

STEVE CAPLIN'S **A** TO **Z** OF DESIGN

O: Optimising Photoshop

Steve Caplin walks us alphabetically through the concepts essential to success for any jobbing or aspiring designer.



ABOUT THE AUTHOR

Steve Caplin is a designer and illustrator working for a range of national newspapers. His best-selling *How to Cheat in Photoshop*, now in its fourth edition, is published by Focal Press.
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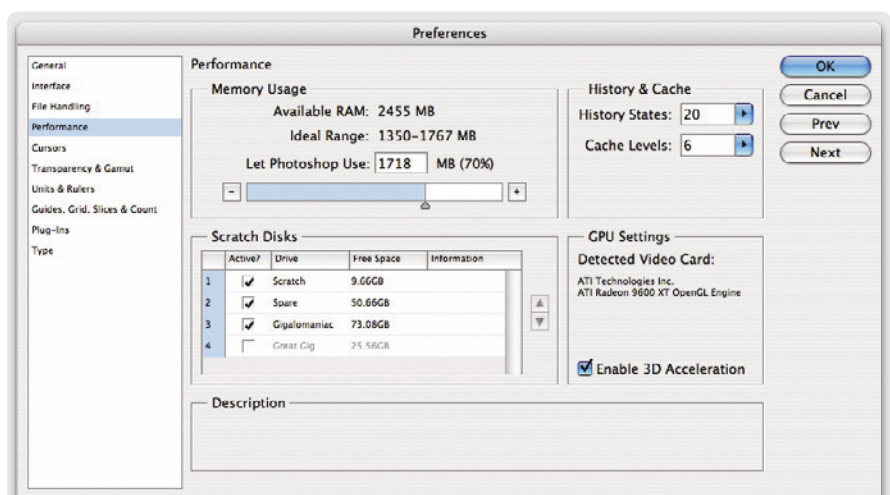
Photoshop is probably the most memory-hungry application you own. It's not uncommon to hand over 75% of your total Ram allocation to Photoshop – and that's still not enough. For every file Photoshop opens, it needs the Ram equivalent to at least five times the file size in order to manipulate it. If you regularly have several files open at once, this means that Photoshop frequently requires more memory than is physically present in your Mac.

To cope with this, Photoshop writes huge temporary files to disk, storing the data required: every keystroke and process that can be reverted through the History palette, any item on the clipboard, every snapshot, they are all stored in the temporary 'scratch' file.

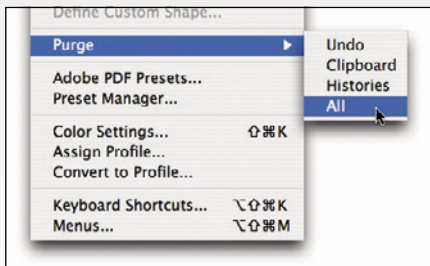
By default, Photoshop will choose your startup disk as its scratch disk (the place it stores its temporary files); but as these files are written and changed frequently, the amount of fragmentation that ensues will slow down not just Photoshop, but ultimately your whole system. Other than adding as much Ram as you can afford to

your Mac, the single best move you can make to speed up Photoshop is to allocate a separate hard disk for this purpose. External drives, connected by FireWire, are a reasonable option; internal drives will give better performance.

You don't need to allocate the entire drive as a scratch disk: a partition should be around five times the amount of physical Ram you have installed. By partitioning a new drive, you're allocating a permanent physical section of it purely for Photoshop's use. Drives can easily be partitioned using the Disk Utility application, but be aware that the process will wipe the drive first. You should use the first partition as the scratch disk. You can still use the remainder of the drive for storage, as long as you keep the scratch disk clean. Once installed, go to the Performance section of the Photoshop Preferences dialog, and specify your new scratch disk in the top slot. You can add your other drives as secondary scratch disks as well, but in practice they should rarely (if ever) be used. Photoshop can support up to 64 billion gigabytes of scratch disk space.

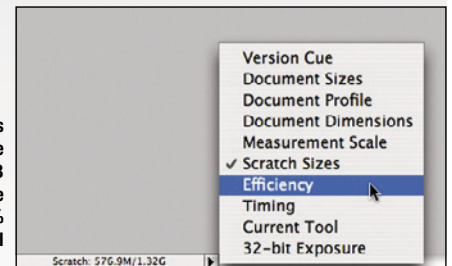


► **01** The Performance section of the Preferences dialog is where you'll make the most difference. Set the amount of physical Ram available to Photoshop to at least 70%; this is also where you'll specify the scratch disk usage, number of History states and number of Cache levels.



◀ **03** Purging Undo, Clipboard and Histories on a regular basis will free up large amounts of scratch disk space, improving Photoshop's performance considerably.

▶ **04** You can see how much Ram Photoshop is using via the pop-up menu at the bottom of the image window. Here, Photoshop is using 576.8 MB out of a total of 1.32 GB available. Check the Efficiency value as well: any figure below 100% means Photoshop has used all its available physical Ram, and is working on the scratch disk instead.



The Performance Preferences dialog is where you specify how much physical Ram Photoshop is allowed to appropriate. This is also where you set the number of Cache levels: these are downscaled versions of the image you're working on, and are used when you work with large images and frequently zoom out or pan around them. The higher the Cache level, the more low-resolution versions of the file Photoshop will store, so the faster zooming out will become. The default value is 4; smaller values will free up more Ram (but entail longer screen redraw times), larger values will speed up redraw times – but the cost is that it will take longer for Photoshop to open each file, as it has to cache multiple resolutions when it does so.

The final option in Performance Preferences is setting the number of History states. The default here is 20, and setting a higher number will obviously mean that you can revert more steps should you need to – but, of course, all these extra steps will have to be

written to the scratch disk, which will take more time. If you find you rarely use the History palette, then consider reducing the number of History states for improved performance.

The Options panel for the History palette allows you to specify how new snapshots are created, and you can also create snapshots of the document as you go along. Each one will add its toll to performance, though, so it's best to delete snapshots when you've finished using them. We would recommend keeping the Automatically Create First Snapshot option, so you can always return to it if you have accidentally saved a version of the file when you didn't mean to. If you're really pushed for scratch space and have very little Ram, it's worth considering reducing the size of the thumbnails in the Layers, Paths and Channels palettes, or removing them altogether, using the palette's Options dialog.

Older versions of Photoshop have an additional option in the Displays & Cursors Preferences, called Pixel Doubling: this works with pixels twice the size when moving items around, so speeding up the process. The option has now been dropped from the application.

In the General Preferences pane, you can specify whether Photoshop should export its clipboard. While this is frequently a useful ability, it does mean that the process of switching from Photoshop to another application is slowed by its having to format its clipboard into an exportable format; disable this option for faster application switching.

◀ **02** If you have little Ram installed, consider reducing the thumbnail size in the Layers, Paths and Channels palettes – or turn them off entirely.

In the File Handling Preferences pane, you can specify whether Photoshop includes both Mac and Windows thumbnails in its image previews, whether it saves full-size icons, and whether to maximize psd compatibility, which means saving files in such a way that they can be opened by earlier versions of Photoshop and other, older applications. Disabling these options will reduce file sizes and, more significantly, the time it takes to save files: saving composite images can slow down the saving process to a large extent.

Photoshop now allows users to work in 16-bit mode, which means 65,000 colours per channel, rather than the 256 found in 8-bit. While photographers may value the extra tonal range this produces, be aware that it means working with files of a vastly larger size: the performance trade-off is considerable.

If you want to shave a few seconds off the time Photoshop takes to start up, consider deleting presets you never use – brushes, layer styles, gradients, swatches and so on. Use the Preset Manager (edit menu) to avoid having to open each palette's settings individually, and do remember to save copies of the originals.

The single most effective performance enhancer while working in Photoshop is to purge unwanted elements in the scratch file, using the Purge item at the bottom of the Edit menu. Here, you can purge Undo, the Clipboard and History states: the final item in the list is Purge All. If you're sure you won't need to undo recent actions, then choosing Purge All will massively reduce the size of the scratch file. It's worth creating an Action to do this with a keystroke, and to perform the Action frequently during your working day.

