run from MS-DOS]). The 0x20 bit indicates that Detection was run in enhanced-mode Windows.

? DetectClass: skip class <x>

The Safe Class Detection feature did not find any indication (for example, CONFIG.SYS or SYSTEM.INI drivers) that you have class <x> devices. Therefore, it is going to skip all detection modules for class <x>, where <x> is CDROM, Sound, or Net.

? UserOverride: <x>=1

You can override Safe Class Detection by checking the CDROM, Sound, or Net check boxes, where <x> is CDROM, Sound, or Net.

? SetVar: <x>=

This means that Safe Class Detection found <x> real-mode driver in the CONFIG.SYS file.

? Devices verified: 0

Detection did not verify any devices in the registry, which could mean the registry was clean with no existing devices (probably a clean install) or at least no verifiable devices in the root branch. If devices are verified, the number 0 changes to reflect the number of devices.

What does the Flags= parameter mean? Is it the same as WinFlags=?

Flags and WinFlags are not the same. WinFlags is the result of the API call GetWinFlags; Flags are internal flags within Detection Manager. Most of the bits are not very useful for debugging or troubleshooting.

How does Detection work?

Detection is divided into two stages:

- 1 Verify devices already in the registry.
- 2 Detect new devices.

The first-stage strategy varies under different environments:

? If Detection is run in MS-DOS or in a previous version of Windows, the Detection module that generates the registry entry is called to verify the device.

? If Detection is run in Windows 95, ConfigMG is called to make sure the device is active without any problems. The device is then automatically verified without running it. If ConfigMG returns a problem on the device, the Detection module that generated the entry is called to verify the device.

How can you determine which environment Detection was running in?

The WinVer and the WinFlags keywords mentioned in the previous topic contain this information. For example, if WinVer=07000400 (MS-DOS 7.0, Windows 4.00), Detection was running in Windows 95. If the low-word of WinVer is 030a (3.1) or 030b (3.11) and the WinFlags enhanced-mode bit is on (0x20), Detection was running in Windows 3.1x or Windows for Workgroups 3.1x. If WinVer is 030a and the WinFlags standard-mode bit is on (0x10), Detection was running in the mini-version of Windows.

Note

? If verification is performed in Windows 95, you see the "Detected:" prompt repeatedly, without "Checking for:" or "QueryIOMem=" statements appearing in between, because ConfigMG was called to verify the device(s).

If verification fails (verification can fail if the device is removed from the system or is no longer at the same address), you see a line similar to the following:

```
VerifyHWReg: failed verification of *PNP0906000
```

What will the DETLOG.TXT file contain in the event of a failure? Assuming I locate the failure, are there any troubleshooting steps to perform?

There are several types of general failures.

Detection returns an error message.

If Detection returns an error, you can find details of the error at the end of the DETLOG.TXT file. The details usually appear in the following format:

SDMErr (8xxxxxxx): <error message>

If the error message originated from a Detection module because one of the DMS APIs failed, an additional error message such as the following appears:

DMSErr=<error message>

This line is then followed by error-specific information. (For example, if it failed to open an .INF file, the name of the .INF file is shown.)

A failure type 1 indicates a bug in Detection, either in the .INF file or in Setup.


Detection locks up.

If Detection locks up and you have not run Safe Recovery, you can see what module caused the failure by looking for the last line in the DETLOG.TXT file. This line indicates which Detection module was examining which I/O ports.


If Detection locks up and you have run Safe Recovery, you can look for the [System Detection] header in the DETLOG.TXT file. This header is repeated and appended to the end of the DETLOG.TXT file until Detection is complete.

Lockups are cumulative. If Detection locks up several times, all the lockup information is listed in the DETLOG.TXT file. After finding which module locked up at what I/O address, you can determine what device is at that I/O address. How you do this depends on whether or not detection code for the device is available.

If no detection code exists, use one of the following workarounds:

 Let Safe Recovery continue and skip the device(s).

or


 Use the x= parameter with Setup to exclude the I/O address.

For example, you would type

```
setup /p x=io(310-31f)
```

If detection code exists for the device, determine whether the detection code is in front of the failing module or after.

 If the detection code is in front, let Safe Recovery continue and skip the device(s).

 If the detection code is after, let Safe Recovery run. This allows Detection to place a permanent record about this failure in the registry so that Detection can avoid it the next time it runs. For example:

Device B is at 310-31f. The detection for device A pushed it and caused a failure. After Safe Recovery is run, Detection has a record similar to the following:

```
device B at 310-31f hung by detection for device A
```

The next time detection of device A is called to examine 310-31f, it sees this record and calls detection for device B to examine 310 to 31f first to make sure device B is still there.

Detection faults.

If Detection faults, it is a bug. If Detection faults when it is executing a detection module, Safe Recovery skips the module and continues. If detection faults during Detection Manager initialization, the faulted code has to be identified in order for you to find a workaround.

The following is an example of a workaround for this problem:

You load QEMM with the Stealth feature turned on. QEMM tries to scan and reuse some BIOS ROM area as UMB blocks. Unfortunately, it decides to cover part of the EISA BIOS ROM. During Detection initialization, Detection calls the EISA BIOS ROM to get all the EISA card IDs. The way Detection calls EISA ROM BIOS is to jump directly into the published EISA BIOS entry point in ROM. The entry point is not covered up by QEMM, but a subsequent internal jump instruction jumps to an area which QEMM has covered with RAM, thus causing a general protection (GP) fault. The workaround options here would be to either unload QEMM or turn off Stealth.

Incorrect detection. Detection did not detect the device, it detected something that is not there, or the wrong resources were reported.

If Windows 95 misses the device completely, try to detect it again by using the Add New Hardware wizard in

Control Panel. If Windows 95 still misses the device, install it manually. If Windows 95 detects a nonexistent device, delete it by using Device Manager. If Windows 95 does not detect the resource(s) of the device, you can correct them by using Device Manager.

Do certain device classes have the same number of I/O ports in use, or is this vendor-specific?

There is no set standard for devices (even of the same class). For example, one sound card can use one range of eight ports, and another can use several ranges of various ports. Some cards use several ranges that are aliases of the base range. For example, a device may be configured at base range 340-343 but actually use ports 740-743. If you change the jumper to 360-363, the other range moves automatically to 760-763. In this sense, there seems to be only one range.

In this example, does the DMA controller claim six ports?

Checking for: Direct Memory Access Controller QueryIOMem: caller DETECTDMA, rcQuery=0

IO=0-f,81-83,87-87,89-8b,8f-8f,c0-df

Detected: *pnp0200000 =[2]

IO=0-f,81-83,87-87,89-8b,8f-8f,c0-df

DMA=4

Yes. DMA controllers use six ranges of I/O ports. All motherboard I/O ports are within the range 0-FF, and DMA controllers are motherboard devices.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q123815

Basic Configurations for COM Ports in Windows 95

Article Information

Summary

Windows 95 includes a set of Basic Configurations for communications (COM) ports. These configuration options make it easier for you to avoid hardware conflicts by enabling you to easily change the settings a COM port uses.

These Basic Configurations provide the following:



A default configuration for each COM port. You cannot change this default setting.



Additional configurations for each port that enable you to edit the IRQ setting. These configurations do not let you change I/O addresses.



Additional configurations for each port that enable you to edit both the IRQ and the I/O range.

More Information

Basic Configurations are determined by the following table:

Basic Configuration	IRQ Setting	Editable ?	I/O Setting	Editable ?
0	4	No	03F8-03FF	No
1	4	Yes	03F8-03FF	No
2	3	No	02F8-02FF	No
3	3	Yes	02F8-02FF	No
4	4	No	03E8-03EF	No
5	4	Yes	03E8-03EF	No
6	3	No	02E8-02EF	No
7	3	Yes	02E8-02EF	No
8	Variable	Yes	Variable	Yes

COM 1 defaults to Basic Configuration 0. The IRQ can be changed by selecting Basic Configuration 1.

COM 2 defaults to Basic Configuration 2. The IRQ can be changed by selecting Basic Configuration 3.

COM 3 defaults to Basic Configuration 4. The IRQ can be changed by selecting Basic Configuration 5.

COM 4 defaults to Basic Configuration 6. The IRQ can be changed by selecting Basic Configuration 7.

You can use Basic Configuration 8 to configure additional COM ports because it enables you to change the IRQ and the I/O address.

The following is a sample procedure for changing the IRQ for COM 1

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the System icon.
- 3 On the Device Manager tab, double-click Ports (COM & LPT), and then double-click Communications Port (COM1).
- 4 Click the Resources tab.
COM 1 defaults to Basic Configuration 0, and the settings are according to the table above.
- 5 Click the arrow next to the Setting Based On box, and then click Basic Configuration 1.
- 6 Under Resource Settings, double-click Interrupt Request (or IRQ), and then click the up or down arrow to change the Value field setting.
- 7 Click OK, and then restart Windows when prompted.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q123992

Application Error: SUWIN Caused an Illegal Instruction

Article Information

Symptoms

When you try to perform a server-based setup of Windows 95 on a computer running Microsoft Workgroup Add-On for MS-DOS, you receive the following error:

Application Error: SUWIN caused an illegal instruction in module GDI.EXE at 0001:16EF.

Note



This error can also occur on computers with insufficient hard disk space to create a temporary setup directory.

Cause

This error occurs on computers running Workgroup Add-On for MS-DOS that are configured to use the basic network redirector. When Windows 95 is set up from a command prompt, it loads a mini-version of Windows. This version is very sensitive to system files not being accessible or loadable. The basic redirector included with Workgroup Add-On for MS-DOS may occasionally drop file handles and/or network connections. After this occurs, the mini-version of Windows fails to load code segments or resources and generates the error message.

Resolution



Run Setup after starting Workgroup Add-On for MS-DOS using the full redirector. To start Workgroup Add-On for MS-DOS with the full redirector, type **net stop** at a command prompt, and then log off. Then type **net start full** and log on to the computer. Setup should now run without generating the error message.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q124177

Keyboard Shortcuts for Windows 95

Article Information

Summary

This article lists keyboard shortcuts for Microsoft Windows 95.

Mouse Click/Keyboard Modifier Combinations for Shell Objects

CTRL+RIGHT CLICK

Displays a context menu containing alternative verbs.

SHIFT+DOUBLE-CLICK

Runs the alternate default command (the second item on the menu).

ALT+DOUBLE-CLICK

Displays properties.

SHIFT+DELETE

Deletes an item immediately without placing it in the Recycle Bin.

General Keyboard-Only Commands

F1

Starts Windows 95 Help.

F10

Activates menu bar options.

SHIFT+F10

Opens a context menu for the selected item.

CTRL+ESC

Opens the Start menu and selects the taskbar.

CTRL+ESC, ESC

Selects the taskbar. To see a context menu, press TAB or SHIFT+F10. To change tasks, press TAB and then an arrow key. To select the desktop, press TAB.

ALT+TAB

Switch to another running program. To view the task-switching window, hold down the ALT key after pressing TAB.

SHIFT

Press down and hold the SHIFT key while you insert a CD-ROM to bypass the auto-run feature.

Shell Objects and General Folder/Windows Explorer Shortcuts

For a selected object:

F2

Rename object

F3

Find All Files

CTRL+X

Cut

CTRL+C

Copy

CTRL+V

Paste

SHIFT+DEL

Delete selection immediately, without moving the item to the Recycle Bin.

ALT+ ENTER

Open the properties dialog box for the selected object.

To copy a file



Press down and hold the CTRL key while you drag the file to another folder.

To create a shortcut



Press down and hold CTRL+SHIFT while you drag a file to the desktop or a folder.

General Folder/Shortcut Controls

F4

Selects the Go To A Different Folder box and moves down the entries in the box (if the toolbar is active in Windows Explorer).

F5

Refreshes the current window.

F6

Moves among panes in Windows Explorer.

CTRL+G

Opens the Go To Folder tool (in Windows Explorer only).

CTRL+Z

Undo the last command.

CTRL+A

Select all the items in the current window.

BACKSPACE

Switches to the parent folder.

SHIFT+Click Close Button

For folders, close the current folder plus all parent folders.

Windows Explorer Tree Controls

Numeric Keypad * (asterisk)

Expands everything under the current selection.

Numeric Keypad + (plus sign)

Expands the current selection.

Numeric Keypad - (minus sign)

Collapses the current selection.

RIGHT ARROW

Expands the current selection if it is not expanded; otherwise, goes to the first child.

LEFT ARROW

Collapses the current selection if it is expanded otherwise, goes to the parent.

Properties Dialog Box Controls



To move through the properties tabs, press CTRL+TAB and CTRL+SHIFT+TAB.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.
Copyright Microsoft Corporation 1995

PSS ID Number: Q126449

After Upgrade from Windows for Workgroups, Windows 95 Lists Different Network Adapter

Article Information

Symptoms

After you upgrade a computer running Windows for Workgroups 3.11 to Windows 95, the network adapter listed in Windows 95 is not the same adapter that was listed in the previous installation of Windows for Workgroups.

Example:

After you upgrade a Windows for Workgroups 3.11 installation that lists an SMC Ethercard (all types except 8013/a) as the network adapter, Windows 95 lists the SMC Ethercard Plus 16 w/boot ROM Socket (WD/8013EBT) as the network adapter.

Cause

The SMC Ethercard (all types except 8013/a) driver that Windows for Workgroups uses is a generic entry that works with multiple network adapters. Windows 95 detects the exact network adapter model using the generic driver and displays that, instead of the generic driver name, as the network adapter.

More Information

Windows for Workgroups 3.11 has the ability to use generic drivers. However, when using a driver that supports multiple models, it displays the generic driver name instead of listing the exact card that is using the driver. Windows 95 has the ability to use generic drivers and display the exact adapter using the generic driver.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q124001

NetWare Administrator Does Not Work with NWREDIR Loaded

Article Information

Symptoms

The Novell NetWare Administrator program (NWADMIN.EXE) will not function on a computer running Microsoft Windows 95 configured with the Microsoft Client for NetWare Networks. When you try to run the NWADMIN.EXE program, an MS-DOS window opens and displays the following error message:

This program must be run under Microsoft Windows.

Cause

The NetWare Administrator program does not work with NWREDIR (the Windows 95 protected-mode redirector for NetWare) loaded. The NetWare Administrator program will work only with VLM (the NetWare MS-DOS requester) loaded.

Resolution



You must use the real-mode VLM instead of NWREDIR in order for the NetWare Administrator program to work. Contact Novell Technical Support if you need technical assistance to configure VLM.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q124712

VOLINFO Utility from Novell Server Reports Incorrect Values

Article Information

Summary

If you use the VOLINFO utility from a Novell NetWare 3.12 server to view information on a Windows 95 system configured with file and printer sharing for NetWare Networks, the Free Directories entry is incorrect. VOLINFO states that 32,767 directory entries are allocated to the volume. It also states that the number of free directory entries is 32,767.

More Information

Available Directory Entries and Total Directory Entries are fields that have meaning on actual Novell NetWare servers (the space for directory names is preallocated when the volume is formatted), but they do not have meaning on Windows 95 (VFAT or CDFS) volumes. To provide compatibility with programs that check to see if space is available to create new directories, Windows 95 returns the maximum allowable value for these fields: 32,767.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q124804

Adding an NDIS 3.1 Protocol Does Not Add Frame Type to NET.CFG

[Article Information](#)

Symptoms

The [NDIS 3.1 protocol](#) that you added when setting up your network does not function properly.

Cause

If you add an NDIS 3.1 protocol to Windows 95 and you use ODI drivers, the appropriate frame type is not added to the NET.CFG file.

Resolution



To correct this problem, manually add the appropriate frame type to the NET.CFG file.

More Information

The Network Setup for Microsoft Windows for Workgroups 3.11 adds four frame types to the NET.CFG file:



FRAME ETHERNET_802.2



FRAME ETHERNET_802.3



FRAME ETHERNET_II



FRAME ETHERNET_SNAP

When you install an NDIS protocol, it can find the frame type because it is already available. On some occasions, the behavior of Windows for Workgroups version 3.11 can block access to your Novell NetWare server.

Rather than add all frame types to the NET.CFG file, Windows 95 requires that you add them manually.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q124848

Mapped NetWare Drives and Windows 95 Persistent Connections

Article Information

Symptoms

After you install the Microsoft Client for NetWare Networks, drives that are mapped and printers that are captured in the AUTOEXEC.BAT file are no longer available.

Cause

Before you installed the Microsoft Client for NetWare Networks, the Novell NetWare version 3.x or 4.x real-mode drivers were being loaded. The Microsoft Client for NetWare Networks uses NWREDIR instead of NETX or VLM as the network redirector. NWREDIR is a 32-bit protected-mode redirector that is loaded when Windows is loading. The AUTOEXEC.BAT file is processed before NWREDIR is loaded. Since AUTOEXEC.BAT is processed before network services are started, network drives cannot be mapped and network printers cannot be captured in the AUTOEXEC.BAT file.

Resolution

For network drives

Instead of mapping network drives in AUTOEXEC.BAT, reconnect each network drive in Windows 95 as a persistent connection. To do so, follow these steps:

- 1 Start Windows Explorer.
- 2 On the Tools menu, click Map Network Drive.
- 3 In the Drive box, click the drive letter you want for the connection.
- 4 In the Path box, type the path for the network connection.
- 5 Make sure you check the Reconnect At Logon check box, and then click OK.
- 6 Repeat steps 2 - 5 for each network drive.
- 7 Remove the Map commands from the AUTOEXEC.BAT file. The network connections will be available each time you start Windows 95.

For network printers

Instead of capturing network printers in AUTOEXEC.BAT, follow these steps:

- 1 Click the Start button, point to Settings, and then click Printers.
- 2 Double-click the Add Printer icon to start the Add Printer wizard.
- 3 When you get the message "How is this printer attached to your computer?" click Network Printer, and then click Next.
- 4 In the Network Path or Queue Name box, type the correct path or queue name for the network printer. If you print from MS-DOS-based programs as well as from Windows-based programs, click Yes under the "Do you print from MS-DOS-based programs?" prompt.
- 5 Click Next, and then click Next again.
- 6 Click Finish.
- 7 Repeat steps 2 - 6 for each network printer.
- 8 Remove the capture commands from the AUTOEXEC.BAT file. The network printer connections will be available each time you start Windows 95.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q125433

Cannot Print to PostScript Printer on Novell Network

[Article Information](#)


Symptoms

When you print to a network printer on a Novell NetWare network, your print job does not appear.


Cause


This problem can occur if you enable the banner page and print to a PostScript printer. By default, Novell NetWare print servers do not support banners on PostScript printers.


Note


 The Novell NetWare print server, not Windows 95, generates the banner page. Windows 95 does not control whether the banner page is printed.

Workaround

 To work around this problem, use one of the following methods:

 Disable the banner page.

 Print to a non-PostScript printer.

 Contact Novell or your network administrator about enabling PostScript banners on the PostScript print server.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q126144

Cannot Find Second NetWare Server with Two Network Cards Installed

Article Information

Symptoms

When you are using two network adapters connected to two separate Novell networks, using the Microsoft Client for NetWare Networks or a Novell NetWare Workstation shell, Windows 95 detects only one of the two networks.

Cause

Only one instance of the Microsoft Client for NetWare Networks or the Novell NetWare Workstation shell can be installed in Windows 95. The first of the two network adapters to receive a response from a NetWare server will be the active network adapter.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q126545

Error Message: A Device Is Not Functioning

Article Information

Symptoms

When you are using the File And Print Sharing network service for Novell NetWare and you try to remove a large directory structure (with over 1000 entries) by using Windows Explorer or File Manager, you receive the following error message:

A device is not functioning.

Cause

The Windows 95 NCPserver Service maintains an internal search cache that allows only 1000 entries. When you try to work with a directory structure with over 1000 entries, the cache is exceeded and entries beyond 1000 are not seen. This causes the 1000th-oldest search handle to be invalid, generating the error message stated above.

Workaround



Use Windows Explorer or File Manager to select the directory tree you want to delete, and try to delete it. When the error message occurs, select the tree, and try to delete it again. Repeat this process until the directory is deleted.

Status

This behavior is by design.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q126557

No Support for "Connect As" Option As There Is In Windows NT

Article Information

Microsoft Windows NT has an option that lets you connect to a network resource as someone else. This option uses a Connect As box in the Connect Network Drive dialog box.

Microsoft Windows 95 does not have such an option in its Map Network Drive dialog box. The only way to connect to a network resource as someone else in Windows 95 is to log off of Windows and then log back on as a different user.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q126573

Unable to Use RAS with Windows 95 Dial-Up Networking Server

[Article Information](#)

Symptoms

You are unable to connect to a Windows 95 Dial-Up Networking server when running a Windows for Workgroups Remote Access Service (RAS) client, Windows NT 3.1 RAS client, or Windows 95 Dial-Up Networking client.

Cause





This problem can occur if the Dial-Up Networking server you are connecting to is a computer running Windows 95 and using NWSERVER, and the client is using the RAS drivers instead of the Point-to-Point [protocol](#) (PPP) drivers. The server is unable to get the plain-text version of the client password. The plain-text password is necessary in order to use user-level security with a NetWare server. User-level security is enabled by definition if you are running NWSERVER.

Workaround

To work around this problem, use the Windows 95 Dial-Up Networking client in PPP mode or the Windows NT 3.5 RNA client in PPP mode.

More Information

The following RNA (or Dial-Up Networking) clients using RAS do not work if the RNA server is a computer running Windows 95 and using NWSERVER:

-  Windows for Workgroups client
-  Windows NT 3.1 client
-  Windows 95 client in Dial-Up Networking mode
-  Windows NT 3.5 client in RAS mode

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q122143

Windows 95: Sharing Violation When Using NetWare 3.x FILER.EXE

[Article information](#)

Symptoms

When you use the FILER.EXE file-management utility from Novell NetWare version 3.x to copy files from a NetWare server, you may receive a sharing violation message.

Cause

The sharing violation occurs because FILER.EXE opens the destination file in an exclusive mode and then attempts to set the file attributes of the open file.

Workaround



Copy the files manually.

or



Use a later version of FILER.EXE. This behavior does not occur with the version of FILER.EXE that ships with Novell NetWare 4.x.

More Information

This behavior is not limited to Windows 95; it occurs if you perform the same function in MS-DOS with SHARE.EXE loaded.

The products included here are manufactured by Novell, Inc., a vendor independent of Microsoft; we make no warranty, implied or otherwise, regarding these products' performance or reliability.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q115598

Using Novell Btrieve with Windows 95

[Article Information](#)

Summary




Btrieve is a key-indexed record-management system. It is usually installed in a client-server configuration in which the server is a Novell NetWare file server.

BREQUEST.EXE is installed on the client computer and is required in order to have access to files on a Btrieve server. For Windows 95, you must use Btrieve version 5.15c or later.


More Information

BREQUEST.EXE requires IPX/SPX [protocol](#); therefore, Windows 95 is configured differently depending on the Novell NetWare client software you are using.

Using the Microsoft Client for NetWare

-  Verify that the workstation can communicate with the NetWare server that contains the Btrieve databases.
-  Create a WINSTART.BAT file that contains BREQUEST.EXE. This enables Windows 95 to start the IPX/SPX protocol interface.
-  Make sure that WBTRCALL.DLL (Windows Btrieve DPMI DLL file) is located in the Windows 95 SYSTEM subdirectory.




Note

-  This configuration provides BREQUEST.EXE to Windows-based programs only. If you only want to use BREQUEST.EXE for MS-DOS-based programs, you must load it in an MS-DOS window.

Using a Novell-Supplied Network Client with Windows 95

Refer to the Btrieve "Installation and Operation" manual for installation instructions.

Key Points:

-  Make sure that WBTRCALL.DLL is located in the Windows 95 SYSTEM subdirectory.
-  Make sure that BREQUEST.EXE is loading without error messages after the real-mode network software is started.
-  If you are loading NETX or VLM, set up Btrieve as you typically do.

For more information about installing and using Btrieve, contact Novell or your local authorized Novell NetWare reseller.

Btrieve is manufactured by Novell, Inc., a vendor independent of Microsoft; we make no warranty, implied or otherwise, regarding this product's performance or reliability.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q118629

Novell NetWare Utilities That Do Not Work Under Windows 95

Article Information

Summary

This article discusses Novell NetWare utilities that do not run under Windows 95.

More Information

NWUSER.EXE

Unlike previous versions of NETWARE.DRV, which were provided by Novell, Microsoft produced the NETWARE.DRV file provided with Windows 95. This file does not support NWUSER because the user interface in Windows 95 provides similar functionality.

PSERVER.EXE

The Novell PSERVER utility makes connections by logging you off from the network and then logging you back in as a PSERVER object. Because this limits the workstation to PSERVER functions, Windows 95 does not support this utility.

NDS

Any utility that requires you to be logged on to the NetWare Directory Services (NDS) or makes NDS API calls will not work in Windows 95. Examples of such utilities are NWADMIN and NETADMIN.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q118822

NET VIEW Command Does Not List Novell NetWare Print Queues

[Article Information](#)

Symptoms

On a system running Windows 95 with the Microsoft Client for NetWare Networks installed, performing a **net view** \<novell server> command from the command prompt does not list the print queues.

Cause

This problem occurs if you are not logged on to the Novell server. The Microsoft Client for NetWare Networks must have read access to the PRINT_QUEUES information in the Novell server's bindery in order to display the print queues.

Resolution

To correct this problem, log on to the Novell server first, and then use the net view command to view the print queues on that server.

To list the print queues

- 1 At the command prompt, type the following command:
net use <drive letter>: \\<novell server>\<sharename>
- 2 Type your logon name when prompted.
- 3 Type your logon password when prompted.
- 4 Type the following command:
net view \\<novell server>

More Information

The ability to perform a **net view** command is one benefit of using the Microsoft Client for NetWare Networks. The "Novell NetWare Client for Workstation Shell 3.x or Above" uses the IPX or IPXODI [protocol](#). Running a **net view** command from the command prompt does not work correctly with the Novell clients installed.

Novell NetWare is manufactured by Novell, Inc., a vendor independent of Microsoft; we make no warranty, implied or otherwise, regarding this product's performance or reliability.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q120039

Sending Messages from WinPopup to NWPOPUP in Windows 95

Article Information

Summary

Although you can use WinPopup to send messages to someone using NWPOPUP, there are some limitations.

More Information

With Windows 95, you can run the Client for Microsoft Networks (VREDIR) and the Client for Novell Networks (NWREDIR) together. If you send a message using WinPopup, VREDIR handles the request. In the event that VREDIR fails, WinPopup attempts to send the pop-up message to everyone on your preferred or default NetWare server.

The fact that the recipient must be on your preferred server is one of the limitations. The other limitation is that the message cannot exceed 38 characters.

Novell NetWare is manufactured by Novell, Inc., a vendor independent of Microsoft; we make no warranty, implied or otherwise, regarding this product's performance or reliability.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q120223

Disabled Net Card on Compaq XL560 Is Detected By Plug and Play

Article Information

Symptoms

The Compaq XL560 EISA PCI-based computer has a built-in AMD Ethernet network interface card. When the internal network card is disabled through CMOS and a second network card is installed, Windows 95 detects both the internal and the secondary network cards during the Plug and Play detection portion of Setup.

Cause

The built-in network interface card is disabled from a system BIOS point of view only—Windows 95 recognizes it as an unconfigured device. Windows 95 treats unconfigured devices as PCMCIA devices and assigns them IRQ 9 and an I/O range. As a result, the device is recognized in the Plug and Play detection phase of Windows Setup.

Resolution

To correct this problem, disable the built-in network interface card by using Device Manager.

To disable the internal network card in Windows 95

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the System icon.
- 3 Click the Device Manager tab.
- 4 Click the plus sign next to Network Adapters.
- 5 Click the AMD network interface card, and then click Properties.
- 6 Under Device Usage, make sure the check box next to the current configuration is unchecked.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q121718

Unable to Bind Network Services to Protocols

Article Information

Symptoms

Network Services are not available options on the Bindings tab of network protocol properties. For example, when you click the Bindings tab in the properties for Microsoft NetBEUI protocol, there is no option for file and print sharing for Microsoft Networks (VSERVER). Or, when you click the Bindings tab in the properties for IPX/SPX-compatible protocol for Windows, there is no option for file and print sharing for NetWare Networks (NWSERVER).

Cause

In Windows 95, network services are dependent on and bind to the network redirector. They do not depend on nor bind to a protocol. This is necessary to enable the Plug and Play features of Windows 95.

Resolution



To run network services on a network protocol, bind the protocol to the network client that you want to use.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q122871

Windows 95: Shared Network Printer Driver Is Installed

Article Information

Symptoms

In Windows 95, when you use the Add Printer wizard to install a network printer, the printer driver for that network printer is installed.

For example, a computer running Windows 95 is sharing a Hewlett-Packard LaserJet III Si printer that is capable of printing PCL or PostScript. If you install the PostScript printer driver on the server, it installs over the network when someone else uses that printer. If you install the PCL printer driver on the server, it too installs over the network.

Cause

Windows 95 is designed to install the printer driver that the server is using.

Workaround

If you prefer to use the PostScript printer driver on a network printer that is being shared as PCL, use one of the following methods.

Method 1: If you haven't yet installed the printer

- 1 Click the Start button, point to Settings, and then click Printers.
- 2 Double-click the Add Printer icon.
- 3 Follow the Add Printer wizard to install the PostScript printer of your choice as a local printer.
- 4 Using the right mouse button, click the PostScript printer icon, and then click Properties.
- 5 Click the Details tab, and then type the network path in the Print To box.

Method 2: If you have already installed the printer

- 1 Click the Start button, point to Settings, and then click Printers.
- 2 Using the right mouse button, click the PCL printer icon, and then click Properties.
- 3 Click the Details tab, click New beside the Driver option, and then click Yes.
- 4 Click the manufacturer, and then double-click the appropriate printer model. For example, to install the HP III Si PostScript driver, click HP, and then double-click HP LaserJet III Si PostScript.

Method 3: Install the PostScript and PCL printer driver on the server computer under two different share names

For example, install the HP LaserJet III Si printer and share it as \\<servername>\IIISi. Install the HP LaserJet III Si PostScript printer and share it as \\<servername>\IIISiPS. Everyone who connects to this share to print will have a choice of PostScript or PCL.

Note



These steps can also be used for a shared PostScript printer that you want to print to using PCL.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q123097

Windows 95 Cannot Print to a Computer Running Only UNIX

Article Information

Microsoft Windows 95 does not have the capability to print to a printer on a machine running UNIX only. If the printer is on a Microsoft Windows NT 3.5 server or a Novell NetWare server that is also running UNIX, you should be able to print to it. For example, if your printer supports line printer daemon (LPD), you can print to it through Microsoft Windows NT Server or Windows NT Workstation version 3.5, using LPRMON. (Daemon is the UNIX term for a background process.) You can then use Windows NT to share the printer to Windows 95 clients. You can also use Windows NT LPDSRV to give computers running UNIX access to locally attached printers.

For more information about using Windows NT, consult your Windows NT "User's Guide," Help, or local reseller.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q123424

UNC Connection Generates Error Message on Shutdown

Article Information

Symptoms

When you establish a universal naming convention (UNC) network connection to a computer running Windows 95 and then use the Shut Down command to shut down the Windows 95 (server) computer, you receive the following message:

There are <x> user(s) connected to your computer. Shutting down your computer will disconnect them.
Do you want to continue?

where <x> indicates the number of users currently connected.

Cause

A client connected to a Windows 95 server needs to maintain the connection for a reasonable amount of time, allowing for user interaction. If the Windows 95 computer is shut down during this time, the above message is generated even though there are no drives mapped directly to the Windows 95 server.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q123444

Canceling the Network Install Wizard Causes an Error on Restart

Article Information

Symptoms

If you try to add a client, adapter, protocol, or service, and you click the Cancel button before the Network Install wizard is finished copying files, you receive an error message when Windows 95 restarts.

A variety of messages can be generated. Examples include the following:



The driver file could not be found.



Error loading device driver.

Cause

The message is displayed because although you canceled the installation, the registry has already been updated with the new information. When Windows restarts, it reads the registry and tries to load the files specified; however, because the files were not copied to your hard disk, an error message appears.

Status

Microsoft is researching this problem and will post new information in the Microsoft Knowledge Base as it becomes available.

Resolution

Start Windows 95 in safe mode by pressing the F5 key when you see the "Starting Windows 95" prompt. After Windows has loaded, run the Network Install wizard again, and either remove the component you just added or allow the files to be copied to your hard disk when prompted.

Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.

Copyright Microsoft Corporation 1995

PSS ID Number: Q123694

How to Set Up Banyan VINES in Windows 95

Article Information

Summary

This article describes how to install Banyan VINES connectivity in Microsoft Windows 95.

Note



You must be using Banyan VINES version 5.52(5) or later.

To set up Banyan VINES

- 1 Make sure Banyan VINES connectivity works before you install Windows 95.
- 2 Install Windows 95.
- 3 After Windows Setup is complete, use the right mouse button to click the Network Neighborhood icon, and then click Properties.
- 4 Add the following components to the Network properties if they are not present:

Network adapter

Banyan VINES version 5.52(5)

Banyan VINES protocol

- 5 Your AUTOEXEC.BAT file should contain the following lines:

```
Path=Z:\...
```

```
C:\WINDOWS\net initialize
```

```
ban /nc
```

```
ndisban
```

```
redirall
```

```
C:\WINDOWS\net start
```

```
arwait
```

```
z:login
```

Notes



This works assuming your Banyan VINES files are in the root directory. If not, modify the AUTOEXEC.BAT file and add a statement that changes to the Banyan VINES directory.



When you see the "Starting Windows 95" message, you can check and see if these files load successfully by pressing the F8 key. This lets you step through the loading of these files one at a time.

- 6 Restart your computer to make sure you are prompted to log on to Banyan VINES and that you can access any Banyan VINES mapped drives.

Note



Because Banyan VINES servers do not have browsing capabilities, they do not appear in your Network Neighborhood.

Troubleshooting

- 1 In Control Panel, double-click the Network icon, and then double-click your network adapter. Make sure you are using a real-mode 16-bit NDIS driver.
- 2 Check the PROTOCOL.INI file in your Windows directory for the following sections:

```
[BAN$VINES]
```

```
DriverName=ndisban$
```

```
Bindings=EXP16$
```

```
Lanabase=1
```

```
[NDISBAN$]
```

```
DriverName=NDISBAN$
```

```
Lanabase=1
```

Bindings=EXP16\$

Note



This example uses the Intel EtherExpress 16 network card.

- 3 From your Banyan VINES directory, run PCCONFIG.EXE to make sure its driver name matches the "Bindings=" line above.
- 4 Make sure drive Z contains the latest VINES.DRV and VVINESD.386 files.
- 5 If you are using token-ring, your AUTOEXEC.BAT should contain NDTOKBAN instead of NDISBAN.
- 6 Try to load drivers high. (They require a lot of conventional memory.)
- 7 If you add the Banyan VINES client, it does not add the Banyan VINES protocol. However, if you add the Banyan VINES protocol, the Banyan VINES client is automatically added.
- 8 To set up a printer, you must run VINES.EXE from drive Z and choose printer services. You, or the network administrator, must set up print queues. This sets up a port (LPT1, for example) to be redirected to a network printer. In Windows 95, you can install a local printer on LPT1 and it should work correctly.

If you receive a message about your Banyan VINES version not being the latest when you restart Windows 95, perform the following steps:

- 1 The VINES.INI file in your Windows directory should have an option for "Keep files on network." If it does not, remove the WindowsVersion line.
- 2 When Windows restarts, click Install.
- 3 When Windows restarts again, Banyan VINES should be installed correctly.

Tips



If you do not see the Banyan VINES screen before Windows 95 starts, there is a problem with the VINES drivers in the AUTOEXEC.BAT file.



If you can log on to the network but you cannot map Banyan VINES drives, or drives mapped in the login script appear as local drives, make sure that Z: is included in the PATH statement in the AUTOEXEC.BAT file.


Windows 95 Beta: The information in this article applies to Microsoft Windows 95 Preview Program.


Copyright Microsoft Corporation 1995

PSS ID Number: Q123877

Is there a "Bad or Missing COMMAND.COM" error?

Check the SHELL= line in the CONFIG.SYS file to verify that the path specified in the line is valid.

 [Click here to check the current CONFIG.SYS file.](#)

 [Click here to view the topic on the Bad or Missing Command Interpreter message.](#)

To replace the Windows 95 COMMAND.COM file

 Copy COMMAND.COM from the MS-DOS Setup Disk #1 to the host drive, and then restart your computer.

Is there a corrupt CVF error?

The DBLSPACE.CVF file apparently is damaged and is preventing the computer from starting. Restart the computer from an MS-DOS boot disk that does NOT contain DBLSPACE.BIN (or press SHIFT+F5 when you see the "Starting Windows 95" message), and then run ScanDisk on the damaged CVF.

Is a driver failing to load?

Verify the existence of the driver and the correct syntax for loading it. Replace or reinstall the failing driver.

Is a driver locking up during startup?

Restart the computer, and bypass the driver by pressing SHIFT+F8 - Step-by-Step confirmation, when you see the "Starting Windows 95" message. Verify whether the computer will start when that driver doesn't load.

Step-by-Step Confirmation (SHIFT+F8)

When you press F8 to display the Windows Startup menu, and then choose "Step-by-step confirmation," or press SHIFT-F8 when you see the "Starting Windows 95" message, you will receive the following prompts:

Load DoubleSpace (or DriveSpace) driver [Enter=Y, Esc=N]

Process the system registry [Enter=Y, Esc=N]

Create a startup log file (BOOTLOG.TXT) [Enter=Y, Esc=N]

Process your startup device drivers (CONFIG.SYS) [Enter=Y, Esc=N]

(Each line from CONFIG.SYS is displayed with an [Enter=Y, Esc=N])

Process your startup command file (AUTOEXEC.BAT) [Enter=Y, Esc=N]

(Each line from AUTOEXEC.BAT is displayed with an [Enter=Y, Esc=N])

WIN.COM [Enter=Y, Esc=N]

Load all Windows drivers (only if you answer Yes to running WIN.COM)

If you answer Yes to each prompt or press TAB to automatically accept options at each stage, the result is the same as starting Windows 95 normally, with the exception that the logo is not displayed.

Answering No to "Load all Windows drivers" will load Windows in Safe Mode; Windows will not reference the registry, loading standard VGA drivers, the mouse and keyboard drivers, and device manager drivers. This is the same as loading windows with the /D:M switch, as described below.

You are also prompted if the registry is missing important keys (for example, SYSTEM) or if the previous system startup has failed (for example, if the WNBOOTNG.STS signature file still exists in the Windows directory). The message is similar to the following:

Windows has detected a registry/configuration error.

-or-

Windows did not finish loading on the previous attempt.

A clean start is recommended, to allow you to remove drivers or reconfigure your system. Do you wish to clean start [Y,N]?

If you answer "Yes", the computer restarts in Safe Mode.

WIN.COM Switches

The following switches can be used to start Windows 95 at the command prompt when you need to isolate a setting that was not configured correctly:

Syntax

```
WIN [/B] [/D:[F] [M] [N] [S] [V] [X]]
```

Parameters

/B

Creates a BOOTLOG.TXT file that records system messages generated during system startup.

/D

Used for troubleshooting when Windows 95 does not start correctly. The following switches are used with /D:

Switch	Meaning
F	Turns off 32-bit disk access. This is equivalent to 32BitDiskAccess=FALSE in SYSTEM.INI.
M	Enables Safe Mode. This is auto-matically enabled during Safe Mode Start (F5).
N	Enables Safe Mode mode with net-working. This is automatically enabled during Safe ModeStart (F6).
S	Specifies that Windows 95 should not use ROM address space between F000:0000 and 1 MB for a breakpoint. This is equivalent to SystemROMBreakPoint=FALSE in SYSTEM.INI. Use this switch if Windows 95 stalls during system startup.
V	Specifies that the ROM routine will handle interrupts from the hard-disk controller. This is equivalent to VirtualHDIRQ=FALSE in SYSTEM.INI. Use this switch if Windows 95 stalls during system startup.
X	Excludes all of the adapter area from the range of memory that Windows 95 scans to find unused space. This is equivalent to EMMEExclude=A000-FFFF in SYSTEM.INI.

To Remove Unnecessary Drivers or TSRs

If you are using MS-DOS 6.2x, try temporarily removing specific drivers or TSRs from loading via the CONFIG.SYS and AUTOEXEC.BAT (and *.BAT files called from the AUTOEXEC.BAT), and then attempt to reproduce the problem. To prevent specific drivers from loading, restart your computer, and then press F8 when you see the "Starting Windows 95" message. Choose Step-By-Step Confirmation.

If you are using MS-DOS 6.0, choose Step-By-Step Confirmation to temporarily remove specific drivers or TSRs from the CONFIG.SYS. You can also choose to not run AUTOEXEC.BAT, but you cannot interactively disable specific drivers.

If you are using MS-DOS 5.0, or have determined which driver is producing the error, edit CONFIG.SYS and AUTOEXEC.BAT, remove or remark out all unnecessary drivers or TSRs, and then try again.

This project was created by:

Brian Boston

Denise Wynn

and built by:

Travis Barth

Geoff Gray

Matthew Metcalf

Doug Lance Sheresh

Brian Boston

Becky Lawson

Larry Morando

Steve Taylor

Martina Crimps

Scott Graff

Mitch Rundle

Denise Wynn

Required System Drivers

Do not remove or bypass the following drivers during the "Step by Step confirmation" menu option or while editing the CONFIG.SYS or AUTOEXEC.BAT.

Hard disk drivers

SQY55.SYS	SSTBIO.SYS	SSTDRIE.SYS
AH1544.SYS	ILM386.SYS	ASPI4DOS.SYS
SCSIHA.SYS	SCSIDSK.EXE	SKYDRVI.SYS
ATDOSXL.SYS	NONSTD.SYS	

Partition drivers

DMDRVR.BIN	SSTOR.SYS	HARDRIVE.SYS
EVDR.SYS	FIXT_DRV.SYS	LDRIVE.SYS
ENHDISK.SYS		

Compression drivers


STACKER.COM	SSWAP.COM	SSTOR.EXE
DEVSWAP.COM	DBLSPACE.BIN	DRVSPACE.BIN

Device Configuration Tools

The following diagnostic tools may help you learn more about your computer and troubleshoot problems:


Microsoft Diagnostics

This MS-DOS utility shipped with versions of Windows 3.1, Windows for Workgroups, and MS-DOS 6.x. If MSD.EXE is available in your MS-DOS path, you can start it by clicking the following button.

 [Microsoft Diagnostics](#)


Microsoft System Information

This Windows utility shipped with versions of many Microsoft products. If MSINFO.EXE is available in your MS-DOS path, you can start it by clicking the following button.

 [Microsoft System Information](#)


Windows 95 Device Manager


The Device Manager component in Windows 95 enables you to view device configuration information, as well as change that information. It should be used with caution. If you are viewing this topic in Windows 95, you can start Device Manager by clicking the following button. Otherwise, double-click the System icon in Control Panel, and then click the Device Manager tab.

 [Windows 95 Device Manager](#)

How to Use the Care Package Troubleshooters

You can use the Care Package troubleshooters in two ways:

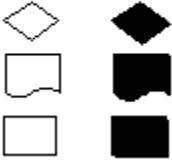
 Click the appropriate answer to the question. As you move through the troubleshooter, your position is tracked on the Guide Map.

 Select an object on the Guide Map to jump a specific position in the troubleshooter.

The Key displays a legend for each object in the Guide Map.

Troubleshooting Guide Map Key

Inactive **Active**



Question or Decision Point

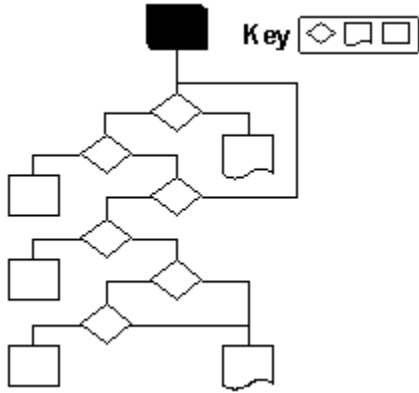
Refer to third-party or another troubleshooter.

Start or end Point in the troubleshooter.

Troubleshooting If Windows 95 Setup Fails

This troubleshooter helps you continue installing if Windows 95 Setup fails. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

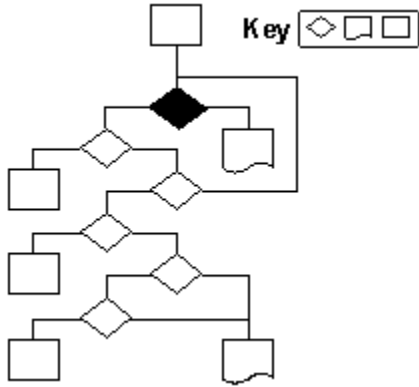
 [Click here to continue.](#)



Troubleshooting If Windows 95 Setup Fails

Did you see any error messages when Setup failed?

- Yes.
- No.
-

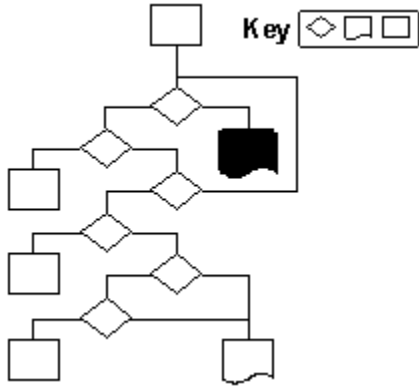


Troubleshooting If Windows 95 Setup Fails

To see a list of Setup-specific errors, look under "Error Messages" in the Setup book in the Help Index. Do you want to return to the beginning of this troubleshooter?

? Yes.

? No, close the Care Package.



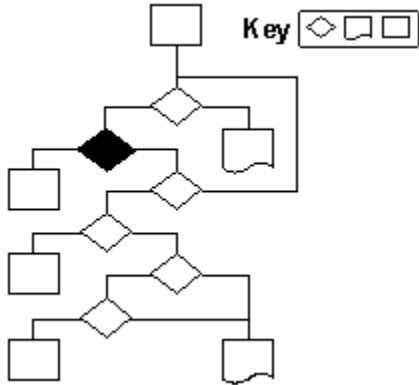
Troubleshooting If Windows 95 Setup Fails

Restart Setup, and then choose Smart Recovery when prompted.

Was Windows 95 set up successfully?

Yes.

No.



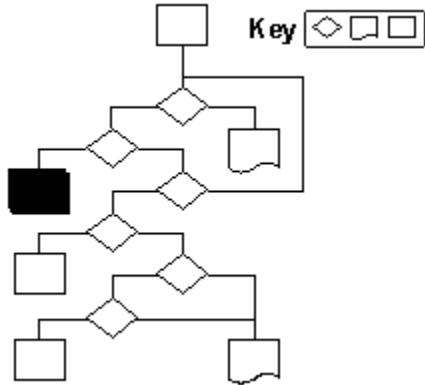
Troubleshooting If Windows 95 Setup Fails

The problem has been resolved.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.

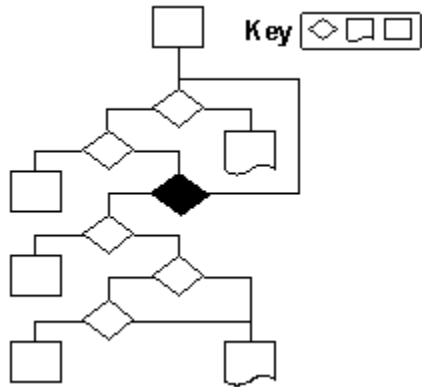


Troubleshooting If Windows 95 Setup Fails

Does Setup fail at exactly the same place each time?

? Yes.

? No.



This project was created by:

Brian Boston

Denise Wynn

and built by:

Travis Barth Brian Boston Martina Crimps

Geoff Gray Becky Lawson Scott Graff

Matthew Metcalf Larry Morando Mitch Rundle

Doug Lance Sheresh Steve Taylor Denise Wynn

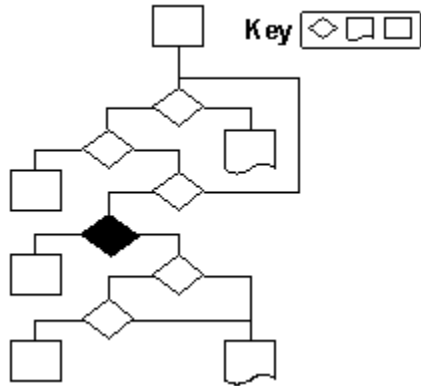
Troubleshooting If Windows 95 Setup Fails

Try starting your computer with minimal CONFIG.SYS and AUTOEXEC.BAT files by remarking out all lines that are not absolutely necessary (preceding the line by REM or a semicolon). Necessary drivers include, but are not limited to, SCSI drivers for the hard disk, third-party disk compression drivers, and HIMEM.SYS (if you are running Setup from within Windows).

Was Windows 95 set up successfully?

? Yes.

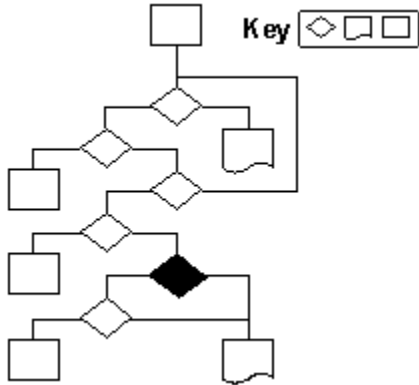
? No.



Troubleshooting If Windows 95 Setup Fails

Did you run Setup from within Windows or Windows for Workgroups version 3.1x?

- Yes.
- No.
-



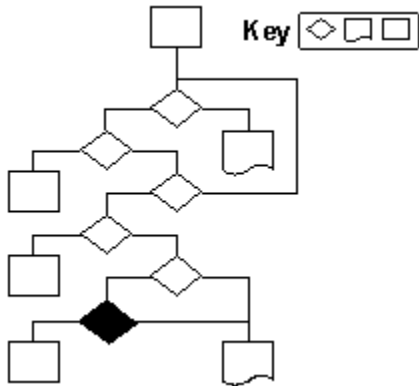
Troubleshooting If Windows 95 Setup Fails

Try running Windows with minimal .INI files; for example, set display= to VGA, and make sure there are no entries for the Load= and Run= lines of the WIN.INI file.

Was Windows 95 set up successfully?

? Yes.

? No.



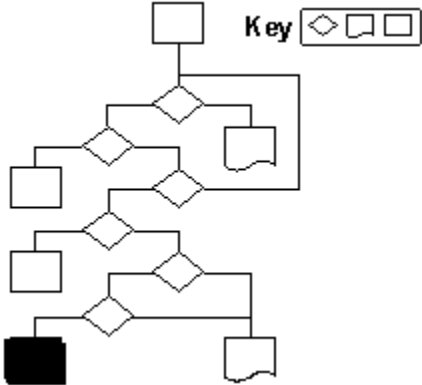
Troubleshooting If Windows 95 Setup Fails

The problem has been resolved.

Do you want to return to the beginning of this troubleshooter?

? Yes.

? No, close the Care Package.



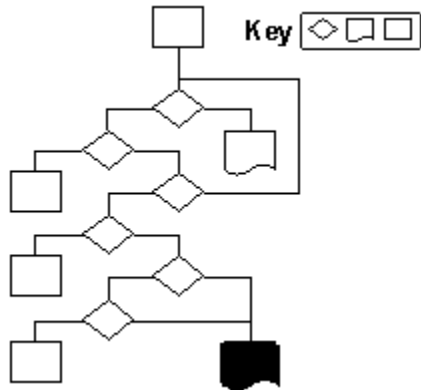
Troubleshooting If Windows 95 Setup Fails

Make sure the computer is capable of running Windows 95. See the document: "Windows 95 Hardware Compatibility List." Disable ROM BIOS shadowing, and check the BIOS date.

Do you want to return to the beginning of this troubleshooter?


Yes.

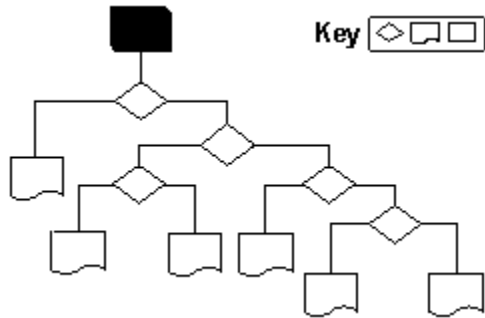
No, close the Care Package.



Troubleshooting Safe-Mode Startup

This troubleshooter helps you fix problems when you start your computer in Safe Mode. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

 [Click here to continue.](#)



Troubleshooting Safe-Mode Startup

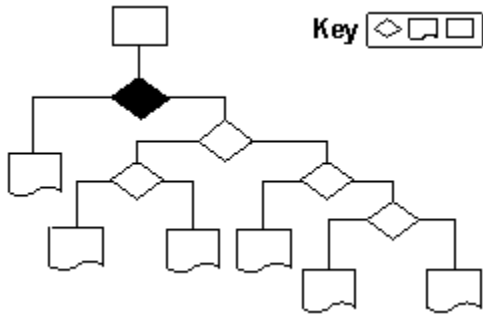
To restart your computer in Safe Mode

- 1 Print this topic, click the Start menu, and then click Shut Down.
- 2 Click Restart The Computer, and then click Yes.
- 3 Press F5 when the "Starting Windows 95" message appears on your screen.
- 4 Return to the troubleshooter.

Did your computer start in Safe Mode?

? Yes.

? No.



Troubleshooting Safe-Mode Startup

After you start your computer in Safe-Mode, you can try some of the following steps to fix the problems that were preventing your computer from working properly:

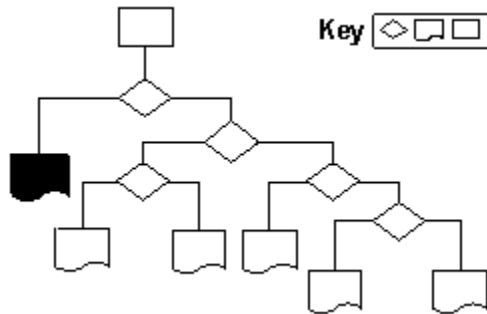
? In Control Panel, reconfigure system devices and drivers as necessary. If your computer is on a network, check the network configuration.

? Use WIN /D: switches to isolate the problem.

Do you want to return to the beginning of this troubleshooter?

? Yes.

? No, close the Care Package.



Troubleshooting Safe-Mode Startup

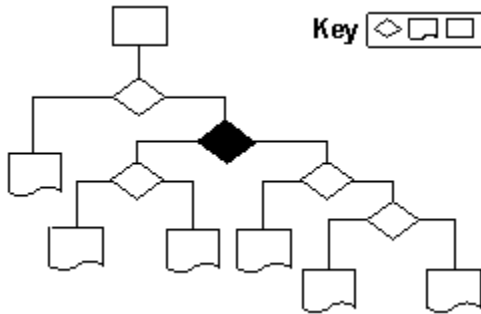
To bypass your startup files and restart your computer at the command prompt

- 1 Click the Start menu, and then click Shut Down.
- 2 Click Restart The Computer, and then click Yes.
- 3 Press SHIFT+F5 when the "Starting Windows 95" message appears on your screen.

Did the computer start at the command prompt and display the message "Windows is bypassing your startup files"?

? Yes.

? No.



Troubleshooting Safe-Mode Startup

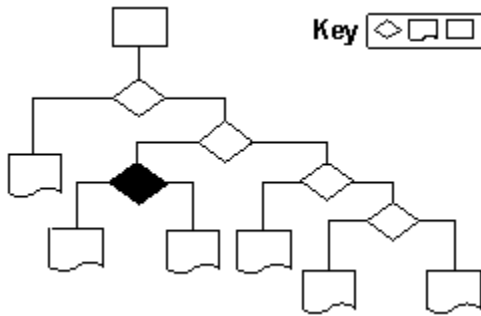
To load your CONFIG.SYS and AUTOEXEC.BAT files one line at a time so you can check how drivers are loading

- 1 Print this topic, click the Start menu, and then click Shut Down.
- 2 Click Restart The Computer, and then click Yes.
- 3 Press SHIFT+F8 when the "Starting Windows 95" message appears on your screen.
- 4 Review each of your CONFIG.SYS and AUTOEXEC.BAT files as they are loaded.
- 5 Return to the troubleshooter.

Did you see any error messages?

Yes.

No.



Troubleshooting Safe-Mode Startup

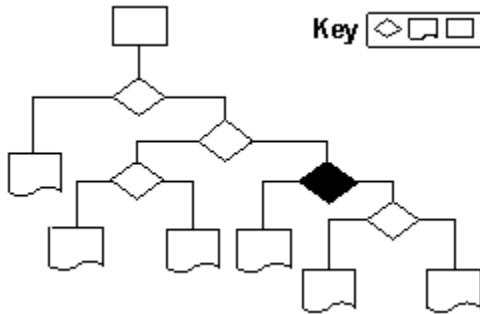
To restart your computer at the command prompt

- 1 Print this topic, click the Start menu, and then click Shut Down.
- 2 Click Restart The Computer, and then click Yes.
- 3 Press CTRL+F5 when the "Starting Windows 95" message appears on your screen.
- 4 Return to the troubleshooter.

Did the computer start at a command prompt?

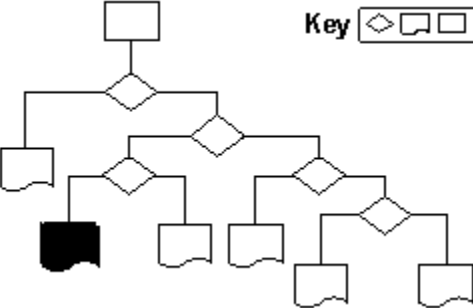
Yes.

No.



Troubleshooting Safe-Mode Startup

You have encountered errors that are specific to your computer.
Try looking under "Error Messages" in the Startup book in the Help Contents.



Troubleshooting Safe-Mode Startup

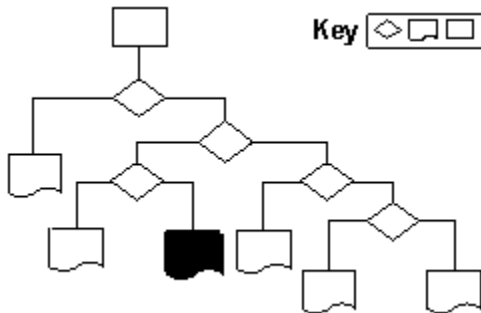
To use WIN /D switches to isolate the problem

- 1 Print this topic, click the Start menu, and then click Shut Down.
- 2 Click Restart The Computer, and then click Yes.
- 3 Press SHIFT+F5 when the "Starting Windows 95" message appears on your screen.
- 4 Use WIN /D: switches to isolate the problem or check device configuration by running MSD at the command prompt.
- 5 Return to the troubleshooter.

Do you want to return to the beginning of this troubleshooter?




? Yes.

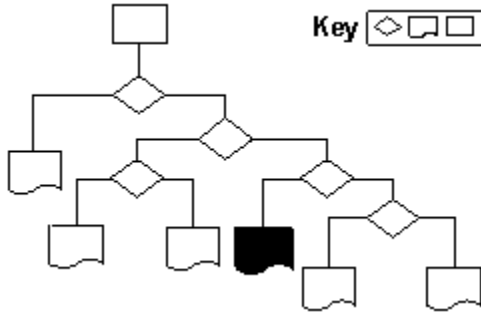
? No, close the Care Package.



Troubleshooting Safe-Mode Startup


If you disabled the DoubleSpace or DriveSpace compression driver and your computer started properly, try the following steps:

-  Check your compression driver (DBLSPACE.BIN or DRVSPACE.BIN). If necessary, replace it.
 -  Verify the existence of a valid DBLSPACE.INI or DRVSPACE.INI file on the host drive.
 -  [Click here for information about replacing the Windows 95 operating system.](#)
-



Troubleshooting Safe-Mode Startup

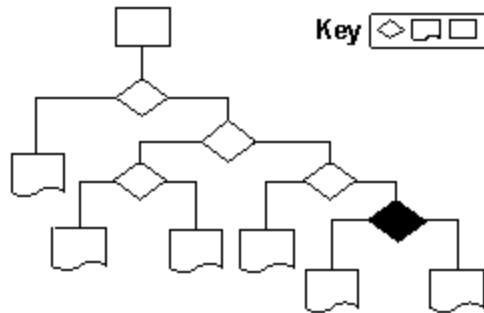
To start your computer from a startup disk

 Insert the Windows 95 startup disk or CD, and then restart your computer.

Did your computer start?

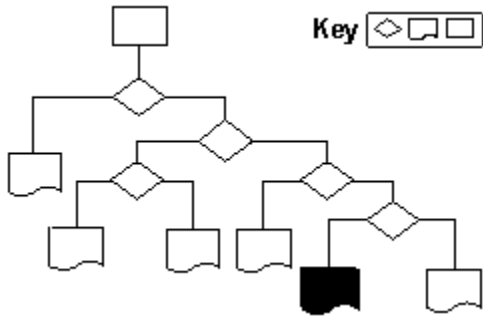
 Yes.

 No.



Troubleshooting Safe-Mode Startup

[?](#) [Click here for information about replacing the Windows 95 operating system.](#)



Troubleshooting Safe-Mode Startup

To resolve some common hardware conflicts, try carrying out the following steps:

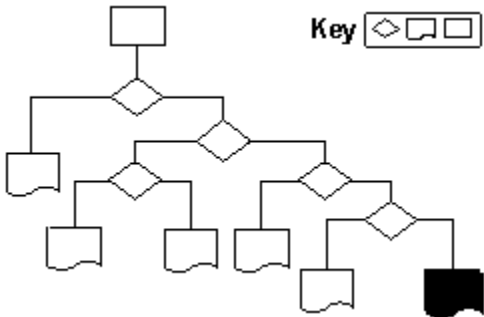
- ? Check the BIOS settings and verify that all boot devices (hard disk, floppy disk) are correctly specified and enabled. For more information, please refer to your manufacturer's documentation.
- ? Check for UMB address conflicts between ROM options and installed devices. For more information, please refer to your manufacturer's documentation.

Note

- ? For Phoenix computers, press CTRL+ALT+S or CTRL+ALT+ESC at startup.
For DELL computers, press CTRL+ALT+ENTER at startup.
For AMI computers, press the DEL key at startup.


Do you want to return to the beginning of this troubleshooter?

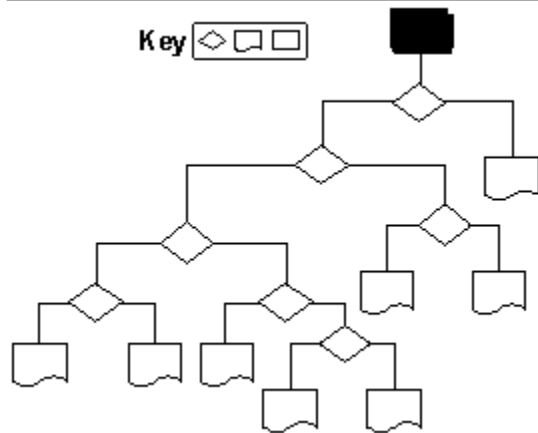
- ? Yes.
- ? No.



Troubleshooting Booting to the Previous Operating System

This troubleshooter helps you boot to your previous operating system if Windows 95 is not working properly. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

 [Click here to continue.](#)



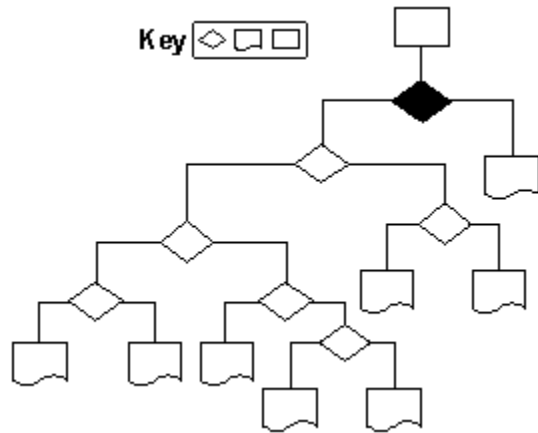
Troubleshooting Booting to the Previous Operating System

- 1 Print this topic.
- 2 Shut down and restart Windows. When you see the message "Starting Windows 95," press F8.
- 3 Choose the Previous Operating System option.

If your previous operating system was MS-DOS 6.2x, do you see the "Starting MS-DOS" prompt?

? Yes. (If you are using a version of MS-DOS earlier than 6.2x, click this option.)

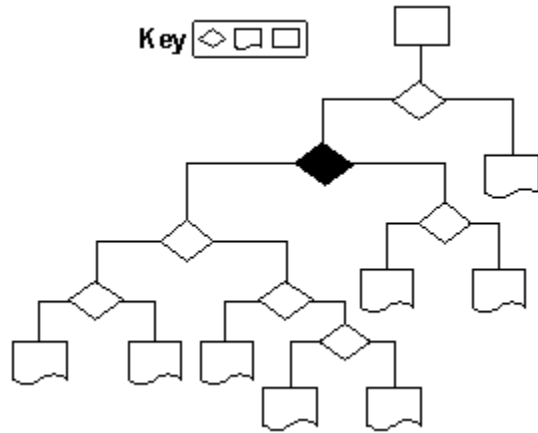
? No.



Troubleshooting Booting to the Previous Operating System

Are you using DoubleSpace or DriveSpace?

- Yes.
- No.
-




Troubleshooting Booting to the Previous Operating System

Try carrying out the following steps, and then restart your computer.


- 1 Insert a startup disk from your previous version of MS-DOS, and then restart the computer.
- 2 Check the partition by running FDisk and selecting option 4.
- 3 Check the system files, and replace them if necessary. To replace the system files, insert your startup disk into the startup drive, change to your startup disk, and then type **sys c:** at the command prompt.

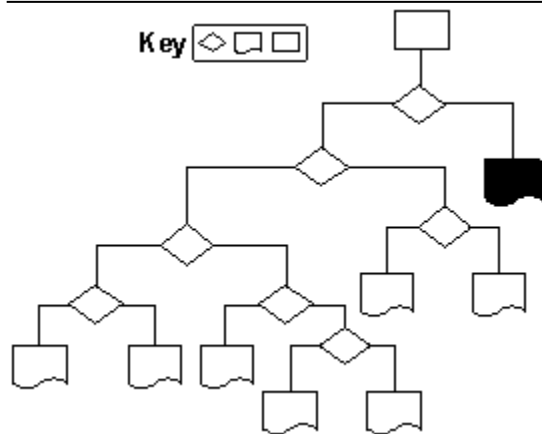
Note

 If you use **sys c:** to replace your previous system files, to return to Windows 95 you will need to **sys c:** the drive using the Windows 95 Startup Disk you created during Setup.

Do you want to return to the beginning of this troubleshooter?

 Yes.

 No, close the Care Package.

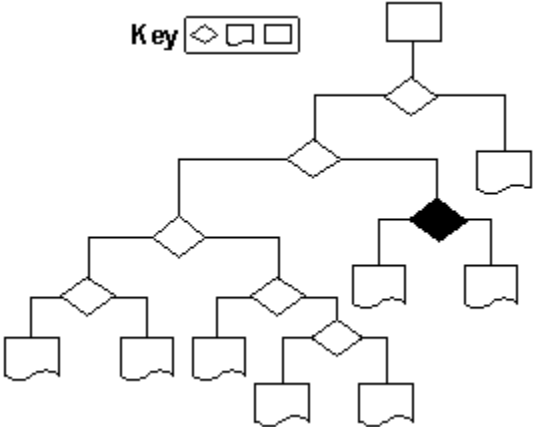


Troubleshooting Booting to the Previous Operating System

Does the operating system start?

Yes.

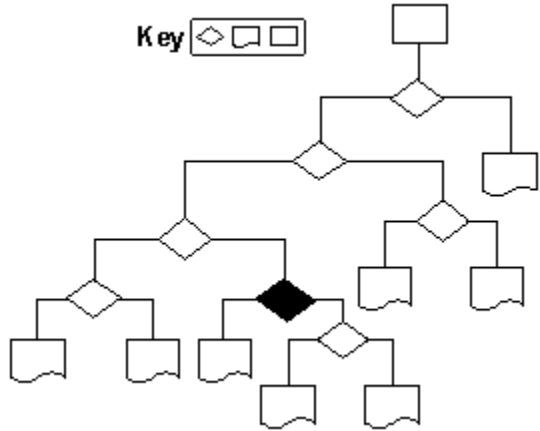
No.



Troubleshooting Booting to the Previous Operating System

Do you get an Invalid COMMAND.COM error when you startup your computer?

- Yes.
- No.



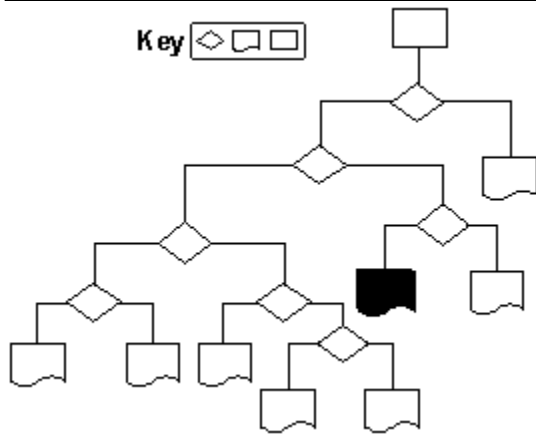
Troubleshooting Booting to the Previous Operating System

Check the following:

- Specifically where in the process is the failure occurring?
- Are there any error messages?
- Are there any visible effects on the screen?
- Are any functional effects discernible?

Do you want to return to the beginning of this troubleshooter?


- Yes.
- No, close the Care Package.



Troubleshooting Booting to the Previous Operating System


- 1 Insert a system disk from your previous version of MS-DOS, and restart the computer.
- 2 Try running MS-DOS clean boot (press F5) or Step-by-Step Confirmation (press SHIFT+F8) at the "Starting MS-DOS" prompt.
- 3 Check the partition by running FDisk, and selecting option 4.
- 4 Check the system files, and replace them if necessary. To replace the system files, insert your startup disk into the startup drive, change to the startup drive, and then type **sys c:** at the command prompt.

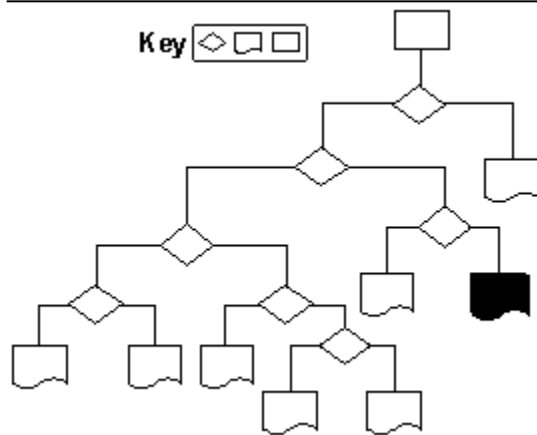
Note

 If you use **sys c:** to replace you previous system files, to return to Windows 95 you will need to **sys c:** the drive using the Windows 95 Startup Disk you created during Setup.

Do you want to return to the beginning of this troubleshooter?

 Yes.

 No, close the Care Package.



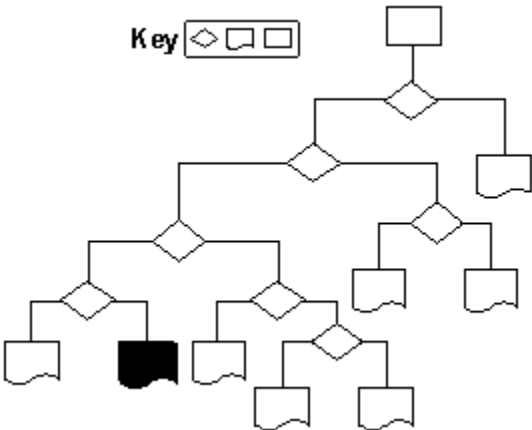
Troubleshooting Booting to the Previous Operating System

Refine the issue:

- ? Specifically where in the process is it failing?
- ? Are there any error messages?
- ? Are there any visible effects on the screen?
- ? Are there any functional effects discernible?

Do you want to return to the beginning of this troubleshooter?

- ? Yes.
- ? No, close the Care Package.

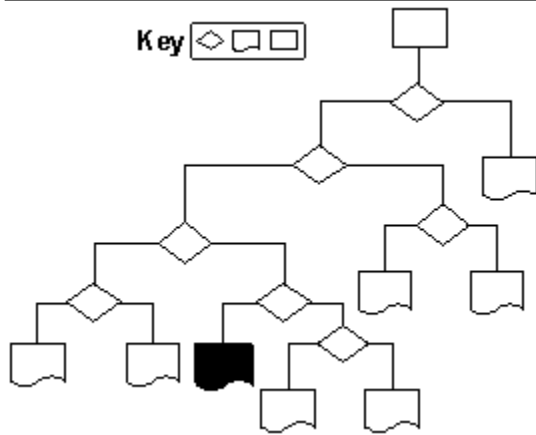


Troubleshooting Booting to the Previous Operating System

- 1 Check the SHELL= line in the CONFIG.SYS file to verify that the path specified is valid.
- 2 Copy COMMAND.COM from the MS-DOS Setup Disk #1 to the host drive, and then restart your computer.

Do you want to return to the beginning of this troubleshooter?

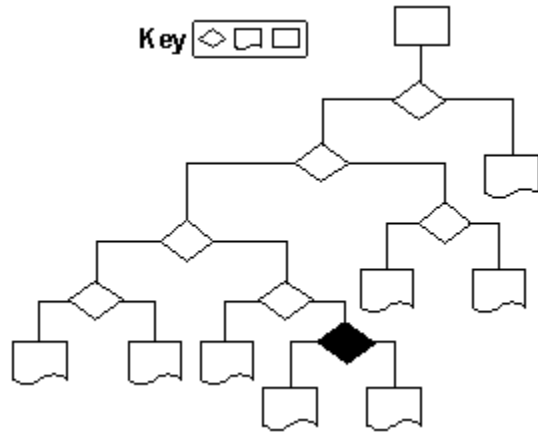
- Yes.
- No, close the Care Package.
-



Troubleshooting Booting to the Previous Operating System

Does this occur when you use press F5 to start your computer in MS-DOS mode?

- Yes.
 - No.
-



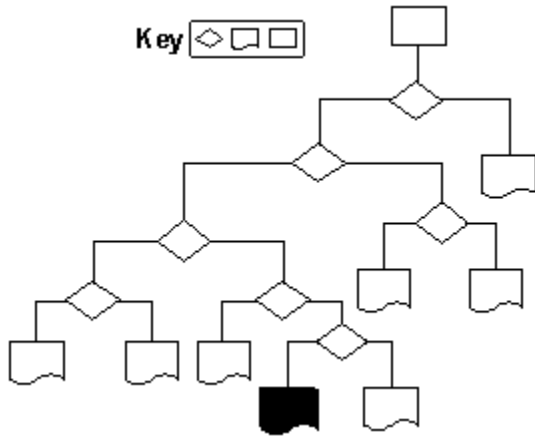
Troubleshooting Booting to the Previous Operating System

You cannot connect to a node on the network.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.



Troubleshooting Booting to the Previous Operating System

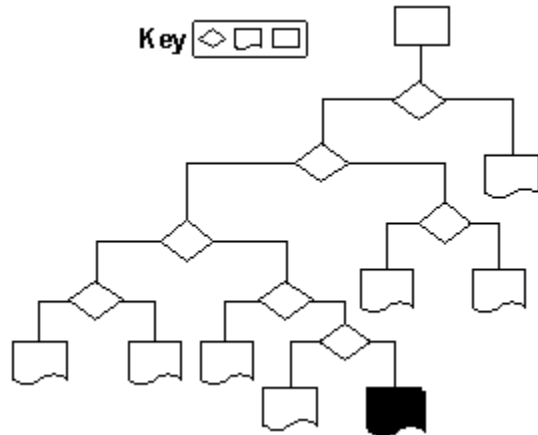
Use F8 Interactive Start to check the configuration files.

Using a text editor, edit entries of the CONFIG.SYS and AUTOEXEC.BAT files for the drivers or TSRs which are being loaded, and remark out (by preceding the command with REM or a semicolon) any unnecessary or problematic drivers or TSRs.

Do you want to return to the beginning of this troubleshooter?


? Yes.

? No, close the Care Package.




/b SYS'ing the boot drive

To replace or reinstall the real-mode system files to drive C


 Boot from the startup disk you made during Windows 95 Setup. Run SYS C: from the Startup Disk. This will copy IO.SYS, MSDOS.SYS, and COMMAND.COM to C: (and if you have with MS-DOS 6.2x, DrvSpace.BIN will also be copied), and will rewrite the boot sector.

Note

 If you are using compression (for example, DriveSpace or DoubleSpace) you will need to SYS the host drive, which may not be C.


Do you want to return to the beginning of this troubleshooter?

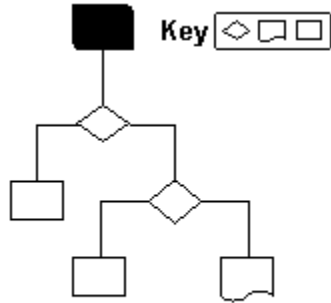
 Yes.

 No, close the Care Package.

Troubleshooting Replacing the Windows 95 Operating System

This troubleshooter helps you replace operating-system files if Windows 95 is not working properly. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

 [Click here to continue.](#)



Troubleshooting Replacing the Windows 95 Operating System

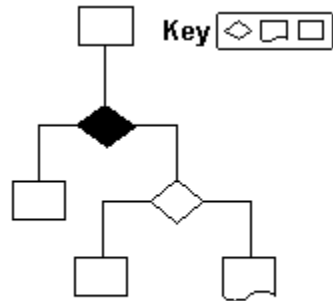
To replace the real-mode operating-system files

- 1 Insert your Windows 95 startup disk into your startup drive, and then restart your computer.
- 2 Change to your startup drive, and then type **sys c:** at the command prompt.
- 3 Remove the startup disk, and then restart your computer..

Did Windows 95 start properly?

? Yes.

? No.



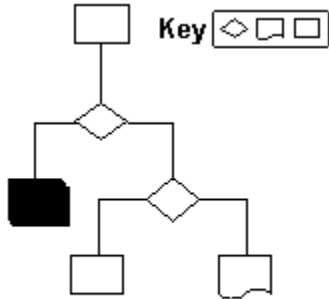
Troubleshooting Replacing the Windows 95 Operating System

The problem has been resolved.

Do you want to return to the beginning of this troubleshooter?


Yes.

No, close the Care Package.



Troubleshooting Replacing the Windows 95 Operating System

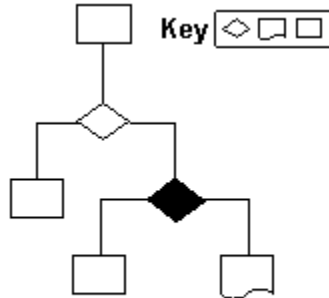
If Windows 95 still won't start, you may need to replace or repair real-mode operating-system files or data structures on the hard disk.

 Open the topic "[Replacing the Windows 95 Real-Mode Operating-System Files and Data Structures](#)," and follow its procedures. If your computer still doesn't start properly, return to this troubleshooter and click Back until you see this topic, and then continue answering questions.

Does the computer now start up properly?

 Yes.

 No.



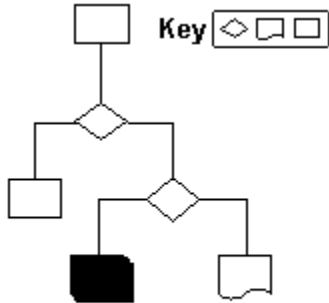
Troubleshooting Replacing the Windows 95 Operating System

The problem has been resolved.

Do you want to return to the beginning of this troubleshooter?


Yes.

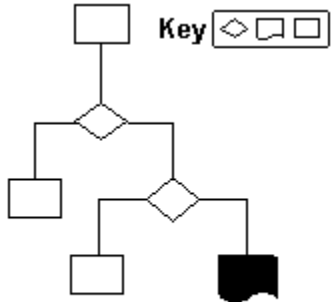
No, close the Care Package.



Troubleshooting Replacing the Windows 95 Operating System

If Windows 95 still won't start, try booting to a previous operating system:

 [Click here to start the Troubleshooting Booting to a Previous Operating System troubleshooter.](#)



Replacing the Windows 95 Real-Mode Operating-System Files and Data Structures

Windows 95 uses the same names for the real-mode operating-system files as MS-DOS does: IO.SYS, MSDOS.SYS, and COMMAND.COM. To support booting to a previous version of MS-DOS, these files are renamed with a .DOS filename extension when your computer boots to Windows 95.

If the IO.SYS file is missing

If IO.SYS is missing, the computer will lock up before the "Starting Windows 95" message would have appeared on your screen. The following error message is displayed:

Invalid System Disk

Replace the disk, and then press any key.

You will need a bootable Windows 95 disk (such as the startup disk you created during Setup) to restart the computer. You will then need to reinstall the real-mode operating-system files to drive C as described below.

If the MSDOS.SYS file is missing

If only MSDOS.SYS is missing, no error message is displayed. Windows 95 will rename the MSDOS.W40 file if it exists. The MSDOS.SYS file is not required by Windows 95 and (other than renaming the .W40) will be ignored if it is missing.

If the COMMAND.COM file is missing

You should replace COMMAND.COM in the root directory of your startup drive (usually drive C). You can copy it from the startup disk you created during Windows 95 Setup, if available.

To copy COMMAND.COM




Insert the startup disk into drive A, and then at the command prompt type:
copy a:command.com c:

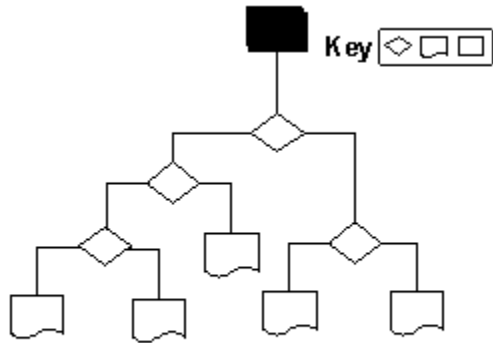
To replace or reinstall the real-mode operating-system files to drive C

- 1 Shut down your computer.
- 2 Insert the startup disk made during Windows 95 Setup in your startup disk drive.
- 3 Change to your startup drive, and then type **sys c:** at the command prompt. This will copy IO.SYS, MSDOS.SYS, and COMMAND.COM to the C drive and will rewrite the boot sector.

Troubleshooting When Windows 95 Does Not Start

This troubleshooter helps you fix problems when Windows 95 does not start. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

 [Click here to continue.](#)

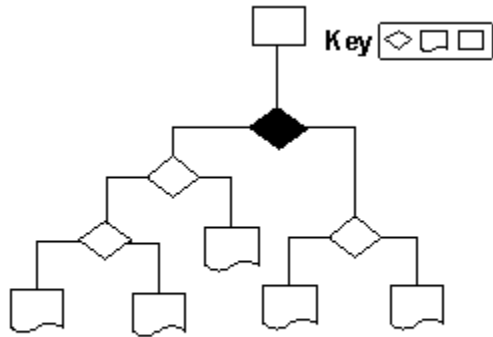


Troubleshooting When Windows 95 Does Not Start

Do you see the "Starting Windows 95" prompt?

Yes.

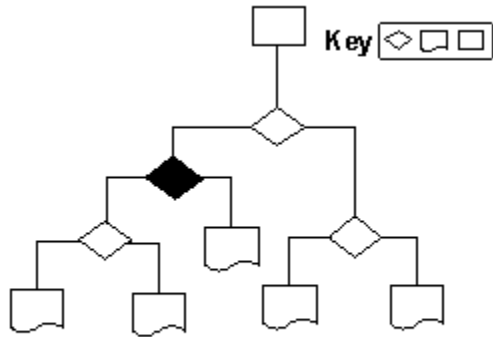
No.



Troubleshooting When Windows 95 Does Not Start

Do you see the Windows 95 startup screen?

- Yes.
 - No.
-



Troubleshooting When Windows 95 Does Not Start

Do you receive one of the following error messages at startup?

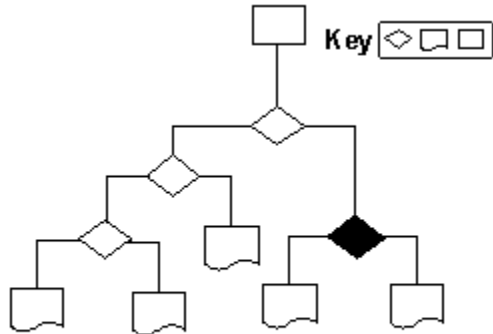
Invalid System Disk

or

NO ROM BASIC - SYSTEM HALTED

Yes.

No.



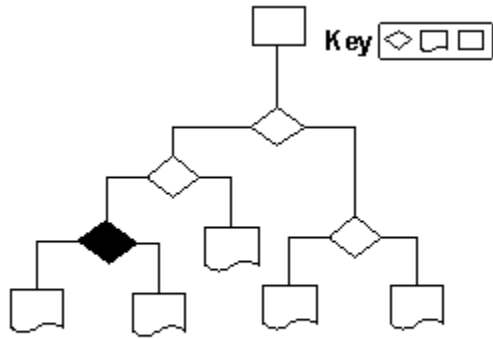
Troubleshooting When Windows 95 Does Not Start

When you see the Windows startup screen, press ESC.

Did you see any errors ?

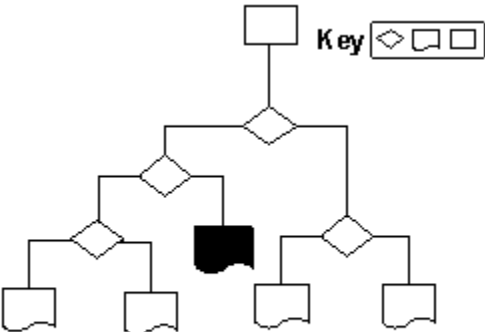
Yes.

No.



Troubleshooting When Windows 95 Does Not Start

[?](#) Click here to start the Safe-Mode Startup troubleshooter.



Troubleshooting When Windows 95 Does Not Start

If the IO.SYS file is missing, the computer locks up before the "Starting Windows 95" message appears, and the following message is displayed:

Invalid System Disk

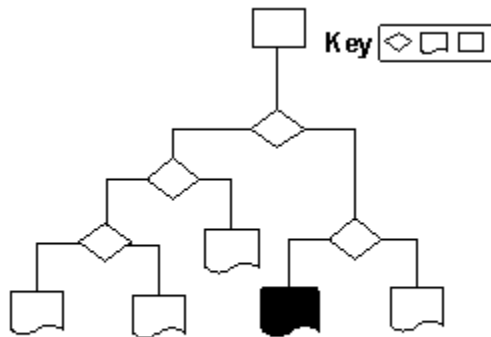
Replace the disk, and then press any key.

A bootable Windows 95 disk (such as the startup disk you created during Setup or by using the `SYS` command) will be required to start the computer. You will then need to reinstall the real-mode operating system.

Do you want to return to the beginning of this troubleshooter?

? Yes.

? No.



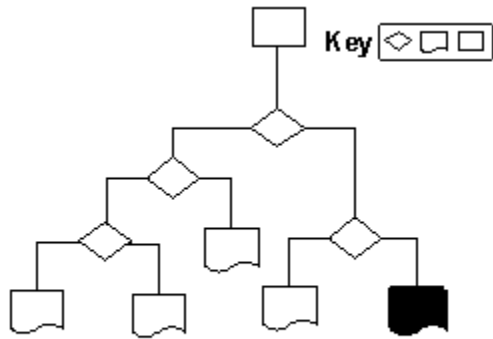
Troubleshooting When Windows 95 Does Not Start

If you do not have any kind of video I/O (graphics or text on the screen), you are most likely experiencing a video problem. Make sure that your connections are good and that your monitor is turned on.

Do you want to return to the beginning of this troubleshooter?

Yes.

No.



This project was created by: Brian Boston

Denise Wynn

and built by:

Travis Barth

Brian Boston

Martina Crimps

Geoff Gray

Becky Lawson

Scott Graff

Matthew Metcalf

Larry Morando

Mitch Rundle

Doug Lance Sheresh


Steve Taylor

Denise Wynn

Troubleshooting When Windows 95 Does Not Start

You may need to reconfigure system devices or drivers. To load your CONFIG.SYS and AUTOEXEC.BAT files one line at a time, use Interactive Start.

To use Interactive Start:

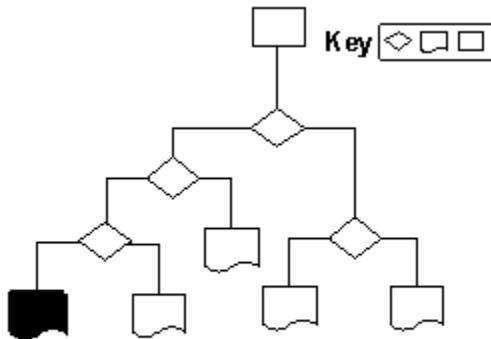
 At system startup, press F8.

If you can start Windows 95 at all, use Control Panel to check that devices and networks are configured properly. You can use WIN /D: switches to isolate the problem. For more information, see [WIN.COM Switches](#).

Do you want to return to the beginning of this troubleshooter?

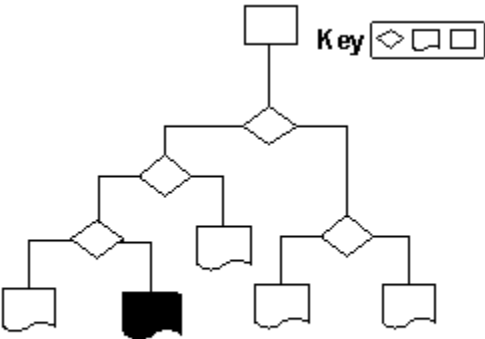
 Yes.

 No.




Troubleshooting When Windows 95 System Does Not Start

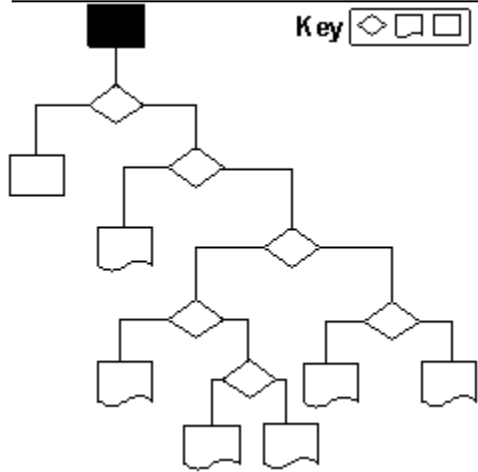
[?](#) [Click here to start the Safe-Mode Startup troubleshooter](#)



Network Troubleshooting Steps

This troubleshooter helps you if there is a problem with the network. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

 [Click here to continue.](#)

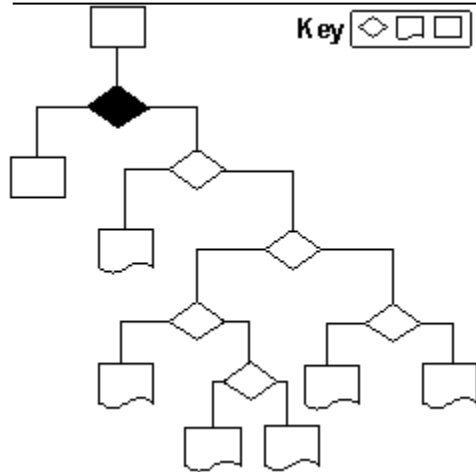


Network Troubleshooting Steps

Can you see the computer in the Network Neighborhood?

? Yes.

? No.



Network Troubleshooting Steps

Unless the computer you are attempting to browse is on one of the networks listed below, make sure that shares have been set up for that computer.

Networks not typically listed in the Network Neighborhood include: LANtastic, Banyan VINES, Beame and Whiteside NFS, DEC Pathworks (before version 5), PC-NFS, TCS 10NET, or Mainframe Connectivity. If a 16-bit network provider does not provide a browsing scheme, it will not appear in the Network Neighborhood. For more information on third-party networks, see [Windows 95 on Other Networks: The Basics](#).

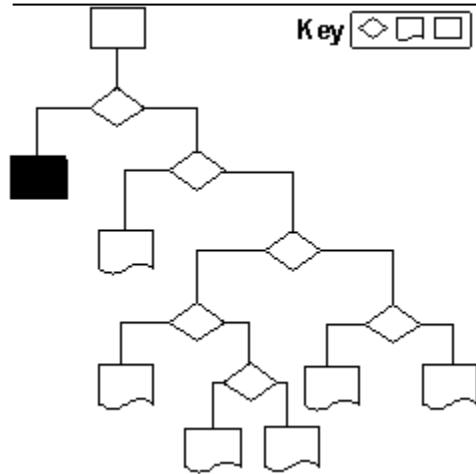
Do you want to return to the beginning of this troubleshooter?



Yes.



No, close the Care Package.



This project was created by:

Brian Boston

Denise Wynn

and built by:

Travis Barth Brian Boston Martina Crimps

Geoff Gray Becky Lawson Scott Graff

Matthew Metcalf Larry Morando Mitch Rundle

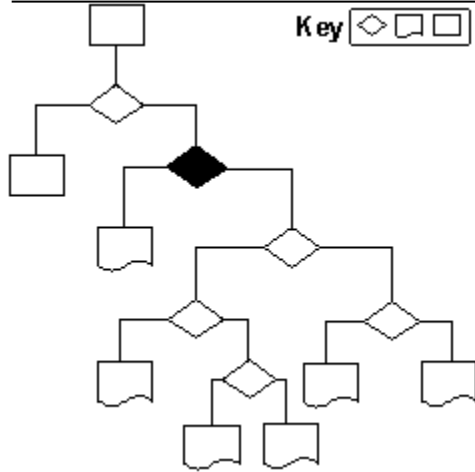
Doug Lance Sheresh Steve Taylor Denise Wynn

Network Troubleshooting Steps

Can you map a drive to the network computer?

Yes.

No.



Network Troubleshooting Steps

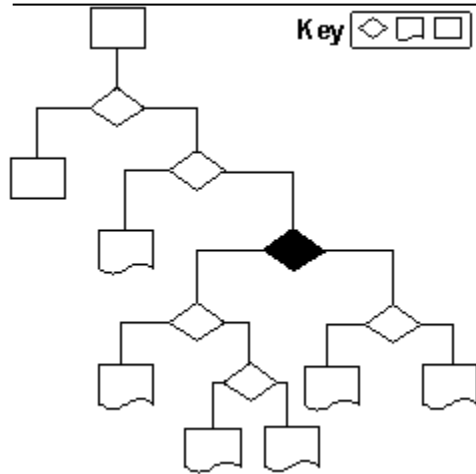
Can you start Windows in safe mode with network support?

- 1 Print this topic, and then restart your computer.
- 2 When you see the message "Starting Windows 95," press F8.
- 3 Choose Safe Mode With Network Support.
- 4 Return to the troubleshooter.

Did this work?

? Yes.

? No.



Network Troubleshooting Steps

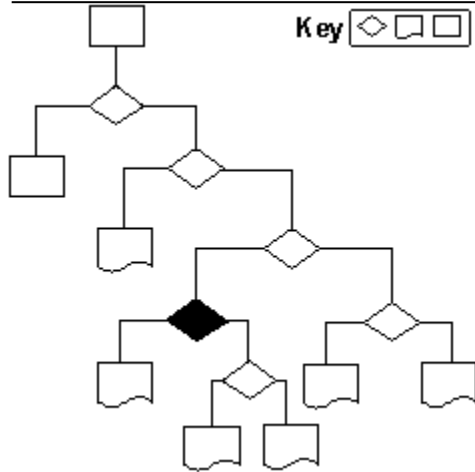
Make sure you have these network items:

- Client for Microsoft Networks
- NetBEUI protocol
- A network adapter
- File and Print Sharing

If you make any changes, restart your computer, and return to this troubleshooter.

Can you see the network now?

- Yes.
- No.



Network Troubleshooting Steps

This appears to be an issue with the NIC driver.

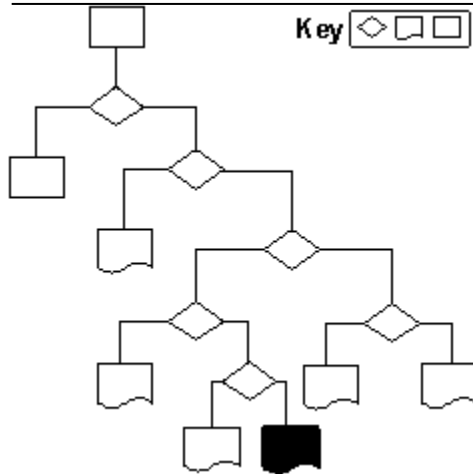
Check the driver properties

- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon.
- 3 Click the NIC driver, click Properties, and make sure its configuration is correct.
- 4 If you make any changes, restart your computer, and return to this troubleshooter.

Do you want to return to the beginning of this troubleshooter?

? Yes.

? No, close the Care Package.



Network Troubleshooting Steps

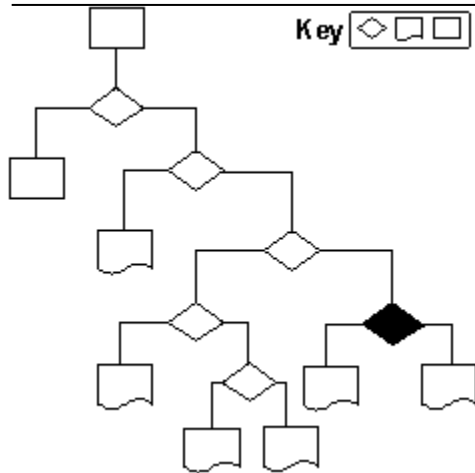
Can you run Net Diag?

- 1 Print this topic, and then restart your computer.
- 2 When you see the message "Starting Windows 95," press F8.
- 3 Choose Command Prompt Only.
- 4 At the command prompt, type **net diag**
- 5 Restart Windows, and return to this troubleshooter.

Did Net Diag run successfully?

Yes.

No.



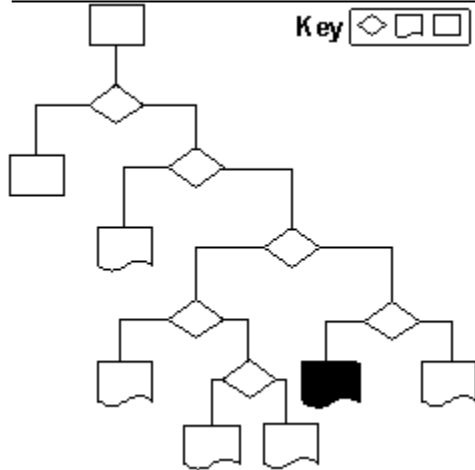
Network Troubleshooting Steps

This appears to be an issue with the logical components of the network. Possibilities include upper memory conflicts.

Do you want to return to the beginning of this troubleshooter?


? Yes.

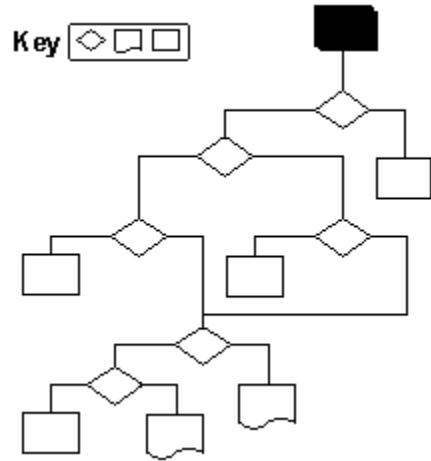
? No, close the Care Package.



Troubleshooting PPP Internet Connections

This troubleshooter helps you if your computer will not connect to the Internet by using PPP. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.



 [Click here to continue.](#)

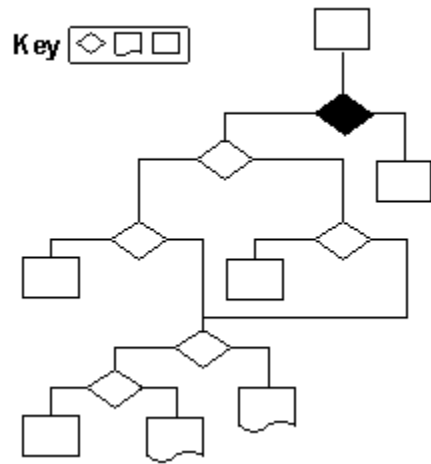


Troubleshooting PPP Internet Connections

Make sure Microsoft TCP/IP protocol is installed.

- 1 Click the Start Button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon, and look in the list to make sure TCP/IP is installed.

-  Yes, TCP/IP is installed.
 -  No, it is not installed.
-



Troubleshooting PPP Internet Connections

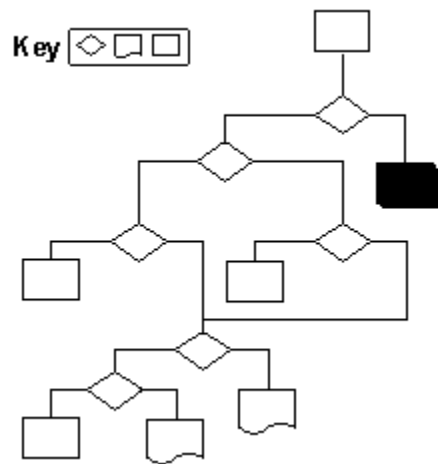
To add TCP/IP protocol

- 1 Click Add, and then click Protocol.
- 2 In the Manufacturers list, click Microsoft, and then in the Protocols list, click TCP/IP. Click OK, and follow the instructions on your screen.
- 3 Click Dial-Up Adapter, and then click Properties.
- 4 On the Binding tab, make sure that the box next to TCP/IP is checked.
- 5 Restart your computer and return to this troubleshooter.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.



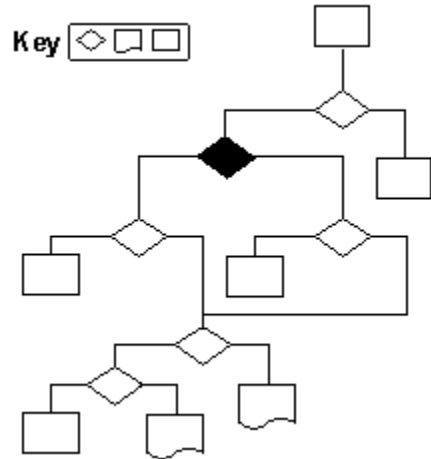
Troubleshooting PPP Internet Connections

Does your Internet provider support CHAP or PAP authentication protocols?

If you do not know the answer, please contact your provider.

Yes, these protocols are supported.

No, these protocols are not supported.



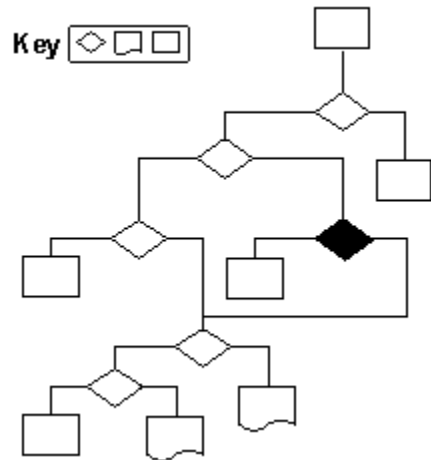
Troubleshooting PPP Internet Connections

Display the terminal window

- 1 Click the Start Button, point to Programs, point to Accessories, click HyperTerminal, and then double-click Hypertrm.
- 2 On the File menu, click Properties, and then click the Settings tab.

Are you now able to connect?

- Yes...
- No.
-



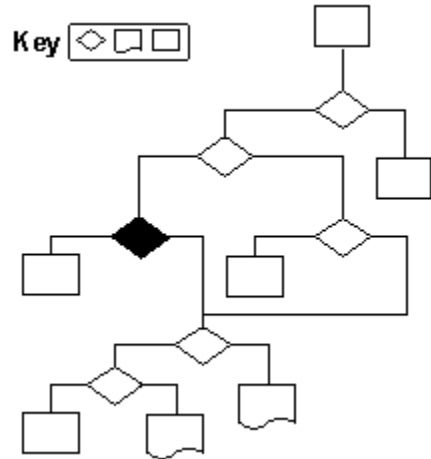
Troubleshooting PPP Internet Connections

Make sure you are using the correct password. (The password is case-sensitive.)

Are you now able to connect?

Yes...

No.



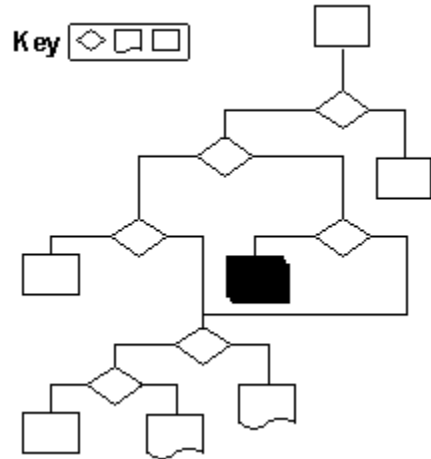
Troubleshooting PPP Internet Connections

The problem has been resolved.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.



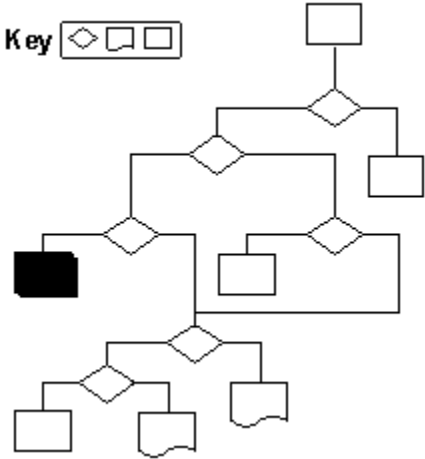
Troubleshooting PPP Internet Connections

The problem has been resolved.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.



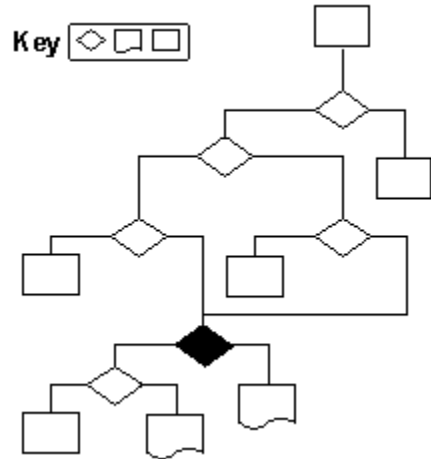
Troubleshooting PPP Internet Connections

Does your Internet provider automatically detect the use of IP header compression ?

If you do not know the answer, please contact your provider.

? Yes, compression is automatically detected.

? No, compression is not automatically detected.



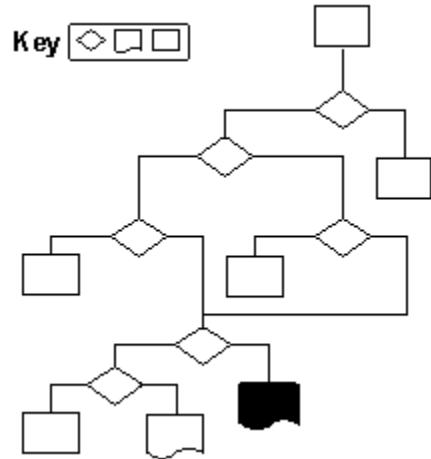
Troubleshooting PPP Internet Connections

Contact your Internet provider.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.



Troubleshooting PPP Internet Connections

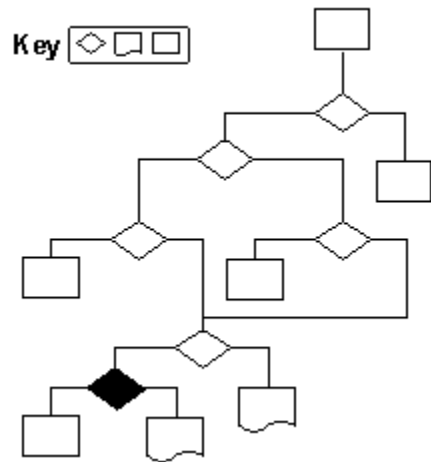
To turn off IP header compression

- 1 Click the Start Button, point to Settings, and then click Control Panel
- 2 Double-click the Network icon.
- 3 Click Dial-Up Adapter, and then click Properties.
- 4 Click the Advanced tab. In the property list, click use IP Header Compression, click in the Value box, and then click No.

Are you now able to connect?

? Yes.

? No.



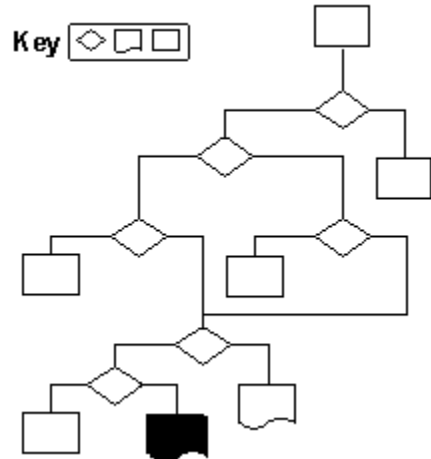
Troubleshooting PPP Internet Connections

Contact your Internet provider.

Do you want to return to the beginning of this troubleshooter?

Yes.

No.



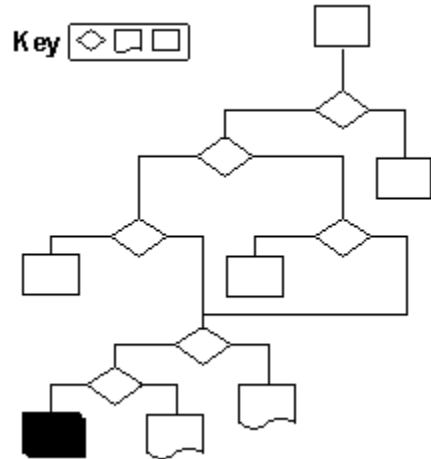
Troubleshooting PPP Internet Connections

The problem has been resolved.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.

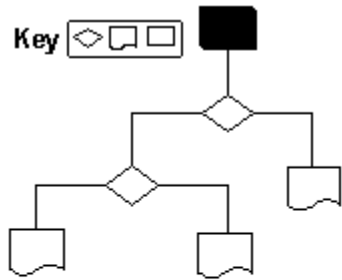


Setting Up Novell NetWare VLM Client in Windows 95

This troubleshooter helps you set up NetWare VLM Client. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

Is a NetWare Client (VLM) installed for Windows 95?

 [Click here to continue.](#)

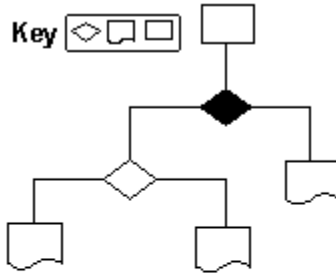


Setting Up Novell NetWare VLM Client in Windows 95

Is Windows 95 installed?

Yes.

No.



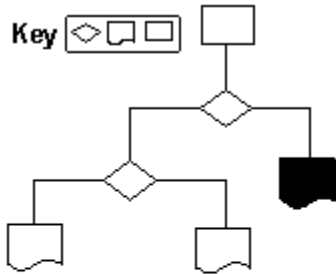
Setting Up Novell NetWare VLM Client in Windows 95

- 1 Install Windows 95.
- 2 Return to this troubleshooter.

Do you want to return to the beginning of this troubleshooter?

? Yes.

? No, close the Care Package.

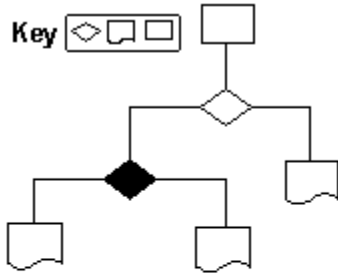


Setting Up Novell NetWare VLM Client in Windows 95

Are NetWare client services already installed?

Yes.

No.



Setting Up Novell NetWare VLM Client in Windows 95

To add the NetWare client services

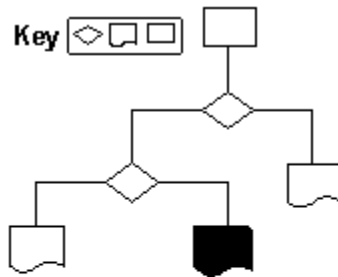
- 1 Click the Start button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon.
- 3 Click Add, click Client, and then click Add.
- 4 In the Manufacturers list, click Microsoft.
- 5 In the Network Clients list, double-click Client for NetWare Networks. Follow the instructions on your screen.
- 6 Click Client for NetWare Networks, and then click Properties.
- 7 Specify your preferred login server in the specified space.

The VLM Client is now installed. You will need to restart your computer.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.



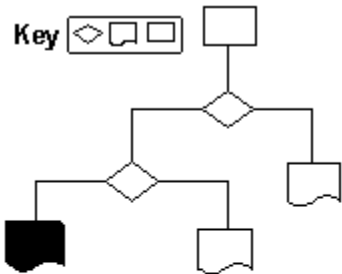
Setting Up Novell NetWare VLM Client in Windows 95

Microsoft client services are already installed.

Do you want to return to the beginning of this troubleshooter?

Yes.


No, close the Care Package.

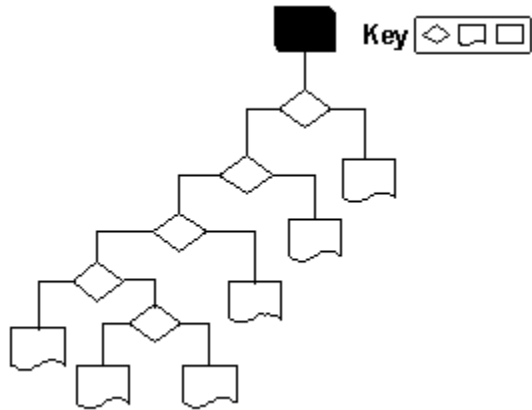


Setting Up Novell NetWare NETX Client in Windows 95

This troubleshooter helps you set up NetWare NETX Client. Just click to answer the questions, and then follow the step-by-step instructions to fix the problem. To move back a step, click Back at the top of each Help window.

Is a NetWare Client installed for Windows 95?

 [Click here to continue.](#)

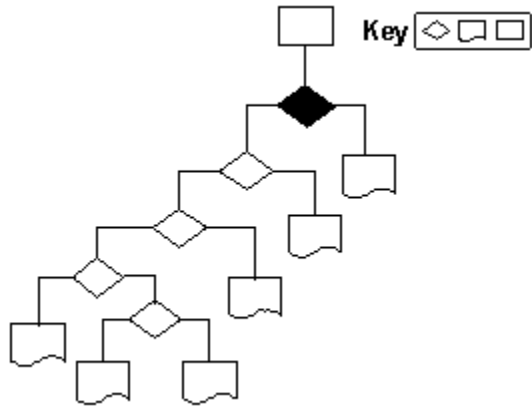


Setting Up Novell NetWare NETX Client in Windows 95

Was NetWare working correctly at the MS-DOS level before you installed Windows 95?

Yes.

No.



Setting Up Novell NetWare NETX Client in Windows 95

Contact Novell for support with NetWare installation.

Do you want to return to the beginning of this troubleshooter?



Yes.



No, close the Care Package.



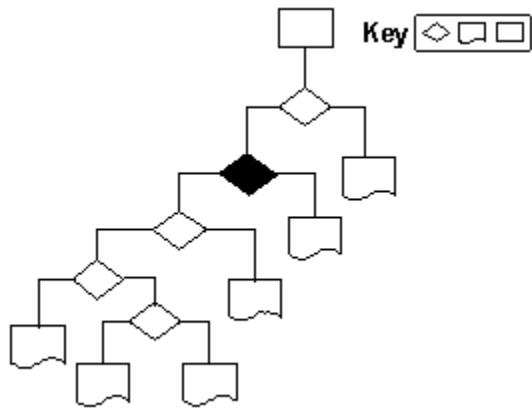
Setting Up Novell NetWare NETX Client in Windows 95

Are the LSL, Multiple Link Interface Driver (MLID), IPXODI, and NETX (version 3.26 or higher) supported by Windows 95?

Check your Novell NetWare documentation to see whether your drivers are supported by Windows 95.

Yes, they are supported.

No, they are not supported.



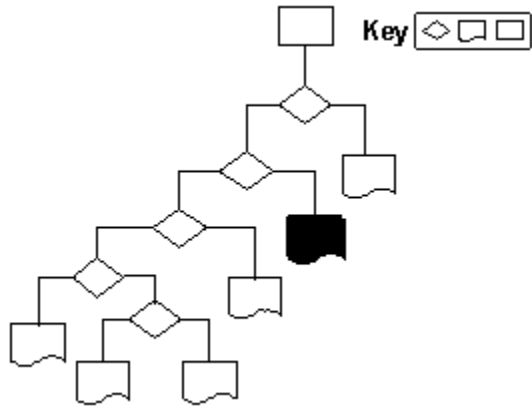
Setting Up Novell NetWare NETX Client in Windows 95

Contact your Novell vendor for updated support files.

Do you want to return to the beginning of this troubleshooter?

Yes.

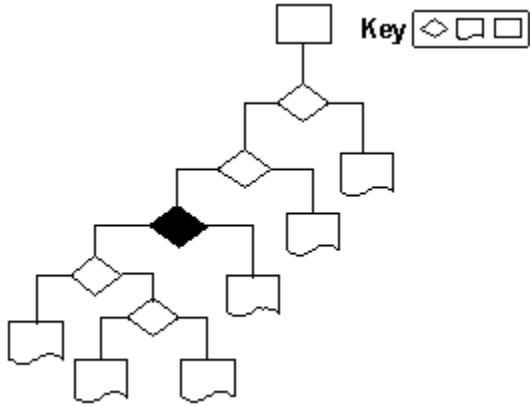
No, close the Care Package.



Setting Up Novell NetWare NETX Client in Windows 95

Did you log on to the NetWare server before you started Windows 95 Setup?

- Yes.
- No.
-



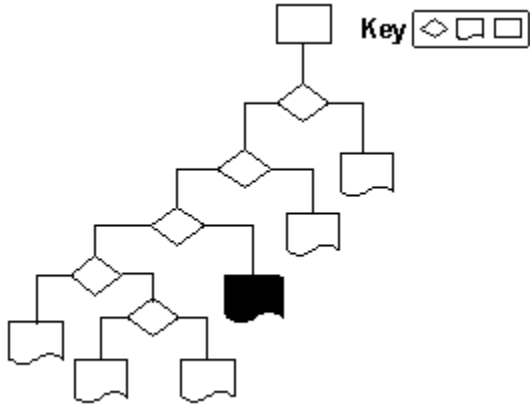
Setting Up Novell NetWare NETX Client in Windows 95

Log on to the NetWare server first, and then begin Windows 95 Setup.

Do you want to return to the beginning of this troubleshooter?

Yes.

No, close the Care Package.



Setting Up Novell NetWare NETX Client in Windows 95

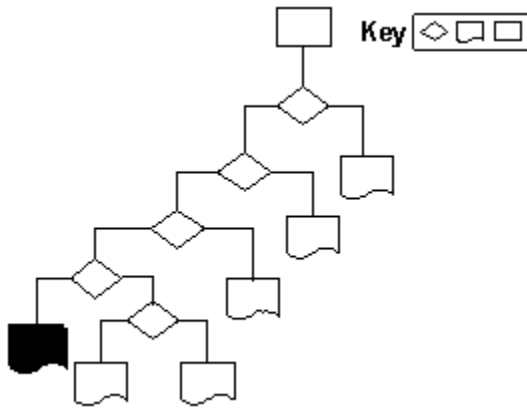
Run MSD

- 1 Click the Start Button, point to Programs, and then click MS-DOS Prompt.
- 2 Type **msd** at the command prompt. This determines which NET.CFG file is being used by the LinkSupport Layer (LSL).
- 3 Delete all NetWare support files not in use.

Do you want to return to the beginning of this troubleshooter?

Yes.

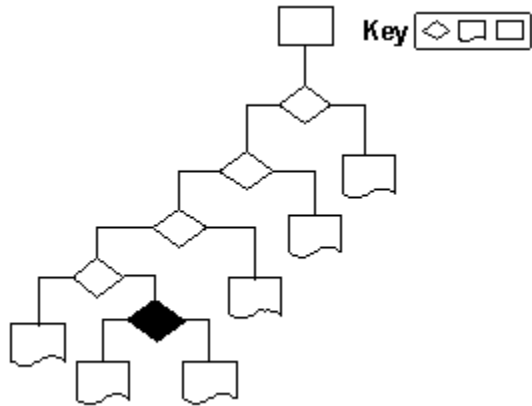
No, close the Care Package.



Setting Up Novell NetWare NETX Client in Windows 95

How are you installing Novell-supplied NetWare client services?

- From Control Panel after Setup.
 - During Windows 95 Setup.
-



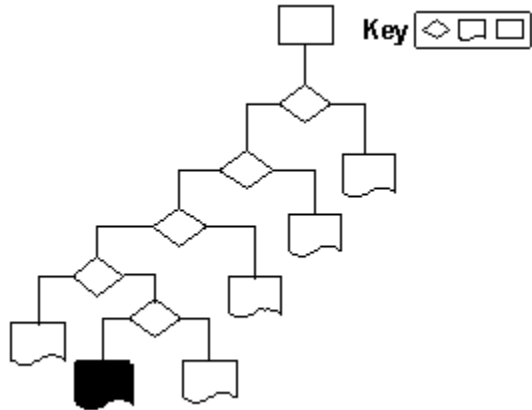
Setting Up Novell NetWare NETX Client in Windows 95

[!\[\]\(1d3a1175dd4902218e694b9c098adb83_img.jpg\) Click here to go to the Install a NetWare Client \(NETX\) in Windows Setup procedure.](#)

Do you want to return to the beginning of this troubleshooter?

[!\[\]\(4729e517bc6a7cd81c8025b9646574fb_img.jpg\) Yes.](#)

[!\[\]\(cbe80b694ebd74fcfe136a095b608235_img.jpg\) No, close the Care Package.](#)



Installing a NetWare Client (NETX) in Windows Setup

- 1 Run Windows 95 Setup, and choose the Custom setup option.
- 2 When you get to the Network setup window, click Add.
- 3 Click Client, and then click Add.
- 4 Select Novell in the Manufacturers list and Workstation Shell 3.X in the Network Clients list.
- 5 Click OK, click Close, and continue with Setup.

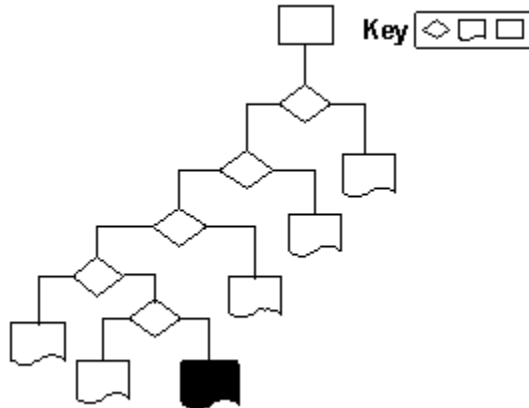
Setting Up Novell NetWare NETX Client in Windows 95

[?](#) Click here to go to the Install a NetWare Client (NETX) Through Control Panel procedure.

Do you want to return to the beginning of this troubleshooter?

[?](#) Yes.

[?](#) No, close the Care Package.



Installing a NetWare Client (NETX) through Control Panel

- 1 Click the Start Button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon.
- 3 Click each installed network client and click Remove.
- 4 Click Add, click Client, and then click Add.
- 5 Click Novell in the Manufacturers list, click Workstation Shell 3.X [NETX] in the Network Clients list, and then click OK. Follow the instructions on your screen.
- 6 Click the network adapter, and then click Properties.
- 7 Click Real Mode (16-bit) ODI driver, and then click OK.

To install Generic Real-Mode (16-bit) Networking Components in Windows 95

If all other network installation instructions fail, you can follow this procedure to install real-mode networking:

- 1 Click the Start Button, point to Settings, and then click Control Panel.
- 2 Double-click the Network icon, and then remove all networking components. Make sure you note which items you are removing.
- 3 Print this topic, and then restart Windows 95. You can ignore error messages regarding the network.
- 4 Click the Start Button, point to Settings, and then click Control Panel.
- 5 Double-click the Network icon, and install all of your previous drivers. Make sure you have each one support real-mode (16-bit) networks.
- 6 Restart Windows 95. You can now install any protected-mode (32-bit) networking components that you need.

