

Life before Windows

How does DOS affect Windows? Tim Nott examines the ins and outs of the Dblspace and Autoexec.Bat commands, and recommends Recorder for a change of keyboard layout.

Microsoft's bundled disk compression software loads DBLSPACE.BIN automatically prior to processing CONFIG.SYS. DBLSPACE.SYS, usually appearing at the end of CONFIG.SYS with the /MOVE switch, relocates as much as possible into the high memory area, with the rest at the bottom of conventional memory.

That's enough about CONFIG.SYS, because as you no doubt realise there's another file, AUTOEXEC.BAT, that needs to be processed. History has blurred the distinction between the two. The commands in AUTOEXEC.BAT, unlike CONFIG.SYS, are the sort of thing you can enter from the keyboard: a BAT(CH) file is simply a series of DOS commands that can be played back from a file, rather than having to type each one in, and the AUTOEXEC bit means that your PC will AUTOMATICALLY EXECUTE it after CONFIG.SYS has had its say.

The first line you'll see here is probably

```
@ECHO OFF
```

All this does is to stop the subsequent commands "echoing" (being displayed) on the screen. The @ sign stops the ECHO command itself from appearing.

Next, you might typically get:

```
PROMPT=$p$g
```

This defines the appearance of the DOS prompt. By default (i.e. with no PROMPT command) you get just the current drive and a greater-than sign. The "\$p" adds the current directory path, which is useful. You can augment this in all sorts of ways — adding time, date, your own text and so on, and if you really want to get your anorak dirty use "Escape" codes to change screen and text colours or even

key assignments — see the DOS help files on PROMPT and ANSI.SYS for more.

You can have a separate prompt for DOS sessions under Windows — useful if the user needs to be reminded that they are in a full-screen DOS session under Windows rather than the real thing. Stick in a line, for example:

```
SET WINPMT=Type EXIT to return to Windows $P$G.
```

Which brings me on to the SET command in general. This creates and defines "environmental variables". Typical of these are TEMP, showing the directory where temporary files (such as printer output) should be stored, and PATH. If a program file is on the PATH (its directory will be listed to the right of the equals sign) then you don't have to change to that directory (or specify the full path) to run the program. At its simplest, you'll probably have something like

```
SET PATH=C:;C:\DOS;C:\WINDOWS
```

Note that first, you can leave out "SET" and the equals sign, and that each directory needs to be separated by a semicolon. Other applications may add their own paths, either on the same line or by adding a separate line such as

```
SET PATH=%PATH%;C:\WIZZO
```

where %PATH% stands in for the existing path. There may be more system variables defined by using the SET command — examples include SET MSINPUT, which Microsoft mouse and keyboard drivers need, or SET BLASTER which defines the IRQ, DMA and other esoteric settings for a SoundBlaster card.

You don't need a mouse driver loaded in AUTOEXEC.BAT if you're only running Windows. If however you want to use the mouse under DOS (or a Windowed DOS session) you'll either need something like MOUSE.EXE or MOUSE.COM in AUTOEXEC.BAT or a MOUSE.SYS loaded by CONFIG.SYS. The keyboard command is another option — you don't need it in Windows, as the country settings are all in Control Panel — but if you want

All you ever wanted to know about Smartdrive, from the DOS "Help" command

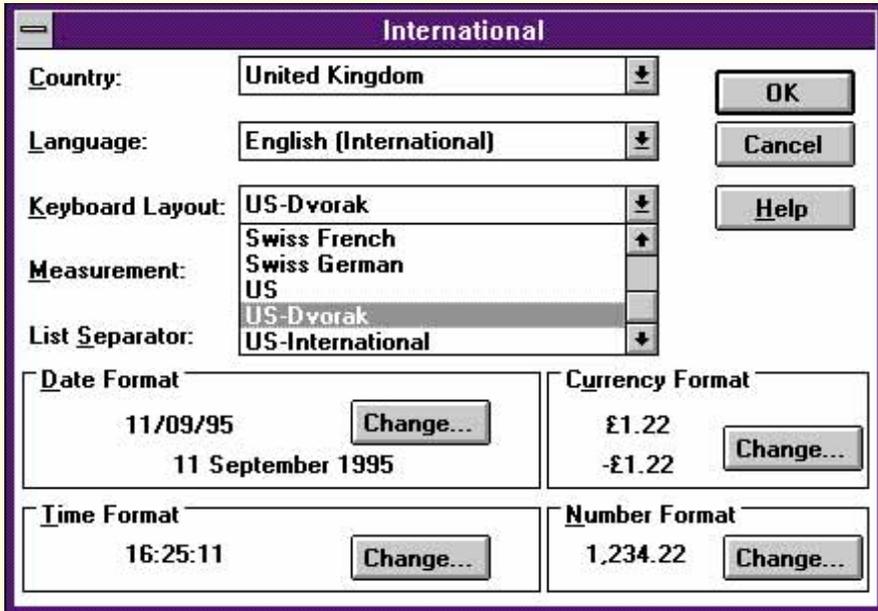
```

[drive:][path]
  Specifies the location of the SMARTDRV.EXE file.

[[drive+|-]
  Specifies the letter of the disk drive for which you want to control
  caching. Include the plus (+) sign to enable caching for the specified
  drive; include the minus (-) sign to disable caching for that drive. You
  can specify multiple disk drives.

  If you specify a drive letter without a plus or minus sign, read-caching
  is enabled and write-caching is disabled. If you specify a drive letter
  followed by a plus sign (+), read-caching and write-caching are enabled.
  If you specify a drive letter followed by a minus sign (-), both
  read-caching and write-caching are disabled. If you don't specify a
  drive letter, floppy disk drives, CD-ROM drives, and drives created
  using Interlnk are read-cached but not write-cached, hard disk drives
  are both read-cached and write-cached, and network drives and Microsoft
  Flash memory-card drives are ignored. (For information about how
  DoubleSpace caches compressed drives, see Notes.)

InitCacheSize
<Alt+C=Contents> <Alt+H=Next> <Alt+B=Back>
  
```



your pound sign to stay put at Shift+3 in DOS sessions, you ought to have

```
KEYB UK, ,C:\DOS\KEYBOARD.SYS
```

(or sometimes just KEYB UK).

As with CONFIG.SYS there are all sorts of third-party drivers and TSRs (programs that stay in memory) that your particular hardware or programs may need, such as a scanner driver, network drivers, third-party disk compression, or support for a file-transfer program such as LapLink.

SMARTDRV is a process that speeds up disk access by keeping recently-accessed data in memory, cutting out unnecessary disk reads and writes. There are a heap of possible parameters here, and no room to go into detail, but typing "SMARTDRV" at the DOS prompt will show the current settings. Append "/" to that for a list of what all the options mean or "help smartdrv" for the full help text.

The important settings, however, are the two numbers. The first is the cache size, in Kilobytes, prior to running Windows. The second is that used when Windows is running. If you have 4Mb or less on your machines, Microsoft recommends setting these to 1024/512 — over 4Mb but under 6Mb to 2048/1024, and over 6Mb to 2048/2048. But, if you're running the faster 32-bit file access under Windows 3.11 (check in Control Panel/386 Enhanced) VCACHE will look after hard-disk cacheing and you will only need Smartdrv for floppy disks or CD-ROMs, so a lower value (usually 128) will free up memory. Control Panel should change the Smartdrv settings automatically, but you should check.

Finally, if your machine, heaven forbid, is prone to crashes, you might wish to go

Choose a new keyboard layout — and automate switching with Recorder

for safety rather than speed by disabling "write behind" cacheing altogether, so that data gets written to disk immediately. The "/X" switch after SMARTDRV achieves this. Order doesn't generally matter much, but there are exceptions. If you have a CD-ROM drive, make sure that the command that gives access to the drive (usually MSCDEX.EXE) loads before SMARTDRV, otherwise you won't be able to use disk cacheing on the CD.

Going back to last month, I mentioned that certain lines in CONFIG.SYS were needed to be able to load drivers and other programs "high" — keeping as much conventional memory (below 640Kb) free as possible. You may also have noticed that some lines in your CONFIG.SYS and AUTOEXEC.BAT are rather more complicated than the examples I've given, with entries starting "DEVICEHIGH" or "LH" followed by a barrage of numbers and letters before the main command.

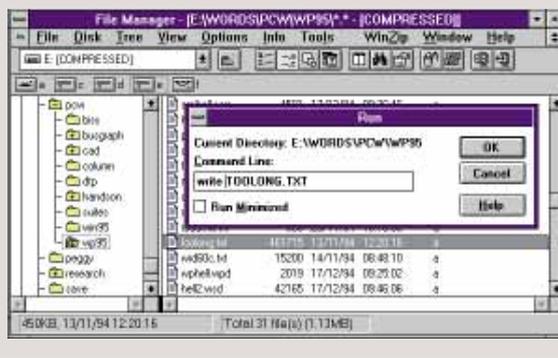
These two things are not unconnected. DEVICEHIGH and LOADHIGH (which can be abbreviated to LH) attempt to load whatever follows into upper memory. This isn't quite as easy as it sounds, as some drivers and programs need a lot of memory to start, then contract to take up less, and the order in which things are loaded can make a tremendous difference.

Fortunately, trial and error isn't the only way to optimise this process. From the plain DOS prompt (not a Windows DOS session) type "MEMMAKER" and follow the prompts. If, as any self-respecting dabbler would, you want to use the

Run, run, run

While Windows 95 users are gloating over their "Run" command on the Start Menu and "Open with..." from the mouse button, bear in mind that something similar is available in File Manager. With no file selected, choose "Run" from the "File" menu, and you can type in the name of any executable file (even a DOS program) and run it. With a program file selected, the name will appear in the box, highlighted. Move the cursor to the end with the "End" key, type a space,

and whatever command-line switches you want to specify or data file you want to load. The counterpart to this is to highlight a data file — say it's one of those annoying .TXT files that are too big for Notepad: choose "File/Run..." again, press "Home" to get the cursor to the beginning of the line and type "Write", plus a space. Hey presto! The outsize text file appears in Windows Write.



● With "File/Run..." you can use associated files in a different application

"Custom" rather than "Express" setup, do press F1 at the following screen to find out what all those settings mean. The "optimise for Windows" option in particular is a trifle misleading, as this actually increases the memory available for Windows DOS sessions while decreasing that available from naked DOS. You'll need to restart your PC twice (or rather, Memmaker does it for you). If all has gone well, Memmaker will have tried several hundred combinations of how and where to load each item (that's what all the numbers mean), and you should have considerably more free conventional memory — experimenting here retrieved 110Kb. Note that if you add or remove drivers and programs in CONFIG.SYS or AUTOEXEC.BAT you'll need to run Memmaker again.

And that, for a Windows column, is quite enough about DOS for now. It does help, however, to have some idea what Windows needs and doesn't need, and to realise it's not just DOS that benefits from as much base memory as possible. We'll have another look next month at how to pick and choose between different setups.

International rescue

Cosmopolitan Windows 95 users have a very neat utility for changing keyboard settings and character sets on the fly. DOS users can just type "keyb" followed by a two-letter code to instantly change the keyboard layout. Windows 3.1 users have the choice of either buying a multi-lingual word processor such as Accent, that can take this in its stride, or go to

Control Panel/International and make the change there — a bit of a nuisance. One curiosity of the keyboard layout settings is that although they are stored in SYSTEM.INI, you don't, as with most changes to this file, have to restart Windows for these to take effect.

For a more streamlined approach to changing keyboard layout, try using Recorder. Start by getting the relevant files in place. Go to Control Panel/International and choose the new keyboard layout in the usual way. If this is the first time, you'll be prompted for an installation disk.

Having done this, change it back to British or whatever you normally use. Repeat these steps and you should find that instead of being prompted for a disk, you are asked if you want to use the current driver or a new one — click "Current". Making sure you're in your default layout, start Recorder from Program Manager.

From the "Options" menu ensure that "Minimize on use" and "Shortcut keys" are ticked. Then from the "Macro" menu choose "Record". Give the Macro a name — say "French keyboard". Check that Playback is to "Same Application", "Fast", with the "Shortcut keys enabled" checked, and "Continuous loop" unchecked. Set the "Record mouse" box to "Ignore" and give the macro a shortcut key — such as Ctrl+F12. Now you're ready to start. Click on "Record" and Recorder will shrink to an icon, leaving you back in Program Manager. Ignoring the quotes, type:

"Alt+f" then "r"

which will bring up the "Run" dialogue box. In this, type

“control.exe main.cpl international” followed by the return key. This will save time when the macro is replayed, skipping the loading of all the Control Panel bits that you don't need. The International settings dialogue will appear, so type “Alt+k” to get to the Keyboard Layout section. Type the first letter of the language you want, and repeat until you see it in the box — you will find that French takes two f's as it comes after Finnish. Press return once to close the dialogue, and again to confirm that the current driver should be used. You can now pick up the mouse again, click on the Recorder icon and save the macro — note that you have to save the macro file as well. You should now be typing in tongues: if you've followed the French example, Q will have been replaced by A, W by Z, M shifted up to the row above and the punctuation will be all over the place.

Now comes the difficult bit. Using the same steps, record a second macro to change everything back. It's hard, because you have to record the macro in the “foreign” language — to save too much agony, the full stop on a French layout is shift+comma on a UK board. By the same token, running the “French” macro when you're already using that layout will grind to a halt, as Windows will be trying to interpret the wrong keystrokes. Similarly, if you want to use more than two layouts, then you'll need a pair of macros for each in order to touch base with the standard layout before loading a new one.

PCW Contacts

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Ten Top Tips for Windows

Wallpaper

Wallpaper uses up memory. An 800 x 600, 256-colour image takes nearly half a megabyte. Small tiled images are far more economical.

Clipboard

If you've been using the Clipboard to copy large chunks of text or graphics, free up memory by clearing it. Use the Clipboard Viewer's “Edit/Delete” command or save time by copying a single letter to the clipboard — it will replace the existing contents.

Paintbrush

When pasting into Paintbrush, first make sure the “Image Attributes” are set large enough to accept the whole picture. If the visible work area is still smaller than the picture, zoom out first — that way you won't lose any of it.

Cardfile

If you've got a modem attached to your PC you can use the Cardfile utility to dial phone numbers. Go to the “Card” menu and choose “Autodial” — you may need to click on the “Setup” button to set the port and dialling method the first time. If you haven't highlighted a phone number, the autodialler will pick the first thing it thinks is a phone number on the current card. It doesn't like spaces, so use hyphens instead.

Screenshots

If you want to have a “Screenshot” — like the ones in PCW — for inclusion in documents, or just to produce some very confusing wallpaper, remember the PrintScreen key captures the entire screen to the clipboard, but Alt+PrintScreen just captures the current window or dialogue box.

Recorder

You can't edit Recorder macros, but you can see the list of keystrokes and mouse movements, which may be useful for debugging. Highlight a macro, then hold down the Shift key while you select “Properties...” from the “Macro” menu.

System Resources

Some applications gobble system resources and don't give them all back when shut down. If your system slows down as the day goes on, check the “Help/About” box in any Windows component. The only way to retrieve “leaked” resources is to re-start Windows.

Icons

If icons are turning into black squares, or you get an “Insufficient memory” error when trying to move or create them, then the most likely cause is that your display is set to more than 256 colours. Yes, it's another Windows bug — the workaround is to keep fewer icons in each program group.

Paintbrush

Having defined a cut-out with the scissors tool, dragging with the left mouse button makes the cut-out “transparent” — any background colour is left behind. Dragging with the right button copies the background as well...

More Paintbrush

...and holding down the Control key while dragging copies, rather than moves, the selection.