

Over 50 Tweak ideas

How to work better with Windows, soundcards and modems

Tips & Tricks

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Cut along the perforated line and file for reference

Modem

☀ Can't initialise modem?

If you cannot get your modem to initialise, try using AT&F1 or ATZ as your initialisation strings. AT&F1 usually returns a modem to factory settings. ATZ should reset your modem to default settings.

☀ No dial tone?

If you do not get a dial tone when you connect, before you panic, make sure that your modem is properly plugged in and connected to your system and to the telephone jack. Also check if your modem's speaker is turned up enough so that you can hear dial tones, busy signals, and 'handshakes'. (When your modem 'handshakes', it is trying to connect with the modem you are dialling to). This will help you to determine whether or not your modem is able to obtain a dial tone and dial out.

If you can hear the dial tone but still cannot connect, there might be some problem with the modem you are trying to call. Under Windows 95/98, you can change your modem speaker volume (Control Panel > Modems > Properties).

And if this does not work, try using a different local access number.



Set the speaker volume to maximum

☀ Keep it short

Is the signal poor? The fault might lie with the length of the telephone cable. Long telephone cables tend to display

signal degradation, which can result in slower connections and file transfers. So, go for shorter telephone cords.

☀ Identify your modem

Sometimes, knowing the manufacturer of your modem is not enough. Some commands between different makes of modems are often the same.

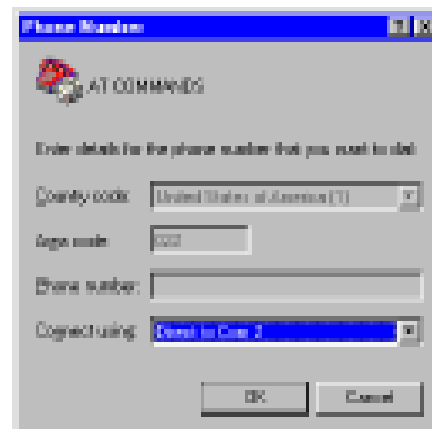
If you are using Windows 3.x, you probably do not need any specific modem driver. Most modems use a common chipset (such as Rockwell) on a board. This (the chipset name) you will find printed on the largest chip on the modem. And if you prefer *not* to tear apart your modem while hunting for the chipset name, just enter some of the AT 'ID' commands (like AT11, AT12, AT13 etc) in the screen of a communications program such as Terminal and/or HyperTerminal. Terminal comes standard with Windows 3.x, and HyperTerminal is included with Windows 95/98.

The AT1 commands usually run through 10 or 12 commands, and you can learn a lot from them, such as the values in the s-registers, and sometimes even a list of modem commands. One of the AT1 commands will usually reveal the modem ID or the chipset ID (Rockwell chipset ID's usually start with an R). If you know the make of the chipset, you can probably download drivers from the manufacturer's Web site.

☀ HyperTerminal AT Commands

To send AT commands to your modem, run the HyperTerminal program (HyperTrm.exe) which you will find under Start > Programs > Accessories > HyperTerminal. In the Connection Description dialog box, enter AT COMMANDS, choose any icon from the list, and click OK. Under Connect Screen, do not enter a phone number. Instead, click the down arrow on the Connect Using line and pick Direct to Com# (replace Com# with the communication port of your modem). Save this

session. From now on, you can communicate directly with your modem using AT commands—just double click the AT COMMANDS icon to open a terminal screen.



Send the AT commands directly to the COM Port

☀ DOS Modem

Most modems are Windows-based (3.x/Win95/98), and a normal modem will not work under the DOS Mode.

If you cannot get your modem to function under DOS, check the manufacturer's Web site (of course you would have to use your friend's computer) and download the latest drivers for it. Copy the drivers on a floppy disk and use them in your own computer.

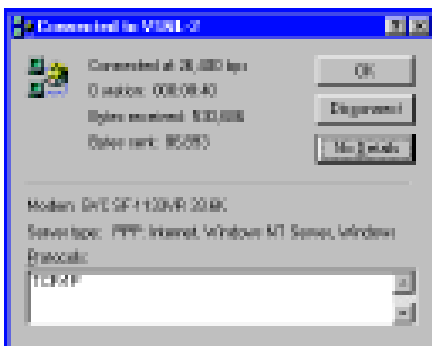
☀ Unplugging devices from modem's phone jack

If you feel your modem is not connecting at the speed it claims, the problem might lie in the phone line coming out of your modem. Most modems have a jack for LINE (incoming) and PHONE (outgoing). If there is a telephone or caller ID box (now launched by MTNL in metros like Mumbai) connected to the PHONE jack, it may be affecting your Internet/Fax/BBS connections. For example, if you plug a telephone into the PHONE jack, it would only connect at 31200 bps. Unplug the telephone from the PHONE (outgoing) jack and the connection could give you a baud rate of 33600 bps.

⚡ Slow file transfers?

Does that 56K modem crawl at 900 to 1800 characters per second, giving you slow file transfers? This could be due to a Windows 95/98 Maximum Transmission Unit (MTU) problem.

Compare the Bytes received/sec under System Monitor (SYSMON) to the characters per second reported by your Web browser. These two numbers should be within 10-12 percent of those reported by your browser; so if your Bytes received/sec is 3,300, the characters per second should be around 3,000.



The SYSMON gives you an account of the actual data transfer rate

If the characters per second are 900 to 1,800, you are getting a lot of unnecessary re-transmissions that are quite possibly due to the Windows 95/98 MTU problem.

Microsoft has not yet released a fix for this, but if you visit the site www.aimnet.com/~jnavas/modem/tcpipcfg.exe, download and change the MTU value to 576 (the default is 1500), it will correct the MTU 'bug' in Windows 95 versions 4.00.950 (retail), 4.00.950A (OSR1) and 4.00.950B (OSR2).

⚡ Go internal for speed

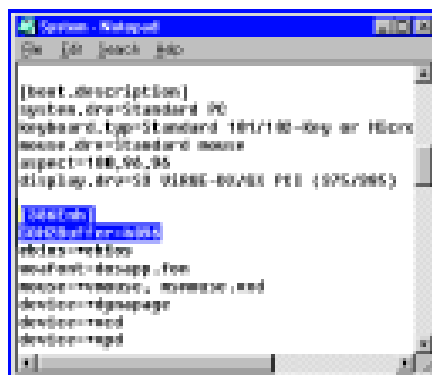
Unless you use ultra-high-speed serial boards or special buffers, an external serially connected ISDN modem will always give you slower performance than an internal ISDN modem. This is because the 16550 UART (Universal Asynchronous Receiver/Transmitter) chip allows a maximum transfer rate of 115.2 Kbps, and not the 128 Kbps that a

dual-channel ISDN connection is capable of attaining. If you want to squeeze every 'bit' of performance out of your ISDN modem, use an internal one.

⚡ Build a Bigger Buffer

Anyone who uses a modem has, at sometime or the other, received an important transmission with many missing characters. There is no way to find or retrieve the lost characters, but you can try to help receiving your data intact by adding a line or two to your SYSTEM.INI file.

Before you begin, it is important to understand how Windows handles incoming data transmissions. Your modem sends the data it receives to Windows COMM driver. This stores the received data in a memory buffer until your communications program retrieves it. Unfortunately, displaying and storing all the received data also overworks your communications program, which means it cannot always



Alter the buffer size to accommodate more characters

retrieve data from the COMM driver as often as it needs to.

By default, Windows sets aside just enough buffer space to store 128 incoming characters. Once a modem has been connected, data flows continuously. Your computer can temporarily stop the flow of data, but that takes time. If your communication link is slow, or your browser is fast, a 128-

character buffer might suffice. With a fast modem or a slow program, it is possible for more than 128 characters to arrive before your program can process them. In that case, the COMM driver has no place to store the 129th character and those that come after it.

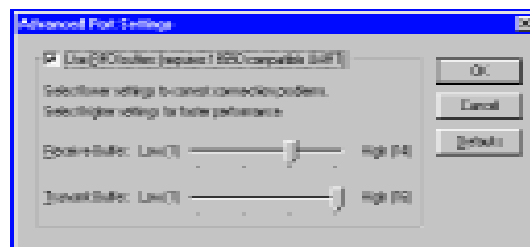
Luckily, you can expand Windows' COMM buffers.

By adding a line to the [386enh] section of the SYSTEM.INI file, you can create a buffer as large as 10,000 characters. Actually since the COMM driver maintains a buffer for each of your PC's COM ports, you can add up to four lines, each controlling the size of a particular port's buffer. Each line should resemble this: COM x Buffer = num. Replace the x with a number between 1 and 4 to indicate the desired COM port, and substitute num with a number from 128 to 10,000 to set the buffer size. You will have to restart Windows for the change to take effect.

Use a text editor like Notepad when editing SYSTEM.INI. As for how big your COMM buffer should be, create a new buffer of at least 2,048 (2 KB) characters. If problems persist, increase the size of the buffer to 4,096 (4 KB) or even 8,192 (8 KB).

⚡ Powerful ports

Often, Windows 95/98 systems arrive with COM ports set for 9,600 bps, but you must increase it if you are using a 14.4 Kbps or a faster modem. Click the Device Manager tab under Control Panel > System. Click on the (+) sign next to Ports to expand it, double-click on each serial COM port and follow these steps:



Expand your default COM port capabilities if you are using a fast modem

Click the Port Settings tab. Make sure your Bits Per Second entries read 115,200 bps or higher (or at least 57,600 bps), and the Flow Control is set to Hardware. Next, click Advanced and select the Use FIFO buffers [requires 16550 compatible UART] option.

Bluff the Buffers

You can experiment with the Receive and Transmit Buffer options under the Modem Properties in Windows 95/98, but it would be wiser to configure both to the highest settings and bring them down (together), if communication problems arise.

Tame the phirangi modems

If your modem is *phirangi*, it is likely to have problems with the Indian line conditions. To rectify this put the following string that has been known to improve reliability substantially, in your Extra Settings box in Modem Control Panel applet: AT\$15=128 &K3 S34=32 S12=0.

This works wonders for US Robotics and 3COM modems.

Correct modem setup

If Windows 95/98 did not recognise and install your modem correctly, it might not be using the right AT initialisation string for a dial-up connection, thus hampering its performance. To check this setting, open the Modems applet in the Control Panel. The modem brand and type should match the one installed on your system. If it does not match, select it and click Remove; then click on the Add button and follow the application wizard to install the correct one.

Faster data transfer and connection speeds

For Windows 95/98 users, in the Control Panel > Modems > Properties > General, make sure the Maximum Speed is configured to 115,200 bps or higher (or at least 57,600 bps). Open the Connection tab, click the Advanced button

and check the User Error Control, Compress Data and Use Flow Control (Hardware) options.

Say Goodbye to Line Noise

Line noise is one of the easiest things to detect. This is almost never a problem on ISDN, DSL, or cable modems. But on a regular analog telephone line, this can get really cacophonous.

One crude method of testing for line noise is to pick up the telephone receiver (while not connected by your modem on the line) and listen for static-like, crackling sounds. These are often indications of line noise.

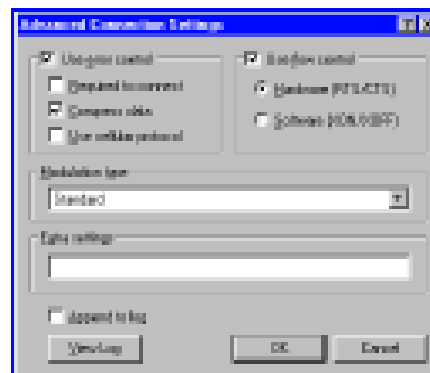
Causes: Faulty wiring, moisture, and several other factors.

Solutions: Use short phone cords with your modem. If that does not rectify the problem, get your telephone provider to check for the line quality.

Data compression blues

If your Internet connection drops frequently, try disabling the data compression. Also make sure that error correction is 'on'. The flow control set for Hardware (RTS/CTS) usually helps.

Data compression is 'enabled' by default on most modems. When Windows 95/98 detects a modem, it tries to load an initialisation (.inf) file for that modem brand and model. If the operating system is unsure of the modem installed, it loads a default file named modem.inf. However, with this file in use, Windows might not send the correct command to disable data compression. In case this happens, read your modem documentation and enter the AT command required to disable data compression. Under Start > Settings > Modems > Properties > Connection > Advanced tab, type the AT command(s) in the Extra Settings box. Modems have limited buffer space for both error correction and data compression. When the error thresholds in modems have been exceeded, the resultant serial overruns will hang up the call, resulting in a disconnection



Enter the extra settings in the advanced connection setup

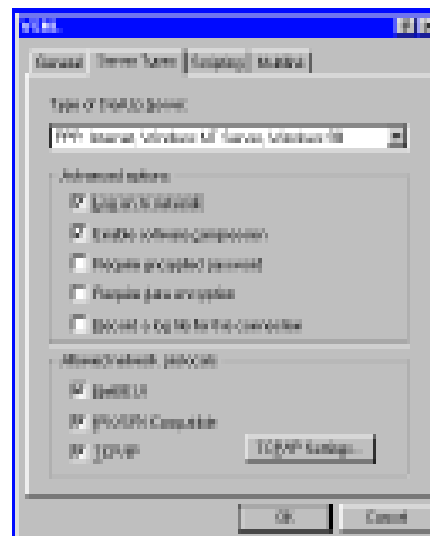
When in doubt, Reset

Modems that get 'locked' into a mode do not always respond to initialisation or AT commands. More often than not, powering down the PC and turning it 'on' a few moments later, resets the modem to its default state, so that it will again accept your commands.

Use the right protocols

Though Windows 98 installs NetBEUI, IPX/SPX, and TCP/IP protocols (by default) to the dial-up adapter, most ISPs only require TCP/IP to connect to the Internet.

To disable the protocols you do not require, right-click the connection for your ISP and click Properties. On the Server Types tab, under Allowed Network Protocols, clear the NetBEUI and IPX/



Disable the unwanted network protocol

SPX check boxes. To finally ensure that you have the right protocols (in this case, TCP/IP), click Start > Settings > Control Panel > Network.

Cut connection time

While configuring your ISP's dial-up connection, if you select the Log on to Network option, Dial-Up Networking tries to find a Microsoft Windows Network. If it does not find one, the connection will time out. To disable the Log on to Network option, follow these steps: Go to Start > Programs > Accessories > Dial-Up Networking. Right-click the connection you use to connect to your Internet Provider. Click Properties. On the Server Types tab, clear the check box for the Log on to Network option and then click OK.

Blame it on EMI

If you have been experiencing frequent interference in your connections and data transmissions when online, check if your telephone cord (which connects your modem to the telephone jack) is caught in a soup of wires or other lines. If so, EMI is to blame. Short for Electromagnetic Interference, EMI causes interruptions in data flow because of the wires touching each other.

The solution to this problem is simple: Make sure that your telephone cord is not touching any other cords or cables, and then try connecting again.

Remove the Modem icon

Get rid of that little modem icon in the tray of your Taskbar if you are tired of seeing it each time you use a dial-up connection. Double-click on Dial-Up Networking in the My Computer window. Right-click on the Dial-Up Networking connection you use, select Properties, and click on the Configure button. Select the Options tab, deselect Display Modem Status, and click OK. (Repeat these steps for every connection from which you would like to remove the modem status icon.)

Don't let anyone hang-up on you

If you want to prevent others from picking up a phone line that your modem is using (and thus terminating that online session you got on after so long), get a Teleprotector.

When installed on a phone line, this device disconnects the outgoing phone line. Teleprotector would be available with your local hardware vendor, and it protects fax and data transmissions from interruptions.

Keep the connection clean

Some modems, especially the older ones, have trouble dialling from hotels, or into main numbers when extensions are needed to call the dial-up server at the ISP end. To work around this, add a comma or two at the end of your dial string.

This creates a pause, enabling your phone line to recover the time taken to clear the extension numbers on the path, through which you connect to your service provider.

Measure modem performance

Use the Windows 9x System Monitor to measure your modem's average file-transfer speed. First make sure the System Monitor is installed (you should find it under Start > Programs > Accessories > System Tools; otherwise, install it from your Windows CD). Next, run the Modems applet in the Control Panel, select your modem, click on Properties and select the Connection tab.

Click Advanced and check the Record a log file box. If you are using Windows 98, check Append to Log. Finally, click on your Shortcut to VSNL (or any other ISP), start System Monitor, choose your modem type from the Add Items list and select Bytes Read. System Monitor will now display a real-time gauge showing the modem's download speed.

PBX to the rescue

Phone jacks in hotels often carry high-voltage signals that can fry the innards of your modem.

An acoustic coupler or PBX adapter that is to be installed between the modem and hotel phone or wall plate in the room can shield your modem from harm. Portable surge suppressers also help.

Wrong number

If you have a 28.8 Kbps or 33.6 Kbps modem and Windows says that you are connected at 57,600 Kbps or 115,200 Kbps, your modem is probably displaying the DTE (Data Terminal Equipment) rate, which shows the speed at which your PC is communicating with your modem. The DCE (Data Communications Equipment) rate shows the speed at which your modem is communicating with a remote modem. Check your modem manual for the right parameters and include the correct value assignment in your INIT string: Go to Control Panel > Modem, highlight your type of modem and click on Properties. Under the Connection tab, click Advanced and enter the appropriate AT commands in the Extra Settings field. Windows NT users should also update the MODEM.INF in WINNT/SYSTEM32/RAS.

When at first you don't succeed...

Windows 9x does not enable the Redial setting in Dial-Up Networking (DUN) by default.

To enable this, select Settings from the Connections menu under Dial-up Networking. Check the Redial option and set the number of re-tries and the interval between attempts.

More on Windows

Quick Properties

To access the Properties of a file/folder when you are in a hurry, double-click on the file/folder name when holding down the [Alt] key.

Cab Files to Hard Drive

When you buy a new hard disk drive, copy the Windows 95 CAB files (30

MB) from the installation CD to the drive. This way you don't need to dig out the CD each time Windows wants to make configurational changes (such as when installing a new component). However, every time Windows 95 wants the CD for something, it prompts you to enter the correct path.

User Information tab under the Options command. Edit the information as required and click OK to close the dialog box.

To embed an object...

This is how you can convert a linked object into an embedded object. Click

TypeType fonts command. Close the dialog box.

Password protect your documents

To keep your documents confidential, password-protect them. Click File and select the Save As... command. Click on the Options command, enter a password to open the file and then save the file.

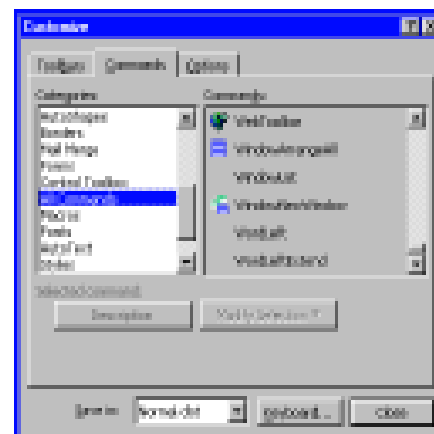
Change the measurement units

Click on the Tools drop-down command. Under Options, select the General tab. In the Measurement Units section of the dialog box, select the measurement unit (inch, cm etc) you require.

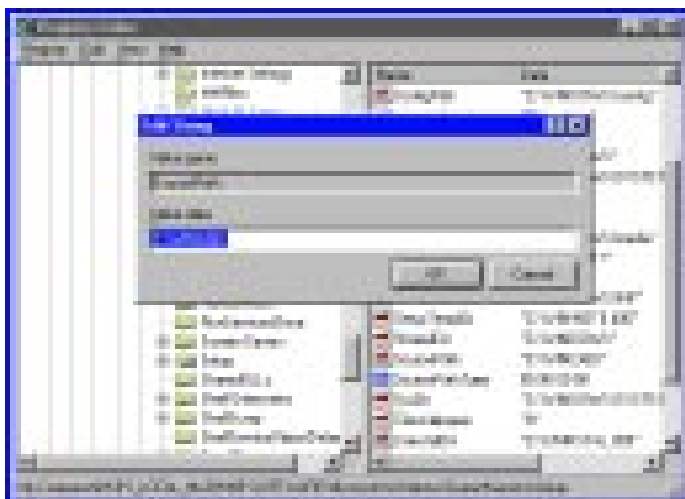
Count the number of words within a document

If your work involves churning out articles or essays, you might need to use the Word Count command under the Tools drop-down menu. And if your time is as valuable as the number of words you write—simply customise your word counter as an icon on your toolbar instead.

Go to Tools > Customize... and choose All Commands under the Commands tab. In the right-panel, scroll down till you see the Word Count command. Select it and drag it to your toolbar. You could also modify your selection and change it to an icon of your choice.



Create an icon to give the word count at a single click



Edit the registry to set the default location of CAB files

You can resolve this problem by editing the Windows 95 Registry. (As always, back up your Registry files first—User.dat and System.dat, both hidden files in the Windows folder.) This is what you can do: Open Regedit.exe and drill down the following path: HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Setup. In the right pane, next to SourcePath, you will see the path D:\win95 (or wherever you installed Windows from originally). Change it to the folder to which you copied the CAB files by right-clicking SourcePath, select Modify, type the correct path on the Value data line, and click OK. Reboot your system, and Windows 95 will know where to find your setup files.

New information, new user

In case you have been handed a second-hand PC and hate to see the name of the previous user when you start Word, all you need to do is to change the user information. Click on the Tools drop-down menu. Select the

on the linked object to select it. Press the keys [Ctrl]+[Shift]+[F9].

AutoShapes not shaping up in HTML?

When you convert a Word document to an HTML file, you will find that any AutoShape within the document will not show up in the HTML formatted document. To fix this problem, Cut each AutoShape to the Clipboard and Paste it back as a picture.

Now you will have no problems converting your file to an HTML document.

White on black

If you need to spice up your Word documents, you could use the Highlight and Font color icons on your format toolbar. For a wider colour palette, select the Borders and Shading... command under the Format drop-down list. Click the Shading tab, and choose the background for text.

Save TrueType fonts within a document

Click on the Save As... command and click on Options. Click on the Embed

💡 Make the most of Send To

Create a shortcut to the Send To folder (C:\Windows\SendTo) and place it inside the Send To folder. That way, you can customise Send To by adding destinations to it on-the-fly.

Create shortcuts to the Start menu, Programs submenus and the Desktop and place them in the Send To folder. To move an item to your Start or Programs menus or to the Desktop, you can just right-click on it and choose the appropriate Send To destination. If you want to copy an individual item, select the icon by single click and then keeping the [Ctrl] key pressed, Right click on the icon and choose the Send To destination.

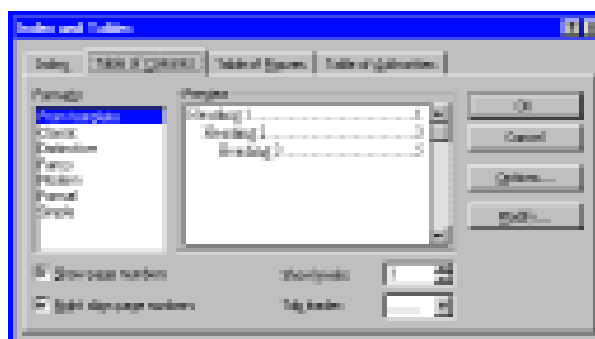
Add Notepad (C:\Windows\notepad.exe) to your Send To menu to quickly view the contents of text files that need not necessarily have the .txt extension. This is particularly useful for opening System files (Autoexec.bat, Config.sys) or files with the extensions .log, .cfg, .htm etc. without having to first access the Open With dialog box, just right click on the file and select Send To > Notepad.

If the desktop as a Shortcut is missing from your Send To menu, you can restore it by going to c:\Windows\Sendto and right-clicking on the folders background. Choose New\Text Document and rename the new file Desktop as Shortcut.DESKLINK (Click on Yes when the rename warning dialog opens).

💡 Instant Table of Contents

Mark all the items that you wish to be displayed within the table of contents (TOC) with header styles. To create a TOC, position the insertion point at the location that you wish to display the Table of Contents and then click on Insert. Select the Index and Tables command. Select the Table of Contents tab. Choose the required format and click OK.

In case you need to update the TOC, select the field and press the [F9] key.



Select the headlines you wish to include in the TOC

To jump to a page from the Table of Contents you have created, just double click on the page numbers next to the contents.

💡 Use Write under 95

If you have saved Microsoft Write from a previous Win3.x installation or still use some files from the Win3.x machine, you can continue to use this all-time mini application as an all purpose file viewer. Even though this file viewer will often lose the formatting of most of the data, you can use this to open and view even the EXE files.

Copy WRITE.exe from the Win3.x Windows directory and place it in any folder other than the Windows. (You could accidentally overwrite WordPad called Write.EXE). This makes a shortcut to the Programs menu and adds it to the Send To folder for easy access. When it prompts you to know if you would like to convert a file as it is being opened, be alert and say NO unless you want to transform the file into a Write file. Use it to view the contents but do not save the contents using it.

💡 Prevent users from creating more than one login name

If your PC serves multiple users and you want to prevent others from creating multiple log-on names for themselves turn to Microsoft Family Logon. This presents a list of all previously created log-on names for that PC. Users must necessarily choose

from the list and not create a new log-name. To set it up, open the Network Control Panel and click on the Add button under the Configuration tab. Double click on Client, then select Microsoft from the left pane and double click on Microsoft Family Logon in the right

pane. Under the Configuration tab, click on the down arrow next to the Primary Network Logon and select Microsoft Family Logon from the dropdown menu. Click OK.

💡 Con obstinate files into obeying

You can now tackle an obstinate program that insists to be installed under c:\Programs instead of the regular c:\Program Files. The problem arises because the programs are unable to recognise long filenames (over eight letters). To force these files to install properly, first uninstall them, if already installed. Reinstall them after instructing Setup to install the files under the program folder in C:\PROGRA~1\. This is the DOS abbreviation of the long filenames for c:\PROGRAMFILES.

💡 Design your own bullets

Select the list you wish to 'bullet'. In the Format drop-down menu, click on the Bullets and Numbering command. Select a bullet type and then click Customize > Bullet. In the Font section of the dialog box, click on the drop-down

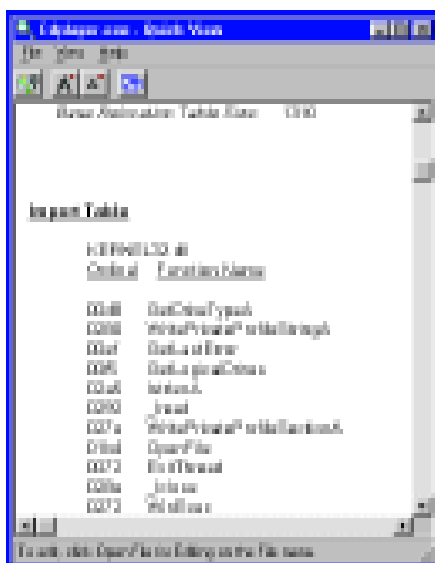


Customise the bullets

arrow and choose Wingdings (or any other font of your choice) from the list displayed.

Look before you delete

Before you delete any DLL take care. Check if the DLL belongs to a particular program by right-clicking on the executable file and selecting Quick View. In the Quick View file, find the Import table category. You will see the DLLs that are in use by the executable files, with additional details below each DLL's name.



Use Quick View to keep track of the linked DLL files

Windows 95 tools under 98

If you used Microsoft Fax, Exchange or Windows messaging under Windows 95, you can still access them in Windows 98, specially if you have upgraded from 95. You will have to manually install these services from the Windows 98 CD.

Look for these in the \tools\oldwin95\message\US folder. Double click on the WMS.exe to install Windows Messaging (Exchange) and then on AWFAX.EXE to add Microsoft Fax.

Font size of the HTML file

To change the size of the text in Windows 98 Help, you need to modify your

Internet browser settings, as Help is an HTML document. Launch the Internet Control Panel applet, click on the Accessibility button and then on the Ignore the font size item. Click OK. Then to change the font size select anything from the smallest to the largest font using the font size drop-down menu.

Safe Shutdown under 98

Windows 98 shuts down faster than Windows 95 but it achieves this by immediately terminating the applications running in the background. This could cause the applications to malfunction the next time you launch the application.

You can disable this by Launching the System Configuration Utility Start\Programs\Accessories\SystemTools\SystemInformation and then click on the Tools menu. Click on the Advanced button and check the Disable Fast Shutdown item.

IE 4.0 safety precautions

The IE 4.0 Desktop Update makes critical changes to the System and Software Registry hives. If you try to use a repair or restore disk that had been made before you updated the system, you will be greeted with a blank Desktop. To avoid this run RDISK/S immediately after you update.

Slow on LAN

If in an office network, you have trouble accessing the downloaded IE 4.0 Active Desktop Items when offline, choose the Connect to the Internet using a local area network option. This will allow you to view the items while you are offline.

The problem arises because IE first looks for the LAN connection on other computers before seeking for the page in the cache. You can either wait or configure IE to use a modem to access the Internet. Click on the Settings button and then configure IE to your ISP.

Mouse to vary font size

If you are using a Logitech MouseMan or Microsoft IntelliMouse, you can re-size on-screen fonts in IE 4.0 by holding down the [Ctrl] key and rolling the mouse wheel up and down (to increase/decrease the font size).

Soundcards

Recording from CDs

Record from audio CDs to the WAV files on your PC using Sound Recorder (Start > Programs > Accessories > Multimedia) in Windows 95 or Entertainment in Windows 98.

Launch the CD Player (also under the Multimedia or Entertainment branches), select the number you want to record, run Sound Recorder, click Play in the CD Player and then on Record in the Sound Recorder. Stop when you are done and save the WAV file.

Stop that hissssss!

If that gleaming new soundcard has been hissing and producing distorted sounds and not the *real* Pop you wanted to hear, check the ports again. Make sure the speaker cords are plugged into the 'speaker' port of your soundcard and not the 'line-out' port.

32, 64, 128 Voices

Did you know? That soundcards are usually referred to by the number of voices they can play simultaneously. These voices can be combined for complex sounds or played individually for simple ones, and the more the voices, the better the overall quality.

So SoundBlaster32 means that the card has 32 voices—not that it is a 32-bit card.

Sound tools

Most soundcards come with extra tools you might not know about. These generally include advanced mixer applications for better audio control, and a tool for generating MIDI sound. Check the group created for your card under Start > Programs to see if any extras are included.