The OLE routine

Panicos Georghiades and Gabriel Jacobs show you what to do if your Windows installation gets corrupted and your programs don't work. Chances are, it's OLE registration trouble.

It's not too uncommon for a Windows installation to become corrupted to the point where certain programs do not work at all. One of the first things to investigate is the possibility of a corrupted registration database. If you suspect this (*see "Rebuilding the REG.DAT" for reasons why*) you may choose to make a fresh installation of Windows and all your programs, as we have suggested in Paul Cunliffe's case (*p263*), or you could first try to rebuild the registration database.

Program Manager and Object Linking and Embedding (OLE) registration information is stored in .REG files that are used by the Registration Editor (REGEDIT.EXE) to add information to the registration database, REG.DAT.

REG.DAT contains information about file associations and OLE objects. The Windows 3.1 Setup program uses REGEDIT.EXE to add default associations for Paintbrush, Notepad and some other of its programs and objects (like Packager, Paintbrush, and Sound Recorder).

REG.DAT is not copied from the original disks. Instead, it is built using REGEDIT.EXE and the SETUP.REG file (in the Windows\System sub-directory) during setup.

A sign that the REG.DAT file may be corrupted is one of the following messages:
• File Manager cannot open or print the specified file. Start the application used to create this file and open or print it from there.

• There is no application associated with this file. Choose Associate from the File menu to create an association [only if you know for a fact that there is an association}.
• There is a problem with REG.DAT. Delete REG.DAT and restart Windows.
• Setup had a problem with REG.DAT, SHELL.DLL or disk space.
• Windows registration database program is not valid.
• OLE server initialisation failed.
• Windows registration database is not valid.

Rebuilding the REG.DAT
If your REG.DAT file has been deleted or corrupted, you can rebuild using the methods shown below.
■ Building the original REG.DAT file for applications that came with Windows:
To restore these defaults, first rename your existing REG.DAT file (if there is one present) before you try to rebuild it. We assume that your Windows directory is on drive C and is called WINDOWS.
1. Run Program Manager or File Manager.
2. From the File menu, choose Run.
3. In the dialog box, type the following:
`regedit /u c:\windows\system\setup.reg`
A message should appear, confirming that the information has been registered. The database now contains the original registration information that was installed with Windows.
4. Choose OK. At this point, you may have to exit and restart Windows in order to see
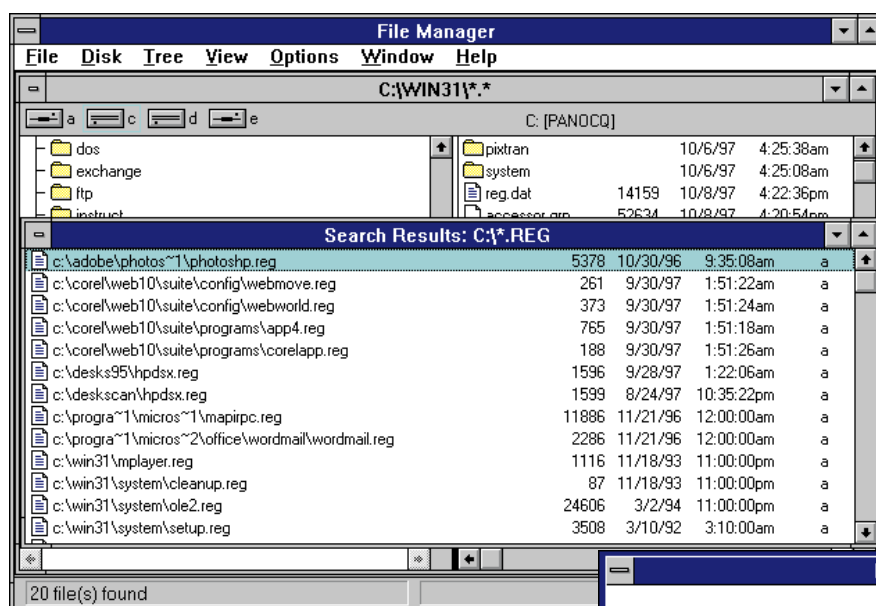
Above To find all the REG files, use the search feature in File Manager
**Right** Once you register a REG file, you should get a message saying that the registration was successful
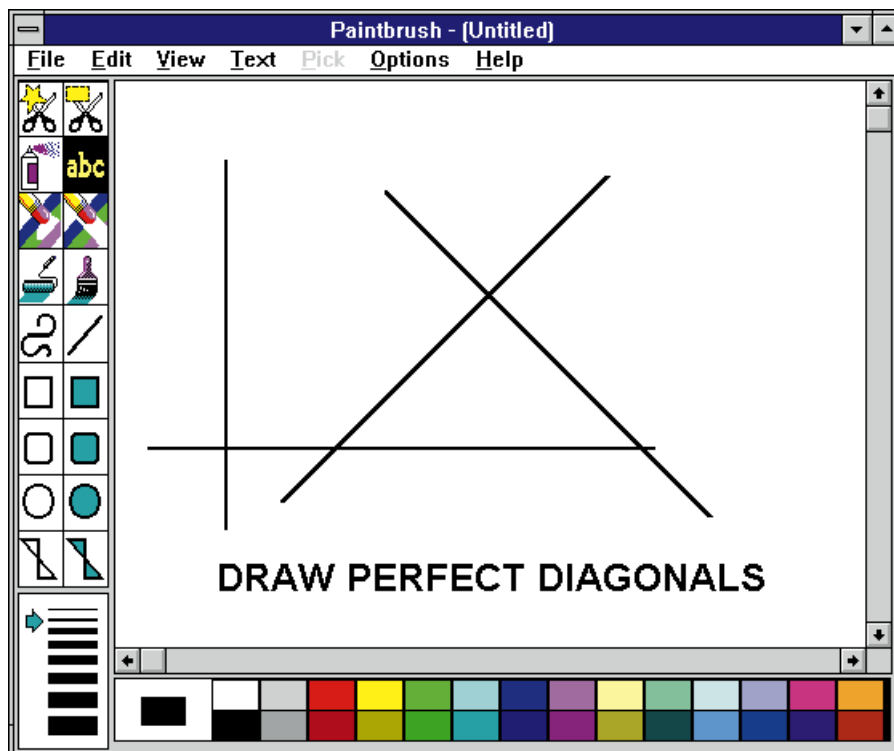
Paintbrush tips

Let's face it, there are more powerful Paint programs than Paintbrush, but it's there, free, and many people use it. Here are two useful tips.

1. To draw lines in Paintbrush that snap to 45-degree increments, select the line tool (not the brush), then hold down the Shift key and draw. You'll only be able to draw vertical, horizontal and diagonal lines, but it's a useful thing to know (it saves you struggling to keep the mouse still!). The technique also works with other drawing tools. To restrict yourself to vertical and horizontal lines, select the brush tool instead of the line tool.

2. If printouts from full-screen Paintbrush images turn out to be miniature versions of the actual image (just a couple of inches or so), you have the Printer Resolution checkbox selected in the File Print dialog box. This makes Paintbrush translate pixels on the screen to dpi (dots per inch) on your printer. In other words, if your image is 640 x 480 and you're using an HP DeskJet that prints at 360dpi, your image will be printed at 640/360 x 480/360 = 1.77 x 1.33in. Although this
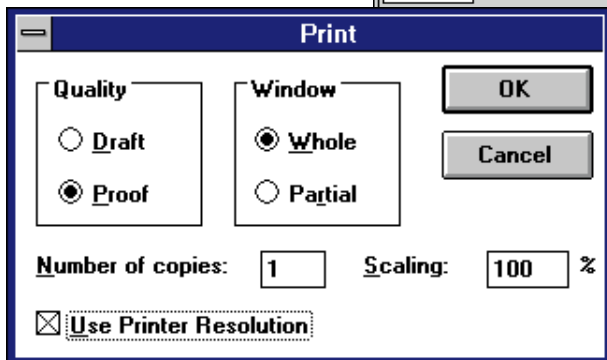
Above To draw perfect diagonal lines in Paintbrush, use the Shift-Key with the line tool

Left Uncheck the Use Printer Resolution box if you are getting minute printouts

setting will give you printouts with the highest resolution (no jagged edges), you will need to work with very large image sizes to print reasonable size images (1,800 x 1,800 pixels for a 5in x 5in print on a printer with a 360dpi resolution). Images at this size or above may be unmanageable if you don't have lots of RAM; in these cases, you need to work with the Printer Resolution checkbox turned off.

the REG.DAT file displayed in File Manager. When it is, execute the next step.

5. In File Manager, select the REG.DAT file found in the Windows program directory, then choose Associate from the File menu. Associate files with extensions DAT and REG with REGEDIT.EXE. When you removed the old REG.DAT file, you also removed your file associations list, therefore you have to choose REGEDIT.EXE using the Browse button.

6. Exit and restart Windows. After you have created a new REG.DAT file or restored the defaults, use the following steps to renew the list of applications in the Associate dialog box:
(a) In File Manager, choose Run from the File menu.
(b) In the dialog box, type the following line:
```
regedit /u c:\windows\system\setup.reg
```

■ **Rebuilding the REG.DAT file for other applications:**

For applications other than the Windows-based programs included with Windows 3.1, the technique varies for rebuilding REG.DAT. Some applications rebuild their entries each time the application is started. Others may register themselves only during their setup processes.

If the application includes a REG file, you can add that information to the registration database in one of three ways.
1. Choose Merge Registration File from the File menu in the Registration Information Editor, then select the .REG file for the application to be added to the database and choose OK.
2. Use the same steps described above, substituting the name of the .REG file. Otherwise, consult the application's

documentation, or contact the vendor of the software for more information about rebuilding the REG.DAT file.
3. Run Windows File Manager and double-click the application's .REG file.

If you need to rebuild the registration database for all your applications, use the following steps:
1. From the File menu in File Manager, choose Search.
2. Search for *.REG from C:\. Ensure that the Search All Sub-directories checkbox is selected before you choose OK.
3. Run SETUP.REG by double-clicking the file icon, or highlight it and press ENTER.
4. Run every other .REG file brought up by the File Manager search.

So, a Happy New Year to all our readers, and no (or at least, very few) General Protection Faults!

Questions & Answers

Q My Windows 3.11 system seems to be falling apart! It started a week or two ago when I found it impossible to launch applications by clicking on an associated file in File Manager. Since then, I have encountered the following:

1. CorelDraw 3: Each time I create/edit an object I get the message "Error while performing an OLE request", although when I acknowledge this message, it allows me to continue.

2. PhotoFinish: I cannot launch this. I get the error message "OLE Instance Init failed — please re-install program".

3. Picture Publisher: Will not launch and there is no error message.

4. WordStar version 2/Quattro Pro version 6: When I update spreadsheet data which has a link to a WordStar document, I get the error message "Internal WSWin Error" followed by "Fatal Error 600e".

I am beginning to see a pattern emerge — OLE problems — but have no idea how to correct them. Would it be best to re-install Windows? And if so, will it re-install over what is already there, or do I have to uninstall it first?

Paul Cunliffe

Paul@sischem.telme.com

A In terms of clearing whatever is "bad" in your installation, yes, your best bet is to make a fresh start and re-install Windows and all your applications, having first deleted what is there. This takes time, but if you are only using the applications mentioned above, it should not take you more than a couple of hours.

There may be other ways to fix the problem but you could spend a lot longer trying — and possibly failing. But remember, before you begin, make sure that you have backed up your data.

However, there is one seemingly major problem which can be fixed with a repair job as opposed to a full re-installation of Windows: in the main body of our column we have covered what you can do when you encounter corrupted registration files.

Q I have a 386/33SX with 8Mb RAM and a 1Mb SVGA Trident card running in full-resolution 256-colour without problems under DOS 6.2.

I have recently attempted to run SVGA via the Windows Setup, only to find corrupted displays above 16-colour VGA.

I had Trident drivers T800C and T1024C installed and have recently downloaded the latest drivers from Trident for my T8900CL board, but the problem remains.

I have decompressed my drive, re-installed Windows and it is still the same. Is this a memory conflict or a missing SYSTEM.INI instruction?

CarolineIt@aol.com

A A problem of this kind is documented for the Windows 3.11 SVGA driver and Trident 1 MG cards, but it refers to when switching from an MSDOS full-screen mode to window mode using the Alt-Return keys. The solution is to update to newer drivers — the specific Trident driver that corrects this has a date of February 1994.

You can also try the general SVGA drivers supplied by Microsoft in the Windows Driver List (WDL) available from the Microsoft web site. The relevant file is SVGA.EXE. This supports most non-accelerated SVGA display types at 640 x 480 in 256 colours, and 800 x 600 and 1024 x 768 in 256 colours using either Small or Large fonts (five settings in total).

Your card — the Trident 8900C series — is included in the supported list. However, it is more than likely that your problem may stem from a memory conflict. Some graphics cards use additional memory to enhance performance. Windows detects most of these cards and automatically excludes the additional memory. But if it does not, you can add the line below to the [386enh] section of SYSTEM.INI:

```
emmexclude=C4OO-C7FF
```

This prevents Windows from scanning the addresses C800:0000 through CFFF:000F — the block that some VGA cards use to enhance performance. If you don't want to exclude the *whole* memory block, your card's manual should show what does need to be excluded.

PCW Contacts

If you have any queries or Win3.1-related topics to discuss, contact **Panicos Georghiades** and **Gabriel Jacobs** at **Win3@pcw.co.uk**

Clean sweep

What can you do with an over-stuffed hard disk? Slim and trim, say Panicos Georghiades and Gabriel Jacobs, but be careful what you shed. And, a-haunting we will go, with Win.ini.
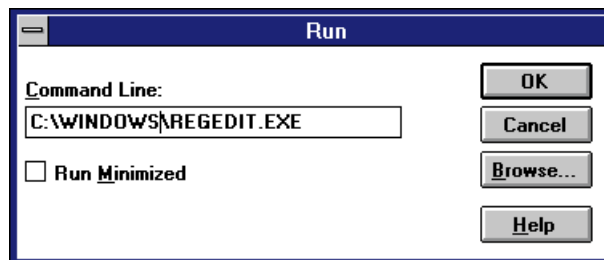
Q I am unable to access Word 6.0 and my computer supplier has suggested it may be due to a corruption in my copy of Windows 3.11. The problem coincided with my deletion of some dead files and loading of new software (upgrading Claris 1 to 3.0). On attempting to open Word, the initial result was that I got the message "Application Error — Call to Undefined Dynalink". All other software including Claris 3, Cheyenne Bitware fax, internet access via Netscape 2.0 and all Windows features still worked perfectly.

I deleted the Winword directory and re-installed successfully, but the same failure to access occurred. Deleting Word via its uninstall facility invoked a number of queries concerning the effect on other programs dependent on Word files: I accepted the deletions because, as far as I know, I have no related programs.

But on re-installing, the setup was not successful because "While registering OLE servers, Setup had a problem with REG.DAT, SHELL.DLL or disk space". As a result, the Word 6 icons failed to appear on the Program Manager.

Access via Winword.exe in File Manager brought up: "The Windows registration database file is not valid. You can correct it with Word's Setup Program". Clicking on OK brought up the Application Error, as before.

My supplier has suggested deleting Windows 3.11 at the DOS prompt by entering DELTREE C:\WINDOWS and then re-installing it. I am reluctant to do this because I believe a wholesale reloading of software will be necessary. My hardware is a 486DX2-66 with 8Mb

RAM and a 251Mb hard disk with about 95Mb free. I have no files of my own in the Windows or Winword directories.
Trevor Whatmore
trevorww@easynet.co.uk

A The problem originates either from your having deleted some "dead" files or from having installed Claris 3.0. The error "Call to Undefined Dynalink" can be caused when Word tries to use a DLL file which is either missing, damaged, or a different version from the one it is expecting.

Claris 3.0 is listed in Microsoft documentation as one of a number of programs installing OLE components that are older than those used by Microsoft Office. It is likely to be any one or more of the following files: OLE2CONV.DLL, OLE2DISP.DLL, OLE2NLS.DLL, COMPOBJ.DLL, or STORAGE.DLL.

But when, during the Word uninstall process, you accepted file deletions which apparently were not in use by other programs, useful files may have been deleted. A clean start may not be such a bad idea after all. When you have some free time, backup all your personal data and delete both the Windows and the Word directory, as well as all the other directories of all your software packages (because as you rightly suggest, they will have to be re-installed once Windows has a clean installation). With DOS-only software left on

your hard disk, run Scandisk, defragment your hard disk, then re-install Windows and all your other software, preferably in order of their release (older software first, newer software last).

Although this solution will take some time (it could be as much as a whole day), it will ensure that all unused files are deleted both from the hard disk and your installation settings. It should also result in some extra hard disk space (we assume you were trying to free some up by deleting "dead" files in the first place).

As a rule, we don't recommend such draconian measures. Unlike cleaning up your house, computer clean-ups don't make your installation look better or cleaner. They're only needed when things stop working. But unless you can be sure about which files you deleted and have some way of getting them back, we would suggest a clean sweep, as it were. Cut your losses, is our advice.

One more thing. When you're running uninstall routines and they ask you whether you want to delete certain files which aren't being used, but could be used by other programs, select the safest option and leave them on the hard disk — there may very well be other programs using them. Also have a look at our panel, "Windows on a diet" (*opposite*).

Q I am using Windows 3.11 with Norton Desktop. A few months ago, I ran a CD Serif Pub Suite. I did not keep

The easy way to access all your registration files

Windows on a diet

If you have a small hard disk, or lots of programs and little space remaining, it's possible to slim down your Windows installation. But what can and cannot be deleted without getting into trouble? Before we tell you, here are some vital statistics:

Windows installation space

|	
Anorexic	2.5 to 5Mb
Skinny	5 to 10Mb
Slim	15 to 25Mb
Office Sweet satiated	25 to 35Mb
Has been eating junk-food and storing junk files	Over 35Mb

Right, let's go. Firstly, do not delete any files while Windows is running. Delete any of the following files from the command prompt: that is, before you start Windows or after you exit (not using the Windows DOS prompt):

1. EMM386.EXE (expanded memory emulator) — if you don't need to provide EMM support for non-Windows applications (i.e. if your Config.sys file doesn't refer to it).
2. Files in the Windows\Temp directory — assuming the PATH command in your Autoexec.bat file, SET TEMP, is set to that directory.

3. Any files that start with the characters ~WOA or ~GRB.
4. A file named WIN386.SWP — temporary Windows swap file.

While running Windows, you can also delete any of the following by choosing the Windows Setup icon in the Main Group, then choosing Add/Remove Components from the Options menu:
5. Any accessories you don't use (such as Paintbrush, Write, Calendar, Cardfile) with their related .HLP and .DLL files.
6. Games:
• Reversi — Reversi.exe, Reversi.hlp
• Solitaire — Sol.exe, Sol.hlp
• Hearts — Hearts.exe, Hearts.hlp
• Minesweeper — Winmine.exe, Winmine.hlp
7. Screensavers — .SCR extension.
8. Wallpapers, other images and sound files — .BMP and .WAV extensions.
9. Readme files — often with .WRI or .TXT extensions, but be careful to delete only those Readme files that you really do not want. Have a look at what they contain first and be careful not to delete any documents, images or sounds you need (.WRI, .TXT, .BMP, .WAV).
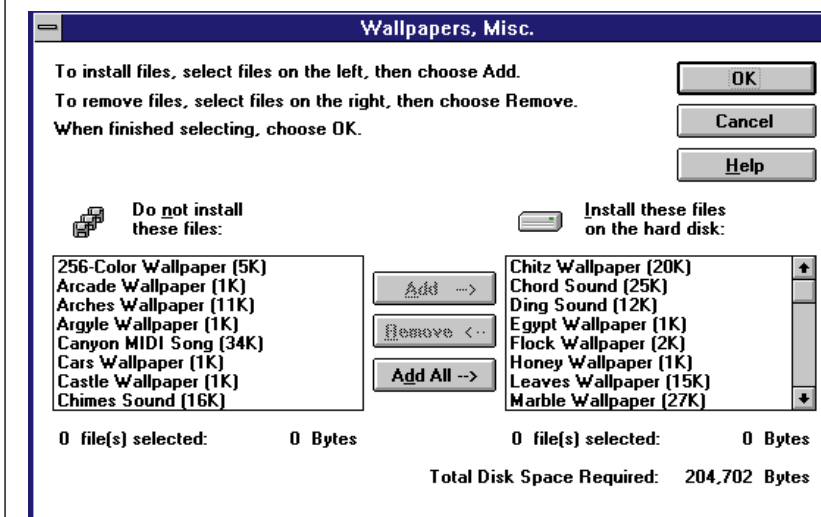
If you need hard disk space, use the Add/Remove Components from the Options menu of the SetUp icon in the Main Group to slim down your Windows installation

it on my PC but now I have entries in the Embedding section of my Win.ini. They are: "Type Plus = Serif Type Plus, Serif Type Plus" and so on. I have tried deleting the entries, but they haunt me and won't stay away.
Norman Lomas
normlomas@aol.com

A Win.ini entries are added when you install new software (including hardware drivers) but sometimes also when you run programs. Even if you delete the entries, some programs just put them back when you run them. The [embedding]

section is included in WIN.INI to maintain compatibility with Windows 3.0 and Windows 3.0 applications. You do not say what method you have used to delete the entries. Delete again by running the Registration Info Editor (REGEDIT.EXE) from File or Program Manager.

PCW Contact

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Recording session

The Windows Recorder facility has nothing to do with video or sound; rather, for repetitive tasks, its time-saving abilities could be invaluable. Panicos Georghiades and Gabriel Jacobs explain.

The computer is the ultimate programmable automated machine, and its keyboard and mouse are multi-functional. The problem is that we can end up with having to press innumerable combinations of these buttons whereas just one could do the job of many. In other words, we could do with a single piece of program code that manipulates other programs: a computer using a computer.

Such programs do exist and many are free, like the macro recording facilities in word processors. Windows has its own under-used Recorder accessory. Despite the camcorder icon for this accessory, which to many users may be misleading, this program has nothing to do with recording video or sound (there's a separate Sound Recorder accessory).

The Recorder is not a full-blown facility as found in Excel or Word for Windows: it lacks a programming language. In other words, you can't set up a command script. It merely records your moves and you cannot subsequently edit the result, so if you make a mistake you have no option but to record again. What's more, the Recorder doesn't accept any input at run time and lacks decision-making capabilities.

The good news is that your Recorder macros can span a number of Windows applications simultaneously, so you can copy data from one to another. And, a macro recorded in one application can work in another, provided its moves make sense. So, if you find you're constantly involved in repetitive tasks, the Recorder can be a time-saving tool, and despite the restrictions we've already mentioned, the uses to which it can be put are legion.

Recorder saves its macros in files with

an REC extension. You can keep many macros in a single REC file, and it is often useful to do this. For instance, you can have a group of macros called "printers", each one installing a specific printer as the default Windows version. You could have another file of macros called "letters", where you keep personal details and standard phrases you use in correspondence such as "Yours sincerely". These can then be used in any Windows text application: WordPerfect, Write, Notepad. You're not restricted to the macros you may have written in your most-used word processor.

There's no need to present a full-blown tutorial on the Recorder here because the manual is good enough. Instead, we've provided some handy tips and examples.

The automated letter-writing macro
If you write letters, which are made up of standard phrases, to different people you can automate the process by having the Windows Recorder type in the appropriate one for you. Just select the ones you want:
1. Double-click on the camcorder icon and from the Macro menu select Record.
2. In the Record Macro dialog box, type in a name for your macro (Address, say) and a shortcut key, perhaps A. (The Ctrl check box will be crossed, so your shortcut key is in fact CTRL A — see the Tips panel for the reason why you should stick to CTRL.)
3. At the list box named Record Mouse,
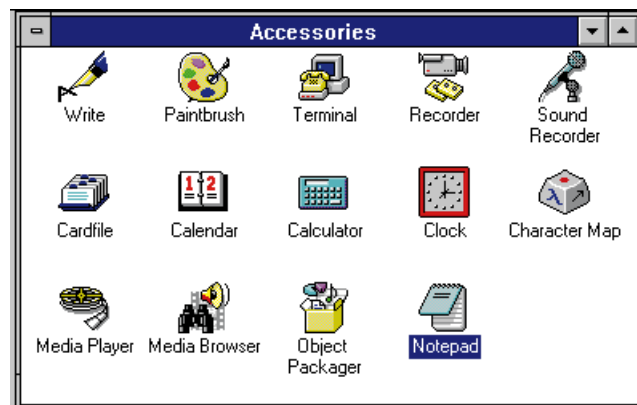
select Ignore Mouse.
4. At the Playback To list box, select Any Application.
5. If you wish, type in a description and click on the Start button. The Recorder window will minimise and start flashing.
6. Type in your Address with carriage returns (CRs):

```
The Man with No Name <CR>
Clint Eastwood Estate <CR>
A Town called Hell <CR>
Wild West<CR>
```

7. Click on the minimised Recorder icon and on the OK button to save the macro.
8. Select Record again and repeat the above procedure for any other standard phrases you use.
9. Finally, choose Save As and save all the macros in a single file (PHRASES, say).

To use these, run Recorder and load PHRASES.REC. From your word or text processor, type the shortcut key for the phrase you require, or double-click on the name of the appropriate macro.

A Screensaver On macro
There are also cases where you would want a single macro to be assigned to an icon so

that it will execute when you double-click on it: setting the screensavers on and off, say.

If your machine is used by different people with their own preferences about how Windows looks, you can expand this macro to change sets of Control Panel settings (wallpaper, screensavers, colours and so on), create a macro for each user and store them all in the same file, which can be run from the Startup group. All you do is select which user is on.
1. Double-click the camcorder icon and from the Macro menu select Record.
2. The Record Macro dialog box appears. Type in a name for your macro, say Screen Saver On, and a shortcut key, say 1. (You'll notice that the Ctrl check box is crossed, so your shortcut key is CTRL 1) .
3. At the Record Mouse list box, select Ignore Mouse. Type in a description, and click the Start button. The Recorder window will again minimise and start flashing.
4. Press: ALT F, then R. Type in CONTROL.EXE and press <CR>. Now press: ALT S / D <the Tab key — 3 times>, <Down/Up arrow to the select the screensaver scheme you want>, <the Tab key> 1 <CR> ALT + spacebar C.
5. Click on the minimised Recorder icon and the OK button to save the macro. Select Record again and repeat the above procedure for Screensaver Off — you select None as the screensaver scheme.
6. Choose Save As and save all the macros in a single file (SCREEN, say).

To make these macros run automatically, see the procedure outlined in the main text (*above*) and replace MYMACRO.REC with SCREEN.REC, and the shortcut key with CTRL 1, or anything else you want to use. To give a macro an icon so that it can be run with a double mouse-click, select New from the File menu of the Program Manager, click on Program Item and at the text box reading Command line, insert:

```
RECORDER.EXE  MYMACRO.REC
```
where MYMACRO.REC is the file containing your macro(s). This will load the macro file, but won't play it. To play it automatically, your command line should read:
```
RECORDER.EXE -h ShortCutKey
MYMACRO.REC
```
Here, to start the macro, you have to use the shortcut key pre-defined in your file, and the following conventions must be followed: ALT is represented by % / CTRL by ^ / SHIFT by +. So the command line for a macro starting with the shortcut key-

combination CTRL F2, and stored in file MYMACRO.REC will be:
```
RECORDER.EXE -h ^F2 MYMACRO.REC
```
Note that the above line implies that MYMACRO.REC is stored in your Windows directory; if not, you have to specify the path. Therefore, if MYMACRO.REC is stored in a directory called MACROS on drive C, the above line would read:
```
RECORDER.EXE -h ^F2 C:\MACROS
\MYMACRO.REC
```
The default icon for macros is the camcorder, but you can change that. There are lots of macros you can design to do many things. Windows Write, for instance, can be enhanced with a macro to be used for automating formatting. You can create macros which combine a set of formatting features like font size, style or indents to create a selection of styles for headings and paragraphs, so that a single mouse-click does the job of five or six dialog boxes.
■ *We'd be glad to hear from you if you've thought of a really useful macro.*

Tips for macro recording

■ There's no need to assign a name *and* a shortcut key: either is adequate, but you must define a shortcut key if you want to use one.
■ Although you're allowed to use ALT as part of your shortcut key combination, don't. You're almost bound to run into conflict problems because Windows and Windows applications use it.
■ If you're preparing a macro to demonstrate a piece of software or some method, remember to select Recorded Speed as the playback speed instead of the default Fast option. Note that there's also a Continuous Loop option available which is useful for continuously running presentations.
■ Practice the moves first, and write them down before recording.
■ As far as possible, stick to keystroke combinations only instead of mouse movements and clicks: they present problems because the screen positions are also recorded, and opting for mouse co-ordinates relative to the screen rather than the window doesn't necessarily help. The only time you will need to use the mouse is if you're copying data or drawing graphics.
■ Macros are transferable from one computer to another but you'll run into trouble if the two machines use different graphics resolutions or keyboard drivers.

PCW Contents

If you have any queries or Win 3.1-related topics to discuss, contact **Panicos Georghiades** and **Gabriel Jacobs** at win3@pcw.co.uk.

Lost and font

Help! I've lost my fonts. Deleting fonts is a dangerous business — Panicos Georghiades and Gabriel Jacobs tell you what you need to restore the status quo. Plus, a tip on Cardfile conversion.

"**H**aving been carried away with your article about fonts in PCW July, I removed all the fonts except those I use. Big mistake! I overlooked those that Windows holds for Microsoft Works and Access, as well as for its own use. Can you tell me what basic fonts should be left in Windows\System?"

Ian Shutes
ianshutes@enterprise.net

We list here the fonts supplied with Windows 3.1. They're used for supporting the system and Windows applications, for DOS applications running in Windows and data copied to the Clipboard from these applications. As for Access and Works, specific templates may use specific TrueType fonts supplied with these packages as extras. The system font files for various screen resolutions are:

```
8514SYS.FON
EGASYS.FON
VGASYS.FON
```

OEM (Original Equipment Manufacturer) font files, for various screen resolutions, used for OEM text in the Clipboard Viewer and as a character set for certain Windows applications, are:

```
8514OEM.FON
EGAOEM.FON
EGAOEM.FON
VGAOEM.FON
```

In addition, some variants of raster screen fonts come with Windows, used for printing text and graphics as bitmaps or raster lines. The variants, each for a different screen resolution, have one of the letters A to F appended to the filename of the font. Included with Windows 3.1 are B (EGA display), E (VGA display) and F (8514 display). The fonts are:


```
COURx.FON
SSERIFx.FON
SERIFx.FON
SMALLx.FON
```

where the x is a letter A to E. For instance, SSERIFE.FON is the VGA variant of Microsoft Sans Serif. Windows also comes with three vector (fully scalable) font files:

```
ROMAN.FON
SCRIPT.FON
MODERN.FON
```

Most important of all, five TrueType fonts are supplied with Windows (three of them as families). Each font has (not shown here) a file with a .FOT extension and a file with a .TTF extension. Each filename for Arial, Courier and Times New Roman, apart from the regular font, is followed by BD for the Bold version, I for the Italic version, and BI for the Bold Italic version. For example, the regular Arial filenames are ARIAL.FOT and ARIAL TTF. Arial Bold Italic requires ARIALBI.FOT and ARIALBI.TTF.

The supplied TrueType font files are ARIAL (Arial), COUR (Courier), TIMES (Times New Roman), SYMBOL (Symbol)

Fig 1 Be careful not to delete fonts required by system and Windows applications

and WINGDING (Wingding). Also to be added are certain fonts used for displaying non-Windows applications in a window:

APP850.FON	DOSAPP.FON
CGA40850.FON	CGA4OWOA.FON
CGA80850.FON	CGA8OWOA.FON
EGA40850.FON	EGA4OWOA.FON
EGA80850.FON	EGA8OWOA.FON
HERC850.FON	HERCWOA.FON
VGA850.FON	VGA860.FON
VGA861.FON	VGA863.FON
VGA865.FON	

Since you have deleted many of the supplied fonts and we don't know anything about your requirements, it would probably be best to re-install all the standard Windows fonts we've mentioned.

MPEG empathy

"How can I tell if I have MPEG capability? I'm sure I do, but I don't think I have the software and/or drivers to view the files."

Andy Davis
alchemist@emarkt.com

MPEG playback capability, which enables you to view full-screen full-motion video files including Video CDs (commercial movies and pop videos) comes in three flavours:
1. Software-only utilities.
2. A chip on an S-VGA graphics card.
3. A separate MPEG card, sometimes attached to the graphics card with a cable, or as a daughterboard.

If you do have the drivers installed you'll see the relevant lines in the Drivers section of the Control Panel. MPEG is installed as an MCI (Media Control Interface) device, like sound cards and CD-audio, MIDI, animation

Cardfile conversion

One use of the Print to File facility is to convert certain non-ASCII file formats to ASCII for importing into other applications; an example being Windows Cardfile files. A number of utilities are available in the public domain for converting Cardfile files to ASCII, but the job can be done easily without them:
1. Install the Generic/Text Only printer driver and configure it to Print to File. Do this from the Printers icon in the Control Panel.
2. Start Cardfile and load the file you want to convert. Select Print Setup from the File menu, and in the dialog box select Specific Printer, then the Generic/Text Only driver. Click on the Options button, and select No Page Break.
3. Go to the File menu, select Page Setup and clear the Header and Footer boxes. Close dialog boxes and select Print All from the File menu. Enter the path and filename with, say, a .TXT extension.
4. You can now load this text file into a word processor, although you may find that you have to do some cleaning up, such as getting rid of blank lines.
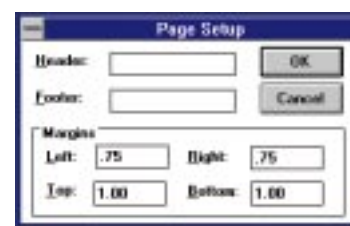
Fig 2 Checking for MPEG drivers

and other multimedia elements (Fig 2).

If the drivers aren't installed, have a look on your hard disk for any directories containing drivers and documentation about the card. The software may be on the hard disk, even though it's not installed. Failing that, open your PC and have a look at the hardware. Check your graphics card and any card next to it: every adapter card has a label printed on its PCB. Also, have a look at the names of the chips on the cards: many MPEG cards use a C-Cube chip. There are only about ten makes of MPEG card sold in the UK, so you should be able to identify whether you have one or not.

Changing names

"In May's PCW, in the Hands On section, Tim Nott wrote about how to change the username and company name of a PC. What is the Win 3.1 version of this solution?"
globalte@users.AfricaOnline.Co.Ke

When Windows is first installed, you're asked for your name and company. This data is stored in the file USER.EXE (Windows/System directory) in Win 3.1, 3.11 and Windows for Workgroups 3.1, but

in SERIALNO.INI (Windows directory) in Workgroups 3.11. The latter is an editable file, so if you have Windows for Workgroups 3.11, use Notepad or some other text editor to put in the name(s) you want, and re-start Windows. Simple!

Not so simple with the other versions mentioned above, though. But there is an undocumented and unsupported method (with a warning from Microsoft that it doesn't encourage its use). So if you're using Windows 3.1, 3.11, or Windows for Workgroups 3.1, here's the answer, but on your own head be it if you decide to use it.
1. Choose Run in the File menu of the Program Manager and enter SETUP /F as the command line, then OK.
2. Enter the new name and company name and click Continue. Then confirm.
3. The Setup Options screen will be displayed: again click Continue. Same with the Install Components screen, and if the Swap File screen appears, do the same.
4. You'll be asked to insert a Windows disk in drive A:. Click on the Exit Setup button and confirm the exit. Exit Windows, and when you re-start, the new name and company name should be displayed. We have tried this on some machines with no problem, but we take no responsibility.

PCW Contact

If you have any queries or Win 3.1-related topics to discuss, contact **Panicos Georghiades** and **Gabriel Jacobs** at Win3@pcw.co.uk.

Hands off my PC!

Are pesky people doing things to your desktop? Panicos Georghiades and Gabriel Jacobs unlock the secrets of security using progman.ini, and release a secure screensaver tip, too.

This month, among the letters we have received, we return to the perennial cry of "Who's been messing with my machine?"

Keeping it in the family
Q. *"I need some help – someone in my family keeps mucking up my desktop. At the moment I have got my computer asking for the first letter of my first name, then copying the *.GRP files and the *.INI files from the users\glenn directory to the Windows directory. Is there an easy way to stop people doing this?"*

Glenn Moseley
moseleyg@usa.net

A. Someone in your family has created directories which hold Windows configurations for individual users and which are initiated before you start Windows. Provided these are updated when you exit Windows and that your machine doesn't suffer from crashes, there's no harm done. And, of course, this does solve the problem of different users using the same machine and having different preferences settings.

If you don't want others to use your machine, use your hardware key, if you have one, to lock it up. We suggest a password method in the screensavers section later on in this column, but if your mystery family member is clever enough to have thought of the method you've described above, only a physical lock may stop the perpetrator.

Getting the boot
Q. *"Having recently decided to use a multiple boot configuration I noticed, in your March column, an item about installing Windows 3.1 and Windows 95 on the same machine and it would automatically start*

into Windows 95. I run most programs through Windows 3.1; is there any way to boot into DOS/Windows 3.1?"

Ian McDougall-Ryan
balls@mail.zynet.co.uk

A. You need to edit the hidden and read-only system file MSDOS.SYS, found in the root directory of your boot drive, and add the line
```
BootWin=0
```
in the [Options] section. After you've done that, your machine will boot into MSDOS by default instead of into Windows 95. Pressing F4 just before the "Starting MS-DOS" message at bootup will start Windows 95. Please use a text editor (such as Notepad) to edit MSDOS.SYS. Be very careful and remember to revert its attributes back to hidden and read-only after you've edited it. In addition, do not delete all those unnecessary-looking lines full of "x"s at the end of the file: they are needed.

Wild filed
Q. *"In your Windows 3.1 column in the June issue of PCW, you mentioned cutting and pasting the filename in File Manager's Rename dialog box. As I am sure you know, you can also use wildcards. In the To: box you can enter *.bak, for instance, to change just the extension of the file in the From: box. In fact, you can rename multiple files in this way, and you do not need to select them first.*

For example, in the From: box, type in \chk*.* and in the To: box enter \abc*.* (should you, for some reason, want to change the first three characters of Checkdisk's multiple files in the root directory!)."

Steve Rainey
UnisoftComputers@compuserve.com

House-train a screensaver
Screensavers, originally designed to save our monitors from burning out, are nowadays used just as much for adding user individuality to machines as for preventing others from accessing machines when you are not around. But a screensaver, however cute and harmless it may appear, is yet another program running in the background along with your main applications, doing its bit to slow your machine down or popping up at times when you wished you'd never installed it in the first place.

The solution is to invoke it only when you choose – if, say, you are planning to be away from your desk for a considerable length of time. You can do this by assigning Program Manager icons and/or shortcut keys to the screensavers of your choice:
1. Using Notepad (or any other text editor), change the line in the win.ini file that reads
```
Programs com exe bat pif
```
to
```
Programs com exe bat pif scr
```
Then exit and restart Windows, so that this can take effect. To add a screensaver icon to an Application Group: from the Program Manager's File menu, select New, then click on the New Program Item radio button, then on OK. Type a description into the Description box and the command line in the Command Line box.

Valid command lines for the screensavers in Windows 3.1 are:
- SCRSAVE.SCR for a Blank Screen
- SSFLYWIN.SCR for Flying Windows
- SSMARQUE.SCR for the Marquee
- SSMYST.SCR for Mystify
- SSSTARS.SCR for the Starfield Simulation

…or any other .SCR files you may have.

You can also assign a shortcut key in the Shortcut Key text box, by pressing the key of your choice.

Before enabling the screensaver, it's a good idea to configure its options. To do this, press the shortcut key or double-click the screensaver's icon and make changes to the dialog box which appears. Here, you can also add a password.

Up to this point you won't be able to start the screensaver. To be able to start it by selecting the shortcut key or clicking on its icon you need to add the /S switch to its command line. To do this, select the screensaver icon, then choose Properties from the File menu. On the command line, add the /S switch. For example, enter the following in the Command Line text box:
```
SSTARS.SCR /S
```
The screensaver program icon will now behave as any other program icon. It will start the screensaver when you double-click on it – handy if the boss walks in when you're playing Solitaire.

This will also provide an extra level of security when starting Windows. By giving the screensaver a password, then copying the screensaver into the Startup Group, it will start every time Windows starts, and no-one else will be able to use your Windows installation just by typing Win, unless they know the password (*see adjacent panel*).

Security using progman.ini
Being 100 percent sure that the subject of machine security will crop up repeatedly, we offer here a few more restrictions you can apply, this time by using the progman.ini file. Progman.ini is Program Manager's initialisation file. In essence, its purpose is to contain information which tells Windows what should appear in the Program Manager window and how these things should behave.

Generally speaking, settings in progman.ini are automatically updated by Windows when you create groups and make certain changes. But it's possible to make changes to progman.ini using a text editor like Notepad. For instance, you may wish to add a [restrictions] section to the usual [settings] and [groups] sections.
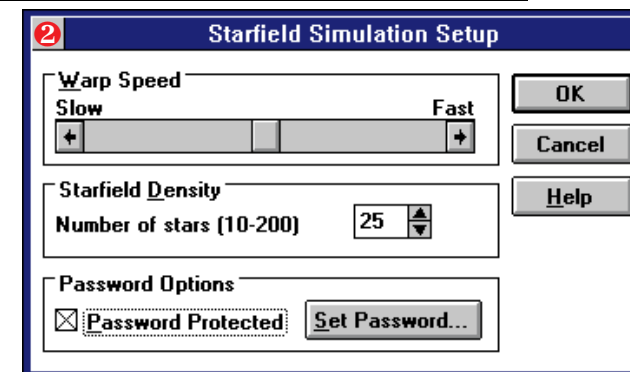
The [restrictions] section consists of
```
NoRun=
NoClose=
NoSaveSettings=
NoFileMenu=
EditLevel=
```
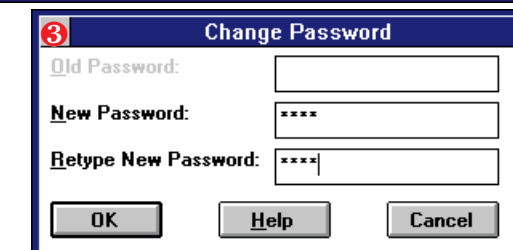
Set a secure screensaver
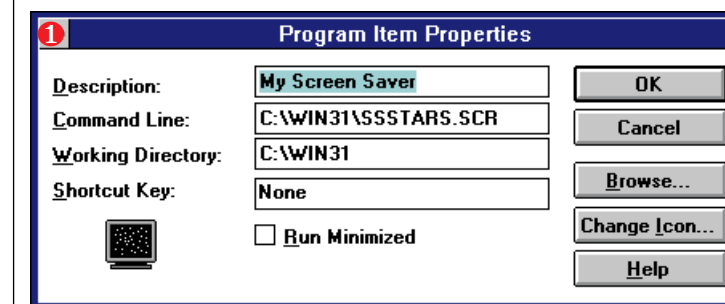
1. Having added the .SCR extension to the Programs= line in the Win.INI and re-started Windows, add your screensaver as a New Program item in Program Manager
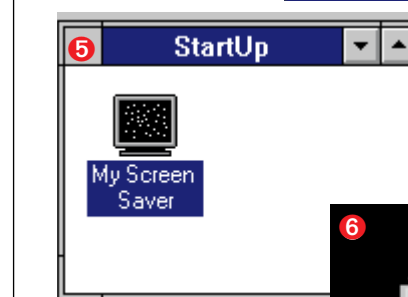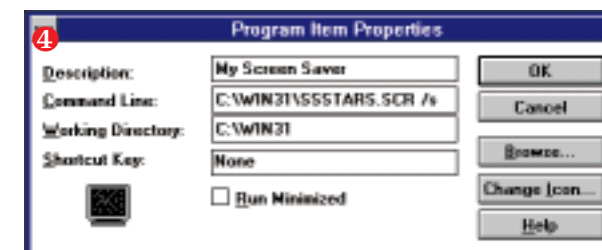

2. Double-click on the screensaver icon and change its options

3. Add a password

4. Click on the screensaver icon and add the /s to the command line in its Program Manager File properties

5. Move the screensaver to your StartUp group

6. When you start Windows, you will now have to enter your password

p226 ➤

HELP help

To add your own comments to Help screens:
1. Go into Help and to the area in which you would like to add comments.
2. Click on Edit, then select Annotate.
3. Enter your text, and click on Save. You will notice that a paper-clip icon now appears on the screen.
4. When you click on this paper-clip, a pop-up window displays your text.
5. Click on Delete to remove the comment.
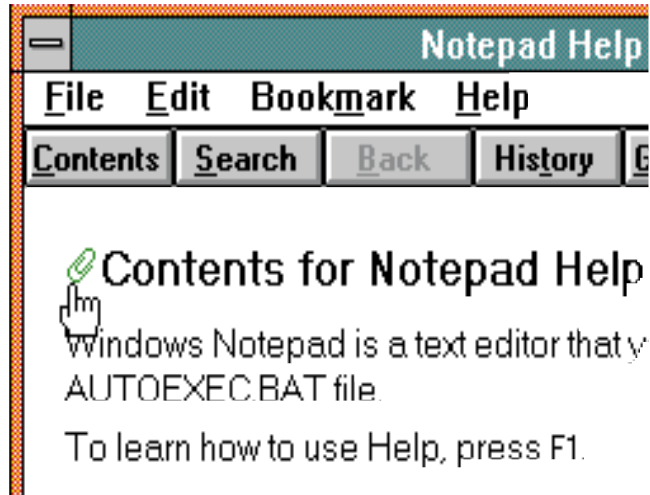
■ **NoRun=1 will disable** (dim out) the Run command on the File menu so a user won't be able to run applications from Program Manager unless the applications are set up as icons in a group. This prevents unauthorised use of certain applications.

■ **NoClose=1** disables the Exit Windows command on the File menu, so the user will be unable to leave the Program Manager via either the File menu or the Control menu (the Exit Windows and Close commands will be dimmed), or by using Alt + F4.

■ **NoSaveSettings=1** prevents the current settings being saved on leaving Windows, by disabling the Save Settings on the Exit command in the Options menu. It overrides the SaveSettings= entry in the [settings] section of progman.ini: useful when you've defined the settings you need and don't want anyone to mess them up permanently.

■ **NoFileMenu=1** removes the File menu from Program Manager (disabling New and Delete operations, in particular). But a user can still run applications with icons in groups. And unless you've disabled the Exit Windows command, a user can still leave Windows via the Control menu or Alt + F4.

■ **EditLevel=** followed by a number between 0 and 4 sets certain restrictions affecting the level of privilege applicable to making changes to the Program Manager.

■ **0** allows a user to make any change (the default).

■ **1** prevents anyone from creating, deleting or renaming groups. The New, Move, Copy and Delete commands on the File menu are unavailable when a group is selected and this can therefore be used in conjunction with the NoFileMenu=1 entry.

■ **2** sets all restrictions in level 1 and prevents the creation or deletion of program items. The File menu's New, Move, Copy and Delete commands are unavailable.

■ **3** sets all restrictions in level 2 and prevents anyone from changing command lines for program items. The text in the Command Line box in the Properties dialog box cannot be changed.

■ **4** sets all the above restrictions and prevents people from changing any program item information. None of the areas in the Properties dialog box (which will all be dimmed) can be changed.

■ To change your restriction settings, simply remove the entry concerned or set the value to 0.

But what's to stop a user getting into progman.ini and altering the settings to remove restrictions? That's another story!

PCW Contact

If you have any queries or Win 3.1-related topics to discuss, contact **Panicos Georghiades** and **Gabriel Jacobs** at **Win3@pcw.co.uk**.

What a **performance**

Panicos Georghiades and Gabriel Jacobs investigate SmartDrive, which is installed on your machine but uses some of your RAM. Learn how to alter settings to improve performance.

There are many things you can do to your machine to increase its performance: get more RAM, get a larger and faster hard disk, get a faster graphics card, and so on. Of course, they all cost money. The cheapest and most effective option is to upgrade the RAM (12Mb is now our recommended minimum).

But there are other things you can do which don't involve buying anything, like taking a good look at how your machine runs and making a few changes to optimise its performance. Your machine is a team rather than a single worker, and the team needs to be co-ordinated. Think of it as handling the queues at a supermarket, with ordinary checkouts, wide checkouts, checkouts for eight items or fewer, and so on.

While the performance of MSDOS programs relies mostly on how much free memory is available below 640Kb, Windows 3.x performance relies on the first few free megabytes of available extended memory, above what is required for Windows itself (a good average estimate to work with is about 3Mb).

Once Windows runs out of extended memory it starts using the hard disk to store temporary files, and hard disk performance can be between ten and thirty times slower than that of RAM. A PC fitted with 8Mb of RAM can be as slow as a tortoise, while the same PC with 12Mb of RAM can run as smoothly as if it had 32Mb. It all depends on whether the additional 4Mb has made the difference between swapping to hard disk or working in RAM alone.
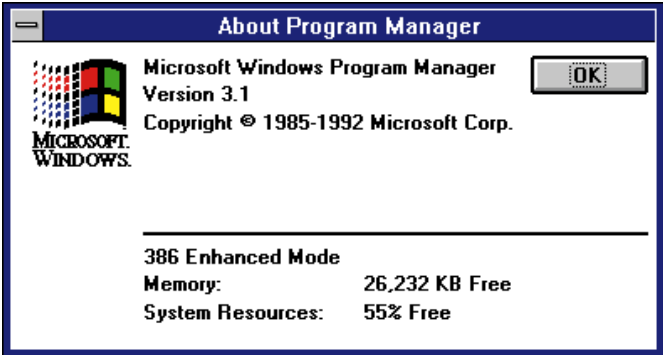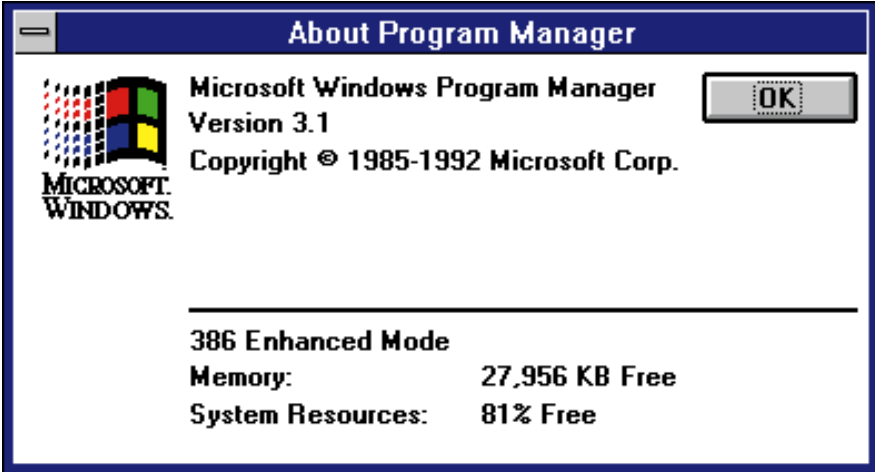
Smart move

When your machine reads and writes data to the hard disk, it uses a program called SmartDrive (smartdrv.exe) to hold information in memory (in a so-called disk cache) so larger chunks of data are being manipulated at a time and fewer mechanical trips have to be made by the hard disk heads to the drive's magnetic material. If you can carry more things with you, you make fewer trips and your work is done more quickly.

SmartDrive is installed by default on your machine. It uses some of your RAM and you can alter the default settings to make things run more smoothly. On an 8Mb machine SmartDrive takes up 2Mb. The first megabyte of your RAM isn't available to your Windows programs either, since 640Kb is taken by MSDOS and some other bits and bobs like expansion boards (video cards, sound cards). Add in the 3Mb Windows itself needs and you're left with only 2Mb for your programs.

Many programs require more than 2Mb of RAM, and in these cases decreasing the amount of RAM used by SmartDrive from 2Mb to 1Mb can decrease, or even eliminate, disk swapping.

It's up to you to investigate how much RAM your individual programs use. Using Program Manager's Help and About menu option, check the amount of RAM you have

available before you start a program, then after you've started it and loaded a file, and subtract one value from the other to get the memory used by a particular program. Your aim is to fit that amount of memory within the RAM of your machine.

It may be evident at this stage that your programs need a lot of RAM (say, more than 2Mb or 3Mb) and that you do need to upgrade your RAM by buying more chips. To find the physical memory available in your machine and how it's allocated, type:

```
mem/c
```

from the DOS prompt, when you're not running Windows, not from the DOS prompt within Windows. And if you type:

```
mem/c >pcw.txt
```

the information will be stored in a file called pcw.txt so that you can do your calculations while reading this from Notepad instead of having the information flash up on-screen.
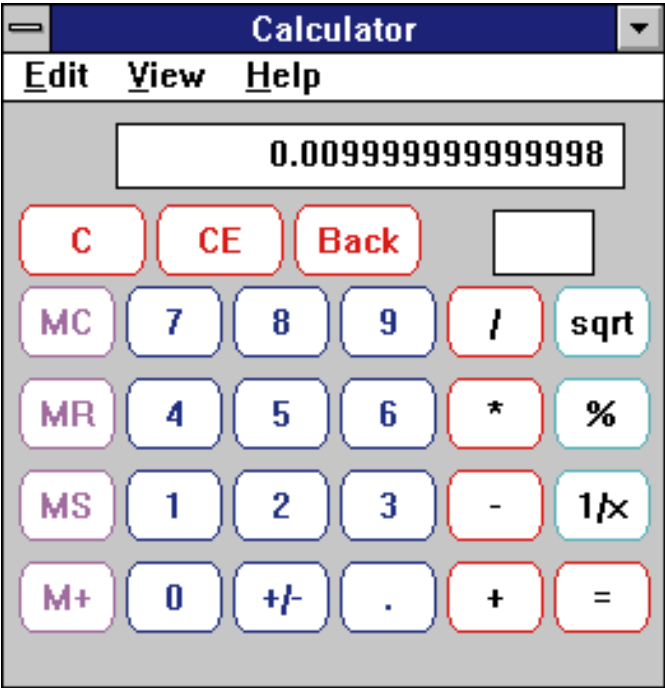
You'll now see how much RAM is free after loading MSDOS and SmartDrive. Subtract from this the 3Mb Windows will take up and you'll be left with the amount your programs can use. If they can fit within that amount, there won't be much hard-disk swapping — you'll be able to see and hear whether this is going on anyway.

To change the values used by SmartDrive, while still at the DOS prompt go to the DOS directory (cd \dos) and type

Help. Follow the instructions and check the syntax for SmartDrive. The two values of most interest to you are

those of InitCacheSize and WinCacheSize.

InitCacheSize sets the size (in kilobytes) of the cache when SmartDrive starts (before Windows is loaded). The larger the cache, the less often data needs to be read from the disk. If you don't specify a value, SmartDrive will set one according to the amount of memory your machine has.

WinCacheSize specifies (in kilobytes) how much the cache size will be reduced to allow for Windows itself (when you exit Windows, it returns to its initial size). The default value depends on how much available memory there is, but if you specify a value smaller than that allocated to WinCacheSize, InitCacheSize will be set to the same size as WinCacheSize.

If you're not running any DOS programs which require extended memory, both these values can be equal. We recommend a larger SmartDrive value if you think your hard disk is slow, and vice-versa. However, these values must be relative to the total RAM in your machine and we recommend no less than 512Kb for the WinCacheSize and no more than 25 percent of your total RAM for the InitCacheSize.

Typing mem/c gives you a rundown of how your memory is used under MDDOS

By checking memory beforehand and while an application is running you can estimate how much memory it uses

Above Old calculator result
**Right** New calculator result. See this month's disk for the upgrade to Windows Calculator
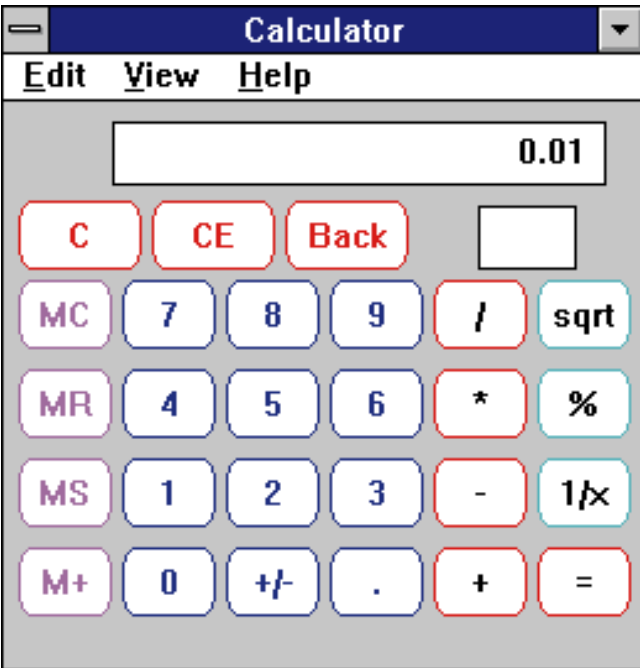
DLL dramas

Q. "I would appreciate your guidance on why DLLs seem to cause problems in Windows. I recently had to reinstall Word on a laptop. All seemed fine until I ran the application. At 9.30pm the only help I could think of was the Microsoft support desk in Canada! They very quickly identified the problem and helped me to edit a couple of DLL files before reinstalling Word again. This seemed to solve the problem but I didn't get round to asking for an explanation. Can you assist?"
Chris Kushner 100634.75@compuserve.com

A. DLLs (Dynamic Link Libraries) themselves generally don't cause problems, but they appear to because when errors are reported on the screen they refer to the DLL which was being called at the time.

DLLs are executable files that allow Windows applications to share resources. So, as their name suggests, they can for example link applications so that when one is updated, the other application takes account of the update. They're often to be found in the Windows or Windows\System directories, but can also reside elsewhere. They usually have a .DLL extension, but some have .EXE and other extensions.

If an application is missing one of its DLL files, an appropriate and quite commonly seen error message will appear: "Can't find ...." (make sure that the DLL file is in the correct directory). If an application is started with an outdated DLL file, the error message "Call to undefined dynalink" will be displayed, and that may well be the error message you got. We presume that the Canadians told you how to update the files.
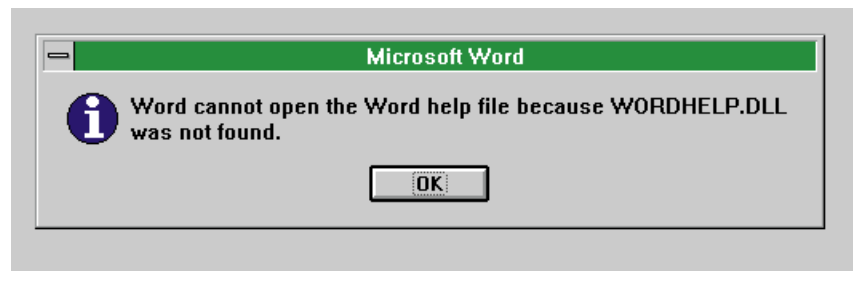
But there are no hard and fast rules. Play within those two limits and see if you can improve the performance by cutting down on disk swapping. Note that Windows for Workgroups 32-bit File Access replaces the functionality offered by SmartDrive. Cacheing is automatically disabled for drives using 32-bit File Access and its memory use is reduced to 128Kb. You still need to use it, however, for cacheing CD-ROM drives.

It's important you use the latest version of SmartDrive available to you, as there can be enhancements you require. You can check which version you have by typing:

```
smartdrv /s
```

Version 2.1 shipped with MSDOS 4.01, version 3.0 with Windows 3.0 and Windows 3.0a. Version 3.13 shipped with MSDOS versions 5.0 and 5.0a, and Version 4.0 shipped with Windows 3.1 and 3.11.

Version 4.1 came with MSDOS 6.0 and included support for DoubleSpace. Version 4.2 was available through online services only and included a switch to clear the cache. The latest versions are 5.0 which shipped with MSDOS 6.20 and 6.21 and Windows for Workgroups 3.11 (the first version to support cacheing for CD-ROM drives) and 5.01 which shipped with MSDOS 6.22, fixed problems with Kodak Photo CDs and included support for DriveSpace disks.

It all adds up to a new Calculator

On this month's CD-ROM and floppy disk we distribute a new version of the Windows Calculator, released by Microsoft, which fixes a bug that occurs during subtraction of decimal numbers and also makes the calculator behave more like a handheld one. The bugged version comes with Windows 3.1 and 3.11. Try 25.22 minus 25.21. You'll get 0.00, 0.0099999999, 0.010000001 or 0.0000, rather than the correct answer of 0.01. Try also (1/3 + 10 - 10) x 3. You'll get 1.0 not 0.9999 which is what you would get on a handheld calculator. This is due to the fact that significant digits are lost by adding and subtracting 10.

See this month's disc for instructions on how to install the new Windows Calculator.

Font memories

It's not goodbye but *au revoir* to too many TrueType files — they can slow things down. Panicos Georghiades and Gabriel Jacobs show you how to group fonts for specific jobs.

Windows, and most of its applications, copy and store TrueType font files to the Windows\System subdirectory. But having lots of fonts installed (more than 100, say) can slow things down. So, it is a good idea to keep groups of fonts dedicated to different jobs in separate directories, and to edit the [Fonts] section of your win.ini file to keep only those fonts you need for a particular job, by adding or subtracting groups of entries.

Suppose you want to manage three groups of fonts: one for everyday use, the other two for projects on which you work only occasionally. Keep the everyday ones in the Windows\System subdirectory, create two other directories (for instance, Project1 and Project2) and install the fonts as necessary.

To move the currently installed TrueType fonts to a directory other than the default Windows\System subdirectory, open the Fonts icon in the Control Panel. Select all the TrueType fonts you want to move and then choose the Remove button.

The Remove Font window will ask for confirmation about deleting each TrueType font. Make sure that the Delete Font File From Disk check box is *not* checked, and then choose the Yes button — in other words, remove the fonts from the installation, but not from the hard disk (Figs 1 & 2).

Next, from File Manager move all the .TTF files, of those fonts you want moved, to the two directories (Project1 and
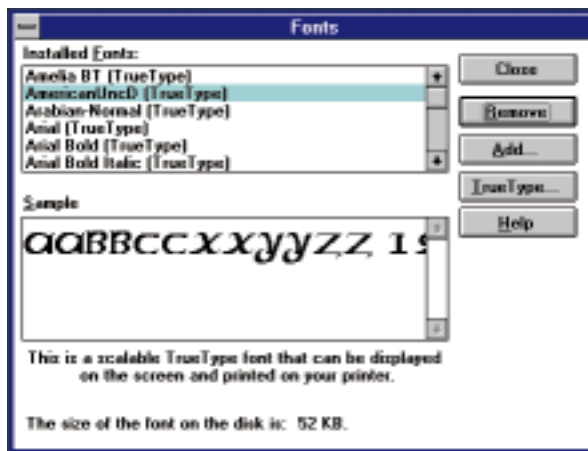
Figs 1 & 2
Remove fonts but do *not* delete them from the disk

Using an editor such as Notepad (run two instances) you can cut out and save to two separate files (say, project1.txt and project2.txt) the group of entries referring to the fonts in the two different directories. This will leave your win.ini with only the fonts for normal use. Each time you want to use the special fonts, all you need do is edit win.ini and paste in the lines you have previously cut out.

Question time

Q. "*Is there definitive literature on Windows for Workgroups 3.11 that explains the meaning of all valid entries in the system.ini and win.ini files, the relationship of these files and their entries in the registry and the software that may have caused the entries? I ask this with a view to removing any which are not required.*

"*In my win.ini file I have the title [wt4gpi8s56bz]. This precedes a selection of font types which are repeated in the section titled [fonts]. In my system.ini file under [386ENH] I have the following three entries:*
COM1AUTOASSIGN=
COM2AUTOASSIGN=
LPT1AUTOASSIGN=

Project2). Restart Windows, and from the Fonts icon in Control Panel choose the Add button. Specify the c:\project1 directory from the bottom of the Add Fonts dialogue box. Windows will begin retrieving all the font names from that directory (Fig 3).

Disable the Copy Fonts to Windows Directory option by clearing the check box at the bottom of the Add Fonts dialog box, choose the Select All button, then OK. Do the same for the Project2 directory fonts and restart Windows.

The [Fonts] section in your win.ini will still contain entries which will refer to .FOT font files in the Windows\System subdirectory, even though the .TTF files (the largest in size) are now in the Project1 and Project2 directories.

Fig 3 Re-install the fonts but do not copy them to the Windows directory

"*What are the valid parameters?*"
CA Hewitt
cc@dartnet.co.uk

The COM1AutoAssign= and COM2AutoAssign= lines indicate how Windows will treat requests for the use of your communications ports by more than one application if one of them is a non-Windows application.

A value of 0 means that any application can use the port at any time. A value of -1 means you will get a message asking you which application should be given control of the port.

The value of a positive number up to 1,000 represents the number of seconds after an application stops using the port before another application can use it (the
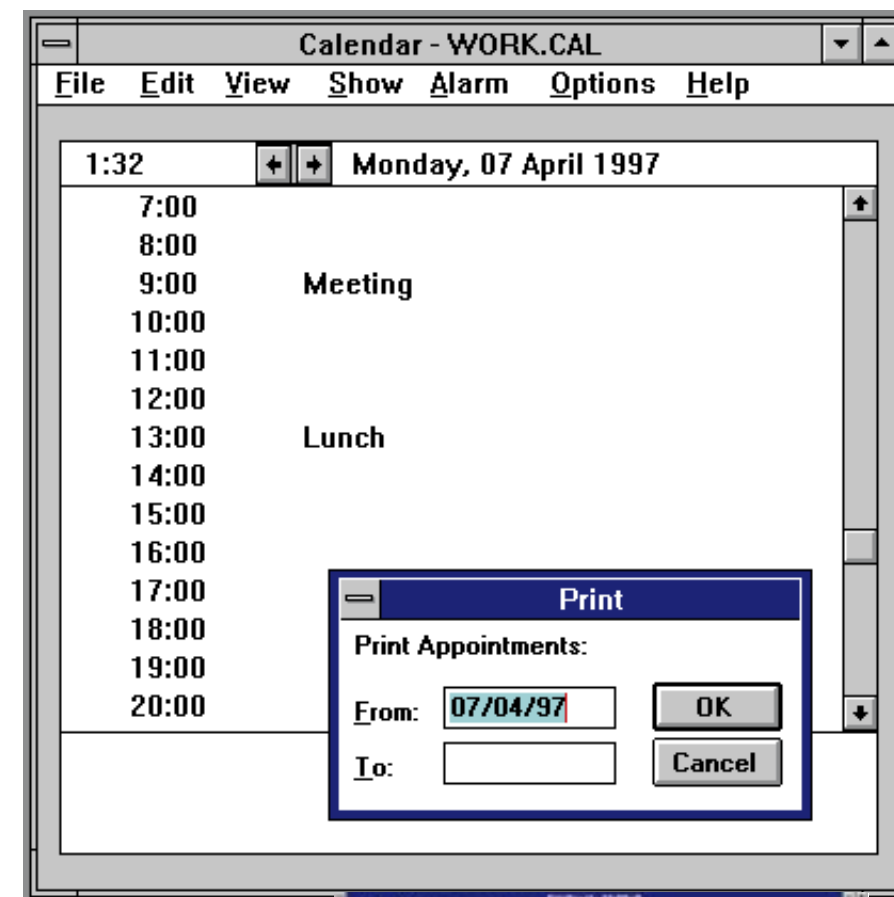
A. The [wt4gpi8s56bz] section in your win.ini is the remainder of an aborted or failed upgrade session.

During an upgrade session (say from Windows 3.0 to 3.1 or 3.11) the first part of the Windows Setup disables certain Windows components: namely all fonts except the system, fixed pitch, and OEM fonts, the Shell (Program Manager, Norton Desktop for Windows, and so on), the desktop bitmap, screensavers, Task Manager and installable drivers loaded through the Drivers= line in the system.ini file. These components are to be replaced by the new version's components so that they don't interfere with the upgrade process.

If the Setup process is interrupted before the Windows graphical user interface mode portion has been completed, some or all of the above items may not be properly re-enabled. Fonts are disabled by renaming the [Fonts] section in the win.ini file to [wt4gpi8s56bz].
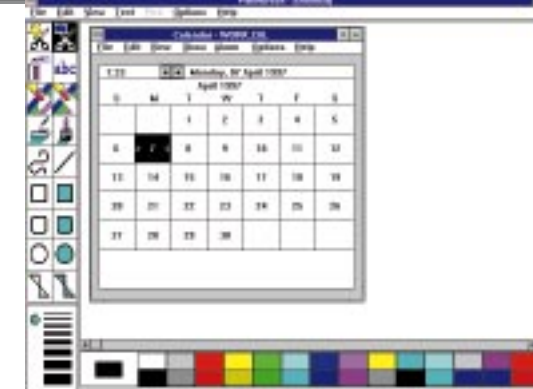
Setup can encounter problems with re-enabling the old fonts if the system memory is very low or if two aborted installations have occurred. If there is a problem, Setup will display a message box telling you that trouble was encountered when restoring the previously installed fonts and that the [Fonts] and [wt4gpi8s56bz] sections must be merged by hand. So to do this:
1. Open win.ini using Notepad.
2. Delete any line from the [wt4gpi8s56bz] section that is duplicated in the [Fonts] section.
3. Append the contents of the [wt4gpi8s56bz] section to the [Fonts] section.
4. Delete the [wt4gpi8s56bz] section.

Calendar tricks

Many people use Windows Calendar as a simple alternative to Lotus Organizer and its ilk. Unfortunately, it is very limited. For example, it will not allow you to print the Month View grid. However, it is possible do this by pressing Alt +PtrScr to capture the grid to the Clipboard, opening Paintbrush or any similar program, pasting the picture, and printing it (Figs 4 & 5). Or, Calendar will print only appointment times if there's an entry. So, to print blank entries, simply enter a space on the relevant time line(s). By the way, put Calendar first in the Startup group, and you see immediately what you've got on that day as you boot up.

Figs 4 & 5
To print the month view of the Calendar, copy the screen and paste into Paintbrush

p262 ➢

Sound Recorder

Sound Recorder is a free Windows accessory for playing, editing and recording sound files, although for recording you need a sound card and device drivers (to be installed in the Drivers section of the Control Panel). It's designed for small voice message files you would usually attach to documents, as opposed to long pieces of music. For this reason, it has a maximum default recording time of 60 seconds, but you can increase this time using this technique: Record for the 60-second duration and Save As using any name, say "empty.wav". Next, choose Insert File from the Edit menu, and select empty.wav. This increases the recording duration to 120 seconds. You can repeat the process as many times as you like, to increase the recording time, until there's not enough memory to continue.

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default is 2). To change a value, use the 386 Enhanced icon in the Control Panel.

The LPT1AutoAssign= entry is for your printer port and applies only to Windows 3.0. As in your case, although it may still appear in the system.ini after an upgrade, it will have no effect.

Template time

"*Regarding your 'Step-by-Step Guide to creating Write Templates' [PCW, April[: Although you are correct about using templates — and also probably following Microsoft's 'right way to do things' — when creating templates from Word or any other application, you can get away with just putting the path and filename of the template. Provided the file type is registered in File Manager, the relevant application will automatically be launched.*

"*I know this saves very little time compared with using a template but I had never thought of doing it the way you suggested. However, doing it in the way I have mentioned above has never been any trouble to me. Well, it takes different strokes, doesn't it?*"

Justin
justinc@j-catter.demon.co.uk

Yes, this will work fine for the example we gave about using templates with Windows Write (as well as with lots of other programs). But be careful with templates that involve file types which can be associated with different programs; usually images (BMP, PCX etc. and files like TXT and DOC). New applications you install have a tendency to associate files to themselves.

Quick switch

"*Having read your column about booting Windows 95 and MSDOS off the same hard drive [PCW, March], I thought I should mention that there is an easier way to switch back to DOS on booting.*

"*In your article, you mentioned pressing F8, then going to option 8. Instead of pressing F8, try pressing F4 and it will perform these two steps in one.*"

Chris Beaumont
cbeaumont@compuserve.com

Thanks, Chris. This undocumented option is what was used in the beta release of Windows 95 and it still works, provided you don't want to access any of the additional Start options available with F8.

All that **glitters…**

Even if you upgrade your RAM, you may still get "low memory" messages; it's the *first* megabyte which sets the gold standard. Panicos Georghiades and Gabriel Jacobs explain.

O ur March column, which dealt with installing Windows 95 and Windows 3.x/DOS on the same machine, struck a chord with many readers. We have been fairly inundated with queries about specifics, so here is a selection.

Q. *"Your article encouraged me to try the Win95/3.x/DOS combination. As my present setup already has a multi-config start-up menu, I'd like to check whether or not this may cause problems? I hope it will be straightforward and that I can continue to enjoy multi-choice in DOS."*

James McFarlane
j.mcfarlane@uea.ac.uk

A. There will be no problems with your present DOS multiple-boot configuration menu. Since this is part of your DOS config.sys and autoexec.bat setup, it will come into effect only after you have selected to start with DOS instead of Windows 95.

Q. *"Having installed Windows 3.11 and Windows 95 onto the same hard drive in directories Win3.1 and Win95, is it necessary to load software into C:\win95\application or C:\win31\application, or do you just load them into C:\application?"*

John Wright
john_wright@compuserve.com

A. As we said in the article, only a few simple programs can be run from both 3.1
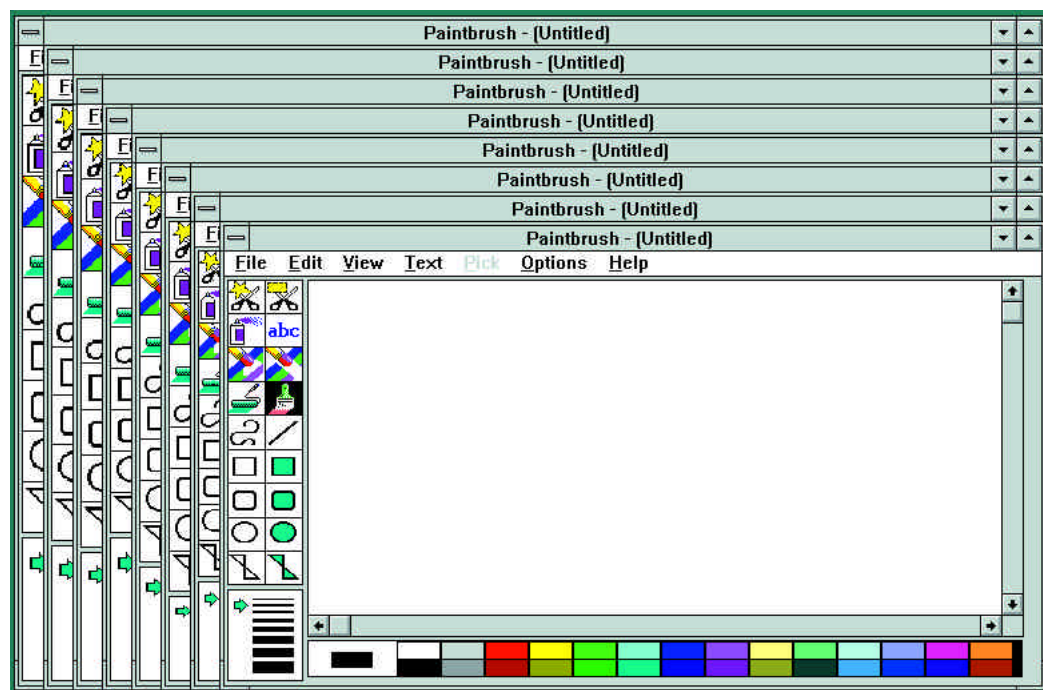
Fig 1 **The size of the opening window of some applications depends on available resources. As resources get less, so does the size of the window [**see James Thompson's letter, overleaf**]**

and 95 installations: those that don't, keep settings in the Windows INI files, and don't have their own INI files in the Windows directories. All the others must be installed twice; once for 3.1 and again for 95.

We don't recommend that you run programs installed under Win3.1 in Win95 or vice-versa. The idea is to use 3.1 for those programs that can't be run under Win95, either because they do something specific or incompatible, or because they use hardware peripherals for which you don't have 32-bit 95 drivers. Anyway, if a program runs OK in Win95, why run it under Windows 3.1?

To avoid problems, think of the two installations as two sides of a coin which

should never interfere with one another. The straight answer in your case is that you need to keep both application directories separate.

Q. *"I'm using Win3.1 but I also want to use Win95, and having read your article, I want to attempt the dual operating system. However, I've managed to get myself Win95 OEM, and was wondering if it is still OK to load it together with Win3.1. I understand that the OEM version handles FAT32, and I am not sure if it will still be safe."*

Panos Panayides
PAN4DEM@aol.com

A. You can't install both operating systems

using the method we described if you have the OEM version that uses FAT32 (File Allocation Table), otherwise known as the OSR2 version. Microsoft technical support says that you need a fix program which you can get from them.

Q. *"I'm a long-time PCW subscriber, still on DOS 6 and Windows 3.1. Could you please tell me how to ensure that an application always starts in a maximised window? Some of the programs don't seem to have an INI file associated with them."*

James Thompson

A. Under normal circumstances, unless your application has its own INI file or some special setting that goes in the win.ini file, you can't set it up to start maximised. This is true of applications such as Write and Paintbrush which open up windowed, and the size of the windows depends on resources — if you keep opening windows one after the other, they will get smaller and smaller (Fig 1). With applications that have an INI file, the setting would be

`Maximize=1`

If you have Visual Basic or some other Windows programming language, you can write a little program which will start the application you want and then maximise it, using the SENDKEYS command which sends keystrokes to the application you have executed.

One megabyte is worth its weight in gold
You've just upgraded your memory to 16, 32, or even 64Mb of RAM and yet you are still getting messages like "Application Execution Error", "Insufficient memory to run this application", "Quit one or more Windows applications and then try again", or "Not enough memory available".

You're not alone. Low memory is the root of many computing problems, and in many circumstances this isn't due to the physical memory in your machine. Unfortunately, when error messages refer to "memory", they're not all alluding to the same thing. Computer memory is divided into many different chunks, each with its own name and its own job to do. And the most important of these chunks is the first megabyte; the one in which DOS resides.

When Windows starts a new program (a task), it creates a task database (a TDB) for it. This contains vital information such as its current directory, its instance handle, and so on. To maintain compatibility with 16-bit Intel processors and MSDOS, the TDB is

The Write stuff

When using Write:
■ For a soft hyphen, press Shift + Ctrl + Hyphen (this is useful with the paragraph justify setting).
■ To select all, (mark) the entire document, press Ctrl and click between the left margin and the left edge of the screen. This is far easier than dragging the mouse through pages and pages of text.
■ To edit two documents simultaneously, simply run a second copy of Write while the first is still running (you can copy and paste between the two, of course).
■ To align decimals in tables, check the Decimal box in the Tabs window. To align tables of money values, set tabs and check the Decimal boxes associated with them.
■ To print multiple columns, print once for each column using different indents.
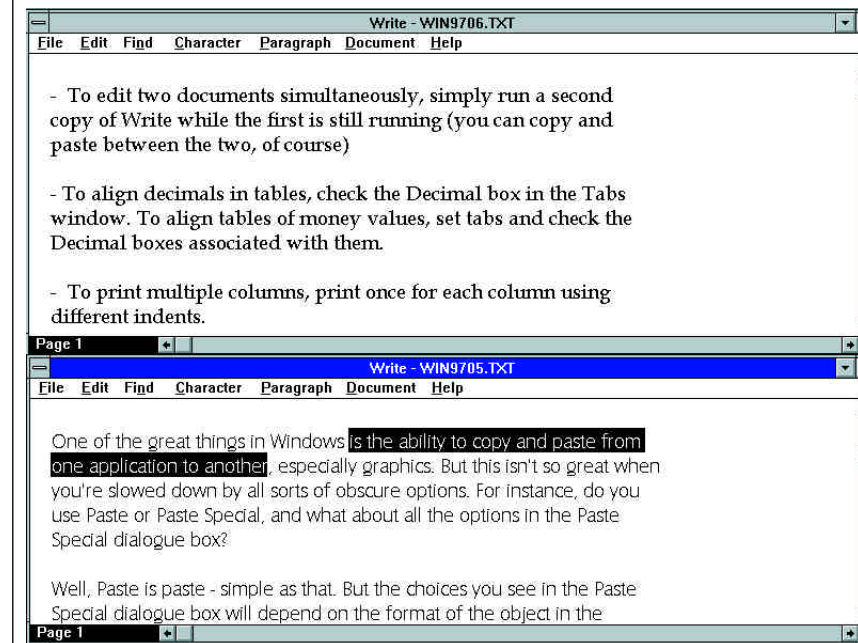
Above To edit two documents simultaneously, run Write, twice

Below To align numbers or currency, use the Tabs settings and check the decimals box
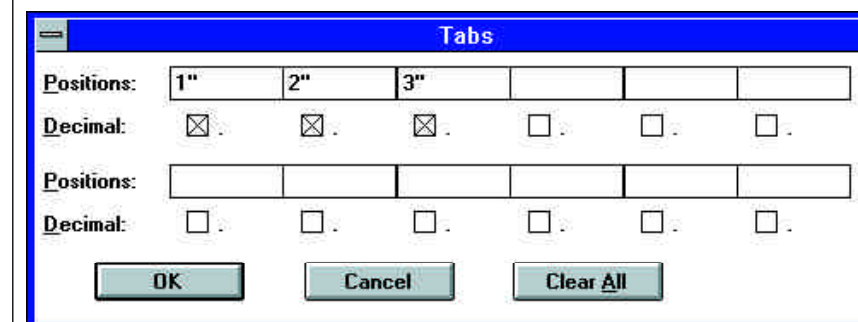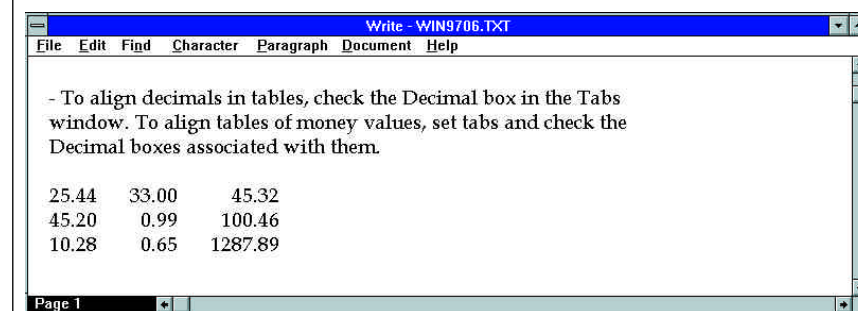
New names for old — a fast rename tip

When you rename a file in File Manager, the cursor goes automatically to the To: line in the Rename dialogue box, and you're expected to type in the new name. Very often you want the new name to be something like the old one. If so, you can avoid some re-typing by copying the old name in the From: line to the To: line. This is especially useful with convoluted or otherwise difficult filenames.

Unfortunately, you can't simply copy the filename by dragging and dropping. But there is a way around this. Highlight the old name (or part of it), press Ctrl + C, click on the To: line, and press Ctrl + V. You can then edit the new name in the To: line until you have the name you want.

Rename

Current Directory: C:\WIN31

From: APSL.EXE

To:

OK   Cancel   Help
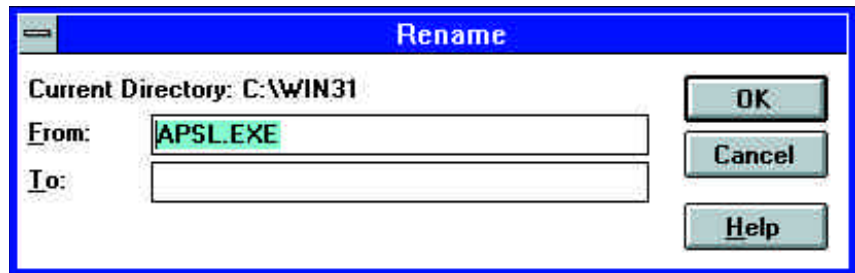
Use Ctrl+C and Ctrl+V to copy the old name to the new name, then edit it.

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created in memory below 1Mb — in fact, in the 640Kb of conventional memory. This section of memory on your machine is so much in demand and so limited, that it should be treated like gold.

TDBs are not the only block of memory that may end up below 1Mb. Applications such as Word for Windows, Microsoft Mail, Schedule+ and multimedia packages are examples of applications that put DLL files into the first megabyte of memory when loading or performing certain operations. As Windows loads segments of code, it gives each segment an attribute which determines how it will be treated. Segments are marked, by Windows, as fixed or moveable. Fixed code is allocated bottom-up and, as the name indicates, cannot be relocated. But moveable code can be moved or discarded to make room for other segments. If a fixed segment is too big to fit into the available space, Windows moves some moveable segments, if necessary, out of the first megabyte of memory.

If there's still insufficient room, discardable segments, which can be brought in later as required, are discarded. All this moving and discarding is controlled by a program called KRNL386.EXE.

An "out of memory" error that you get when you try to start an application may happen because fixed segments (precisely because they're loaded from the bottom up) have been loaded in the first megabyte. They cannot be moved and end up using space which Windows may require to load the TDBs.

What's the practical answer to all this?

There are several, but in general the idea is to free as much conventional memory as possible. You can optimise conventional memory (with DOS 6 or 6.2) using MemMaker, and/or you can achieve satisfactory results by changing the order in which programs and drivers are loaded. It's difficult to give precise advice here and trial and error is usually the order of the day: altering the loading order may well affect where the fixed code gets placed.

Creating a multiple-boot configuration can also help minimise what loads into conventional memory for particular operations — it may free enough space for Windows to load the TDBs.

Other techniques include:
■ Disabling any applications that start automatically when you start Windows (check the win.ini file and the Startup group).
■ Running Windows Setup and changing to standard Windows drivers (VGA, No Mouse, No Network).
■ Using the Program Manager (PROGMAN.EXE) as your Windows shell.

Finally, for troubleshooting, remove any third-party Windows drivers or virtual device drivers (VxDs) by re-marking them using a semi-colon (;) at the start of the line in the system.ini file.

Starters orders

How to get applications to open on startup, getting stuck in to Paste, and gaining the upper hand when your computer hangs. With Panicos Georghiades and Gabriel Jacobs.

T he usual way of automatically starting programs when Windows is loaded is by moving (dragging) or copying (dragging while pressing down the Ctrl key) all the application icons you require into the Startup group window. To automatically start all the applications found within a particular group, you can change the name of the Startup group entry in the progman.ini file. Using Notepad, edit this file to contain the line

`Startup="group name"`

where "group name" (quotation marks are needed) is any acceptable group in Windows. For example, to start the applications in the group Project A (a group you created, and added in all the programs you require for a particular project you are working on), you would add the following line to the progman.ini file:
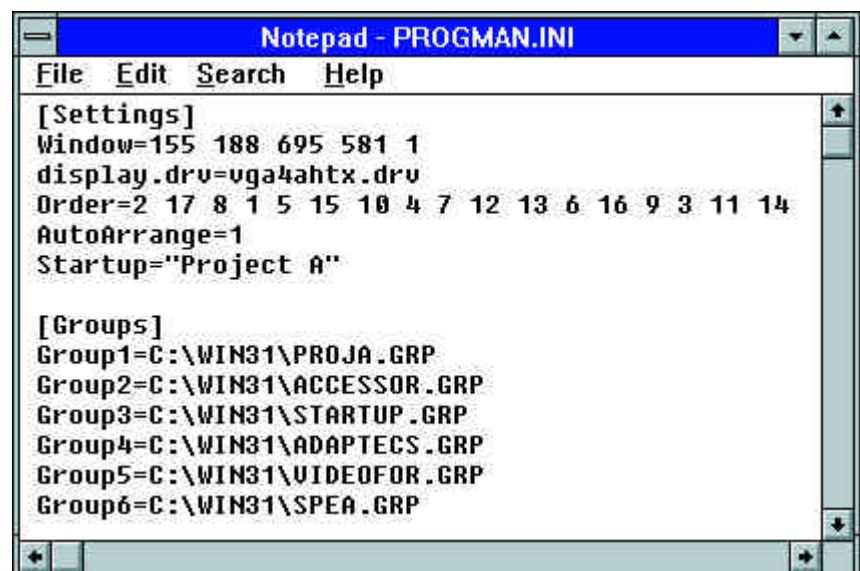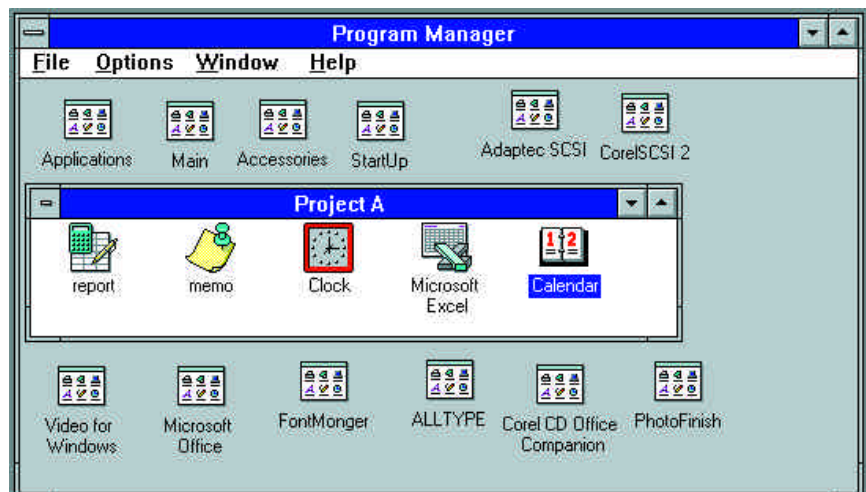
`Startup="Project A"`

Acceptable group names are what's listed in the Window menu in Program Manager or at the title bar of the group you want to start automatically. Adding the above line in the Progman.ini disables the Windows Startup group until the line is removed or commented out with a semi-colon (;) at the beginning of the line.

What's a bitmap and what's a picture?

One of the great things in Windows is the ability to copy and paste from one application to another, especially graphics. But this isn't so great when you're slowed down by all sorts of obscure options. For instance, do you use Paste or Paste Special, and what about all the options in the Paste Special dialogue box?

Well, Paste is paste — simple as that. But the choices you see in the Paste

To automatically start all the applications in the group Project A (a group you created, and added in all the programs you require for a particular project you are working on), you would add the following line to the progman.ini file:

`Startup="Project A"`
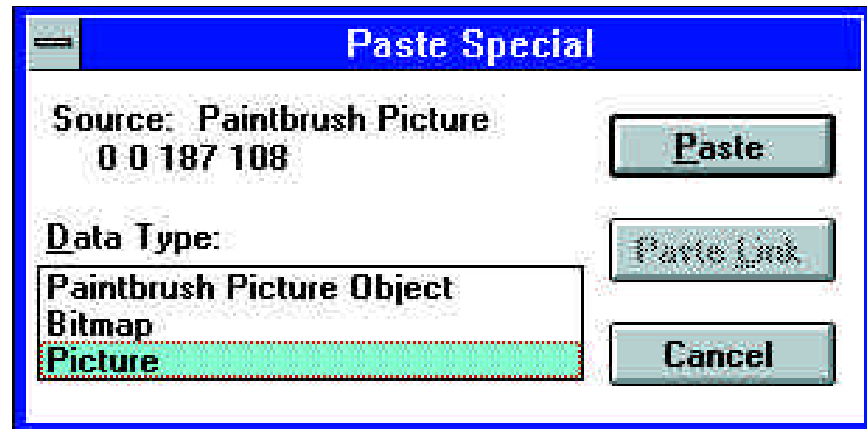
Special dialogue box will depend on the format of the object in the Clipboard. This can be a bitmap or a Windows metafile (Microsoft calls this a Picture), and selecting either of these means that the object is not part of an OLE (Object Linking and Embedding) library: it's a so-called static object with no links to anything else.

If you select Bitmap from the Paste Special dialogue box, the object will be painted more quickly but will take up more disk space when the file is saved. The reverse is true of a Picture.

A bitmap file (extension may be BMP, PCX, TIF, GIF etc.) is a grid filled in with coloured dots. Its file size depends on its width and height in pixels and its colour depth: black and white (1-bit), 256 (8-bit) or 16 million (24-bit) colours. Scaling (resizing) of bitmaps creates distortions, jaggedness, and other unwanted effects.

A metafile or picture (the extension is usually WMF) often consists of a variety of different data structures (usually scalable vector graphics, but it can include bitmaps) and takes up little space. Metafiles can be scaled, and printed using the highest resolution of the printer. However, if one of the data structures includes a bitmap, then scaling will produce the same kinds of distortion of the bitmap element as you would get with an ordinary bitmap.

Try copying a graphic from a paint program to the Clipboard and pasting it into another application. You won't see much difference whether you choose Bitmap or Picture in the Paste Special dialogue box. Now copy a graphic from an application which normally uses the metafile format (Excel, say). Do this first by choosing Bitmap, then Picture, and see the difference.

When in trouble ...
When your computer hangs, or when you get a message about something being

unrecoverable, giving the machine the three fingers treatment (Ctrl + Alt + Del) isn't always the best choice. Various problems can cause software to behave badly or crash, and even make your machine go into a deep sleep. Some of these problems may be caused by incompatibilities between programs, or between programs and hardware, or between different pieces of hardware.

Sometimes (although not often) you may find an answer in the documentation. If not, you may have to contact a support service. But when you do, you'll have to tell them exactly what has happened, and for them to be able to diagnose the problem, it has to be one that can be repeated. If it can't be, you may have to do a lot of detective work to find out the cause. Most problems in computing are solved by a process of elimination, which means you often have to make a fresh start. And if your system has crashed, you will have to do this anyway.

There are three ways to restart a machine: (a) pressing Ctrl + Alt + Del (the three-finger method); (b) pressing the Reset button; and (c) turning the machine off, waiting for a while, then turning it back on. Never turn the machine off, then immediately on, as you risk wrecking your hard disk.

Which method?
The three-finger method is known as a warm reboot and in most cases skips the power-on self test. What's more, it generally doesn't reset all the adaptor cards in the adaptor slots. Using the Reset button (a cold reboot) usually makes the machine go through its self test, but doesn't necessarily cut power to the motherboard or (once again) to the adaptor slots. Therefore, to be sure that everything has been reset from scratch, you should turn off the power completely. After about 15 seconds, the

capacitors in the motherboard will have discharged and the hard disk will have stopped spinning.

If you use the three-finger method or the Reset button and the problem isn't cured, but it is cured if you turn the machine off and on, this implies a hardware problem, usually with a graphics card, internal modem, sound card or other controller.

One final, important point: If you're using a write-behind cache, make sure that the contents of the cache have been saved to disk before turning off the machine. You can do this with smartdrv.exe 4.0 or later by entering SMARTDRV /C at the DOS prompt.

Disk dilemma
Christian J. van den Bosch writes: *"I had an empty 0.5Gb partition on my hard disk, and I decided to turn it into a compressed volume so I could copy a CD-ROM into it. I went into DOS, typed DRVSPACE, chose the partition, and chose to have 2Mb of uncompressed space on the drive (this being the minimum offered), but there were a number of anomalies. The process took about half an hour and included at least three defragment operations using Scandisk. The result was a 0.5Gb compressed drive occupying 340Mb of real space and a claimed compression ratio of 2:1, leaving 160Mb free (not 2Mb as requested).*

"All attempts to enlarge the compressed drive (reduce the uncompressed space) were rebutted: apparently, the remaining 160Mb of uncompressed space contained files that could not be compressed. In the end I just created a larger partition.

"Can you explain?"

<cjb@homenet.ie>

It's normal for the process to take a long time, even half an hour, and normal for the Scandisk operations to check the disk. DOS DrvSpace (originally known as DoubleSpace) does not precisely double the space on your hard disk. Doubling is an estimation derived from an average compression ratio. Different files compress at different ratios depending on what they contain. We carried out some experiments on this, with the results shown *(see the next column)*.

We can't explain why you got an estimate of 2Gb with a compression ratio of 2:1, except that sometimes the possible compression is overestimated. In any case, changing a drive's estimated compression

Utility of the month: SYSEDIT.EXE

If you like playing about with system files — editing your autoexec.bat, config.sys, win.ini, or the system.ini files — there's a Windows utility called SysEdit which has been designed especially for this purpose. SysEdit.exe can be found in the Windows\System directory (it can't be run from DOS) and it opens all four files at the same time. It also creates a backup of the original file with an SYD extension. When booting a system from a floppy drive, note that SysEdit brings up the autoexec.bat and config.sys files found in the root directory of your boot hard drive, not the ones on your floppy.
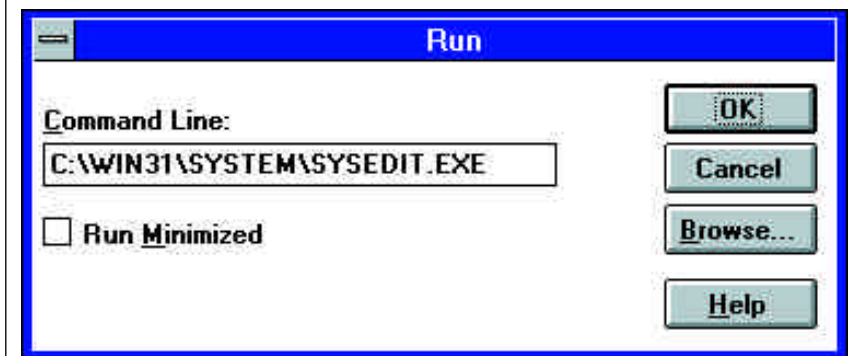
You can run
SysEdit by
selecting File
and Run from
Program
Manager
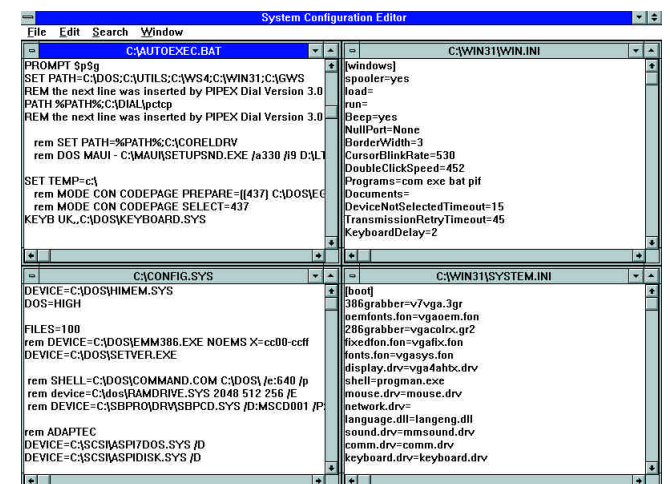
FILE TYPE	COMPRESSION RATIO (X:1)
Zip/GIF	1.0
BMP	1 - 10
ASCII	2*
Excel/Word Programs (EXE, COM)	2.4
	1.7

*Depends on content and whether it's 16,256 or 24-bit colour

ratio doesn't affect how much DrvSpace actually compresses the files; it changes only the way DrvSpace estimates the free space on the compressed drive. However, having the wrong estimated compression ratio for your files can cause DrvSpace to provide inaccurate space estimates to

DOS, which can, in turn, result in problems when storing files.

Anyway, we don't recommend the use of DrvSpace any longer because hard disk prices have dropped so low. You can buy a 2Gb IDE drive for just over £160, so why bother with compression? DrvSpace takes memory from your 640K, it's slower to defragment or to check with Scandisk, and can affect performance in other ways. And there may be conflicts with other programs. Our advice is: hard disk compression out, larger hard disk in.
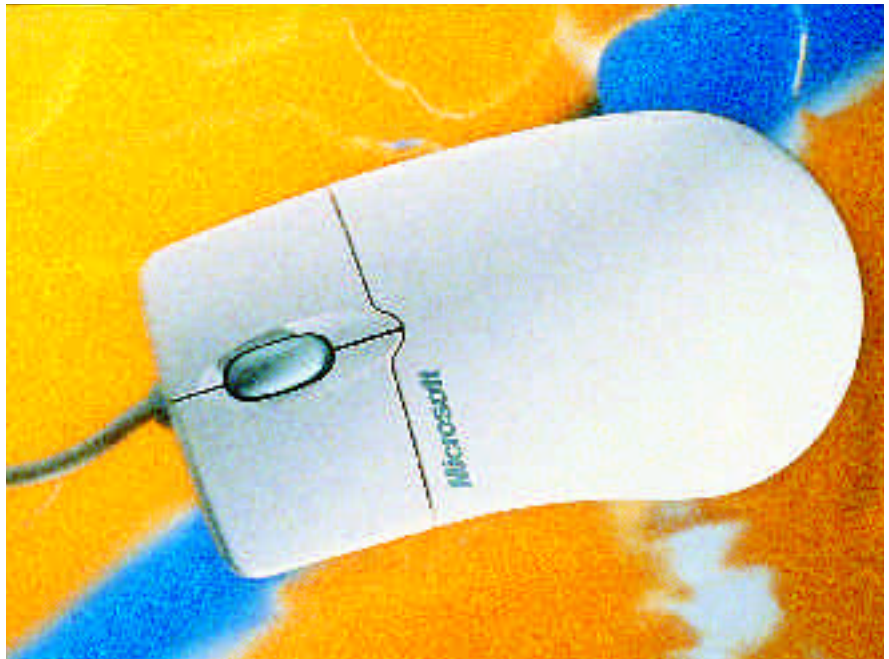
The **mousetrap**

Yes, it's a good old-fashioned whodunnit: when your mouse trips up while treading the, er, mat, you can help it get its act together. Panicos Georghiades and Gabriel Jacobs direct.

With standardisation on Microsoft-compatible mice, mouse problems have lessened but haven't disappeared. Mice can still fail to function at all, be too fast, too slow, move in certain directions and not others, and work in some programs but not others.

Mouse matters come in threes. There are three types of mouse: Microsoft, Microsoft-compatible, and Microsoft non-compatible; three different ways of connecting them: via the bus, a PS/2-style socket, and a serial port; and they can be used in three types of application:
1. DOS applications, in which case they usually require a driver loaded in the config.sys or autoexec.bat files.
2. Windows applications, in which case the driver is provided by Windows, or a Windows driver is provided by the mouse manufacturer.
3. DOS applications running within Windows.

And, yes, there are three different

When problems strike, are you a man or a mouse? Take valuable advice on failsafe fix-its

causes of mouse problems:
1. Hardware: the mouse isn't plugged in properly, it's a bad or unclean mouse, there's a bad mouse socket, a bad cable, a slippery or uneven mouse mat, or the mouse is connected to the wrong port or with a wrong or bad adaptor.
2. Bad drivers: an older or incompatible version is being used.
3. Conflicting software: your mouse driver may not agree with Windows, or a particular program, or with some other program running at the same time like a TSR program, anti-virus software, or screensaver.

A classic situation is using too many drivers. Manufacturers provide drivers for Windows and DOS (and sometimes for particular DOS programs) and nowadays for Windows 95. Don't install them all —

Windows may not run properly if DOS mouse drivers are also there.

So, if you have a mouse behaving badly, first check for hardware causes — plug it into another computer, or plug another mouse into your computer. Next, establish that the mouse works in DOS and in Windows separately. If the mouse doesn't work in a DOS application under DOS, it will not work in that application if you run it under Windows. Install the DOS drivers needed in the autoexec.bat and/or config.sys files, as described in the mouse's documentation, and ensure that all works fine under DOS.

If you have a Microsoft mouse, use version 8.2 of the driver which comes with Windows 3.1 and, if necessary, expand mouse.sy_ and mouse.co_ (they're on the

Adjusting mouse settings

■ Lowering the Sensitivity value in the Mouse section of Control Panel makes the mouse movements less jumpy.
■ If the mouse is jumpy in Program Manager group windows, lower the granularity settings in the Desktop icon of Control Panel.
■ If you're using the DOS-based mouse driver mouse.com or mouse.sys version 7.04 or later, add the /Y switch to the end of the mouse command line

```
(c:\windows\mouse.com /y)
```

■ Note that erratic mouse movements may be specific to the application, video card, machine BIOS, keyboard BIOS, or machine type you're using.

Windows disks) to your hard disk as mouse.sys and mouse.com by using the EXPAND command at the DOS prompt. You can test whether all works well using a DOS program which supports mouse movements such as Edit. Then disable the DOS drivers by placing the word REM in front of the lines referring to them in the config.sys and autoexec.bat files, and check the mouse works under Windows.

The Windows mouse drivers are set using Windows Setup, and they appear in the system.ini file in the [Boot] section. Normally there should be a line like

`mouse.drv=mouse.drv`

To check you have installed the right Windows driver, exit Windows, change directory at the DOS prompt to c:\windows, and type SETUP. If you get a message saying no mouse has been detected, select the Microsoft or IBM PS/2 option.

Note that some so-called Microsoft-compatible mice are more compatible than others, and you might have to use some trial and error. In particular, try the drivers which come with the mouse installation disk rather than the Microsoft drivers. If all the above fails, try the following suggestions.

■ Search the drive for multiple mouse.drv files. If you find any, rename them to something else, except for the one in the Windows System sub-directory.

■ Test the mouse on a different port.

■ Check that there's only one mouse.ini file, and that the line

`MouseType =`

in the [Mouse] section of the file points to the correct port.

■ Try running Windows in standard mode. If all works well, try loading Windows by typing win /d:x. If all is still okay, add the following line to the [386Enh] section of system.ini:

`EmmExclude=A000-EFFF`

■ Finally, if you're using a mouse that came with its own drivers, try to borrow a mouse that uses the driver supplied with Windows. If that works, contact the manufacturer of your own mouse.

Out of Africa

"I am doing voluntary work in Nigeria, and have been working on a stock-control and tracking program using DOS 6.22 and QBasic (the v4.5 compiler), but the compiled version of the program gives a totally incorrect output at the printer — the numbers are all wrong. Inspecting the code doesn't reveal much, as the only difference

lies in an LPRINT statement (to printer) and a PRINT statement (to screen). There is no problem with interpreted printed reports or displayed reports. I've tried two different printers — no difference. I enclose some output samples. My big fear is a virus, as they are rampant here."

Leigh Bowden, Nigeria

The Microsoft Knowledge Base doesn't list your problem, but there are a number of possible causes.

We doubt a virus is the culprit — virus programmers tend not to target something as old as QBasic! We assume that you're not trying to print while running the program in a DOS session within Windows, as this doesn't work with all DOS programs.

The output samples you sent us show that the text prints fine; only the numbers are wrong. This obviously implies that the problem lies in calculations or statements to do with numeric data only — perhaps a different set of calculations is being used to output to the screen than to the printer. Programmers sometimes attach calculation statements to PRINT statements, and since QBasic needs two different statements, one for the screen and one for the printer, the set for the printer may contain errors.

Alternatively, it may be that certain formatting commands used for the printed output don't work properly when compiled. In any case, check you're using the right version of the compiler for the version of QBasic you have, and that you're setting the right options for handling numbers for the compilation. Also, have you checked the compiler documentation for supported statements and commands? Some statements are supported by the interpreter but not by the compiler.

The write font

A frustrated Bill Reid (mailto:reidw @nacn.dnet.co.uk) mailed us about being unable to change the default font in Windows Write. Each time you start Write, the default font is Arial: he wants it to be Times New Roman.

Trying to answer this query has prompted us to write about a method of creating templates for Windows Write, to use for letters, memos, and faxes, a feature available on all mainstream word processors but missing from Windows Write.

You can create your own designs and save them as standard Write documents. Give them names like letter.wri, memo.wri
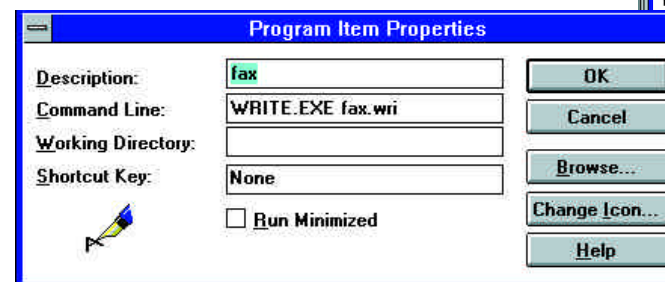
A step-by-step guide to creating Write templates
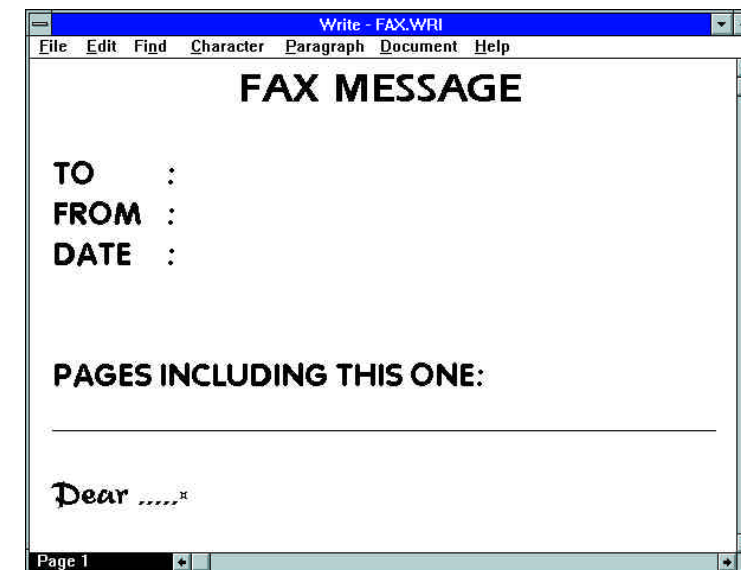
**Above** Create your templates in Write and save them as any ordinary Write documents

Right From File Manager make the template files Read only

Below Create multiple copies of the Write icon and edit each one to include the template file name in the command line

Right You will end up with multiple Write icons, each one starting a different template

Below To customise your templates even more, choose a different icon for each one using the icons embedded in Progman.exe, or any other icons you may have
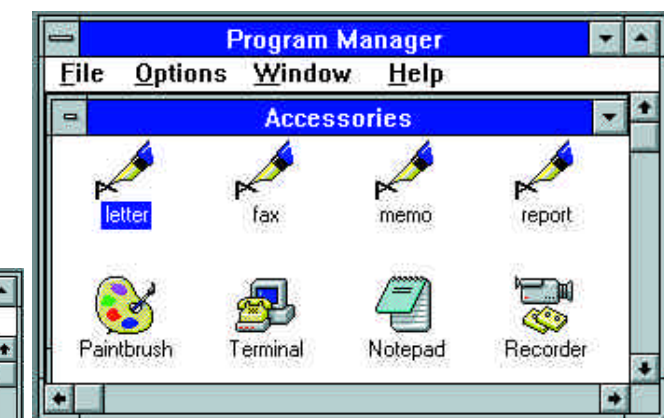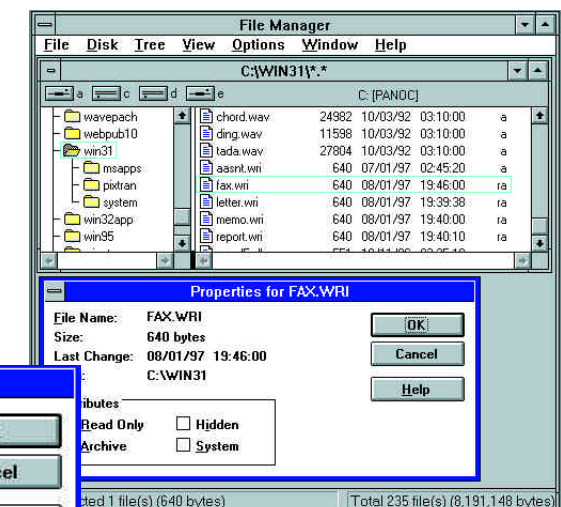
and fax.wri. To prevent overwriting the templates, you have to Save As, not Save, and to avoid using Save by mistake, make your template files Read Only by changing their Attributes in the Properties option of the File menu in File Manager.

To use the templates you open Write, then use File Open to select a template, or you can assign icons to each template so you can open them with a double click. To do this, start Write and the template in one go by editing Write's Properties in the File menu of Program Manager. In the command line of the Properties dialog box add the filename of your template, so the command line reads, for example, write.exe letter.wri.

Do this for all your templates by clicking and dragging the Write icon while pressing the CTRL key to make copies of it, then editing each one's command line to include a different template filename. Change the default Write icon to another one by using icons embedded in Progman.exe.

To change the default font from Arial to something else, create an "empty" template. The only problem is that the template can't be completely empty, so you need to type a space, say, then select that space with the mouse, and from the Fonts menu change the font to the one you want.