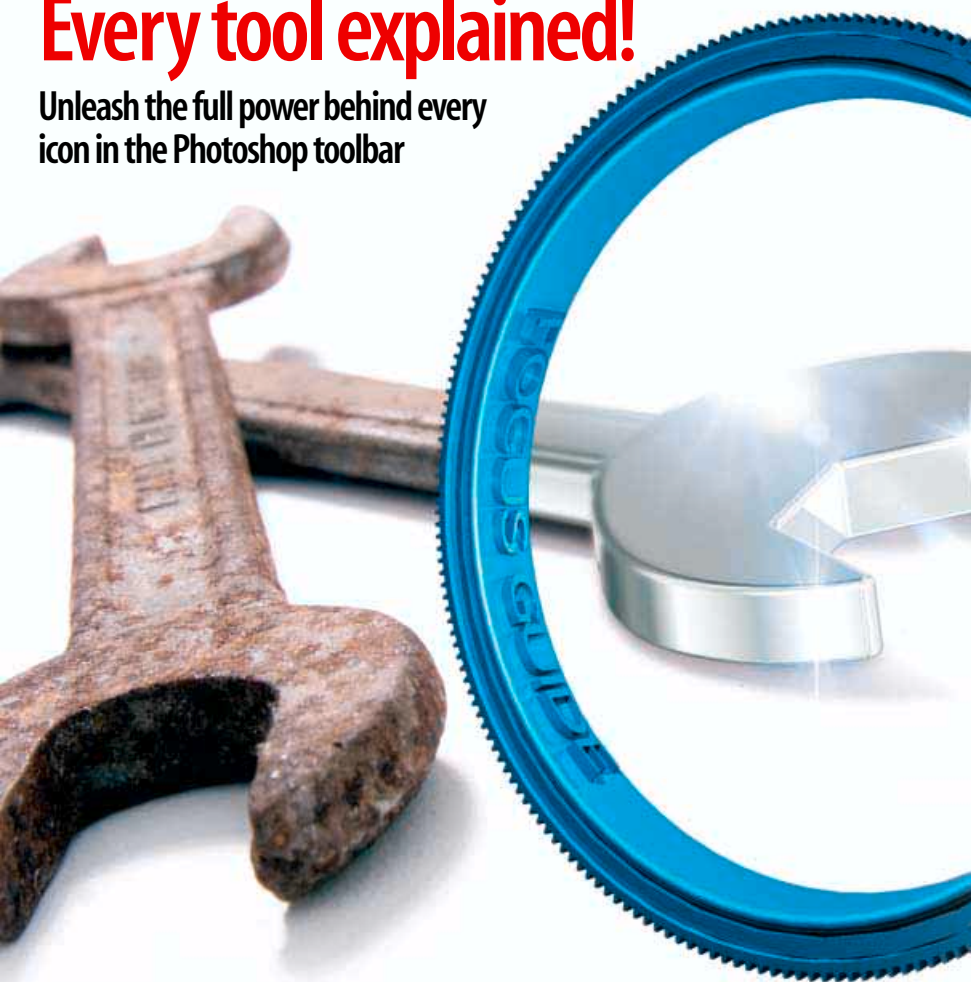


132 PAGES! Master every tool in the Photoshop toolbar

Adobe Photoshop

Every tool explained!

Unleash the full power behind every icon in the Photoshop toolbar



**132 pages of easy-to-follow tutorials
and expert advice to help develop your
Adobe Photoshop skills**



Polish up your knowledge...

Unravel the mysteries of the Photoshop Toolbar and its resident icons. They're not as scary as they look!

Start up Photoshop and what do you see? Well, besides the menu options along the top of the screen, you'll see a Toolbar that's chock-a-block with icons. You'll probably recognise some of these, such as the 'T' that designates the Type tool and the paintbrush icon that unlocks the various Brush tools. But do you really know what the rest of these icons mean? ... Honestly? The chances are that – like many Photoshop users across the world – you're only using a fraction of the program's full potential, but this second issue in the Photoshop Focus Guide series will change all that, helping you make the most of all the tools at your disposal.

Even professional designers often admit to being hopeless with the Healing Brush and dodgy with the Dodge tool, but there's really no reason for any of the tools to be a mystery. This issue will help you get more from the Clone, Gradient, Paths and Effects tools, to name but a few. You'll find expert tips and advice for working more efficiently with each of the tools, as well as tutorials to demonstrate exactly how to carry out useful image-editing tasks. In the final section you'll find a step-by-step guide that brings together all the skills you've learnt, showing how to create a striking Photoshop image.

And let's not forget the CD that accompanies your Focus Guide. On here you'll find a library of stock images (worth £1,990), plug-ins and video training tutorials to enhance your enjoyment of Photoshop further still!

Have fun!





Future Publishing Ltd
30 Monmouth Street, Bath BA1 2BW
www.thefuturenetwork.plc.uk

Editor **Dan McNamara**
Art Editor **Simon Bleeze**
Writer **Simon Danaher**
Production **Clive Somerville**
Jonathan Palmer
Cover image **Chris Stocker**
New Media Co-ordinator **Matt Gallimore**
Production Co-ordinator **Diane Ross**
Group Publisher **Dave Taylor**
Publishing Director **John Weir**

Distributed through the UK Newstrade by
Seymour Distribution,
86 Newman Street, London W1T 3EX

Overseas Distribution by
Future Publishing Ltd.

Printed in the EU

All contents © Future Publishing Ltd, 2003

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means without the prior permission of the publisher.

Websites mentioned in this publication are not under our control. We are not responsible for the contents of these sites or any changes or updates to them.

None of the information in this guide is intended as legal advice. The articles are for information purposes only.

Future Publishing is part of The Future Network plc.

The Future Network produces carefully targeted specialist magazines and websites for groups of people who share a passion. We aim to satisfy their passion by creating titles that offer superb value for money, trustworthy information, multiple ways to save time and money, and are a pleasure to read or visit. Today we publish more than 80 magazines and over 30 magazine websites and networks from offices in four countries. The company also licenses 32 of its titles resulting in over 60 local editions in a further 23 countries. The Future Network plc is a public company quoted on the London Stock Exchange (symbol: FNET).

Non-executive Chairman	Roger Parry
Chief Executive	Greg Ingham
Chief Operating Officer & Managing Director, UK	Colin Morrison
Finance Director	John Bowman

Tel +44 1225 442244 www.thefuturenetwork.plc.uk

Bath • London • Milan • New York • Paris • San Francisco

We recommend that you always maintain an up-to-date backup of your hard disk data. Future Publishing does not accept any responsibility for disruption, damage and/or loss to your data or computer system that may occur while carrying out procedures described in this publication.



Finding your way

Read this Guide from beginning to end or dip in and out as you please. Either way, our icons will prove indispensable...

With so much to say about Adobe Photoshop it's been difficult to cram all the information that we wanted to include into this Focus Guide. That's why you'll find the special icons that occupy the margins so very useful.

As you leaf through the pages, you'll find a range of attractive symbols, each of which denotes an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're dealing with – for a full guide to

icon categories, see below. These handy hints, tips and shortcuts are always relevant to the topic that's being discussed, and will help you develop your Photoshop skills that little bit faster.

Our writers are always experienced Photoshop experts who regularly contribute to our sister magazines, such as *Computer Arts* and *Digital Camera Magazine*. So you can rest assured that all the information they provide is both authoritative and thoroughly tried-and-tested.



On your CD-ROM

Some of the software that we refer to may be included on your bonus CD. Every now and then we remind you of this by flagging up the disc icon and listing what's on it. Handy, eh?



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful hint about using Photoshop's extensive range of tools, palettes and features.



Watch out!

The skull and crossbones sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead we refer you to other useful resources, such as websites and specialist books for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to carry out these tasks with a few deft key-presses, saving you lots of time and effort.



CONTENTS

1

Selections

SELECTION TOOLS IN PHOTOSHOP

10

Making selections is the core of Photoshop's way of working. There are a variety of tools you can use for the purpose, so here's how to get the most out of them

BASIC SELECTION TOOLS	12
THE LASSO TOOLS	14
THE MAGNETIC LASSO	15
THE MAGIC WAND	16
QUICK MASK	18
WORKING WITH THE QUICK MASK	19
SELECTIONS, MASKS AND CHANNELS	20
SLICES	21

2

Navigation and manipulation

NAVIGATING AND EDITING YOUR IMAGES

22

Getting around inside an image is important if you are to work quickly and efficiently.

This chapter covers the view navigation tools and shortcuts for managing your workspace

PANNING AND ZOOMING IMAGES	24
THE NAVIGATOR PANEL	25
VIEW MANAGEMENT	26
Merge, Align and Distribute	27
THE MOVE TOOL	28
DIRECT AND PATH SELECTION TOOLS	30
VECTOR SHAPES AND MULTIPLE PATHS	31



3

Brushes and Pencil tools

USING THE BRUSHES AND PENCIL TOOLS

32

This chapter introduces you to Photoshop's more arty tools, the Brushes. But as you'll discover, you can use these versatile tools for far more than just painting

THE BRUSH TOOL	34
USING BRUSHES	35
EXPLORING THE BRUSHES PALETTE	38
THE BRUSHES PALETTE IN DETAIL	39
SCATTERING	40
TEXTURES AND DUAL BRUSHES	41
THE HISTORY BRUSH	42
USING THE HISTORY BRUSH	43
ART HISTORY BRUSH	45

4

Cloning and Healing tools

USING THE CLONING AND HEALING TOOLS

46

The Cloning and Healing tools in Photoshop offer an elegant way to fix damaged photos, correct bad scans and generally clean up your images. And they're great fun to use

THE RUBBER STAMP (CLONE) TOOL	48
REMOVING UNWANTED ELEMENTS	49
CLONING SKIN	50
THE HEALING BRUSH	51
THE HEALING PATCH TOOL	52

5

Gradients, Fills and Erasing

THE GRADIENT, FILL AND ERASER TOOLS

54

Once you get more competent with Photoshop you'll appreciate the importance of these utility tools. The Gradient tool in particular is essential for all manner of tricks and effects

THE PAINT BUCKET	56
MORE FILL OPTIONS	58
THE GRADIENT TOOL	59
THE GRADIENT EDITOR PANEL	61
USING GRADIENTS CREATIVELY	62
GRADIENT STYLES	63
GRADIENT MASKS	64
MASKS AND SELECTIONS IN DETAIL	65
MAGIC AND BACKGROUND ERASERS	66



6

Effects Tools

GETTING TO KNOW THE EFFECTS TOOLS

68

Photoshop's effects tools include Blur, Sharpen, Smudge, Dodge and Burn. Discover how best to use them to spice up your artwork, composites and photographic images

THE 'FOCUS' TOOLS	70
THE BLUR TOOL	71
THE SHARPEN TOOL	72
THE SMUDGE TOOL	73
WORKING WITH THE SMUDGE TOOL	74
DODGE AND BURN	75
THE SPONGE TOOL	77
USING DODGE AND BURN	78
FOCUSING IN WITH DODGE AND BURN	79

7

Text

WORKING WITH THE TYPE TOOL

80

Creating text in Photoshop is quite easy to do, whether it's for artistic effect or simply to add essential information. This chapter looks at the various options available with the Type tool

THE TYPE TOOL	82
TYPE OPTIONS	84
TYPE TOOL TIPS	85
USING THE WARP TEXT PANEL	87
RASTERIZING TYPE	88
STYLED TYPE	89

8

Vectors

WORKING WITH PATHS, VECTORS AND MASKS

90

Photoshop has always used vector-based 'paths' to draw smooth shapes and outlines. Learn how the latest version has the ability to create shapes and masks with vectors too

USING THE PEN TOOLS	92
VECTOR SHAPES	95
USING VECTOR SHAPES	96
MASKS	98
VECTOR SHAPE DETAILS	99



9

Miscellaneous tools and Utilities

ANNOTATIONS, NOTES AND THE MEASURE TOOL 100

Along with the creative tools, Photoshop provides several tools to add accuracy, sound and vision to your work. These fall into two tool groups – Notation and Measurement tools

NOTES AND ANNOTATIONS	102
THE EYE DROPPER TOOL	104
USING THE EYE DROPPER TOOL	105
THE COLOUR SAMPLER	106
THE MEASURE TOOL	107

10

Artwork project

CREATING TOP QUALITY ARTWORK 108

In this final chapter we'll put together a piece of artwork using all the tools and options that we've looked at over the course of this Photoshop Focus Guide

CREATING A MONTAGE	110
FIX MISSING PARTS OF THE IMAGE	112
USING THE PEN AS A BRUSH	113
ADDING A BACKGROUND	115
APPLYING ARTISTIC DETAIL	118
VECTOR SHAPE AND TYPE LAYERS	119

Essential information

CD PAGES AND RESOURCES 120

*Your essential guide to the software on your disc.
Plus our handy glossary and index*

CD PAGES	120
INDEX	124
GLOSSARY	126

Chapter 1

SELECTION TOOLS IN PHOTOSHOP

In this chapter...

- ☐ Discover how the Photoshop selection tools work
- ☐ Learn how to make accurate selections
- ☐ Create partial or gradient selections

Making selections is the core of Photoshop's way of working. There are a variety of tools you can use for the purpose, so let's take a look at how to get the most out of them

In earlier versions of Photoshop there was no Select tool – one that looked like a traditional arrow cursor, that you would use to select 'objects'. Because Photoshop dealt primarily with pixels, it made no sense to have a Select tool – there were no 'objects' to select. Instead, the selection tools were default tools – ones you used automatically, to begin editing.

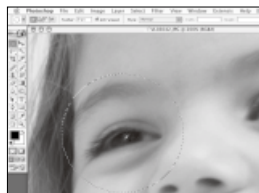
In Photoshop 7.0 there is an arrow tool for selecting objects, since the introduction of vector shapes (those drawn using a series of points or 'vectors') made this necessary. Despite this, the selection tools, in their many and varied forms, are still

the main tools for doing 90% of the tasks in Photoshop.

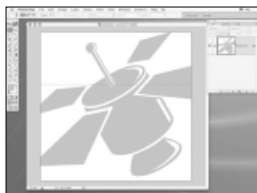
Selections are an essential part of understanding Photoshop's methods and central to the way the program works – making a selection then performing an action on that selection is the basic workflow. The better you become at Photoshop the better you'll become at making selections and vice-versa.

No need for discretion

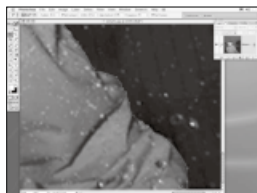
What's important to understand, though, is that selections are not necessarily discreet. They don't have to define rigidly what is or is not selected – they can be partial too.



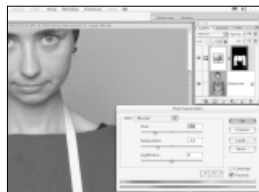
Page 12 The Circular Marquee tool makes an elliptical selection



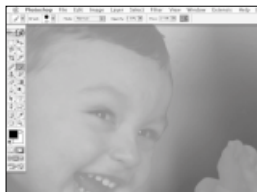
Page 13 Single Column marquee tools are used to select only certain columns



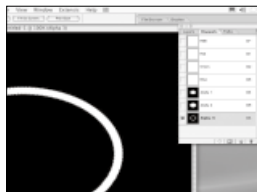
Page 15 The Magnetic Lasso lets you make detailed selections with ease



Page 17 The Magic Wand tool selects an object in an image to change the colour



Page 18 Quick mask mode turns any painting tool into a selection tool



Page 20 Photoshop can convert channels into selections and vice-versa

It is perfectly possible to make selections so that some pixels are 100% selected and others are 100% unselected, and in between there is a selection gradient, where pixels are partially selected. This is how you create effects that blend smoothly into existing pixels, and this also forms the basis of ‘anti-aliasing’ – smoothing jagged, pixelated edges.

Feathering is the most basic implementation of gradient selections in Photoshop. When making a rigid selection using one of the Marquee tools for instance, you can tell Photoshop to make the edge of the selection slightly soft, or ‘feathered’. This effectively creates

a border around the selection where some of the pixels are partially selected, smoothing whatever effect or operation is applied to the selection, or merely preventing jagged edges.

The soft option

By making the feathered edge larger, you’ll be able to create very soft selections, and this is very useful when making photo-montages, for instance, or retouching images. We’ll look at how anti-aliasing and feathering are implemented in Photoshop’s selection tools, and how you can use them to achieve professional results quickly and easily.

Basic Selection tools

Let's take a look at the various tools in the toolbar available for making selections

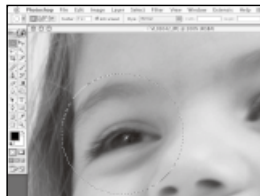


Changing marquees

Holding down the [Alt] key will change the marquee mode so that the selection expands from the centre, rather than the corners, as you drag.



1 The Rectangular Marquee tool is the first tool in the Toolbar, and is used to select rectangular areas of an image. It's simple to use – just select the tool and drag across the image to select the area you want. By default the tools works in corner-to-corner mode. Dragging from top-left or bottom-right creates the marquee.

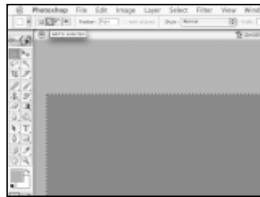


2 The Circular Marquee works in exactly the same way, except the selection will be elliptical. With both tools you can constrain the selection so it is either a perfect circle or a perfect square by holding down the [Shift] key while you drag. Lift your finger off the [Shift] key while still holding the mouse button down to switch back to unconstrained mode.



Shifting around

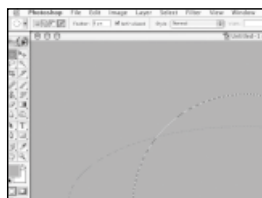
Rather than using the buttons you can hold down modifier keys to add and subtract selections. To add, hold the [Shift] key before you begin to click and drag. To subtract hold the [Alt] key before you click and drag. The marquee cursor will change to show which mode you are in.



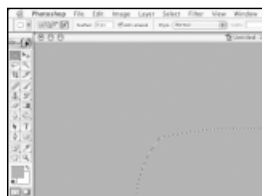
3 The Options bar displays tool-specific settings. The selection tools all have a set of four buttons that change the effect that subsequent selections have on the one that's currently active. The normal mode is New Selection – each time you click and drag, a new selection is made and the current one is lost. Add mode makes the current selection larger and a different shape.



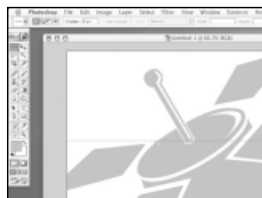
4 In Subtract mode, you can remove areas from the current selection. Here we changed to the Circle Marquee tool to subtract an elliptical shape from the rectangular selection we had made. You can continue to make negative selections that chip away at the current selection. This is a good way to refine a selection to fit a specific shape in an image.



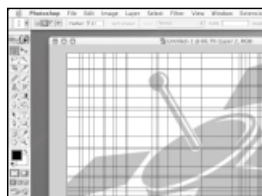
5 The fourth mode is Intersect. When in this mode, you can create a new selection that is the intersection between the currently active one and one you will drag out. Basically all parts of the current selection will disappear except that portion that overlaps with the new selection you drag out. Here is the original selection with a new one being dragged out over it, using the Intersect mode.



6 This is the result of the intersection. Note that it's only the overlapping parts of the two selections that remain selected. This selection method is not used very often but you'll appreciate just how handy it can be in certain situations. Creating similar selections any other way would be very difficult and time-consuming.



7 The last two selection types in this group are the Single Row and Single Column Marquees. These are special types of marquee which, as their name suggests, select either a single row or column of pixels. In this case dragging only defines which row or column in the image is selected and the selection extends to the edges of the image in either mode.



8 Uses for the Single Row and Column Marquees are varied, but not always obvious. Here, they're used to create multiple random vertical and/or horizontal lines in an image much more quickly than using the Pencil or Line tool. The Add Selection mode was used and the selections filled with black, on separate layers, to create lines whose opacity and blending mode we can vary.



Short intersection

To activate Intersect mode without using the buttons hold down the [Alt] and [Shift] keys before you drag.



Perfect circle

If, after dragging while holding down the [Shift] key, you want to force the selection to be constrained to a perfect circle or rectangle, release the [Shift] key momentarily and press it again. Holding the [Alt] key while dragging will force a selection to be drawn from its centre as mentioned.

If already holding the [Alt] key, such as when using the Intersection shortcut, momentarily release it and then press the [Alt] key.

This forces the 'constraint from centre' to occur.

The Lasso Tools

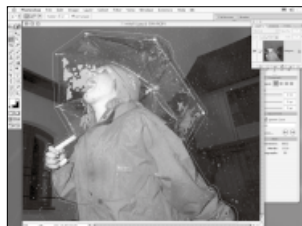
The standard, Polygonal and Magnetic Lassos are ideal for creating complex selections



Poly-gone

When using the Polygonal Lasso holding down the [Alt] key invokes the normal Lasso tool. Releasing the [Alt] key reverts back to the Polygonal Lasso.

The Lasso tool is a free-form selection tool. You can use it like a pen to draw your selection border by hand. When using the Lasso tool selections can be any shape you like, but it can be hard to be precise because selection must be drawn in a single motion. The Polygonal Lasso is much easier to use, and can be found in the Lasso tool pop-up in the toolbar. This enables you to click from one point to another to create straight line segments to make up your selection. All you need to do is double-click,



Using the [Alt] key technique allows you the best of both worlds, drawing straight sections or detailed curves as and when you need to

or click on the starting point of the selection to end it and consequently close your selection.



Combined Lasso

With the Lasso tool active, just hold down the [Alt] key at any stage to turn it into the Polygonal Lasso.

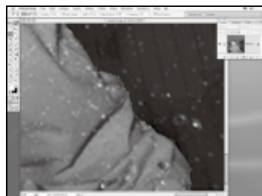
LASO OPTIONS ROUNDED UP

- ☐ **THERE ARE** two ways in which to work using the [Alt] shortcut. Assuming you have the normal Lasso tool selected, if you keep the [Alt] key held down when you click and drag, the tool will behave like the normal Lasso.
- ☐ **IF YOU** want to get really precise, then the Magnetic Lasso is the key. With this selection tool you can draw close to the edge of the object you wish to select and the tool will figure out where the boundary should be and adjust the selection to fit.
- ☐ **YOU CAN** set the Frequency high to place lots of points as you drag. This can be handy for jagged edges.
- ☐ **A LOW** Frequency is also useful when you don't need the added complexity of hundreds of anchor points, but can make do with a less precise selection.



The Magnetic Lasso

If you want detailed selections without too much effort, here's the perfect tool for the task



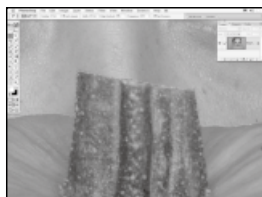
1 This tool lets you make more detailed selections, particularly of specific objects in an image, without requiring too much effort. You don't have to keep the mouse button held down when drawing either – click once to start, drag close to the object edge, then double-click to end. Note that the tool automatically places 'anchor points' as you draw to keep the selection in place.



2 If the area you are tracing is too indistinct and low in contrast for Photoshop to find an edge itself, you can click the mouse to force an anchor point to be placed. The default setting in the Options bar is fine most of the time, but there can be problems – here, the tool has no problem with the edge of the hair, but it didn't seem to detect the pumpkin stalk.



3 This is a problem of contrast. By reducing the Edge Contrast setting in the Option bar you can help the Magnetic Lasso to detect edges that are lower in contrast. But you will still need to manually add anchor points by clicking, to help the Lasso do this.



4 Another trick to help on very low contrast portions of an image, such as where the pumpkin stalk is in front of the girl's face again, it can help to increase the Frequency setting. This will cause the tool to place anchor points more often, therefore reducing the span of pixels it has to analyze as you drag the mouse.



Fast pan and zoom

You can use the Pan and Zoom shortcuts to move the image around while still in mid-selection. See Chapter 2 for more about navigating and editing your images.



Magnetic switch

Hold the [Alt] key to activate the Polygonal Lasso tool when using the Magnetic Lasso.

The Magic Wand

The Magic Wand is a special selection tool, used for selecting areas of similar colour



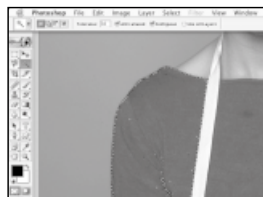
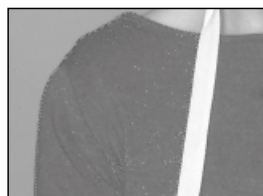
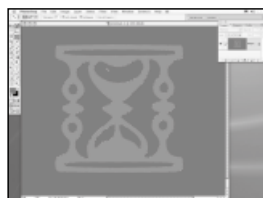
Unrestricted colours

When the Contiguous setting in the Options bar is checked, Photoshop makes a selection of similar-coloured pixels that are also physically joined to your starting point. Disable this setting and similar colour pixels across the whole image will be included, which can take a few moments.



Use All Layers

The Use All Layers option allows you to calculate the selection based on how the image actually appears on screen when working with multi-layered documents. If this is left unchecked, then only colours on the currently selected layer will be analysed for similarity.

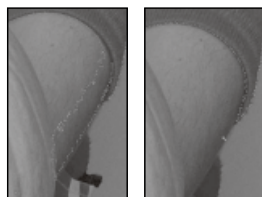


1 The Magic Wand tool is used to select areas using a single click. The tool works by sampling the colour of the image where you click and then looking at all adjacent pixels for those that are the same or similar in colour. Take a well-defined shape like the one here and click in it with the Magic Wand – the whole shape is selected in one go.

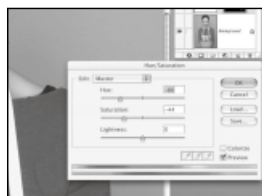
2 Most images don't contain large areas of flat colour like the one above, so here's a more typical use for the Magic Wand – selecting the girl's jumper to change its colour. Using the Magic Wand, we can click on a section of the jumper to select all pixels with a similar colour. However, using the default setting there are many 'islands' of unselected pixels, so not all of the jumper has been selected.

3 The Magic Wand will only select colours within a certain range, defined by the Tolerance setting. And it will only look at contiguous pixels – that is, ones that actually touch each other. Areas of colour not directly connected, like the chest and other arm, are not considered for selection.

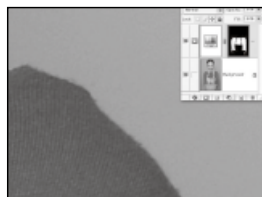
4 We can improve the ability of the wand to select the colours we want by increasing the Tolerance setting, from the default 32, to 50 then [Shift]+clicking in each of the separate areas. Any other parts of the jumper still not selected can be added by [Shift]+clicking on them again until you have a good clean selection with no 'islands'.



5 Here you can see that a part of the arm has been selected. This is due to the high tolerance setting used. You can easily remove it from the selection, but first reduce the tolerance to a lower value, such as 24, then [Alt]-click on the arm inside the selection to remove it.



6 By adding a Hue/Saturation Adjustment Layer while the selection is still active, you can change the colour of the jumper, and only the jumper. Photoshop creates a layer mask from the selection and uses it to limit which areas of the adjustment layer will actively affect the layers below.



7 If we zoom into the document we can see that there is a slight fringe of red. This is because some of the jumper that overlaps the background was left unselected. This is a limitation of the tolerance setting used by the Magic Wand. Fortunately, there is a way we can fix this.



8 By selecting the layer mask and applying the Gaussian Blur filter with a smallish value we can make the layer mask slightly bigger. Then by applying Levels to the layer mask we can make the blurred edges brighter, controlling how much of the Hue/Saturation effect is applied to this area.



Colour tweaks

The Hue/Saturation panel lets you adjust the whole spectrum or individual sectors of the colour spectrum. Choose these from the pop-up menu.



Let it slide

The sliders at the bottom of the Hue/Saturation panel enable you to adjust the range of colours affected in each sector.

Quick Mask

Quick Mask is not a tool as such, but a mode you can enter when working with selections

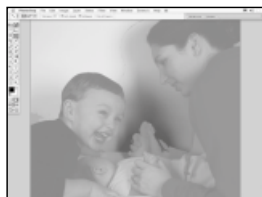


Fill the gaps

Holes in a Mask or Quick Mask can be filled by selecting the inside or outside area and applying the Minimum filter.



1 When any selection is active, no matter which of the selection tools you started off using, you can enable Photoshop's Quick Mask mode. Here is a less-than-perfect selection we have made using the Magic Wand.

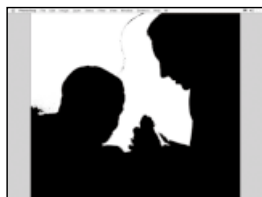


2 By clicking the Quick Mask button at the bottom of the toolbar, or pressing the [Q] key, the selection is converted to a mask. The mask is displayed, not in shades of grey, but as a semi-transparent overlay. This mimics the techniques used in traditional printing where a red 'rubylith' overlay is used to mask out parts of a photo or artwork.

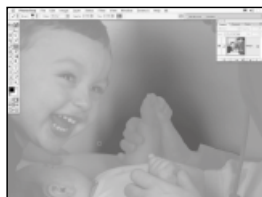


Keep it sharp

Apply the Minimum filter to a copy of a layer using the Overlay mode to give you a 'live' sharpening layer.



3 The red overlay is slightly transparent so you can see what it beneath. Red areas are masked out (unselected) while clear areas are unmasked (selected). But internally, Photoshop stores the mask in shades of grey, not red – so this is how the mask looks to Photoshop.



4 While in Quick Mask mode, therefore, you can use any of the normal painting tools to modify your mask, and hence your selection. You can see that Photoshop offers a huge amount of freedom when creating selections, and this is indicative of how important selections are when using Photoshop. Here, the Paintbrush tool is being used to clean up the mask.



Working with the Quick Mask

The Quick Mask lets you create a ready-made mask, which you can edit or turn into a selection

When painting, take notice of the foreground colour indicated in the bottom of the toolbar. When in Quick Mask mode this will only indicate shades of grey, so any colours you have set will appear grey. Hitting the [D] key sets the colours to the default, white and black. As you paint you can use the [X] key to reverse the background and foreground colours so that you can paint in white (unmask) or black (mask) to edit the mask.

Once you have touched up the mask, you can press the [Q] key



Make use of the foreground and background switch key [X] to flip between masked and unmasked colours

once more to exit Quick Mask mode. You'll then be able to convert the edited mask to a selection.



Disappearing ants

To hide the 'marching ants' while a selection is active use the [Ctrl]+[H] shortcut (that's [Command]+[H] for Mac users). Be careful to remember that you have a selection active though!

HOW TO MODIFY YOUR SELECTIONS

- ☐ **IF YOU** need to make a selection slightly bigger all the way round, you can do so using the Select > Modify > Expand menu command. A dialog will appear in which you can enter the number of pixels by which you wish to expand the selection.
- ☐ **YOU CAN** contract a selection by using the Select > Modify > Contract menu command. To make a selection larger by a specified number of pixels around it, choose Select > Modify > Expand from the menu.
- ☐ **TO SOFTEN** a selection and make its border less jagged, you can use the Select > Feather menu command, enter a value in pixels (from 1 to 250) and click OK.
- ☐ **IF YOU** need to modify just the border of the selection area you can select it using the Select > Modify > Border. This is useful for creating special edge effects, in combination with some filters, like Torn Edges.



Hiding applications

To hide other applications on a Mac and leave only Photoshop visible, type [Command]+[Alt]+[H]. On PCs, Photoshop has an application background window, so this is not applicable.



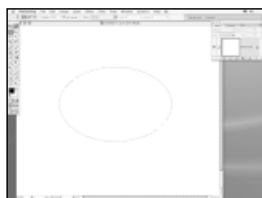
Selections, Masks and Channels

Let's look at selections in a little more detail to see how they relate to layers and channels

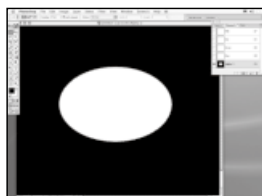


Alpha channels

The term *alpha channel* simply means any extra greyscale channel saved along with the three RGB channels, or four CMYK channels, that make up a colour image file. Photoshop files can store many of these alpha channels at once.



1 As we've seen with the Quick Mask mode, selections are handled internally by Photoshop as a greyscale image or 'mask'. White areas in the mask are pixels that are fully selected, black areas are fully unselected and grey areas are partially selected. Let's create a simple selection using the Elliptical Marquee tool.

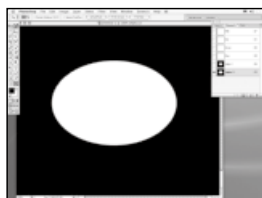


2 We can convert the selection into an 'alpha' channel by switching to the Channels tab and clicking the Save Selection As Channel button, (second from the left at the bottom of the palette). The selection is then represented by a greyscale image.



Channel selection

[Ctrl]+[Alt]+[Shift]+click on a channel to load the intersection of the current selection and a channel.



3 Now that the selection is saved as a channel, we can drop the selection and continue to make new ones. It's only possible to have one selection active at a time, so saving them to a channel is a convenient way to store them for use later on. Here we've created another selection and saved it as another channel. It's just a larger ellipse.

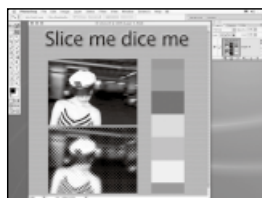


4 To reload a channel as a selection once again, click the Load Channel As Selection button at the bottom-left of the Channels palette. A better technique is to press [Ctrl] (or [Command] on a Mac) while clicking on the channel icon directly – we can load the larger ellipse as a selection (by pressing [Ctrl/Command] while clicking on it) then subtract the smaller ellipse by pressing [Ctrl/Command]+[Alt] while clicking its icon in the Channel palette.



Slices

Slices are special kinds of selections for web page design, before the Image Ready stage

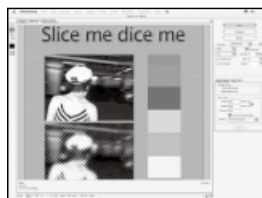


1 Here's an example of where slicing can really help. This is an example web page, containing text, a background, a photographic image and graphics created in Photoshop. Obviously, for the web we want the page to download as fast as possible but also look as good as possible.

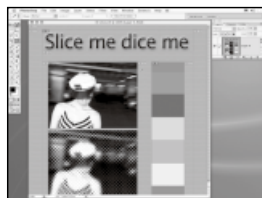


Reassembled slices

When you save the sliced page Photoshop creates an HTML file plus separate image files for each slice. When the HTML file is read by a web browser all the slices are reassembled in their original position, giving the appearance of a single image once again.



2 The problem here is that the different kinds of graphics element on the page really need to be saved individually using the compression settings best suited to each. We can't do this without using slices in Photoshop. As this pretty extreme example shows, achieving a small file size causes most of the elements to look terrible.

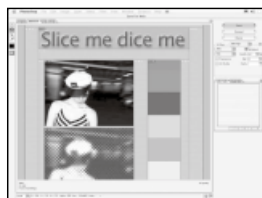


3 Using the Slice tool we can divide up the image into sections. It's simple to use – just select the tool and drag out marquees to cut the image into appropriate boxes. Photoshop automatically adds extra slices where necessary to keep everything rectangular because each slice essentially becomes a separate image file.



Keep it tidy

Hold the [Ctrl] key while using the Slice tool to toggle the Slice Select tool on and off. Use this to select a slice and drag its edge handles to resize it. Be careful not to have any unnecessary 'sliver' slices between the main slices. Zoom in to check they all butt up against each other nicely.



4 Now choose File > Save For Web to open Photoshop's web compression tool. In this panel, you can select each slice and apply precisely the compression most suitable. For example, a photo saved as high quality JPEG, the text as a medium quality JPEG and the graphics as GIFs. The backgrounds can be saved as low quality JPEGs. This sliced, higher quality image is only 5k larger than our first attempt.

Chapter 2

NAVIGATING AND EDITING YOUR IMAGES

In this chapter...

- ☐ *Learn how to pan and zoom images*
- ☐ *Discover how to select and move layer elements*
- ☐ *Use shortcuts to scale and pan the view*
- ☐ *Work more efficiently and productively*

Getting around inside an image is important if you are to work quickly and efficiently. This chapter covers the view navigation tools and shortcuts for managing your workspace

Being able to zoom and pan an image is important when working on a Photoshop document. Like all other aspects of the program there is more than one way to get around an image, manage your windows and documents, and generally navigate the Photoshop landscape. Similarly you'll need to be able to work with the elements within a document, such as masks, layers, floating selections, paths and vector masks. There are a number of tools to accomplish these tasks.

As mentioned before, Photoshop is not an object-based 2D program – that is, you work directly with the pixels of a layer until you explicitly

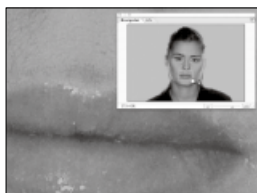
do something to change that fact, such as creating a new layer on which to paint. In some 2D programs, every time you paint a stroke or apply an effect, a new object is created. While this gives you a totally non-destructive way of image editing, it can make managing your document a very complicated procedure. In Photoshop it's much more straightforward.

Painting in layers

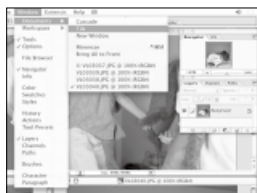
If you paint on an image layer, stop say, to change colour, then paint over what you just did, the result destructively alters those pixels in the layer. It's much like painting in



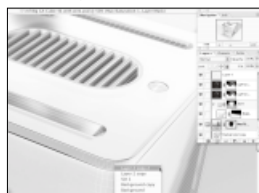
Page 24 Use the Zoom and Pan tools to navigate your images on screen



Page 25 The Navigation palette is great for giving an overview of the whole page



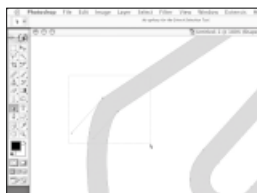
Page 26 Manage your screen space when multiple documents are open



Page 28 The Move tool enables you to navigate your layers with a pop-up menu



Page 29 Quick 3D effects are possible using the Move tool in copy mode



Page 31 Use the Direct Selection and Path tools to work with paths and vectors

the real world, except in Photoshop you have an Undo command.

If you need to paint over the top of existing artwork and be able to go back and change the position, size, colour and opacity of those strokes later on, then you have to paint on a new layer. This holds true for any other aspect of the program where new pixels are created.

While the Selection tools – the Marquee, Lasso and so on – are used to select pixels within a layer, there are other tools for selecting and moving layer elements themselves. These include the Move tool, the Path Select tool and the Direct Selection tool for dealing with

vector-based elements. It's important to learn the difference between them, and we'll examine these differences more closely in the following pages.

Old and new

The Path Select and Direct Selection tools are not easy to find in older versions of Photoshop. The Path Select tool used to be part of the Pen tool group, but can now be found in its own tool group on the toolbar. Many revisions have been made to both the menus and toolbar, but rest assured that most of the information in this book also applies to older versions of Photoshop.

Panning and Zooming images

Here we show you the basic navigation tools available for viewing your image



100% accuracy

To zoom the image so that it is at exactly 100% scale, double-click the Zoom tool in the toolbar.



1 When you open an image in Photoshop it is automatically scaled so that the whole image is visible at once. The scaling factor is displayed as a percentage in the window's title bar. But how do you zoom in to see more detail in a large image? As is often the case when using Photoshop, there are a number of different options.



Viewing options

Use the buttons in the Option bar to zoom the image to full size, print size or to make it fit on screen.



2 At the bottom of the toolbar are the Hand (which we'll refer to as the Pan tool) and Zoom tools. Click the Zoom tool then click on your image to zoom in. Eventually you'll zoom in so far that the individual pixels will become visible as large blocks of a single colour. You've exceeded the resolution limit for the image on your monitor, but getting this close is often very useful.



3 To zoom out again, either click the Zoom Out button in the Option bar and click in the image, or hold down [Ctrl] and click (that's [Option]+click on a Mac). If the image extends past the borders of the window you can pan the image by clicking on the Pan tool, or holding the Space Bar at any time and dragging in the window.

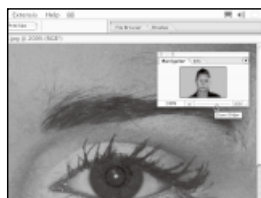


4 Two useful options are the Resize Window To Fit and Ignore Palettes options in the Zoom tool's Option bar. With the former option enabled the window will change size along with the image, and with the latter option enabled the window will continue to extend below any open palettes, though not the toolbar.



The Navigator panel

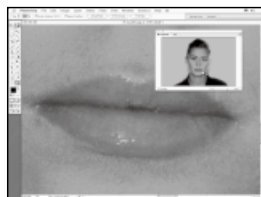
A useful device for getting around documents is the Navigator panel. Here's how it works



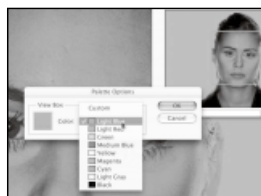
1 From the Windows menu you can access the Navigator panel, though it's open by default in Photoshop. This is a handy tool because it enables you to view the entire image in a small window, pan the main view, and zoom in and out, all from the same small area on screen. It's great for those that don't like to use keyboard shortcuts.



2 The Navigator panel is very useful when zoomed in very close to an image, because it shows you with a red box exactly where in the main image the zoomed-in portion is located. Note that you can make the preview larger by dragging the lower right corner of the palette to resize it, even to fill the whole screen.



3 To zoom in and out using the Navigator you have a few different options. You can use the zoom slider to interactively zoom the image, and that's quite fun to do. Or you can click on the Zoom In and Zoom Out buttons either side of the slider. Or you can click in the text field to enter an exact scale.



4 The triangle at the top-right of the Navigator accesses the options for the panel. There are only two in Photoshop 7: Dock To Palette Well and Options. The latter lets you change the colour of the zoom box, which can be handy if you have a very red image like ours and the box is hard to see, or if you just don't like working with the red colour.



Navigator panel

This can be very useful when working on multiple monitor set-ups. You can have a full-screen preview of your image on one monitor while you work up close on another. This prevents you continually zooming in and out to see how the editing looks relative to the rest of the image.



A different scale

Some previous versions of Photoshop do not allow incremental and fractional scaling – you can only scale out to 75%, 50%, 25%, 12.5%... or in to 125%, 150%, 200% and so on.

View management

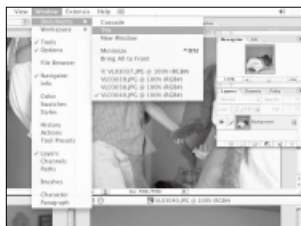
Photoshop has several gadgets to help you work with various views of your document



Floating away

The floating palettes can get in that way, especially if you are working on a small monitor. No matter, at any time you can hit the [F] key to toggle the display mode to full screen. Use the Tab key to toggle the palettes on and off to get a totally uncluttered view.

The main interface in Photoshop is quite simple and well laid-out, but it has been constantly refined through development to offer highly efficient document and view management. Within the main menu is the View menu which has many view management options – the Zoom In and Out commands and their respective shortcuts, as well as commands to show the Rulers, Guides and Grids and the option to enable various kinds of snapping. As well as using the Navigator or Zoom tool you can use the shortcuts



Multiple documents can be arranged on the screen using **Tile**, in **Windows > Documents**. This fits your images next to each other on screen

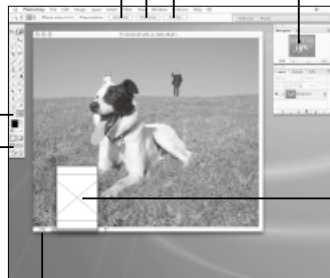
[Ctrl]+[+] and [Ctrl]+[-] to zoom in and out (Mac users replace [Ctrl] with [Command]).

ZOOMING AROUND

When the Zoom tool is active the Options bar displays a few extra buttons – Actual Pixels, Fit On Screens and Print Size. These zoom the view to specific sizes.

The Zoom and Pan tools can be found at the bottom of the toolbar. Click on these to zoom and pan inside the image.

At the bottom of the toolbar are buttons to control full screen view. The middle one makes the current window fill the screen, the right makes the menu bar disappear and the left returns it to normal.



The Navigator panel is grouped with the Info palette. Use the navigator to perform multiple view navigation tasks in one area, with one hand. You also get a handy image preview.

The Print Size pop-up is located at the bottom of the document window. Click on the blank space here to preview how large the image will print out on the paper size set in the Print dialog.

Yet another way to zoom the document is to type in a value here at the bottom-left of the document window.

Move, Align and Distribute

The latest version of Photoshop has handy Align and Distribute features

As well as moving and copying pixels, Photoshop's Move tool allows you to align and distribute objects evenly across the document or within a selection. With the Move tool selected you will see a number of options available.

The first option, Auto Select Layer, is very handy. It enables you to click on a pixel in the image to select that layer. The next, Show Bounding Box, displays a transform box around the selection or element or layer. You can drag the handles on the edge of the box to move the

selection. If you click on the lines, you'll switch to the Free Transform mode, enabling you to scale, rotate and deform the objects.

The next section of options only becomes active when you have *linked* layers. To link layers so that you can move them as one object, go to the Layers palette and click the blank icon box between the eye icon and one of your layers. A chain icon now appears in the blank icon box, indicating that the layer you have just clicked next to is now linked to the currently selected layer.



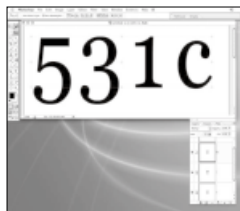
Line them up

The Align features work with selections on fully filled layers too. If a selection is active then it is used as a master guide for all the layers to be aligned to. If you have accidentally moved image layers so that they lie partially off the canvas you can use the Align feature to make them all line up again squarely on the canvas.

ACTIVATING ALIGN AND DISTRIBUTE

Feel like going MAD? Here's how to Move, Align and Distribute

When you select a layer that has other layers linked to it the Align and Distribute options of the Move tool become active. Click on these to distribute the layers or align them to various key points. You can use the Align Left Edges button, for example, to align individual text layers so that their left edges line up. It's important to note that these options only take into account the bounding box of the layer. If you have a series of layers linked together but they are filled totally with pixels, then the align options will have no effect. This is because the layers have nowhere to be aligned to, as they are already lined up on the canvas.



The Align and Distribute buttons in the Move options bar can be used to align multiple linked layers

The Move tool

The Move tool is a very handy, multi-purpose gadget – and surprisingly easy to use



On the Move

At any time, no matter what tool is selected, you can access the Move tool by pressing [V] on your keyboard.



- 1 The Move tool is the second tool at the top of the toolbar. It looks like an arrow but without the tail. Use this tool when you want to move elements in a document, be they selected pixels or whole layers.



- 2 The neat thing about the Move tool is that it has a built-in layer navigation feature. In a multi-layer document you can find out exactly which layers are beneath any given point in an image by control-clicking and holding on the image. A menu will pop up displaying the names of the layers in order, from the top downwards.



Scissor action

The Move tool cursor displays a pair of scissors next to it when it is over an active selection.



- 3 You can scroll your mouse through the list to select precisely the right layer you want to move without having to go to the Layers palette. Here we've selected the Wireframe layer, and moved it. Getting into the habit of naming your layers will help here.



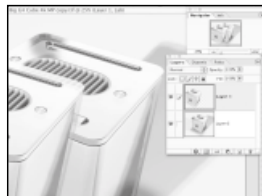
- 4 If a selection is active then the Move tool will move the pixels in the selection only, as opposed to the whole layer. Here we've selected the whole object in a flattened document and dragged it. The result is that the pixels are lifted and moved, leaving a hole behind.



5 Moving pixels and leaving a hole behind may be fine in some circumstances but if you want to copy the pixels instead of cutting them out then you have to hold down the [Alt] key (often called the 'Option' key on a Mac, although it's still labelled 'Alt') as you drag with the Move tool. Notice that the cursor will change to a double arrow, indicating you're now in Copy mode.



6 Now as you drag the selection will be copied, lifted and moved to another location on the layer. Note that while the selection is still active the copied pixels occupy a quasi-layer. This is said to be 'floating' selection. You can move it around as if it was on its own layer. Only when you deselect the pixels will it be dropped on to the layer.



7 Another way to do this is to create a new layer from the selection first, then use the Move tool as normal. With a selection active press [Ctrl] + [J] (that's [Command] + [J] on a Mac) to convert the selection to a new layer, then move it as normal.



8 A nifty trick is to hold down the [Alt] key and use the arrow keys to nudge the selection diagonally. Used on a text outline filled with a gradient like this, repeatedly pressing the Up and Right Arrow keys creates an extruded 3D object.



Extrude and move

In the 3D text example on the left, we first created a text layer, then loaded it as a selection by command clicking the layer. In a new layer below the text layer we created a gradient through the selection, and with it still active we carried out an extrude-move function.



Computer Arts

To discover even more ways to develop your Photoshop skills, check out our sister magazine, Computer Arts. You can find the magazine's website at www.computerarts.co.uk.

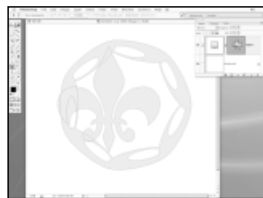
Direct and Path Selection tools

Use the Path Selection and Direct Selection tools to move and edit paths and vector shapes

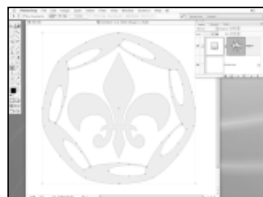


A familiar Path

The Path Selection tool is much like the old arrow cursor in the Pen tool group of previous versions of Photoshop, before vector shapes and masks were introduced.



1 Here we have two vector shapes in a single vector mask applied to a Solid Colour layer. They are not properly aligned and we need to select them independently, but how? The Move tool only lets us move the whole layer, so we're not able to select the paths independently.



2 For this we need to activate the Path Selection tool. This is in the eighth row of the toolbar and looks like a black arrow cursor. With this selected, clicking on the edges of each path in the vector mask selects it. We are able to move the path and transform it to fit by making the bounding box visible and clicking on the edge of the box to activate Free Transform.

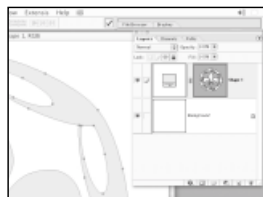


Hide and seek

You can show and hide the path outlines by typing `[Ctrl]+[Shift]+[H]`, on your keyboard (that's `[Command]+[Shift]+[H]` for Mac users) or toggling the `Views > Show > Target Paths` menu command on and off.



3 Much like other selections in Photoshop you can add to them using the `[Shift]` key. Here we have selected both paths by `[Shift]`-clicking on the second path to activate it. Both can now be transformed together. However, to make this work you must have the `Show Bounding Box` option turned off.

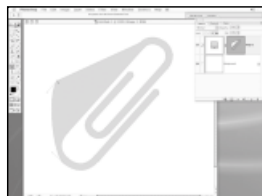


4 With both paths selected you can click on the `Combine` button in the Path Selection's Option bar to merge both (or as many as you like) into a single path. If you click away from the paths to deselect them, then reselect them, you'll see that all the paths are now selected because they are one.



Vector shapes and multiple paths

Follow our step-by-step guide to working on vector shapes and multiple paths



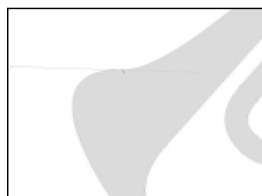
1 If you want to edit the points of a vector shape mask then you need to change from the Path Selection to the Direct Selection tool. With this tool active, you are able to click to select individual points in a path or vector shape.



2 If you need to select multiple points on a path and move them as one you can drag out a marquee with the Direct Selection tool. Alternatively the usual 'shift to add' maxim holds true: [Shift]+click to add points to the selection that are difficult to select within a single marquee.



3 With either the Direct Selection or Path Selection tools active you can duplicate a path, or multiple paths by [Option]+dragging them. The cursor will change to display a plus sign next to it when you hold the Option key down as a visual cue that you are about to make a copy.



4 With the Direct Selection tool you can select a point in order to access its Bezier handles and modify the shape of the curve. If a point has no handles you can pull them out by holding down [Ctrl]+[Alt] as you drag ([Command]+[Alt] on a Mac). The tool changes to an inverted 'V', called the Cusp tool.



Take the A road

The [A] key is the shortcut to the Path Selection tool group. To toggle between Path and Direct Selection mode type [Shift]+[A].



Make a point

Clicking once on a point that already has handles with the Cusp cursor converts it to a sharp point with no handles.

Chapter 3

USING THE BRUSHES AND PENCIL TOOLS

In this chapter...

- ☐ *Using the Brush and Pencil tools*
- ☐ *Editing and saving brush properties*
- ☐ *Creating custom brush tips*
- ☐ *Using the History and Art History brush*

This chapter introduces you to Photoshop's more arty tools, the Brushes. However, as we'll see, you can use these versatile tools for far more than just painting

Photoshop is traditionally known for image manipulation, retouching, effects and colour correction, but not so much as a painter's tool. This has partly been due to the fact that the artistic capabilities of the program were severely limited due to the poor support for artistic media simulation. Other programs such as Corel Painter used to lead the market here, but the last few versions of Photoshop has seen it's Brushes system completely overhauled, making it much more useful as an artistic media program.

Having said that, Brushes have always been essential for just about

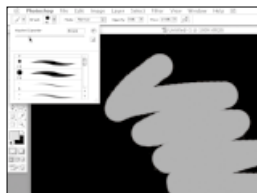
everything else in Photoshop, and getting the most out of the Brush tools involves finding out all the little secrets and features buried inside the program. Actually they're not that secret but its surprising how few of the shortcuts some Photoshop users know. It's usually those who have been using it since the early days that know all the best tips.

Spoil for choice

In a way, the later, feature-rich versions spoil you by giving you so many options to work with. The History palette, introduced in version 5, is a fantastic time-saving device. It's also an incredible feature



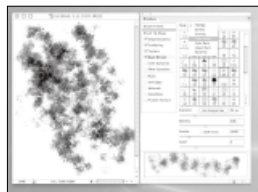
Page 34 Photoshop's brush editing system gets the most from Brush tools



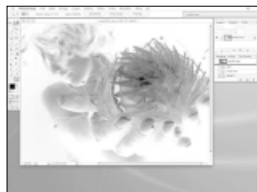
Page 35 Access Photoshop's hidden extras for more versatility



Page 36 Learn about the importance of Spacing, Flow and Opacity for brushes



Page 41 Dual Brushes offer the user unprecedented levels of detail



Page 43 The History Brush offers superb photo manipulation options



Page 45 The Art History Brush allows you to turn an image into a painting

that takes the basic Photoshop functions and multiplies their capabilities tenfold. The History palette essentially adds a kind of non-linear undo to the program. Previously undo was limited to just hopping back step-by-step. The History palette displays all your operations (up to a maximum number that you specify) in a list, complete with the tool used and its icon. By clicking on any of these steps you can immediately jump straight back to the document as it was at that point in time.

Even more impressive is the ability to store permanent snapshots of the state of the document at any

time. These will not 'fall off the back' like items in the undo list would when the list exceeded the number of steps set in the Preferences. However all this power and flexibility comes at a cost: disk space. The History states can consume very large amounts of 'scratch disk' space, the random storage bin that Photoshop uses as a kind of virtual memory.

Performance figures

Keep a large amount of hard disk space free for Photoshop – as much as 2 to 4GB if working on large images. Ideally, partition your disk and dedicate one part to Photoshop.

The Brush tool

Brushes offer some of Photoshop's most flexible features. So where can you find them?

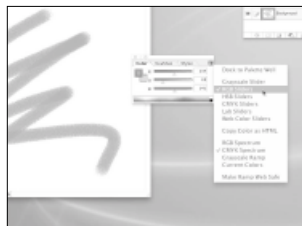


Back and forth

You can set two colours, a foreground and background colour, and switch between them while painting with the Brush tool by pressing the [X] key.

The Brush tool can be found in the fourth row of Photoshop's toolbar. When selected, the options bar displays quite a few settings for the current Brush such as Opacity, Flow and whether it is in Airbrush mode or not. There are also pull-down menus for the Apply mode, Brush Shape preset and the new Brush Editing palette.

Brushes are used to apply coloured pixels to an image. They take their colour from the current Foreground Colour swatch. The Colour palette can be used to choose colours in a



The Color palette lets you choose colours in various ways – via a gradient strip, sliders or swatches, which are located in their own tab

number of different ways – by using the small gradient strip at the base, the sliders or the Swatch tab.

THE BRUSH INTERFACE AND CONTROLS

The Brush presets are located here at the top-left of the Options palette when the Brush tool is selected.

Choose the display option for the presets from the preset menu. You can display the presets as a list or as icons if you prefer.

The panel can be expanded by dragging the bottom-right corner.



The Brushes palette can be accessed by clicking this icon in the Brush tool's Option bar.

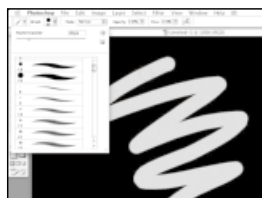
The basic Brush settings, such as Size, Shape and Angle as well as the spacing control can be accessed by clicking the Brush Tip Shape section at the top, the controls of which display at the bottom of the palette.

The Brushes palette is very versatile but can seem a bit complicated at first. It's far more advanced than in previous versions.

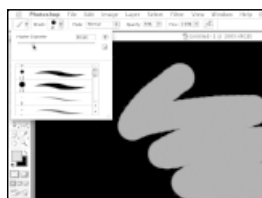


Using Brushes

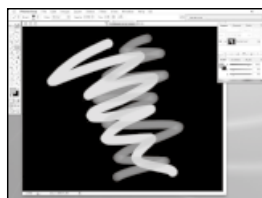
There is a huge range of customisable and preset brushes. Here's how to use them



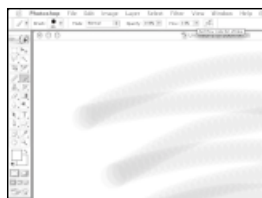
1 Once you select the Brush tool you can choose a Brush Shape from the Brush preset drop-down menu in the Options bar. Each preset is saved at a given size, indicated below the brush preview icon in the preset list. You can alter this by dragging the master diameter slider.



2 The Opacity of the brush defines how transparent the paint is – that is, how much of the colour underneath shows through the paint. By default it is set to 100%, but you can reduce this using the Opacity slider in the Options bar.



3 Flow is like opacity but is a dynamic property. Whereas opacity sets a value for the maximum amount of opacity, Flow sets the minimum amount. With the Flow setting very low, say 10%, and opacity set to full, you can paint with what seems like a low opacity, except when you paint over the strokes you have just applied.



4 In this case the paint 'builds', accumulating opacity the more and more you paint. This is very useful for building up tones and colours in an image gradually. You can see the effect clearly here. Where the strokes double back and cross each other the colour intensifies. The downside is that the individual 'dabs' are also visible. »



The key to opacity

You can also reduce opacity using the numeric key pad. Pressing the 0 key sets the opacity to 100%, while pressing the [5] key sets the opacity to 50%. Pressing the [1] numeric key sets the opacity to 10% and so on.



Nimble numeracy

To get an intermediate opacity value like 15%, type 1 followed quickly by 5 on the numeric keypad.

» Using Brushes continued



Brush size shortcut

You can change the brush size up and down in 10 point increments using the square bracket keys [and].



5 This brings us on to the Brushes palette, which is opened by clicking the icon at the top-right of the Options bar. The palette contains a setting called Spacing. This controls how frequently Photoshop places a 'dab' of paint as you drag the brush. The default setting of 25% makes each dab overlap the next by three quarters of its diameter. Here's the result from a low Flow setting.

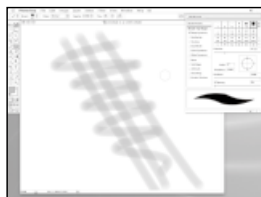


More shortcuts

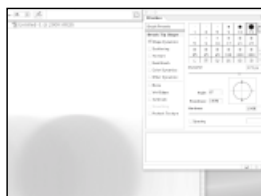
On this month's CD you'll find PDF files that contain all the possible keyboard shortcuts for both PCs and Apple Macs..



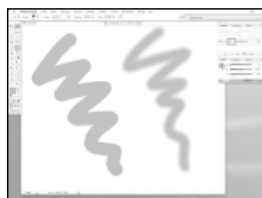
6 By reducing the Spacing you can get better results when using a low Flow setting. Here the Spacing is reduced to 5%, which means each dab overlaps by 95% of its diameter. This results in a much smoother stroke, but it's also more opaque, as the brush tends to 'self build'.



7 In order to counteract this effect, you need to use an even lower Flow setting. Here the flow has been reduced to 3% for a 5% spacing value. You can see that the strokes appear much smoother and build nicely as we apply more paint.



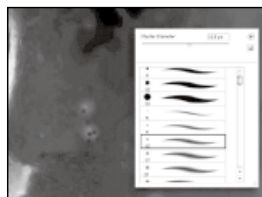
8 You can also turn Spacing off using the check-box in the Brushes palette. When it's off, Photoshop applies spacing depending on how quickly you draw your stroke. This can be good or bad, depending what you want the stroke to look like.



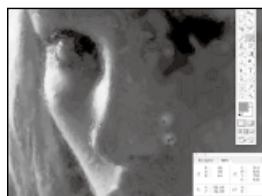
9 Other brush properties include Hardness. This defines how sharp the edges of the brush are and can be varied from 0 to 100% in the Brushes panel. The brush on the left has a hardness of 100% while the one on the right has a Hardness of 0%. They are exactly the same diameter, but notice that the soft brush seems smaller because its edges are less opaque.



10 Soft brushes are very useful especially when used with other tools such as the Rubber Stamp, which uses the same brush interface as the Brush tool. A Hardness of 100% is not totally hard, however. There is still some edge smoothing because of the effect of 'anti-aliasing' (on the right stroke). If you want a totally hard brush (left stroke) switch to the Pencil tool.



11 When painting an image using brushes it can be a chore moving to the Options bar to change brush size and shape. However the preset pop-up is available right beneath your mouse if you right-click in your image. Mac users should hold down [Ctrl] and click for the same effect.



12 Also, while painting you can choose a new colour from the image by holding down the [Alt] key. The Brush tool changes to the Eye Dropper, allowing you to sample a colour from any pixel.



Brush shortcuts

Lots of Photoshop's tools use the same brushes interface. You can use the same shortcuts to change brush size and pop up the preset panel with any of them. Take a look at the PDF files included on the CD for a full list of shortcuts for both PC and Mac.



Straight ahead

To paint perfectly straight lines click once to place the start point of the stroke then shift-click elsewhere. A straight stroke will joint the two points.

Exploring the Brushes palette



Take a tablet

With a graphics tablet attached, the brush parameters can respond to pen pressure, speed and tilt (if supported). The result is that you can create brushes that are responsive to your touch and work more like real artists tools. But you can also set up the dynamics so that the brushes perform in a totally unnatural way too, if you wish.

The basics of the Brushes palette and presets and how they affect the look of your strokes

The Brushes palette is where it all happens. It's Photoshop's answer to its previous lack of natural media tools. In truth, it's not really a natural media simulation system, but rather an extension of the brush dynamics features that previous versions of the program already had.

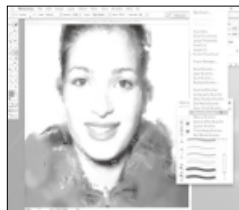
When you open the Brushes palette you are faced with an overwhelming array of controls and they do take a while to become familiar with. Most of the controls are to do with the 'dynamics' of the brushes – how the brush properties

vary during use. Photoshop allows you to set the various properties, such as scattering, colour and hue variation. These can stay fixed, respond to cursor speed or fade over a pre-defined distance. This gives you a large additional range of natural, organic variances to your brush strokes which would not otherwise be possible with a mouse. However, to get the most from the brush dynamics, and experience their intuitive 'feel', you should really invest in a graphics tablet and pen, such as the Wacom *Intuos*.

CHOOSING YOUR BRUSH SHAPE

Having the right brush shape for the task is the key to success

Brush shape is the final part of the jigsaw when creating and editing brushes. The standard brushes offer a circular shape that can be hard or soft, round or oval and rotated at any angle. But there are a number of special brushes that are more graphic in nature. These can be selected from the Preset menu and there are many more that come with Photoshop but are not loaded by default. To load a preset library choose one from the Brush preset panel menu (the triangle at the top-right). You are then asked to Replace or Append the current list. Append adds the selected library to the current list of brushes, rather than replacing it.



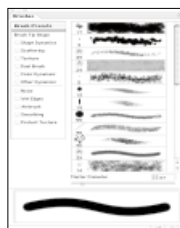
The preset brush libraries have many different brush shapes. The menu is at the top-right of the preset brush pop-up



The Brushes palette in detail

Having seen the Brush palette's potential, let's delve deeper into the Brush Preset features

There are 13 sections in the Brushes palette, displayed in a list down the left-hand side. The first of these is the Presets section – essentially a duplicate of the Preset pull-down menu in the Option bar. You can choose a brush preset from the list, or load new ones from the pop-up menu at the top-right of the palette. At the bottom is a preview of how the current brush stroke would behave, and above that is the Master Diameter slider. At the very bottom are the New Brush and Delete buttons. Clicking the New



The Brush Presets section at the very top stores complete brush settings, including the type of tip shape and the dynamics settings

Brush button creates a new preset, which you can name and save to reuse another time.



Saving your presets

You can save the currently loaded set of presets as a library using the Save Brushes command in the pop-up menu at the top-right corner of the palette. The library is saved as a .abr file, which only Photoshop can read.

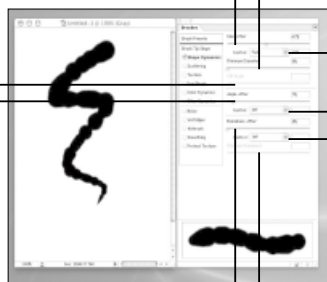
THE TOOLS OF BRUSH DYNAMICS

Size Jitter – Controls the variation in size of the dabs in a stroke. The higher the value, the greater the variation.

Tilt Scale – Enabled when the Pen Tilt option is selected in the Control pop-up. Adjusts the tilting sensitivity.

Angle Jitter – If the brush is asymmetrical you can jitter the angle of the dabs, but not on a perfectly round brush.

Roundness jitter – This tool randomly alters the amount a brush is squashed or 'rounded' on one axis.



Minimum – Sets the smallest size the brush will reach when it is jittered.

Control – These menus define what dynamics attribute controls the parameter. Fade reduces the effect of the parameter over a certain distance, entered in the numeric field. Other options are Off, Pen Tilt, Pen Pressure and Stylus Wheel.

Minimum Roundness – Sets the minimum value that is reached when randomly jittering the Roundness.

Scattering

Scattering is a great way of adding random brush strokes to images. Here's how it works



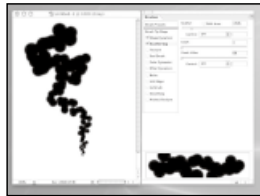
Better late than never

Brushes in later versions of Photoshop have more options to control their behaviour. If you're using an older version you may find that some of the features that we've mentioned do not apply.

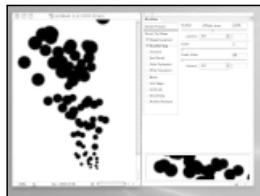


Scatter effects

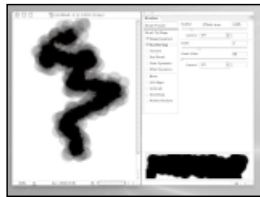
Wide Scatter settings can be used to create random but even variation in tone or colour on your artwork. Use it with selections to control the placement of the effect.



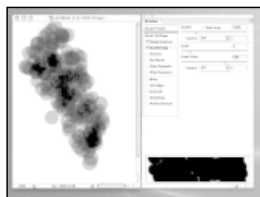
1 The Scattering section is great fun. This adds a random scattering of the dabs and is a great way to add random, organic strokes to images. The Scatter slider controls the amount of scattering perpendicular to the stroke direction.



2 When the Both Axes option is enabled the scattering takes place perpendicular to the stroke and along it. Most of the time you'd leave this option off, unless you want a very randomized stroke, almost like a spray.



3 The Count slider multiplies each dab by the number shown. Instead of a single dab, a setting of 5 in the Count slider will produce five times as many dabs, each of which may be scattered. Because it increases the density of the brush dabs you may want to lower the Flow setting of the brush.

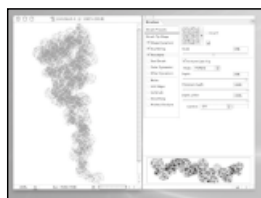


4 Count Jitter simply varies the number in the Count setting per dab, and is not very noticeable in most situations. Note that there are Control pop-ups in the Scatter section so you can link the parameters to graphics pen tilt, pressure and scroll wheel, or fake the effect of distance.

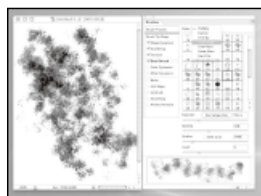


Textures and Dual Brushes

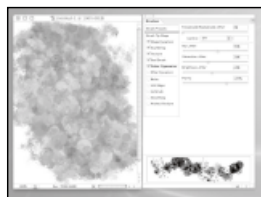
Achieve seriously complex brush effects with additional features of the Brushes palette



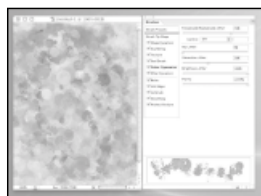
1 The rest of the parameters are operated in much the same way as the Scattering section that we looked at in detail. The best thing to do is to experiment with the settings by playing around with them. Here the Texture section is enabled. This lets you add texture to the brush tip using one of Photoshop's preset textures.



2 Enabling the Dual Brush option makes things really interesting. This feature adds a second brush tip to texture the main one. It has its own Spacing, Size, Scattering and Count settings and is mixed in using an Apply mode chosen from the pop-up menu at the top of the panel.



3 Colour Dynamics takes the concept of scattering and jitter but applies it to the colour properties of a brush. You can achieve very complex and detailed strokes using the settings in this section.



4 Enabling all of the numerous other settings and it becomes like playing with wet paint, and great fun. It only takes seconds to spray the canvas with incredibly detailed patterns and colours, and work them together like real paint.



Precise strokes

Don't forget gradient selections are a great way to control where 'paint' will go on an image. You can blend or fade away your strokes very precisely using these gradients.



Go easy

Dual brushes are the key to getting more detailed brush strokes in less time. They are more suited, however, to be used sparsely rather than as dense strokes.

Enabling Scattering is a good idea.

The History Brush

Discover Photoshop's secret weapon for retouching and photo manipulation



Step back in History

The History Brush lets you paint previous states of the current document over the current state. This makes it a powerful tool for selectively applying filters to an image.

The History Brush seems a bit of a mysterious tool in the Photoshop toolbox for both newcomer and veteran alike, and for that reason is one that often gets overlooked. This is usually because veteran Photoshoppers have got used to the way Photoshop used to work before the advent of the History Brush and old habits die hard.

But it's worth getting to know this unusual tool because, together with its indispensable partner the History palette, it should turn out to be a total delight to any newcomer.

Every time you perform an action, such as painting a stroke, applying a filter, or deleting a layer, that step is stored in the History palette as a 'state'. By clicking on any of these, you can return your document to the state it was in at that point. Now, here's the best bit – by clicking on the small icon box next to a history state in the History palette, you earmark that layer as the source for the History Brush. When you then paint on the image with the History Brush only those pixels will be returned back to the earmarked state.

HISTORY AND UNDO

So what's the difference between Undo and History?

Photoshop 5 onwards has two kinds of undo. There's the normal [Ctrl]+[Z] undo ([Command]+[Z] on a Mac), which undoes and redoes the last action you performed. This can be handy to flip back and forth, checking the result of your last action. There is also History. You can step backwards in History using [Ctrl]+[Alt]+[Z] (that's [Command]+[Alt]+[Z] for Mac users). By repeatedly pressing this shortcut, you step back further and further through the history. To go forwards again press [Ctrl/Command]+[Shift]+[Z]. Set the number of states stored in History by going to Preferences > General and entering a new number in the History States field.



You can set Photoshop's maximum number of History states from the General section in Preferences

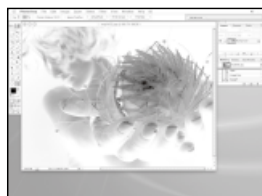


Using the History Brush

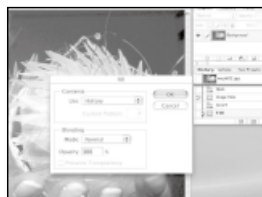
The History Brush is a powerful and flexible tool, but has all the simplicity of a normal brush



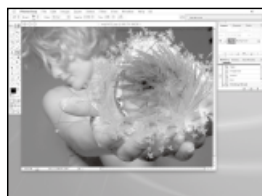
1 A good use of the History Brush is to apply an effect to an image in localised areas without the need to construct a mask or selection first. Here's our starting image to which we want to apply some special effects. First of all we resized it to make it a bit smaller.



2 Typing [Ctrl/Command]+[I] inverts the image, turning the shades and colours to their opposites. This will be the basis for the effect we want to achieve using the History Brush, and it has been saved as a state in the History palette.



3 We want to get the image back as it was so that we can selectively invert it, but undoing the last step also clears the state from the History, which is no good. Instead we mark the uninverted state as a History source. Choose Edit > Fill and set the Fill mode to History, et voilà, back to normal but with History intact.



4 Now we can change the History source to the Inverted state, select the History tool and a fancy brush and paint. Wherever we paint the pixels in the image will be inverted. Obviously you can use this technique with any effect, filter or adjustment you like. »



Size does matter

To paint with History states the source state must be the same size as the current document. If you resized an image you will not be able to use any states prior to that as a source for the History Brush.



United states

In order to paint with History states, the source state must also be the same colour space. If you changed this you will not be able to use any states prior to that point as a source for the History Brush.

» Using the History Brush continued



Filter tip

You can use this same technique of Brushing using History to selectively apply any filter to an image.



5 Here's another example of the same technique. We'll use History to fake a 'depth of field' blur effect on this 3D image. Normally you might do this using a depth render as a mask, but what if you forgot to save one?



6 So, we follow the same steps as before except this time we blur the whole image by Applying the Gaussian Blur filter instead of inverting it.



Early edits

In earlier versions of Photoshop you could open part of a large image and edit it, placing the edited part back into the large image once finished. That was in the days when RAM was expensive.



7 Now we return the image to its original state by selecting the unblurred state as the History source then using the Edit > Fill command set to History mode.



8 Now we select the Gaussian Blur state as the source for the History Brush and paint in the image precisely where we want it to be blurred, leaving the unblurred pixels intact to create a forced 'depth of focus' effect.



Art History Brush

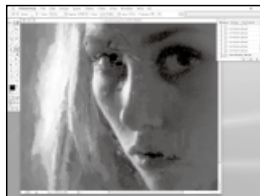
The History Brush has an even more creative cousin – meet the Art History Brush



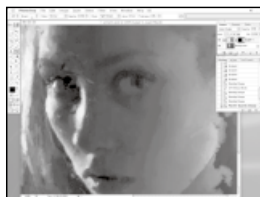
1 The Art History Brush is one of those bizarre but fun features Adobe comes up with once in a while. Basically, it is used to convert any image into one that looks hand-painted. The original photo is on the left, and the Art History conversion on the right.



2 Here's how it works. Open any photo, preferably one that will work well as a painting. You don't need to perform any action to set things up, just select the current state as the History Source and select the Art History Brush. We used the Impressionist preset from the pop-up menu at the very top-left of the Options bar and painted over the image.



3 That blocks out the image nicely. Now we can paint some of the finer details back in. Changing the brush to a much smaller radius lets you add back some details, but you can do this only to certain areas. We've used a 3-pixel brush, and the Loose Medium Style from the History Brush's Options bar.



4 You can carry on adding details back, changing brushes and styles until you get the result you want. Here we went back and lightened the original image then used this as the source, enabling us to add in some detail in the darker part of the face.



Historic detail

Even if the detail has been obliterated, you can bring it back by using a smaller brush, because the original, untouched image is used as the source.



Pick a mode

The Art History Brush can be applied in different blending modes: Darken, Lighten, Hue, Colour, Saturation and Luminosity.

Chapter 4

USING THE CLONING AND HEALING TOOLS

In this chapter...

- ☐ *Learn how to wield the Clone tool (Rubber Stamp) like a pro*
- ☐ *Using blending modes to get better results when cloning difficult textures like skin*
- ☐ *Learn how to clone pixels between documents*
- ☐ *Working with the Healing and Patch tools to improve portraits and photos*
- ☐ *Perform special effects and image manipulation tricks using Cloning*

The Cloning and Healing tools in Photoshop offer an elegant way to fix damaged photos, correct bad scans and generally clean up your images. They're great fun to use too

Cloning is a very simple and obvious concept in image manipulation. Take pixels from over here and duplicate them over there. That's really all there is to it. The Clone tool, also known as the Rubber Stamp, is Photoshop's implementation of this technique and offers you a great deal of power for retouching images.

The tool works by 'sampling' pixels at one location in an image, or even in a different document altogether, and painting them in a different location using what is essentially a brush. The Clone tool offers most of the properties of the normal Brush tool – size, hardness,

tip shapes, dynamics and blending modes, but applies these to cloning. In addition to these the Clone tool lets you clone not only pixels from a single layer but from the whole of a multi-layered document. This can be a very powerful feature for advanced users but can cause problems if you don't keep your wits about you.

Seamless sampling

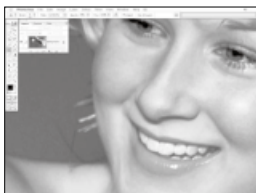
When sampling pixels from a multi-layered, composite image you must be aware of any Adjustment layers present. If you sample a composite image with say, a Hue/Saturation Adjustment layer applied to it, boosting the saturation, cloning on



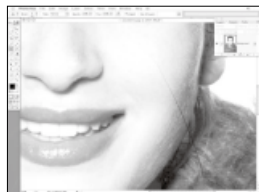
Page 48 Cloning copies parts of your image and transplants them elsewhere



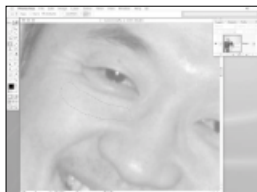
Page 49 The Clone tool can remove unwanted parts of an image



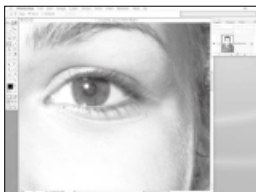
Page 50 Less-than-perfect portraits can be fixed up in seconds



Page 51 Revive damaged photos and images with cloning techniques



Page 52 The new Healing tool can make someone look years younger



Page 53 The Healing Patch tool is a great way to fix up photos

to layers below this adjustment layer will result in the cloned pixels being boosted twice. If your intention is to have a seamless result, your hopes will be dashed, so it always pays to be aware of this.

In version 7 of Photoshop, Adobe introduced a tool that takes the concept of cloning to the next level in terms of ease of use, known as the Healing tool. Cloning is a great tool to have but as we saw earlier, it can take some effort to get a seamless result, especially when the sample point pickings are slim and when dealing with multi-layered images. It can take quite a bit of practice to achieve smooth results.

Healing, however, lets you clone pixels over a problem area but rather than simply overlaying them, as the Clone tool does, it blends them with those they are replacing, using some clever algorithms.

Skin care

As you may have guessed, the upshot of such technology is that you don't need to be nearly so careful in your cloning – when blending the blemishes on the face of a subject in a portrait, for example. The Healing tool will intelligently blend the pixels to get the best result (at least most of the time), which works well on skin.

The Rubber Stamp (Clone) tool

The Rubber Stamp tool is useful for copying pixels from one part of an image to another



Sample mode

When you hold the [Alt] key down the Clone cursor changes from the brush outline to crosshairs to show that it's in sample mode and allowing more precise sampling.



1 Let's focus on the more creative and fun aspects. Here's a great example of what cloning is all about – our source image is a typical group portrait.

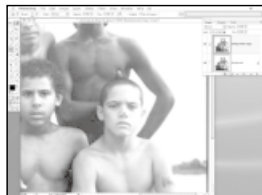


2 To ensure that we can easily return to the original if necessary, we first make a copy of the image as a new layer. Selecting the Clone tool we can see the Options bar looks much like the Brush tool's. At the far right are two extra options though: Aligned and Use All Layers. Turn off the Aligned check-box.



Precision painting

Use the Caps Lock key on any brush tool to activate Precise Cursor mode.



3 Selecting a 20-pixel soft brush we first set the Sample point from which to clone. To do this we hold down the [Alt] key and click where we want to sample from – in this case the face of the boy in the lower-right of the photo.



4 Now we can clone the boy. Releasing the [Option] key returns to normal cloning mode. We can clone over the face of the boy at the top-right, replacing his with the face of the boy from the lower-left. We can carry on and make as many clones as we like.



Removing unwanted elements

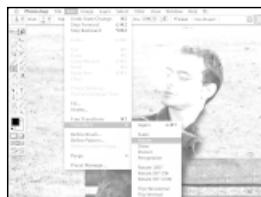
Cloning is ideal when you need to seamlessly eradicate an unwanted part of an image



1 Another great use for cloning is for removing objects from a picture. Here's an example image. Perhaps you wanted to use the image with some text overlaid on one side, or you just need to change the composition.



2 This time we make sure the Aligned option is enabled. This allows us to use multiple strokes, and to maintain the offset so that the cloning is consistent. In a duplicate layer we set the sample point on to the middle of the park bench and begin cloning out the man on the left.



3 It sort of works but the cloned part of the bench does not line up properly with the original. To fix this we can undo the cloning, rotate the image slightly so that the slats are horizontal, and clone again. This time they line up.



4 With a bit of effort we can remove the man entirely from the image. Note that to do this successfully we need to stop when the alignment of the image begins to drift, and take a new sample point.



In the right measure

Use the Measure tool to drag along the top edge of one of the bench slats to read its angle, then use the Edit > Transform > Rotate command. The angle that you just found will automatically be entered in the rotation field.



Online tutorials

You'll find a host of handy tutorials to help you take your Photoshop skills further at the website of our sister magazine, Computer Arts. www.computerarts.co.uk

Cloning Skin

You can fix problem portraits in seconds using the Clone tool and its subtle blending mode



A cloning alternative

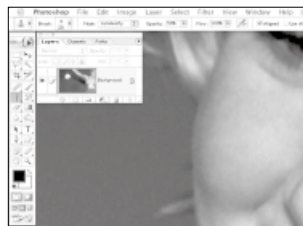
An alternative technique, which uses the same principal, is to clone on to a new layer using the Normal mode but set the layer's blending mode to Colour or Luminosity.



Less is more

Using a low opacity allows you to clone away blemishes gradually. You don't always need to eradicate blemishes totally. In fact, doing so can look too fake. Instead just reduce their intensity a little.

One of the most common uses of the Clone tool is to fix blemishes, bruises and marks on skin. If you want to fix marks on the skin such as a rash or the occasional spot you can easily clone it out using the Clone tool as normal. While you'll remove the blemish you'll probably find it very difficult to get a seamless clone. What tends to happen is that the clone will be slightly the wrong shade or colour, so that when you zoom out to inspect the whole image, the cloned point is almost as visible as the



Fixing skin in photos is easy, once you know that the secret is simply to change the Clone tool's blending mode and subtly clone out the marks

original blemish, which defeats the whole point of removing the blemish in the first place!

THE TRICKS FOR SKIN CLONING REVEALED

- ☐ **CLONING SKIN** correctly requires careful use of the brush blending modes. In the Options bar set the blending mode in the drop-down menu to Luminosity and the opacity to 50%. You can then clone the image using only the brightness of the sampled point. This lets you get rid of light or dark blemishes easily, without changing the colour.
- ☐ **IF THE** blemish is a red patch of skin or bruise, set the blending mode to Colour before you clone. That way the brightness of the pixels remains the same, but the off-colour will be removed.
- ☐ **MAKING USE** of both apply modes in turn is likely to be the best option for very bad marks like cuts and bruises. This allows you to deal with the colour and brightness independently.
- ☐ **WITH BOTH** methods try to keep the sample point as close as you can to the problem area to minimize the difference in skin tone.



The Healing Brush

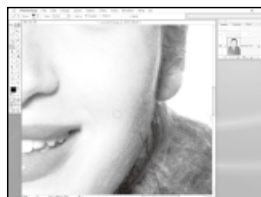
No time to fuss with the Clone tool? Then fix up an image with the Healing Brush instead



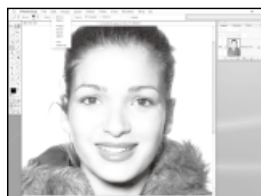
1 The Healing Brush can be found in the fourth row on the toolbar, and looks like a plaster. It uses the same sampling principal as the Clone tool but works by blending the original and cloned pixels together to create a near-perfect fix. Here's an image that needs a bit of a repair.



2 Using the Clone tool works, but leaves a very slight, but noticeable mark behind due to the sampled pixels being a slightly different shade. We could use more advanced techniques, but why bother when the Healing brush is at hand?



3 Using the Healing brush instead results in a totally invisible repair. There's no need to change blending modes or opacity, just set the sample point using the [Alt] key then click and drag over the damage.



4 The Healing brush has different blending modes which you can choose from the Options bar drop-down menu, 90% of the time you won't need to use them.



Extreme healing

The same technique of setting the blending mode to either Colour or Luminosity instead of Normal works with the Healing tool just as well as the Clone tool, but you'll only need it for extreme situations when the built-in blending algorithm doesn't quite cut it.



Sample and Pattern

The Healing tool works in two modes: Sample and Pattern. In Sample mode it works like the Clone tool, while in Pattern mode it blends the pixels with one of Photoshop's stored patterns. The uses for this mode are less obvious, but useful for certain effects.

The Healing Patch tool

If you don't like using brushes and selections are more your thing, try the Patch tool

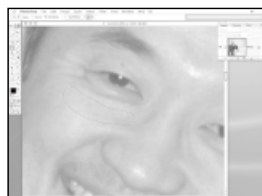


No smear

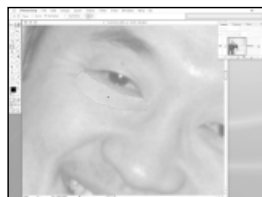
The Healing and Patch tools can smear if they are near to very dark pixels. Use a selection to protect the area you want to fix if smearing occurs.



1 The Patch tool can be found in the same tool group as the Healing Brush, but it has fewer options. The most logical mode to use is Destination, so this is how we have it set for now. We want to make the man in this photo look a bit younger by removing the bags under his eyes.



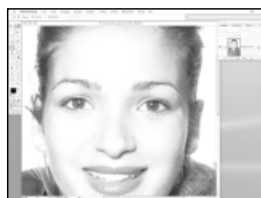
2 With the Patch tool selected we lasso an area of clean skin texture, just below the eye we want to fix. That area is highlighted with the familiar marching ants.



3 Because Destination mode is enabled we can drag these selected pixels onto the destination pixels. As you drag a copy of the pixels, the selected area moves with the mouse as a visual cue – you are actually cloning the pixels.



4 When you release the mouse button, the pixels will become merged with those below. Photoshop performs its trick intelligently, so the dark area vanishes but the skin tone looks normal. We can repeat this on the other eye to complete the anti-ageing process.



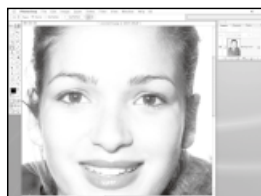
1 The Healing Patch tool works the opposite way round when in Source mode. Depending on your way of thinking, Source mode may seem less intuitive. We will perform the same trick of removing lines under the eyes in this image but use Source mode instead.



2 When in Source mode you need to select the pixel that you want to change first, as opposed to selecting the pixel you want to use to fix the problem area. Here we drag around the line under the left eye using the Patch tool to select it.



3 Now all you need to do is to drag the selection over the pixels you want to use to fix the problem area. This time only the selection outline moves, not the pixels that are selected, as is the case in Destination mode.



4 When you are happy with the selected area you release the mouse. The selection snaps back to its original location taking the source pixels with it. When Photoshop blends the two, the line vanishes. Here's the result on both eyes.



Large patches

The Patch tool can be useful when attempting to repair very large areas in one go. It's much quicker than using the Healing Brush tool.



Select then Patch

If you need to, you can make the selection before you choose the Patch tool. This means that you can use any of Photoshop's advanced selections tools, such as Quick Mask, Colour Range or the Magic Wand to preselect the area you require more precisely.

Chapter 5

THE GRADIENT, FILL AND ERASER TOOLS

In this chapter...

- ☐ Learn to use and control Gradients
- ☐ Create Custom Gradients, using the gradient editing features in Photoshop 7
- ☐ Use the Paint Bucket tool to fill areas with a colour, pattern or history
- ☐ Use Gradients and Fills for special effects and image manipulation
- ☐ Remove a subject from its background using the Background and Magic Eraser tools

Once you get more competent with Photoshop you'll appreciate the importance of these utility tools. The Gradient tool in particular is essential for all manner of tricks and effects

Gradients and Fills are such simple tools in Photoshop that their simplicity can often hide their power, especially in the hands of an experienced Photoshop user.

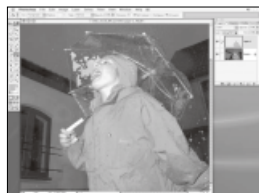
A Fill is simply a way to pour a single flat colour, pattern or history state into a selected area, or the whole canvas. Like most of the tools in Photoshop, there is more than one way in which to accomplish a Fill; we'll explore some of these different techniques later on in this chapter.

Gradual benefits

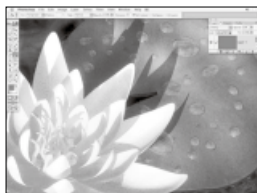
The Gradient options are even more powerful than Fills. With the Gradient tool you can create a fill

that gradually changes colour. Gradients come in all kinds of different shapes: Linear, Radial, Angular, Reflected and Diamond, and this makes them very useful for a variety of different situations.

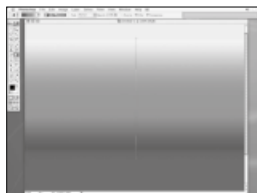
The Gradient Editing feature in Photoshop enables you to create gradients with two or more colours. You can have a simple white-to-black gradient, or a whole rainbow of colours. For special effects work the simple black and white gradient is absolutely indispensable, putting a whole range of additional options at your disposal. For example, if you want an effect to smoothly fade from full strength to invisible then



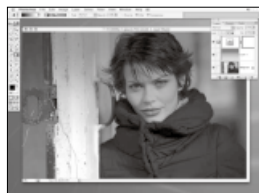
Page 56 Learn how to fill colours in an image using the Paint Bucket tool



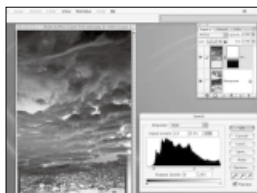
Page 57 Fill with 50% grey for special effects and image enhancement



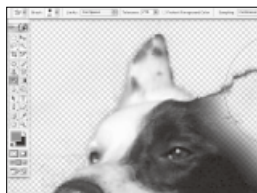
Page 59 We look at the Gradient tool and its various options



Page 62 Use gradients and blending layers to simulate photographic filters



Page 64 Blend two or more image layers together with Gradients



Page 66 Learn how to avoid the pitfalls of the Background Eraser tool

it's easy to use a white-to-black gradient to control this, usually as a layer mask.

Photo perfection

For photographers, coloured gradients can play the role of custom filters, making it easy to create sultry sunsets or brooding, stormy skies at the drag of a mouse. If you combine gradients with alpha channels you have the power user's playground. The ability to construct complex masks and selections using alpha channels and the Gradient tool is unparalleled.

While the Fill and Gradient tools are concerned with adding pixels to

an image, the next family of tools that we'll look at does quite the opposite. The Eraser tool lets you remove pixels by simply using a brush, like an anti-paint brush, which enables you to paint away pixels on a layer leaving nothing but transparency behind. The power version of the Eraser is the Background Eraser. This tool is designed to make the extraction of subjects from their background a relatively simple task. Don't be fooled though – it's still a tricky proposition, but we'll show you how to avoid the pitfalls of this technique so that you can achieve the best possible results every time.

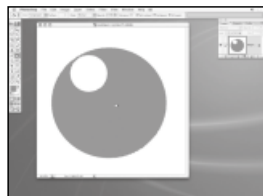
The Paint Bucket

The Paint Bucket tool lets you pour pixels into any selection, and it has a few tricks too

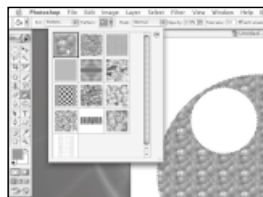


Missing Paint Bucket?

Photoshop's toolbar has undergone many revisions over the years, so the Paint Bucket may be located elsewhere in older versions.



- 1 The Paint Bucket can be found in the sixth row of the toolbar in Photoshop 7, in the same tool group as the Gradient tool. If you make a selection you can use this tool to fill it with the current foreground colour.

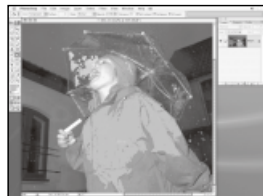


- 2 It can operate in Foreground Colour mode or in Pattern mode, which you choose from the drop-down menu in the Options bar. You can then select a pattern from the drop-down presets menu, also in the Option bar, and click in the image to fill it.



Select and fill

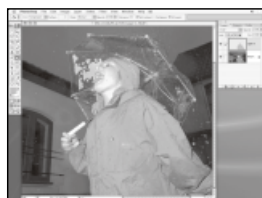
Save time by using the Paint Bucket in one fell swoop, instead of using the Magic Wand to make a selection and then filling it.



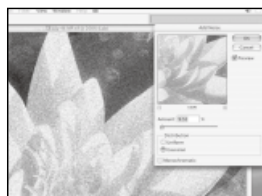
- 3 However, the Paint Bucket has more in common with the Magic Wand than you think. If your selected area already has image pixels in it, clicking on the image will not necessarily fill the whole selection or layer.



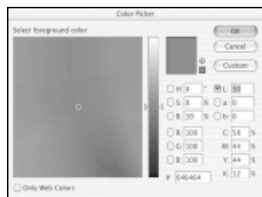
- 4 Instead, what happens is the same as with the Magic Wand tool. The Paint Bucket searches for similar coloured pixels to fill, within the tolerance that you set, rather than covering the whole layer. Increase the Tolerance setting in the Option bar to fill a wider range of colours.



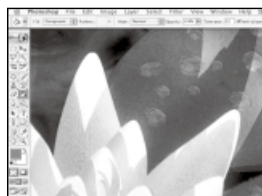
5 Using a lower tolerance you can build up the fill by clicking a couple of times on different areas of the image. In this example we did so in a new layer. You have to make sure the Use All Layers option is checked when using a transparent layer for the fill. Applying the layer in Color mode allows us to change the colour of the girl's kagool.



6 Another use for fills is for special effects. An example is for adding noise to a 3D or digital image to make it look more like photographic film. We could simply apply noise to the image directly but this limits our options later if we want to change the noise, say, to make it less obvious. Applying the noise as-is also tends to look fake.



7 We need to soften the noise, by blurring it but not the image. So we need to apply the noise in a layer above the image. However, the Noise filter does not work on a transparent layer. Enter the Paint Bucket. The Foreground Colour is set to 50% grey using Colour Picker and setting Lab Lightness to 50, A and B to 0.



8 The layer is filled with the grey, by making sure the Use All Layers option is off and clicking in it. Now we can set the Layer mode to Overlay and apply the noise, blur it slightly, then change the opacity of the layer any time we want to control the effect.



In the mode

In Overlay mode 50% grey pixels are totally transparent. Pixels brighter than 50% are applied in Screen mode, while those darker than 50% are applied in Multiply mode.



Video tutorials

On the CD this month is a set of video training tutorials created by our very own Photoshop guru, George Cairns. If you want to learn more about using every tool in the Photoshop toolbar, you'll find your CD invaluable.

More Fill options

The Paint Bucket is just one of a number of ways in which you can fill an image or selection



Fetching patterns

Custom fill patterns can be found on the web. Here's the address of a site where you can download free Photoshop patterns: http://graphicssoft.about.com/library/free/blfree_pspatterns1.htm

The Paint Bucket enables you to fill areas using a tolerance setting like the Magic Wand tool. It also has settings to fill contiguous pixels – or not, as the case may be. Enabling the Contiguous mode in the Paint Bucket tool's Options bar (this is the default setting) only fills pixels that are both within the tolerance and physically connected in the image. Disabling this mode causes the Paint Bucket to search over the whole image for pixels similar to the one that you click on. The Anti-aliasing option simply



The difference between the smooth anti-aliased fill (green) and the jagged non-anti-aliased fill (pink) is quite obvious in this close-up

means that the edges of the fill are smoothly anti-aliased to remove any unsightly jagged edges.



Keep it cool

Fills and patterns are useful for creating backdrops for web pages. Be careful though, because patterned backgrounds can be very distracting, so keep them as subtle as possible.

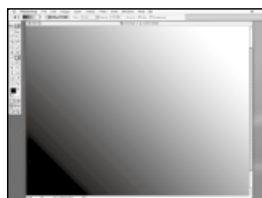
FILLING TIPS

- ☐ **YOU CAN** fill using the current foreground colour by typing [Alt]+[Delete]. Typing [Ctrl]+[Delete] (or [Command]+[Delete] for Mac users) will fill using the current background colour. Pressing the [D] key reverts the colour to the default black and white.
- ☐ **ANOTHER WAY** to fill is using the Edit > Fill menu command. This has a few extras, such as a pop-up menu for choosing to fill with either White, Black, Foreground or Background colour, or the handy '50% Grey'.
- ☐ **THE FILL** Command also enables you to fill using the earmarked history state in the History palette. You can furthermore set it to Pattern mode and choose a pattern from within the Fill dialog.
- ☐ **CHOOSE YOUR** pattern from one of Photoshop's presets or use your own custom-made pattern if you prefer. Any rectangular selection can be stored as a pattern using the Edit > Define Pattern command.

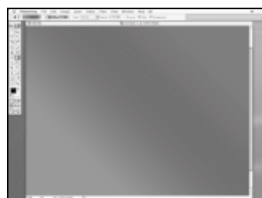


The Gradient tool

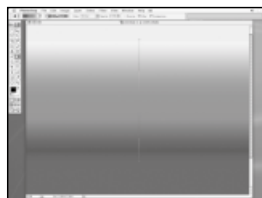
The Gradient tool is indispensable when working on multi-layered documents



1 A gradient is very simply two colours spread over a distance and smoothly blended from the one to the other. They can be monotone, like this simple black-to-white linear gradient...



2 ...or colourful, like this red-to-green gradient. You can also blend a monotone colour, like black or white into a colour such as red, and the brightness and saturation of the colour will smoothly blend across the distance that you specify.



3 The Gradient tool can be found in the sixth row of the toolbar, and has an icon with a small black-to-white gradient. Use the tool by simply dragging out a line indicating the direction of the gradient. The first point you click defines where the first colour will end, and the point where you release the mouse after dragging is where the second (or last colour if it has more than two) will begin.



4 The distance you drag will define the width of the gradient. It can be very tight if you only drag a little way (top) or very loose if you drag a long way (bottom). Note that before the first point the pixels are made up of 100% first colour, and after the last point they are 100% last colour. »



Degrees of constraint

Hold down the [Shift] key while dragging to constrain the angle of your gradient to 45-degree increments.



Gradient presets

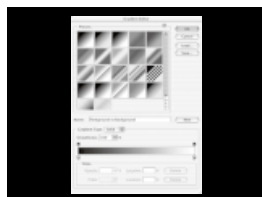
While using the Gradient tool right-click to pop up the gradient presets palette. Mac users will need to press [Ctrl] instead.

» The Gradient Tool continued



See-through options

The Transparency check-box in the Options bar allows you to turn off the transparent part of a gradient if it is enabled.



5 There are actually three types of gradient. Foreground to Background, Foreground to Transparent, and Custom. Each type is selected from the preset pop-up in the Gradient tool's Option bar. There are usually a number of preset custom gradients available.

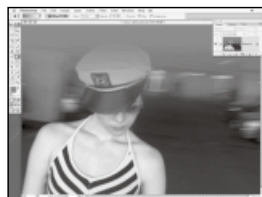


6 Foreground to Background mode simply uses the current foreground colour as the first point, and the current background colour as the last point and creates a blend between them.

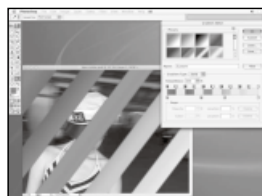


Make it noisy

The Dither check-box enables a dithering or jitter to the gradient, adding a touch of noise, which can help reduce banding effects when printing.



7 Foreground to Transparent takes the current foreground colour and blends it to nothing, leaving only transparent pixels. This can be great for blending gradients over images, for example.



8 Custom gradients can contain any number of colours that you specify and are edited in the Gradient Editing panel. They can also incorporate transparency. Here is a custom preset that combines a multicolour gradient with alternating transparency.



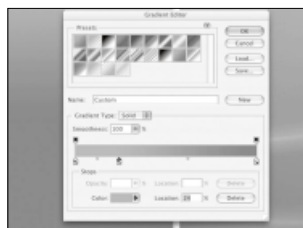
The Gradient Editor panel

Editing gradients is done in the Gradient Editor panel in Photoshop 6 onwards

When the Gradient tool is selected, clicking on the preset sample at the top-left of the Option bar opens up the Gradient Editor panel. Here you can choose from a range of ready-made gradients, or create your own.

To create a custom gradient just select a preset and begin editing the colours of the 'nodes' in the editing strip at the bottom of the panel.

The top of the strip contains the transparency nodes, while the bottom contains the colour nodes. Click on a node (or 'Color Stop' as



Clicking on a colour node, (or 'Stop' as Adobe calls them) in the gradient strip at the bottom of the panel selects it for editing.

Adobe calls them) to edit its colour. The Stops section lets you edit the properties of the selected stop.



Changing stops

Creating new stops is done by clicking in free space above or below the gradient strip. To remove a stop, drag it away and let go. Stops can be moved by dragging them left or right.

THE GRADIENT EDITOR EXPLAINED

The Preset list is displayed at the top. You can change the size of the previews from the panel's pop-up menu.

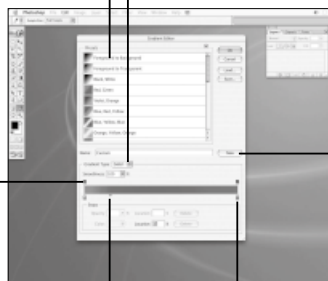
The Transparency Stops are displayed on top of the gradient strip. They can be either white, black or shades of grey only.

When you select a Colour or Transparency Stop its mid-point handle is also displayed. Drag this to change the rate of blending between nodes.

You can change the type of gradient from the pop-up. The options are Color (normal) and Noise.

Create a new preset from the current gradient strip by clicking on this button here.

The Color Stops (or nodes) are displayed underneath the gradient strip. Click on one to select it for editing. Clicking where there is no stop present adds a new one.



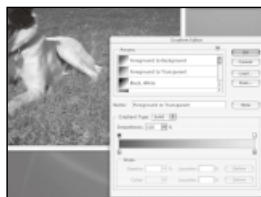
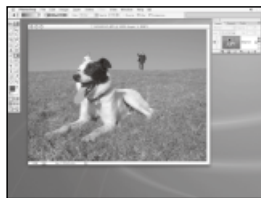
Using Gradients creatively

Now let's look at how useful Gradients can be when working creatively in Photoshop



Trial and error

Experiment with all the Layer Blending modes and get a feel for how they affect the image. Some will have similar pleasing effects, while others will just look plain awful.



1 Gradients are great for those working with digital or scanned photographic images in Photoshop. We can use gradients in place of traditional photographic filters to create some cool effects. Here's the original unfiltered image.

2 In a new layer we add a vertical dark blue transparent gradient over the image. Setting the layer's blending mode to Overlay blends the colour and brightness of the gradient in a special way, creating a deeper, darker sky.

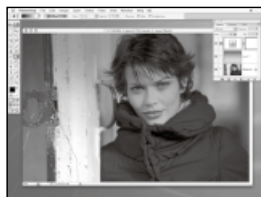


Comprehend the blend

There are technical explanations for each of the Blending modes in your Photoshop Manual or online guide. It's worth going through these to understand exactly what's going on.



3 Another use for gradients is to add mood to a Photo. Here's an image of a model looking quite moody, but the picture itself could be even moodier. It's simple with a gradient to add that mood.

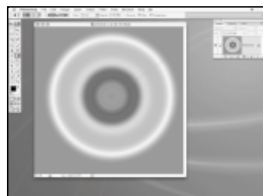


4 In a new layer, we add a Foreground to Transparent gradient once more, but choose a much darker blue. The layer mode is this time set to Multiply, creating a dark cast over the image. Finally, a Levels Adjustment Layer is added to the image, which controls all brightness and gamma.



Gradient Styles

The Linear gradient is only one of five styles. We'll look at the others and see what they offer

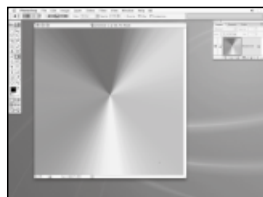


1 At the top of the Gradient tool's Options bar next to the preset pop-up are the Gradient Styles. Linear is the default, but next to it is the Radial style. Selecting this creates a radial gradient using the selected preset. The first point you click is the center of the gradient, dragging outwards to the edges.

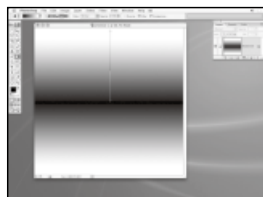


Turn it around

The invert button in the Options bar reverses the direction of the colours in the gradient.



2 The next style option is the Circular style. This is not a common one to use, but can be useful. In this case the gradient is wrapped around in a circular motion. The line you drag doesn't mark the size of the gradient, but only the direction of the colours.

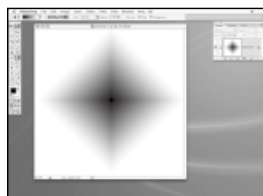


3 Next up is the Reflected style. This type of gradient can be useful, especially for creating masks and selections. In this case a Linear gradient is created, but in opposite directions from where you drag.



Quick sample

Use the [Alt] key to activate the Eye Dropper. You can then choose colours for the gradient from your image.



4 Finally, the Diamond style is similar to the Radial style, except that the edges form a square rather than a smooth circle. This can be useful for certain kinds of vignette effects, for example.

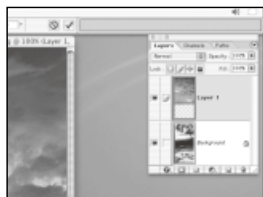
Gradient Masks

Use a simple black and white gradient in a layer mask for creating composite images



Application options

You can apply masks to adjustment layers as well as normal image layers. So we could have applied the levels as an adjustment layer using the same gradient trick to mask out its effect on the lower part of the image.



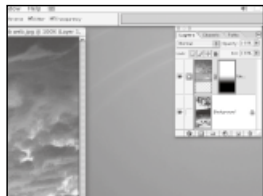
1 One very popular use of the Gradient tool is to make one image blend smoothly into another. Here are two images that we want to composite, by blending one gradually into the other.

2 One image is copied into the other by dragging its layer from the Layers palette over the other's image window and releasing the mouse. The sky image is scaled roughly to fit using the Free Transform tool.

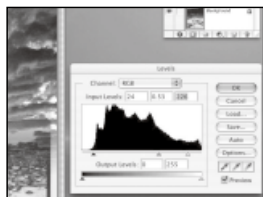


Vignettes

Create vignettes using a Radial gradient as a layer mask applied to a Solid Fill Layer. You can then adjust the colour of the fill to suit different uses.



3 A layer mask is added to the Sky layer, by clicking the New Layer Mask button at the bottom of the Layers palette. Making sure the layer mask is selected and not the layer, we can use a black-to-white linear gradient to mask out the bottom of the sky layer, blending the two images together.



4 Finally Image > Adjustment > Levels is applied to the Sky layer (not to the mask). In the dialog box that appears, drag up the black input slider to darken the sky and making it match better with the image below.



Masks and selections in detail

We'll look at some different ways to create gradient masks and selections

Because Photoshop handles transparency as a mask, a simple black and white gradient can be used to smoothly manipulate layer transparency. Photoshop also enables us to convert a mask into a selection and vice-versa.

For example, you can create a gradient selection by switching to the Channels palette, creating a new alpha channel and drawing a gradient in it. Then by [Command]+ clicking on the alpha channel, it can be loaded as a selection: black areas are unselected, white areas are fully

selected, shades of grey are partially selected, depending on brightness.

So loading a gradient in this way creates a variable selection, through which we can apply filters, paint or whatever. Another way to do the same thing would be to enter Quick Mask mode, apply the Gradient tool on the Quick Mask, then press [Q] to convert it to an active selection.

Once a gradient selection is made, you can convert it to a layer mask simply by adding a layer mask to a layer with the selection active.



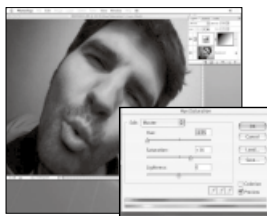
Goodbye halo

If applying a filter such as Gaussian Blur through a gradient selection it's best to apply the filter multiple times with a small value. Otherwise you will get a 'halo' around the partially selected pixels rather than a smooth blur.

GRADIENT LAYER MASKS WITH ADJUSTMENT LAYERS

Here's another handy way of using Gradients

As we've seen, we can use gradients as layer masks when compositing images. We can also apply gradients to layers using blending modes to get different effects. Another use, which is sort of between the two, is to control the effects of an adjustment layer with a gradient mask. It helps to make the gradient selection first, as described above, then add your adjustment layer. Unlike pixel-based layers, adjustment layers are created automatically with a layer mask. Any current selection will become the layer mask for this new layer. Make the adjustment, such as increasing the contrast, and see the results as applied through the mask directly.



A Hue/Saturation Adjustment Layer is applied to this image using a gradient layer mask

Magic and Background Erasers

One is like the Eraser and Magic Wand in one, while the other is ideal for cutting out objects

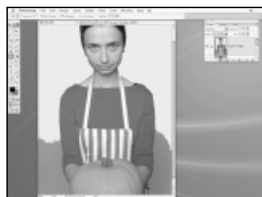


Know the limits

In all honesty the Magic Eraser is not one of the best tools in Photoshop's arsenal. It can be useful for quickly erasing something but only works well on a limited range of images.



1 In an image such as this it is fairly easy to remove the subject from the background because there is a definite difference in colour between them. Photoshop has many ways of doing this, you could make a selection using the Magic Wand tool then delete it, for instance.



2 Alternatively you can cut out the middle man (or woman as is quite literally the case here) by using the Magic Eraser tool. With this tool you can click on the background to erase it directly in one click. All colours that fall within the tolerance setting are deleted.



Look elsewhere

There are a number of third party tools available that do a better job at removing backgrounds than Photoshop's Eraser tools.



3 After a couple of clicks the whole backdrop is erased, leaving a nice clean-edged subject surrounded by transparent pixels. This is useful if you then want to save the image as a GIF for example, with transparency intact.



4 Our Dog image proves to be far more difficult a proposition, however. Although the Magic Eraser works fairly well on the sky, on the grass it doesn't do so well. This is because the grass is so varied in colour and brightness that the Eraser has a hard job of finding the right colours to remove.



Background details

Like the Magic Wand, the Background Eraser has a Tolerance setting but also Limits and Sampling Method options. Continuous lets you sample as you paint, while the Once option samples only on the first click. Background Swatch lets you save a colour to use as the sample.



Glitch invasion

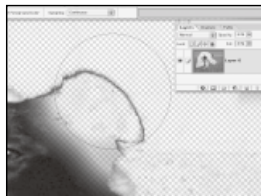
The Background Eraser is not a tool that a professional Photoshop user would feel at home with. It tends to leave far too many glitches in the edge of the cut-out objects, which take extra time to fix up later.



5 Turning off the Contiguous option might improve matters. This makes the tool search the whole image for similar colours, rather than just examining pixels that are connected to the starting point. Unfortunately we end up losing most of our dog as well when we try this method.



6 Using the Background Eraser tool (you'll find it in the Eraser tool group in the sixth row of the toolbar) results in a more controllable method of chopping the pooch out of his environment. The tool is brush-based, so you simply paint away to remove the background.



7 The tool has a boundary like a normal brush and a central cross. When you paint you must keep quite close to the edge of the object you wish to keep, without actually touching it. The tool samples and erases as it goes, but does so only within the brush area. If you slip and accidentally cross over onto your object then it will be deleted, so care is required.



8 It's still slightly messy, but the bulk of the rest of the background can be deleted using a rough selection. It's the bits near to the subject that cause the problem, and the Background Eraser does a pretty good job of keeping the parts you want and deleting those you don't.

Chapter 6

GETTING TO KNOW THE EFFECTS TOOLS

In this chapter...

- ☐ *Blur or sharpen parts of an image using the 'focus' tools*
- ☐ *Create finger-painting effects or blend colours using the Smudge tool*
- ☐ *Create better composite images using 'exposure' tools*
- ☐ *Make your subject stand out with Dodge and Burn effects*

Photoshop's effects tools include Blur, Sharpen, Smudge, Dodge and Burn. We'll look at how best to use them to spice up your artwork, composites and photographic images

When it comes down to it, Photoshop is mostly about effects. Be it a simple vignette, a crop or even an image enhancement, what you are really doing is creating some kind of effect to spice up an image. Photoshop's filters offer you a broad palette of effects, which can be applied to images, both very subtly or dramatically. Combine filters with selections and masks, layers and blending modes and you have a cornucopia of digital tricks that can improve an image no end.

Photoshop also has a small group of effects-based tools which work in a similar way to the filters and adjustment features in many

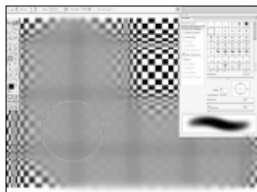
respects, but do so in a more artistically controllable way. Essentially these are brush-based filters, allowing you to 'paint' the effects just where you need them.

Focus and exposure

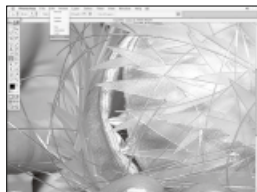
Effect tools are in two different groups. The 'focus' tools are in the seventh row of the toolbar in Photoshop 7 and consist of the Blur, Sharpen and Smudge tools. 'Exposure' tools are directly to the right of this and contain the Dodge, Burn and Sponge tools. Click and hold on the groups to reveal all the tools in that group. You'll also note that next to each tool is a letter. This



Page 70 The Blur tool works by blurring the pixels in an image, to varying intensity



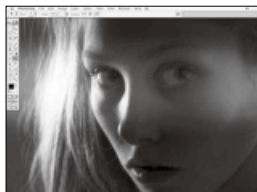
Page 71 Decreasing the brush spacing allows for a more intense Blur effect



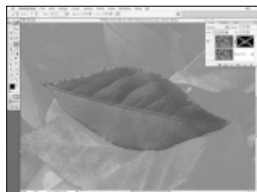
Page 72 Maximise the usefulness of the Sharpen tool, with its blending modes



Page 73 The Smudge tool lets you apply paint with a finger-painting effect



Page 75 Dodge and Burn adjust pixel contrast and brightness by painting them



Page 79 Focus in on an object within an image by Burning the background

is the tool's shortcut key, and there is one for almost every tool in Photoshop's toolbar. Pressing that key will activate the respective tool no matter what else is selected.

The 'focus' tools – Blur and Sharpen – allow you to apply these filter-like effects directly to pixels in the image using any of Photoshop's brushes – including the complex, customisable brush shapes. But most of the time you'll find it best to use these tools with a normal, soft, round brush. The Smudge tool works in a slightly different way, however, and we'll look at how to use that particular tool more closely later in the chapter.

The 'exposure' tools – Dodge, Burn and Sponge also let you paint their effects onto an image directly. These tools produce effects similar to the Adjustment tools like Levels, Curves and Hue/Saturation.

Shadow play

Using the exposure tools is an excellent way of producing photo-realistic composites. The tools enable you to paint additional shadows or highlights in precisely the right areas, to give composited elements the correct shading. The shadows will then look like they really belong there – which is just the effect you're after.

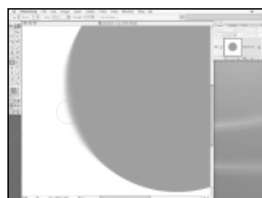
The 'focus' tools

The 'focus' tools are simple to use when you understand how they work. Let's explore them

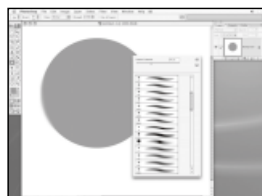


Pop-up palette

You can also pop up the brushes preset palette by right-clicking in the image window. Mac users will need to hold down [Ctrl] and click.



1 The Blur tool can be selected from the seventh row of the toolbar or with the a shortcut key [R]. Simply put, you can use this tool to soften edges and detail in an image by painting over it.

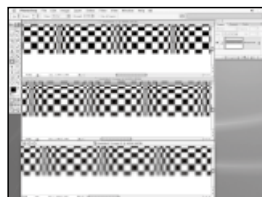


2 The tool uses the normal brushes interface and preset menu, accessible from the Options bar as usual. Most of the time you'll be using the Blur tool with just a normal, round, soft brush rather than anything fancy.

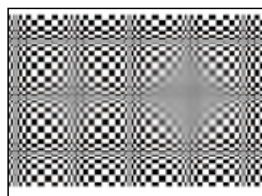


In a hurry?

The pop-up Brushes palette can be momentary ([Alt]+click+hold) or persistent ([Alt]+click+release) enabling you to choose a brush quickly or browse at leisure.



3 The Strength slider in the Options bar controls the intensity of the blur – how quickly the blur intensifies as you paint. Use the numeric keypad to quickly type in the strength you require. For example, pressing the 1 key on the keypad equals 10% strength, 5 equals 50%, and 0 equals 100%. Here's the same stroke applied once at 10%, 50% and 100% strength to the pattern's bottom edge.



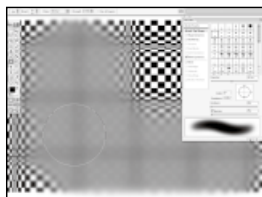
4 The tool applies the effect continually so even if you stop moving the mouse the effect continues to be applied. The strength slider therefore does not control the maximum amount of blur, but rather the rate at which blurring will intensify. On the right the blur tool is applied for 5 seconds at 10%, and on the left 5 seconds at 100%.



The Blur tool



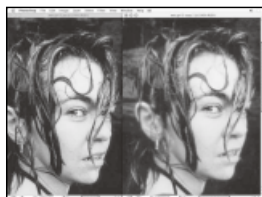
5 Even with the tool set to 100% strength it can seem like it doesn't blur to a very high degree. In fact it feels like it reaches a plateau where it no longer has any effect. This is because as the pixels get more blurry you need an ever stronger blur to see any effect. But since the strength is at maximum, the tool just appears to come to a halt.



6 There is however a simple way to overcome this and to boost the Blur tool's power. What you need to do is edit the Spacing setting for the brush you are using. The default 25% spacing is often not enough. Reducing the Spacing means the 'flow' of the effect is increased, so blurring is given a boost.



7 The tools can be set to different blending modes, and this can be very useful for certain effects. In Darken mode, blurring parts of an image creates an eerie dark glow around objects. The result is actually similar to some types of old cinematic film.



8 Setting it to Lighten mode does the opposite and creates a light glow or halo. This is a great way to soften bright highlights within an image in order to create soft focus and bloom effects on otherwise dead sharp images.



Blurred or focused?

The trick for a successful blurring effect, as on the girl's portrait, is to apply the blur tool only to parts of an image and leave key areas, such as the eye, in focus.



Blurred light

Other blending modes on offer – Hue, Colour and Saturation, are less suitable modes to use with the Blur tool in most cases. But Lightness can be quite handy, as it blurs the details but not the colours.

The Sharpen tool

The antithesis of the Blur tool is the Sharpen tool. No prizes for guessing what this tool does



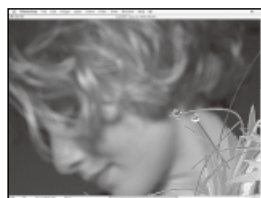
A sharp escape

When working on large images with large brushes, the Blur and Sharpen tools can take some time to calculate. If you want to stop the calculation of a blur or sharpen while in progress, press the [Esc] key.

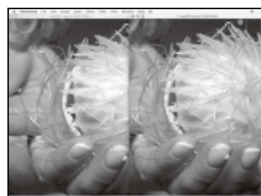


Stick selection

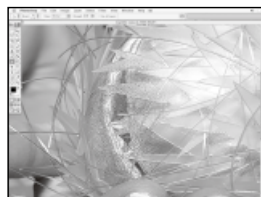
Selecting the general area before using the Blur or Sharpen tool can speed things up.



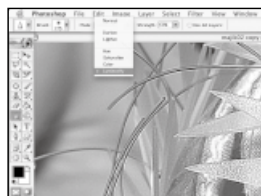
1 The Sharpen tool is used to selectively sharpen pixels in an image. This can be very useful, as in this image, where there is variable focus. Applying the Sharpen filter can sharpen unwanted noise in the blurred parts of the image.



2 You could of course construct a mask to protect the blurred areas, but using the Sharpen tool with a large soft brush it's simply a matter of painting in where you want the sharpening to occur. Noise in blurred parts is therefore kept at bay.



3 The Sharpen tool works best when the Strength slider is kept low – on photographic images, or those that have been compressed using lossy compression such as JPEG, the sharpening can increase 'noise' – the pixels become too sharp and stand out too much from the image. Therefore, too high a strength setting for the sharpening effect can ruin the image.



4 To reduce the multicolour noise effect, switching to the tool's blending mode, to Luminosity, is a great help. Now only the brightness details in the image are sharpened but not the colour, which is often where the noise resides.

The Smudge tool

The Smudge tool is more like a spacial paintbrush than a focus effect – here's why

In the focus tool group you'll also find the Smudge tool. Its inclusion in this group is a slightly moot point because it has more in common with the Paintbrush, at least in the way it's used. A look at the Smudge tool's options in the Options bar at the top of the Photoshop interface reveals its various properties. There is the usual Brushes Presets drop-down menu, where you can select any of Photoshop's brushes, the Blending mode menu, Strength slider, Multiple Layers option, and the



In Finger Painting mode, the foreground colour is mixed with the original image pixels, while in Normal mode only the image pixels are used

Finger Painting mode, which smears the foreground colour onto the image, using the other pixels.



Activate with R

The [R] key activates the uppermost tools in the focus tool group. [Shift]+[R] cycles through the Blur, Sharpen and Smudge tools.



Smudge it

Use the Smudge tool in the same way as you would your finger when working with pencil or charcoal. Smudging a textured brush will smooth it out.

THE SMUDGE TOOL'S OPTIONS IN DETAIL

- ☐ **IN NORMAL** mode the Smudge tool smears the pixels along the direction of the brush stroke. The Strength slider is important here. Setting it low causes the smudge effect to fade out as you brush. You can set the strength from 1% to 99%, but setting it to 100% enables a special mode – the first pixels you click on are sampled and smeared indefinitely, for as long as you paint.
- ☐ **ALL LAYERS** lets you smudge colours from all layers. However, the results is only applied to the currently active layer, not to all the layers. It only means that the Smudge tool *samples* from all the layers.
- ☐ **THE SMUDGE** tool can take a lot of computation, especially for large brushes. If your computer is grinding to a halt, try reducing the brush size.
- ☐ **MAKING USE** of the blending modes can be a lot of fun. For example, Lighten mode can create glowing swirls and streaks on an image.

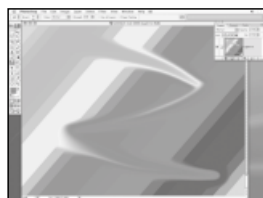
Working with the Smudge tool

Here's how to use the Smudge tool to create some amazingly eye-catching effects

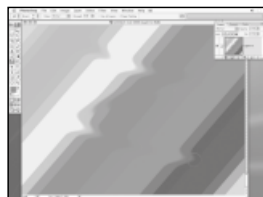


Smudge control

The Smudge tool's dynamic settings can be set up to respond to a graphics pen's pressure and/or tilt for extra response and feedback.



- 1 Using the Smudge tool is pretty intuitive. Set to a very high strength, 90% here, the tool continually samples colours from the image you are smudging, dragging the colours with it as it goes.

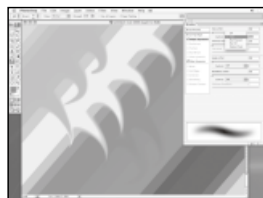


- 2 The Strength slider controls the length of the smudge effect. A low Strength setting smudges only slightly, but it will continue for as long as you keep the mouse button pressed.

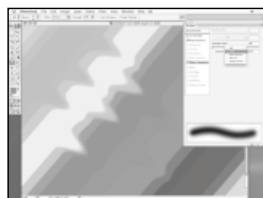


New layer

The Smudge tool has a Use All Layers option. You can use this to smudge pixels on all visible layers. It's best to do this on a new clean layer so you can undo the effect easily if necessary.



- 3 What can be useful is editing the current brush to enable the Fade setting. Clicking on the button at the far right of the Options bar opens the Brushes palette. In the Shape Dynamics section the Size control can be set to Fade and a value for the distance in pixels entered. This creates a tapering smudge, useful for creating wisps and curls.



- 4 Setting the Fade control on the Other Dynamics section to alter the Strength property creates a brush that gently fades the strength, so that it's 100% to begin with and 1% at the end. The Fade value represents the distance over which the effect is faded.

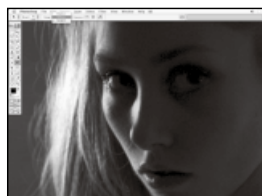


Dodge and Burn

The Dodge and Burn tools enable you to add subtle or intense shading to an image



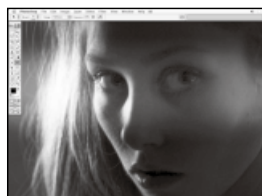
1 The Dodge and Burn tools are two sides of the same coin and refer to traditional photographic techniques. The Dodge tool is used to lighten pixels in an image, while the Burn tool darkens them. Here are two strokes to illustrate each tool. The image has been Dodged on the left, Burned on the right.



2 Both the Dodge and Burn tools operate in three modes, which can be selected from the Options bar. These are the Highlights, Midtones and Shadows modes. By default the Dodge tool operates in Highlights mode, and the Burn tool in Shadows mode. We'll demonstrate the differences, but first here is the original image before the exposure tools are used.



3 In Highlight mode the Dodge tool lightened only the brightest pixels in the image. With an image that has strong contrast such as this it's easy to overexpose the highlights and blow them out.



4 With the Dodge tool set to Midtones mode only the middle range of tones is affected. The brightest and darkest pixels are unaltered. You can see that a lot of otherwise invisible detail has been revealed. »



Burn your own material

Use the Burn tool to add shadows to objects you create from scratch in Photoshop – such as when creating photo-realistic images and graphics.



Dodge the issue

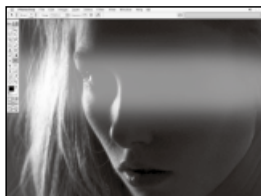
Use the Dodge tool to add Highlights to objects that you have created from scratch in Photoshop.

» Dodge and Burn continued



To the extreme

Both the Dodge and Burn tools don't seem to work well when affecting the opposite ends of the tonal spectrum. There are situations where this can be useful, but they tend to be used very subtly.



5 In Shadows mode, it's the darkest pixels that get lightened. This is quite a different result. It looks like we've painted across the image with a transparent white brush – not good at all.



6 If we start with a very light image and use the Burn tool we can better see its effects. Here in Shadows mode, the tool picks out the dark areas in the image and makes them even darker.



Background elements

Focusing in on a subject by dampening the highlights of background elements using the Burn tool is a good example of the tip above.



7 In Midtones mode the middle range of tones is darkened leaving the darkest and lightest pixels as they were. This is like applying the gamma slider in the Levels dialog to darken an image's midtones, but only where you paint.



8 There's something familiar about this one. In Highlights mode, the Burn tool lowers the brightness of the brightest pixels, resulting in what looks like a stroke of transparent black paint across the image. So the Burn tool works best in Shadows and Midtones mode and the Dodge tool works best in Highlights and Midtones mode.



The Sponge tool

The Sponge tool is the cousin of Dodge and Burn. It varies the saturation level in an image



1 Using the Sponge tool couldn't be easier. It's a very simple tool that makes pixels either less or more Saturated. By saturation, we mean how colourful a pixel is. More saturated colours are vivid, while less saturated ones are washed out.



Spray the sponge

The Sponge tool has an Airbrush mode. You can click and hold to continually apply the effect.



2 You can of course perform this kind of action using the Hue/Saturation command or an Adjustment Layer. But the Sponge tool does the same thing in a more hands-on way. Here, we've painted on the image with the Sponge tool in Desaturate mode to make the girl stand out from the background more.

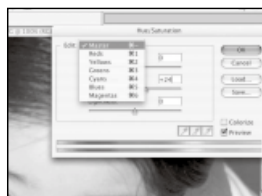


3 Switching to Saturate mode, you'd think it would be easy to increase the saturation of the girl to enhance the effect. However as you can see even when we lower the strength setting, the result is uneven, and in some places the colours have 'flattened' out due to over-saturation.



Colour Range

Make a selection using Color Range to focus the Sponge tool on certain colours in the image.



4 A better way to go about this is to apply Hue/Saturation to the whole image before you desaturate it with the Sponge. This lets you see how much saturation to apply, rather than flatten out the colours. You can even control the saturation of the colours independently using the pop-up menu.

Using Dodge and Burn

Here's how the Dodge and Burn tools work in real, or surreal, situations



Toggle tools

Use the [Alt] key to toggle between the Dodge and Burn tools as you work. There's no need to stop and switch tools manually.

Using the Dodge and Burn tools is quite simple but you need to take into account certain things, in order to get the best results. The Dodge and Burn tools are often used to add shading to elements in a composite image so that they match the background or other elements in the image.

Look for shadows in the image to find out where the main light is coming from. Highlights – parts of the object in direct illumination – can be added by painting with the Dodge tool in Highlight and/or



The direction of the light cast on other elements or in the background image, determines where to apply effects with the Dodge and Burn tools

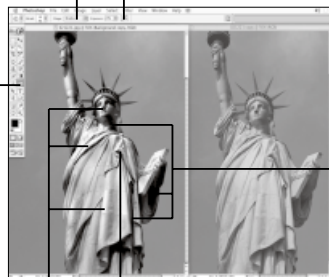
Midtones mode, while shadows can be painted on with the Burn tool in Shadows and/or Midtones mode.

THE EFFECTS OF DODGE, BURN AND SPONGE

The Options bar is where you'll find the different modes and the strength slider for the exposure tools.

Dodge, Burn and Sponge tools are located in the 'exposure' tool group in Photoshop 7's toolbar.

These areas in the image have been lightened by painting using the Dodge tool in Highlights mode.



Airbrush mode is available for the Dodge, Burn and Sponge tools. This applies the effect constantly while the mouse is held down, so there's no need to wiggle the mouse to intensify the effect in a certain spot.

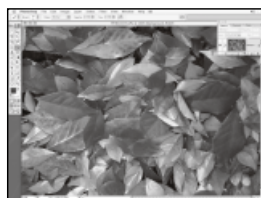
These areas in the image have been darkened by painting on the image using the Burn tool, and setting it to Shadows mode.

The Sponge tool has been used in many of the dodged and burned areas to desaturate the image in those places.

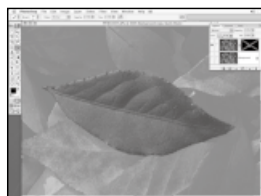


Focusing in with Dodge and Burn

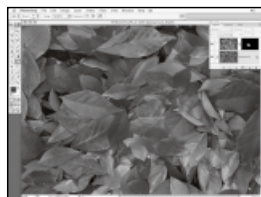
Dodge and Burn is a great way of focusing in on the subject of an image, or even a new area



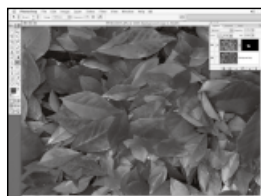
1 Here's a good example of an image that has no focus. It would work well as a texture or background, but the uniformity of the subject makes it difficult to pick out any one leaf as the main subject in the image.



2 We can force the image to have a subject by picking one of the leaves and then adjusting the rest using Dodge and Burn. First we isolate the subject leaf by creating a mask for it using the Magnetic Lasso and then Quick Mask mode to touch up the edges.



3 We can work on the background layer, (having made a copy of it) with the layer mask applied to protect the main leaf. We'll use the the Burn tool set to Highlight mode and a low opacity. Keeping the brush strokes loose and slightly random, we can dampen the brightness of the surrounding leaves.



4 Using Shadows mode is probably not a good idea in this case because you would be changing the contrast balance between the subject and background in a more unnatural way.



Faded paint

After using the Dodge, Burn or Sponge tools, you can used the *Edit > Fade* command to vary the intensity of the last stroke you painted.



Faded away

The *Fade* command actually works almost of the brush-based tools in Photoshop. You can often change the blending mode here as well as the opacity.

Chapter 7

WORKING WITH THE TYPE TOOL IN PHOTOSHOP

In this chapter...

- ☐ *Using the Type tool and Type layers*
- ☐ *Creating type effects with Layer Styles*
- ☐ *Managing, transforming and distorting type*

Creating text in Photoshop is quite easy to do, whether it's for artistic effect or simply to add essential information. We'll look at the various options available with the Type tool

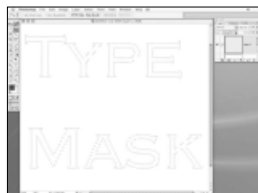
Type and text has numerous applications in Photoshop. You can create logos, web buttons, cool 3D text, even paragraphs of prose using the Type tool. In earlier versions of the program, text was a very basic affair. You created text as a selection which could be filled with a colour in a layer or applied as a layer mask to create type that knocked out part of an image, or was itself filled with an image or texture.

In Photoshop 7, text has become a fully-fledged feature, and the most important aspects of this are its Type Layers. Like Adjustment Layers, Solid Fill and Gradient Layers, Type Layers are 'live'. This means that the

text is created as real type just like in a word processing program or vector illustration program. The type can be edited, so that you can go back and change the font used, the colour applied or the properties of the text, such as scale, leading (line spacing) and kerning (letter spacing).

Quality assured

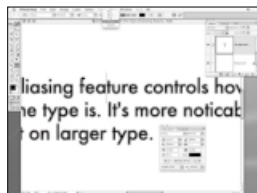
Type layers are produced using vector technology, just like in a vector-based tools such as Illustrator or Freehand, and this has two very important consequences. The first is that type is 'resolution independent'. This means that you can scale, rotate, stretch and distort type layers



Page 82 Older versions created text as selections. Photoshop 7 is more flexible



Page 83 Type layers in Photoshop 6 and above can be edited at any time



Page 84 Get to grips with the idea of different kinds of anti-aliasing for text



Page 84 Learn how to distort vector text in later versions of Photoshop



Page 87 The Warp Text palette lets you distort your type any way you like



Page 89 Use Layer Styles with live layers to create rich and varied text effects

and they will never degrade. It is the vector paths that are altered, and the rasterization is performed at the end. You'll always have crisp, clean type, until the Photoshop document is saved as a flattened image or printed.

Pixel perfect

The other consequence is that you can, if you wish, decide to keep the text as vectors if you print to a postscript printer. This means that the type is printed at the highest possible quality and is never converted to pixels. Even perfectly rasterized type will print slightly fuzzy at the edges. This is because of the necessary anti-aliasing that is

used in order to convert the flowing lines of the vector paths into the rows of square, coloured pixels in a normal image layer. To be honest, printing type as true vectors is only important when producing the highest quality artwork for printing on professional printers. Because of this it only works when out-putting CMYK separations from Photoshop.

Note: Rasterization is the process of converting vectors and paths into 'raster' images, made up of pixels. Once a type layer is rasterized it loses any of its special editable properties and becomes just an ordinary pixel-based layer.

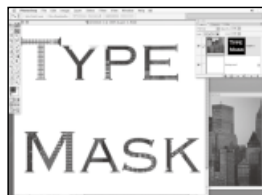
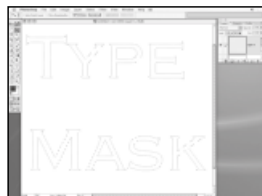
The Type tool

Photoshop's Type tool allows you to add impressive text and type effects to any image



Twice the size

If using an older version of Photoshop without vector text and you need to transform type, do so in a new document that is twice the size of the destination document. The higher resolution will minimise the degradation of the text edges. Resize the image once the transformation is completed, sharpening it as necessary.



1 Previously, in releases of Photoshop earlier than version 6, text was created like this, as a selection. You could type in your text in a panel, choose the font and other options but once created, that was it.

2 The type selection could be filled with a flat colour, saved to a channel ready for some channel effects work, or as here applied to an image layer, to create image-filled text.

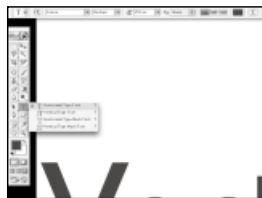
3 While this is fine, the text is not a vector object, so the edges of the type are not always as crisp and clean as they could be. This is due to the anti-aliasing used to smooth non-straight edges of pixel-based images.

4 Furthermore, if you wanted to edit the mask, to make it smaller or larger, distort it and so on, then the quality of the edge pixels will deteriorate even further. After just a few transformations the edges become fuzzy.



Computer Arts

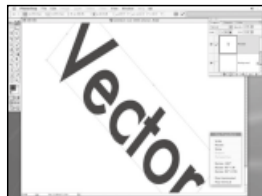
*To discover even more ways to develop your Photoshop skills, check out our sister magazine, Computer Arts.
www.computerarts.co.uk*



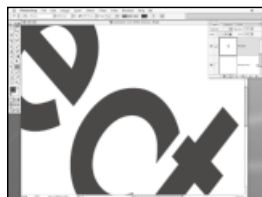
5 The vector text introduced in Photoshop 6 is a whole different ball game. The Text tool, located in the eighth row of the toolbar, contains four different tools. Horizontal and Vertical Type, and Horizontal and Vertical Type Masks.



6 The Type Masks are just like those in older versions of Photoshop, except they are more easily edited while they are being created. Afterwards they are not editable. The normal Type tool creates type as a special vector layer called a Type Layer.



7 Type created like this is 'live'. You can select the layer and make changes to the text it contains, change the font, colour and whatever else you like. Transforming this layer is possible using the Free Transform tool, just as if it was a normal pixel layer.



8 Even after many transformations, the type layer's edges remain as crisp and properly anti-aliased, as it was when the type was first created. You don't have to worry about the edge degrading when working with type layers.



Vectors and rasters

Though the type layers are vector-based, just like any vector program Photoshop has to rasterize them in order to display them. But this is an ongoing process. The type itself is still stored internally as a vector.



Rescaling with text

If you were to rescale a document containing a live Type Layer, the type would scale up correctly along with the pixel layers, but would not suffer any degradation.

Type Options

The Type tool's Options bar is one of the most feature-packed in Photoshop

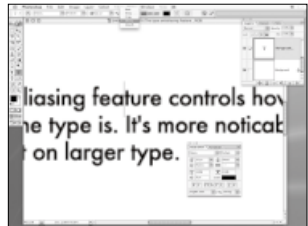


Cycling fonts

The Font field can be scrolled through to view alternative fonts, just like the Font Size field. Just place your cursor in it and using the Up/Down arrow keys.

The familiar Options bar in Photoshop 7 is home to the Type tool's Options and Properties. As with all tools the first entry at the top-left is the tool preset picker pop-up, from which you can select preset tool settings, or reset the tool to default. Next is the Horizontal/Vertical Type toggle, followed by the Font drop-down menu, Font Style and Font Size drop-downs.

The next menu is the Anti-aliasing control. This is an interesting feature because it enables you to change the edge anti-aliasing of your text on the



The Type Anti-aliasing feature controls how smooth the edges of your type is. It's more noticeable on small type that on larger type.

fly. The options are None, Sharp, Crisp, Strong and Smooth and range from sharpest to smoothest.

A WHISTLE-STOP TOUR OF YOUR TYPE TOOL OPTIONS

Choose the typeface you want to use for the selected type from the Font menu.

Text can be warped using the Warp Text panel. This is useful for creating many special text effects.

Selected text is highlighted in black. The text colour is inverted when selected, so this type will be black when deselected.



Choose your paragraph alignment by clicking on the buttons in the Option bar or in the paragraph panel.

A text layer is denoted by a large letter T in the layer preview. The layer name is always the first few characters of the text.

The Character panel contains many of the properties found in the Options bar plus some extra ones, such as Kerning, Leading and Scale.



Type tool tips

Some practical tips and advice for getting the most out of Photoshop's Type tool



1 When you create text in a Type Layer, one of the main things you'll want to do is get the text the right size. There are, as always, different ways to do this in Photoshop. The most obvious is the Size menu in the Options Bar. Open it up and choose a size.



2 You'll notice that the drop-down list only goes up to 72-point text. This is fine for most web page titles and such, but not nearly big enough for images destined for print. If you want larger text, then you have to enter a value in the text field manually. Here we've used 500-point text in a 1000x1000-pixel image.



3 When creating headings and other large type, there is a simple rule that you can apply to get better results. Basically, larger text such as headings – especially chunky bold fonts – can have much tighter kerning (letter spacing) than normal text. Here's the same word, one with much tighter letter spacing.



4 To set the kerning for your text, open the Character palette by clicking the palette icon in the Type tool's Options. There's a letter spacing pop-up menu, where you can choose your desired value. Negative numbers offer tighter spacing. »



Quick resizing

You can increase or decrease the size of text by placing your cursor in the Size field and using the Up and Down arrows. [Shift]+Up/Down moves the values in larger chunks.



Specify units

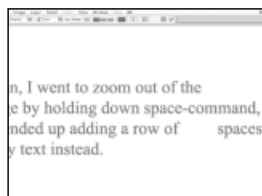
You can specify text size using any units you like. Just place your chosen unit after the number value. For example, 20cm is the same as 2362.2 pixels.

» Type tool tips continued

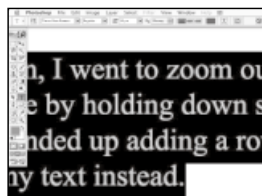


Speedy selections

Select text by clicking on it with the Text tool. Alternatively you can select a type layer and the text within it by double-clicking the Layer Preview icon.



5 Selecting text can be tricky, but once you get the hang of it you'll be fine. Once text has been created you can click on the tick in the Options bar to return to normal Photoshop operation. While text is selected most of the key commands no longer work, so be careful you don't accidentally add unwanted characters.

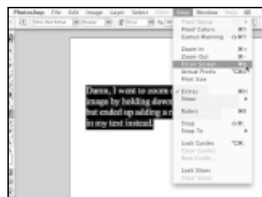


6 However, when you move your cursor far enough away from the text it turns into the Move tool automatically. This at least gives you the option to move text around without leaving the text editing mode.



Type tool options

The Type tool's shortcut is, surprise surprise, the [T] key. You can cycle through each tool in the tool ground by typing [Shift]+[T].



7 The only safe way to navigate your document when in editing mode is to use the View menu or the [Ctrl]+[+/-] shortcut (that's [Command]+[+/-] on a Mac). At least then you are able to zoom in and out of the image while text is selected.



8 Attempting to pan an image while text is selected will result in this. All your text will be replaced by a space. If this happens just click the Cancel Current Edits button in the Option bar to retrieve your previous text as it appeared before you started editing it.



Using the Warp Text panel

Photoshop won't let you warp text along a path, but there are still plenty of Warp options



- 1 When you select a 'live' type layer, you can access the Warp Text panel by clicking its icon on the Options bar. The panel opens and allows you to distort the selected type using some simple controls.

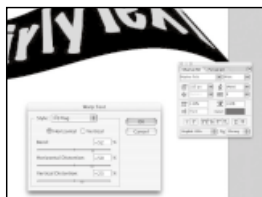


Be patient

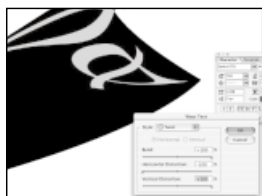
Because Type Layers are vectors the distortion does not degrade the quality of the type. However, large amounts of text will take longer to distort than a single character.



- 2 There is a Style pop-up menu, from which you can choose numerous distortion types. This is a simple Arc Warp, set to Vertical mode.



- 3 Warps can be subtle or pretty severe, depending how you set the sliders. The Horizontal and Vertical sliders control a kind of perspective distortion of the type layer, making it appear to tilt towards or away from you on either axis.



- 4 Using nonsense fonts or symbols together with the Warp panel you can get some weird shapes and patterns. It can be fun and – like all the best features – it takes some playing with.



Extra text tools

Photoshop has Paragraph tools as well as Character tools. These can be found in the Paragraph palette, which is docked with the Character palette by default.

Rasterizing type

In order to apply normal Photoshop effects to type, you'll need to rasterize it first



Flatten it

All non-pixel layers can be rasterized in Photoshop, using the appropriate commands in the Layers menu.

Because type layers are vector-based you cannot apply pixel-based effects to them. So you can't use filters or paint on them directly, and you can't apply adjustments to them to change their colour or brightness. You can get around these problems by adding an adjustment layer above your type layer, but you'll also need a mask if you only want the adjustment applied to the text and not to the layers below.

You can change the blending modes of type layers, which results in some interesting type effects,



Rasterized type layers act like bitmap layers, because that's just what they are. This type has been rasterized, blurred and adjusted with levels.

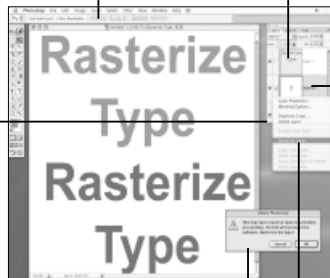
especially over image layers. But to really get stuck into text layers you'll need to rasterize them.

RASTERIZING YOUR TYPE LAYERS

One way to rasterize type is to Choose the Layer > Rasterize > Type command from the main menu.

If you want to keep the type layer editable, you can make a copy of the layer by dragging it onto the New Layer icon at the bottom of the Layers palette.

If you try to do something that requires the type layer to be rasterized, Photoshop may ask you if you wish to do this first in a warning dialog.



Another method is to load the type layer as a selection. [Ctrl/Command]+click on the layer icon and create a new layer. Fill this layer with colour using the type selection.

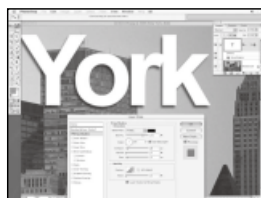
You can apply Layer Styles to live type layers. In this case there's no need to rasterize them beforehand.

To rasterize a type layer, right-click on the layer's name in the Layer Palette and choose Rasterize Layer.



Styled Type

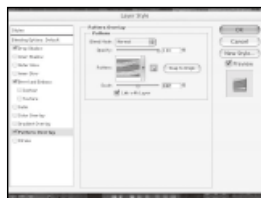
Layer Styles can be used to create stunning type effects for any occasion



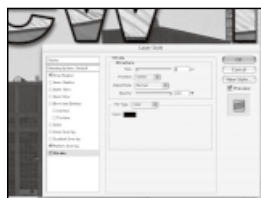
1 With a type layer selected in the Layers palette you can select Layers > Layer Styles and choose an option from the sub-menu to apply that style to the text. In this case a simple drop-shadow has been applied. The Layer Styles panel will automatically pop open.



2 To create text with a bit of relief you can use the Bevel and Emboss options to add depth to your text. It helps if the text is not set to 100% white or black, because the Bevel and Emboss effects add black and white shading to create the illusion of depth.



3 The Pattern option lets you fill the text with any saved pattern. In this case we've used an American flag that we had previously saved as a pattern to fill our New York text.



4 Text can be 'stroked' using the Stroke section of the Layer Styles. The Stroke function adds an outline to the text, which can be useful if you have filled it with a pattern because the text is more clearly defined.



Quick colour change

The Colour Overlay section of the Layer Styles palette can be used to quickly change the colour of your text without changing to the Type tool and selecting it.



Save your Styles

Custom Styles can be saved as presets and stored for reuse by clicking the New Style button in the Layer Styles palette.

Chapter 8

WORKING WITH PATHS, VECTORS AND MASKS

In this chapter...

- ☐ *Learn how to use the Pen tool to draw paths*
- ☐ *Learn how to cut out objects using paths and convert them to selections, and vice-versa*
- ☐ *Work with Vector Masks to add additional layering capabilities to your documents*
- ☐ *Learn to use Vector Shapes and imported vector artwork*

Photoshop has always used vector-based 'paths' to draw smooth shapes and outlines, but the latest version has the ability to create shapes and masks with vectors too

Vectors are totally different from pixels: vectors are mathematically defined lines and curves, which you can use to draw perfectly smooth shapes and outlines. Whereas a shape made up of pixels has a definite size and resolution, vectors can be of any size or resolution – they are said to 'resolution independent'.

Furthermore a vector-based image will be a very small file when saved to disk, compared to a pixel-based bitmap image. The same file could be used to make a 128x128 pixel web graphic, or a 5000x5000 pixel poster. The quality will be perfect in both situations.

Photoshop has limited capabilities when it comes to saving vector-only files but you can include vector information in a normal Photoshop file. While this means file sizes won't be quite as small as they would be with a true vector-based program, you will still get all the advantages of a vector's scalability.

Various vectors

In Photoshop, vectors come in different varieties: first, there's the Pen tool, which is used to create 'Paths' (Photoshop's traditional name for vectors) but there are also Vector Shapes; these are a new feature that appears in later versions



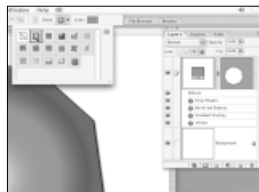
Page 92 Learn how to use paths and work with the Paths palette



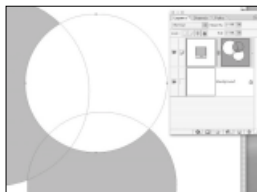
Page 93 Use the Freestyle Pen tool to sketch paths



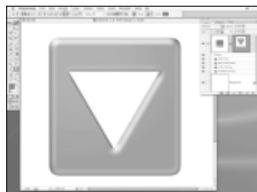
Page 94 Use the Convert tool to alter the control points



Page 95 Add Shape Layers to the layer stack when you create a vector shape



Page 97 Set overlapping vector shapes to different Boolean modes



Page 99 Apply Layer Styles directly to Shape Layers

of Photoshop which you can use in their own special layers, instead of relegating them to the Paths palette.

Paths were an alternative method for creating selections in Photoshop, since a path can be loaded as a selection once it's been drawn. This makes them ideal for cutting out complicated shapes, such as when you're removing an object from its background – useful when the background is complex and it has become difficult to select using the selection tools.

Paths can also be 'stroked', making them an alternative painting tool. Stroking a path with a brush is a fun way of turning plain vector

shapes and imported artwork into complex painted graphics with the richness of pixel-based brushes.

Shape your behaviour

Vector shapes behave like layer masks, blocking and revealing parts of the layer to which they are applied. You can edit them with the Pen tool or the Direct Selection tool, and they offer a further level of functionality for the program.

Photoshop is not a fully-fledged vector-drawing application such as Illustrator, Freehand or Corel Draw, and probably never will be, but there is surprisingly good support for vector drawing in Photoshop.

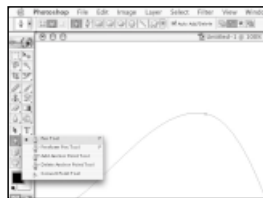
Using the Pen tools

You can use the tools in the Pen family to draw all kinds of paths

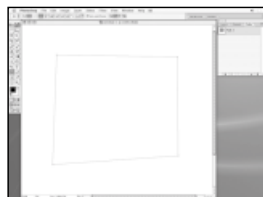


Control points

Each time you click with the Pen tool, a control point is added. Always try to use as few control points as you can, because it makes the path much easier to control.



1 The Pen tool is located in the ninth row of Photoshop's toolbar – it's easy to find because it looks just like its name. In older versions of Photoshop the only place you could create paths was in the Paths palette. All the paths you drew would be located here.

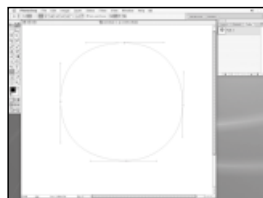


2 The Pen toolgroup contains five separate tools. The first is the 'normal' Pen tool. Use this to draw smooth or angular paths by clicking in the document; clicking without dragging creates a sharp control point used to make angular paths, such as this quadrilateral shape.



Path options

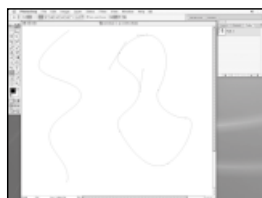
The Paths palette has an Options menu, where you can choose the size of the display icon, or choose to turn it off.



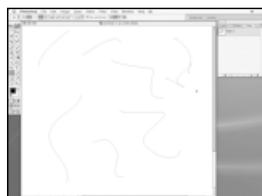
3 Clicking and dragging pulls out the Bézier handles from a control point, turning it into a smooth point. You can use smooth points to create curved paths, such as this roughly circular path.



4 You can combine smooth and sharp control points in a path to make it both smooth and angular – simply click without dragging to place a sharp control point where you need one.



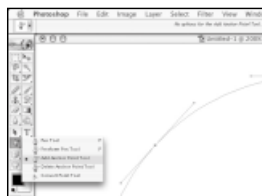
5 Paths can be open or closed. An open path does not loop back on itself, whereas a closed path does. To close a path, you position the cursor over the starting control point and the Pen cursor will change to show a small 'o' next to its pointer. When you click, the ends of the path will join up.



6 A Path layer in the Paths palette can contain more than one separate path entity. Once you're finished drawing a path, [Ctrl]+click to end the Pen drawing action so you can start a new path. Mac users should [Command]+click instead.



7 The second tool in the Pen toolgroup is the Freeform Pen tool. With this tool you can literally draw a path, as opposed to clicking to place point. Your freehand sketch will be converted to a path consisting of as few control points as possible.



8 Next is the Add Anchor Point tool. This tool enables you to add control/anchor points in between existing points on a path. The path will not change shape when you add a point using this tool. »



Add anchor points

When using the Pen tool, the cursor will automatically change to the Add Anchor Point tool whenever it's over part of the path. Just click on it to add a point.



Quick curves

You can edit the curve between two points directly by clicking and dragging it. The handles of the two adjacent points change simultaneously, but do not change their location.

» Using the Pen tools continued



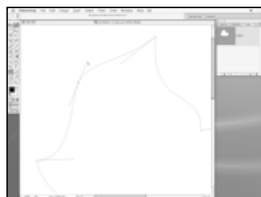
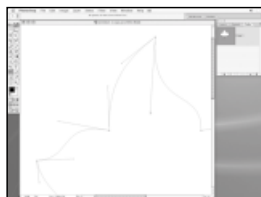
Load a path

To load a path as a selection, [Ctrl]+click on the path icon in the Paths palette (that's [Command]+click for Mac users), or click the 'Load path as Selection' button at the bottom of the palette.



Convert a selection

You can convert a selection into a path by clicking the 'Make Work Path from Selection' button in the Paths palette.



9 The fourth tool is the Delete Anchor Point tool. This tool does the opposite of the Add Anchor Point tool: clicking on an existing point on the path with this tool will delete it. You might find that the path will change shape as a result.

10 The final tool is the Convert Anchor Point tool. This is used to change a sharp point into a smooth one, and vice-versa. To use it, click on a smooth point to convert it into a sharp point (or 'cusp'); drag on a point to convert a sharp point into a smooth one.

11 You can also use the Convert point tool to edit the Bézier handles of a smooth point. When you do this with this tool the Handles will 'break' – that is, they will move independently of each other.

12 Holding down the [Ctrl] key when any of the Pen tools are selected activates the Direct Selection tool (Mac users should hold down the [Command] key). This is the prime editing tool for Paths. Use this tool if you want to move Bézier handles together without breaking them.



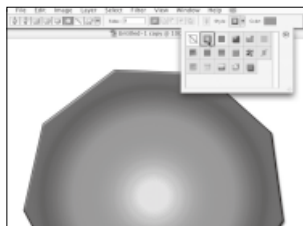
Vector Shapes

Vector Shapes are new to later versions of Photoshop – here's what they do

Next to the Pen tool in the ninth row of the tool bar is the Vector Shape tool. This enables you to draw shapes as vector paths or vector masks by dragging them out in the Layers or Paths palette.

With the tool selected you can choose from the Options bar what you want to create. You can select the Pen and Freestyle Pen tool from the Vector Shape tool's Options, but there are also the specific shapes: Ellipse, Rectangle, Rounded Rectangle, Polygon and Line.

A third option is the Custom



A Vector Shape can be created as a mask for a solid fill layer, and optionally, as here, have a layer style automatically applied to it.

Shape, which enables you to choose a shape from the library of designs that ships with Photoshop.



Preset styles

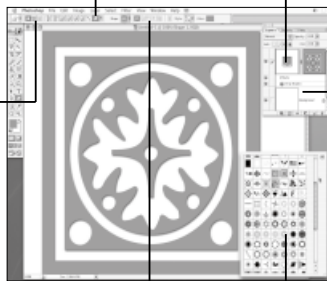
If you choose a Layer Style preset from the Layer Styles preset pop-up before you drag out a shape, that style will be applied to the shape.

HOW TO CREATE CUSTOM SHAPES

The Custom Shape option in the Vector Shape's Option bar gains you access to a large library of custom vector designs.

Your shape can be created in three ways: as a Shape layer, as a plain vector path in the Paths palette, or as a direct pixel fill with no saved vector attributes.

Whenever vector shapes overlap in the same layer, you can choose how they will react to one another. The options are: Add, Subtract, Intersect and Exclude.



This is a Shape Layer: it is essentially a solid fill layer with a vector mask.

Layer Styles can be applied to Shape Layers; here a drop shadow is applied.

Photoshop comes with a large collection of custom vector shapes.

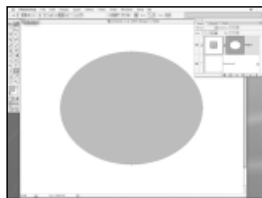
Using Vector Shapes

Using the Vector Shape tool in versions of Photoshop that support vector shape layers

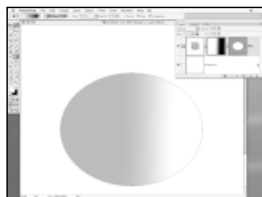


Arrowheads

Arrowheads can be found in the small pop-up menu next to the Custom Shape button in the Options bar.



1 When you select the Vector Shape tool, you have three options that determine how shapes will be applied to your document. These options are located at the top-left of the Options bar. The first is Shape Layer mode.

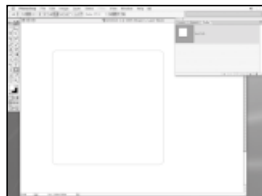


2 This creates a Solid Fill Layer and adds the path as a vector mask to the layer. Layers in Photoshop 6 and onwards can have two masks per layer: a vector mask and a normal layer mask. Here a gradient mask is used on the layer as well.

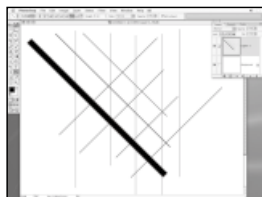


Line width options

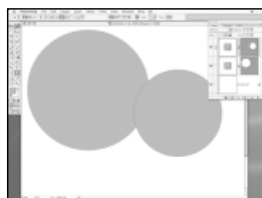
In Line mode, you can change the line width by entering a value in points in the Options bar. Hold down the [Shift] key when drawing lines to constrain them to 45-degree angles.



3 The second option is to create the shape as a simple path in the Paths palette. You do not need to be in the Paths palette to do this, just click and drag in a layer – the vector shape is created in the Paths palette automatically.



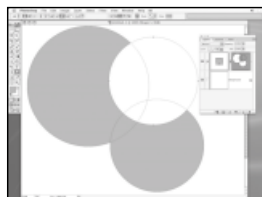
4 The fourth option is to do away with any vector information and create the shape as pixels on a normal layer. Using the Line Shape option, this is the only way to simulate the Line tool function in older version of Photoshop.



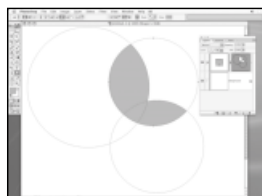
5 When set to Layer Shape mode, dragging out additional vector shapes creates new vector shape layers, which is not always what you want to happen, and also precludes the use of the vector shape Boolean interaction options.



6 In order to add a vector shape to an existing shape layer, you must switch to Path mode and select the Vector Mask Layer. Now when you drag out a vector shape it is added to the same vector mask in the currently selected vector layer.



7 In Add mode, the overlapping vector shapes simply overlap and add together. However, switching to Subtract mode turns the next vector that you draw into a 'cutter,' which you can use to remove portions of the current shapes.



8 You can use the Boolean switches on existing shapes in a vector mask as well, just as you can for shapes that you are about to create. Here we have changed the mode for the third circle from Subtract to Intersect mode.



Add mode

You can also add to the current vector mask by turning on Add mode in the Boolean options to the right of the Options bar.



Chop and change

Make complex vector shapes by intersecting, subtracting, adding and excluding more simple ones.

Masks



Layer Folders

A Layer Folder (aka 'Layer Set') can actually hold two masks: a normal layer mask and a vector mask, giving you potential access to four different masks.

A bit of detail about masking to help you get the most out of vector layers and masks

Photoshop has more masks than you might realise. There is an additional mask in each layer (besides the background layer, which is always 100% opaque) that you don't usually see. This is because it's the layer itself, or rather the surrounding transparent pixels.

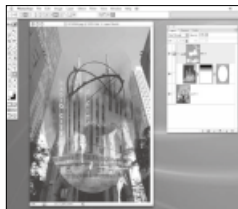
If you paint on a transparent layer, the brush stroke is surrounded by transparent pixels. The pixels in the layer are a mask in their own right. This can be proved because you can load it as a selection by [Ctrl/Command]+clicking the layer icon.

You can also group layers together into a 'clipping group' by [Alt]+clicking between them on the separator in the Layers palette – the cursors will change to overlapping circles indicating clipping group mode, and clicking will cause the uppermost layer to be indented. The layer will be masked using the bottom layer's Layer Transparency Mask, and its Layer Mask and its Vector Mask, if these are present. This enables you to quickly mask multiple layers using a single layer or vector mask, and is very useful.

VECTOR MASKS AND LAYER FOLDERS

If you run out of masks you can always add a folder

Photoshop 6 introduced a new kind of layer mask: the Vector Mask. This uses a vector shape to make portions of a layer transparent and works in tandem with the normal layer mask. Vector masks are either on or off: they either hide or show the layer 100%; there is no in-between value like with normal layer masks, which use 255 grayscale values. But what happens if you already have a layer mask and a vector mask on a layer but would really like a third? You can do this through the use of layer folders. Adding a layer folder and placing your layer inside it gives you access to two further masks that can be applied to the folder layer itself.

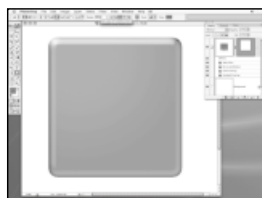


A layer folder can be used to add further masks to a layer if you find you need more than two



Vector Shape details

We'll look at some of the options that are specific to Vector Shapes

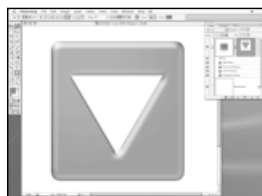


- 1** The Rounded rectangle shape is used to create rectangular shapes and masks with rounded corners. Before you drag out the shape you can set the desired corner size in the Options bar. Add a Layer Style if you like.

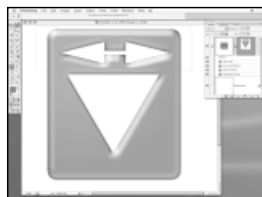


In a corner

You cannot change the radii of the corners of a rounded rectangle after it has been created.



- 2** The Polygon shape tool is used to create regular shapes of any number of sides. Here a triangle is created in Subtract mode to cut a hole in the Rectangle.



- 3** When editing the shapes you need to select the Direct Selection tool. Then you can drag out a marquee around the points you wish to move. Selected points are displayed as filled-in dots; unselected ones are unfilled dots.



- 4** The usual copying options apply with paths as well as selections, so you can make a copy of a shape by selecting it and [Alt]+dragging it. Here we've duplicated the arrows, and changed their mode to Add.



Quash confusion

Don't confuse the Move tool with the Path Selection tool. The Move tool does not have a 'tail' and cannot be used to move paths individually.

Chapter 9

ANNOTATIONS, NOTES AND THE MEASURE TOOL

In this chapter...

- ☐ *Add Notes and Annotations to your Photoshop documents*
- ☐ *Learn which file formats work with Notes and Annotations*
- ☐ *Use the Eye Dropper tool to sample colours from an image*
- ☐ *Sample precise pixel values at different points of an image with the Colour Sampler*

Along with the creative tools, Photoshop provides several tools to add accuracy, sound and vision to your work. These fall into two tool groups – notation and measurement tools

The ‘notations’ tools, Note and Annotation, can be found in the tenth row of the toolbar in their own tool group. The Note tool allows you to attach informative notes to Photoshop documents. These can be read by other Photoshop users when the document is opened, so the tool can be very useful when using Photoshop collaboratively. It can also be very handy for creating teaching aids in an educational environment.

Taking this one step further is the Annotation tool. This allows you to add sound clips to images that can be played by double-clicking their icon. This again provides a useful way to communicate with others working on

a project, or for producing learning aids directly within the program.

Measure for measure

The measurement tools are very useful utilities in Photoshop. The Measure tool itself lets you measure distances and angles, providing you with precise information that you can use in conjunction with other tools in Photoshop. You can measure the distance between two points, or the total horizontal distance covered, plus you can snap the tool to grids and guides when more precise measurements are needed.

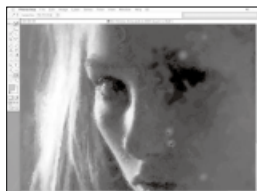
The Eye Dropper and Colour Sampler are essential when working



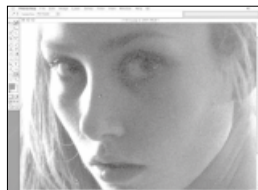
Page 102 Add notes to images to use as a handy reminder later on



Page 103 Sound clips can be added to images, with a microphone



Page 105 Choose the foreground or background colour with the Eye Dropper



Page 105 Sampling options can read the perceived colour from a noisy image



Page 106 The Colour Sample tool puts up to four sample points on an image



Page 107 Use the Measure tool to help straighten out crooked images and scans

professionally with colour, but are also very useful on a day-to-day basis for any Photoshop user. The Eye Dropper can be accessed in various ways in Photoshop. For instance, when the Colour Picker is open, if you move your cursor off the Colour Picker panel and over the image, the cursor automatically changes to an Eye Dropper, enabling you to sample the colour of any pixel. The tool can also be toggled on and off by holding down the [Alt] key when a Brush tool is selected.

The Colour Sampler is like the Eye Dropper tool on steroids. You can sample a maximum of four points simultaneously and read their

values in the Info palette. This can be extremely useful when making colour adjustments because the Info palette displays the original values both of the sampled pixels and the adjusted values.

Colour by numbers

The great advantage of these colour measurement tools is that you don't need to rely on your eye or the dubious colour characteristics of your computer monitor. Instead, you can see the exact values numerically. This accuracy is a real bonus for professional printing needs, but also for achieving good results on a home colour photo printer.

Notes and Annotations

Make notes and annotations, attach them to images, and learn how to open and save them

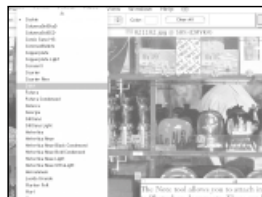


Name change

You can also change the name in the title bar by entering a new one in the field in the Options bar and pressing return.



- 1 Creating a note could not be easier. With the Note tool selected you click on the image where you want the note icon to appear. A window, like a little Post-it note, appears where you can enter your text.



- 2 There is not a lot of editing that you can do to the note text itself, but you can change the font and set the size. There are only five preset sizes: Smallest, Small, Medium, Large and Largest. Smallest and small are practically unreadable, though.



Closing notes

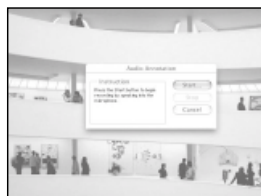
To close a Note click the close box in the top-left corner of the Note's title bar. The Note will collapse to an icon on the image. Double-click it to open it again.



- 3 You can have more than one note in a document, and in order to differentiate between them you can choose to give them different colours. The note's title bar and its icon take on the new colour when collapsed.



- 4 To save a document containing a note, you must use one of three file formats. These are Photoshop, Photoshop PDF and TIFF. All the other file formats will discard the note information, as they do not support it.



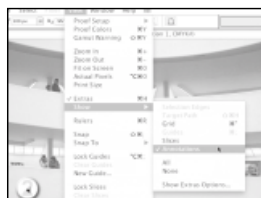
5 With the Annotation tool you can attach a sound clip, usually a spoken sentence, to an image in a similar way to notes. Clicking on the image with the Annotation tool opens a dialog prompting you to start recording.



6 Click on Stop to end recording. There is no interface for the audio annotation, you just double-click to hear the recording. If you look hard enough you can just about see the icon next to the Annotation tool's cursor.



7 Because the audio annotations are a bit difficult to see it may be wise to build your document with spaces to accommodate them. This is an example of a way to help guide people to the right annotation.



8 As with notes, documents containing annotations must be saved as either TIFF, Photoshop PDF or plain Photoshop format. If you don't want to display annotations you can hide them using the View > Show > Annotations menu command.



Take the mic

In order to record an annotation you must have a microphone connected to your computer's sound card or mic input.



Colourful sounds

Annotations can be coloured using the colour swatch in the Annotation tool's Options bar. You can reuse annotations from other documents.

You can import annotations by selecting File > Import > Annotations.

The Eye Dropper tool

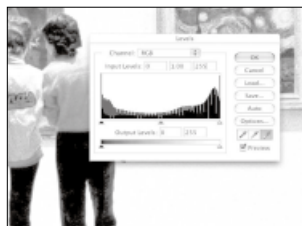
The Eye Dropper is an essential Photoshop tool, especially for achieving colour accuracy



Eye Dropper info

You can also use the Histogram with the Eye Dropper to read values and gauge the distribution of tones in an image.

The Eye Dropper tool samples the colours of individual pixels in an image, but there is more to it than just being able to set a new foreground colour. In Levels Adjustment, you can use the Eye Dropper by moving the cursor over the image, and reading the tonal values at different points. To see if the darkest shadows are really black and the lightest really white, hover the Eye Dropper over them and read their values in the Info palette. The palette can display various colour values – CMYK, RGB, LAB and so on. With RGB (Red, Green and Blue pixels)



Using the Eye Dropper tool while working with the Levels adjustment panel allows you to read the original and adjust values in the Info palette.

the darkest pixels should read 0,0,0. Pure white reads 255, 255, 255 – the maximum brightness value.

THE COLOUR SAMPLE TOOL

Select a sampling method from the Options bar. Choose to take a point sample, or measure the average colour within 3x3 or 5x5 pixels.

The Colour Sampler tool lets you place multiple sample points in an image, marked by 'bull's eyes'.

The colour values for each point are displayed in the Info palette.



CMYK documents are destined for print and colour is critical in this type of medium. You can check what colour mode the document is in the title bar.

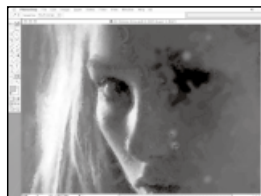
Using the Sampler you can look at the darkest and lightest points in an image simultaneously.

The Info palette displays colour values differently depending how you have it set up and what colour mode your image is in.



Using the Eye Dropper tool

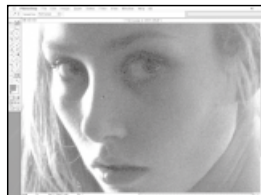
Using the Eye Dropper tool couldn't be easier, but it boasts a few less obvious features too



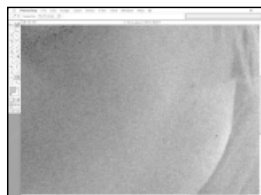
1 You can choose a different foreground colour when painting by selecting the Eye Dropper tool from the toolbar and clicking on the image. The tool will sample the colour of the pixel you click in and store it in the Foreground Colour swatch.



2 To choose a new background colour, you could flip the Foreground and Background swatches using the [X] key, take a sample and flick back, or simply hold down the [Alt] key when the Eye Dropper tool is selected.



3 When in Point Sample mode, selected from the Options bar drop-down menu, it can be tricky to sample the perceived colour of a particular area of a noisy image. The actual pixels may vary in colour dramatically and not represent the overall colour of the particular area of the image.



4 To get around this there are two other modes – 3x3 Average and 5x5 Average. Each mode samples a grid of pixels around the one you select, sums their colours and takes the average. The sample is usually a much better match to the colour you perceive by eye.



Colour accuracy

The 3x3 average sample size can be more accurate, especially on busy images where the colour varies dramatically.



Get a colour update

Click and drag over the image to see the colour sample update interactively in the toolbar.

The Colour Sampler

The Colour Sampler tool enables you to take up to four colour readings at once



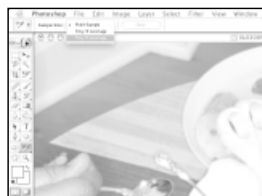
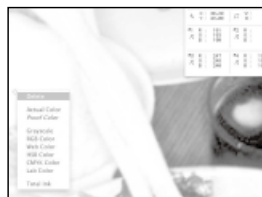
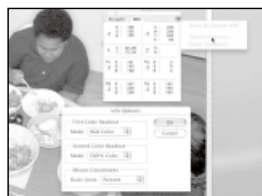
Neutral colours

RGB mode stores the image as three colour channels, Red, Green and Blue. If you sample a pixel and each of the values for R, G and B are the same, (say, 45, 45, 45 or 189, 189, 189) then you know that pixel is a neutral pure grey tone.



Colour in confidence

Using the absolute colour values is a sure-fire way of proofing certain aspects of an image, since it avoids the vagaries of your computer's monitor display.



1 The Colour Sampler tool in the Eye Dropper tool group (tenth row of the toolbar) can be used to place multiple permanent sample points on an image to help while adjusting the image's colour. The Info palette displays the colour reading.

2 You can move sample points around after they have been created, and they are truly permanent. Even if you close the document, and reopen it the sample points will have been stored. Displaying colours in RGB mode in the Info palette helps you gauge the neutrality of tones in an image.

3 To delete a sample point hold the [Alt] key down and click on the point – the cursor turns to a pair of scissors. Alternatively right-clicking on a sample point will open a pop-up menu from which you can choose the Delete command. Mac users will need to [Ctrl]-click for the latter function.

4 Like the Eye Dropper tool, you can set the mode for the sample points to be either single pixels, or averaged pixels (3x3 or 5x5 pixel arrays, around the sample point). The latter are useful for 'noisy' images. To clear all the sample points, click the Clear button in the Option bar.



The Measure tool

Taking measurements is very useful for accurate drawings or precise transformations



1 The Measure tool can be found in the tenth tool group along with the Eye Dropper tool. You can use this tool to measure distances, widths and angles directly in the image. Here we can measure the exact size of an object by dragging with the Measure tool.



2 The measurement is given in the Options bar, and the Info palette, in this case the line is 280 pixels thick. We can now make a duplicate line with the same thickness by entering 280px in the Line tool's Size field.



3 To measure an angle drag out the Measure tool along one edge, then [Alt]-drag from the end point to pull out a second line. The angle between the two lines is displayed in degrees in the Option bar and Info palette.



4 A single line's angle is displayed too, which can be useful for straightening crooked images. You can measure a line that should be straight and then use the Image > Rotate Canvas > Arbitrary command. You don't need to enter the value you measured, because it's already been entered for you.



Diagonal perfection

Hold down the [Shift] key to constrain the Measure tool's angle to 45-degree increments. This is useful when you want to measure a perfect diagonal.



Auto measurements

With the Free Transform tool, the value will automatically be applied after taking an angle measurement. If it's in the wrong direction, simply add or delete a minus sign in front of the angle value in the Options bar.



Chapter 10

CREATING TOP QUALITY ARTWORK

In this chapter...

- ☐ *See how Photoshop's tools can be used to construct a complex, montage-based illustration*
- ☐ *Learn the tricks of the trade to create more professional-looking artwork*
- ☐ *Combine tools to get the best results in the shortest time*

In this final chapter we'll put together a piece of artwork using all the tools and options that we've looked at over the course of this Photoshop Focus Guide

Photoshop has many uses, ranging from film and television graphics, to 3D texturing, to web design, to colour correction and printing. All are different, yet Photoshop has the toolset to enable artists working in totally different disciplines to get the best results from their work.

Photoshop is also a superb photographer's tool, providing digital darkroom capabilities that are second to none. And with the proliferation of digital cameras available these days, the importance of Photoshop as a photographic tool has never been greater. What's more, the ease of workflow and smart

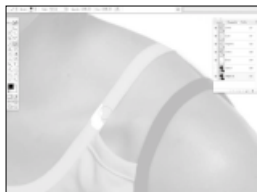
interface makes Photoshop as easy to use for home dabblers as it is for the professional artist.

Creating illustrations

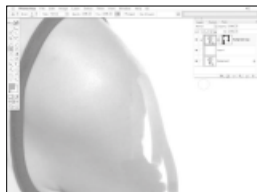
Another use for Photoshop is creating incredible works of art and illustrations. These may be hand-painted, some composite of photographic or 3D images, or some wild combination of other media. In this last chapter we'll be putting together an illustration combining photos with Photoshop filters, brushes and effects. We'll need to draw on the skills and techniques learned in the rest of the book in order to create this image, and you'll



Page 110 *Selecting and removing a background is tricky, but worth a try*



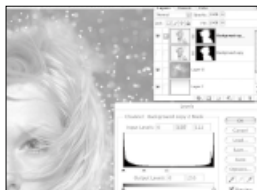
Page 111 *Paint away holes inside a mask with the Brush tool*



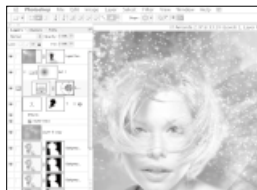
Page 112 *Reconstruct missing parts of an image with the Clone tool*



Page 113 *Create duplicate brush strokes by stroking a path*



Page 115 *Seamlessly blend images over complex backgrounds*



Page 119 *The illustration is completed with Vector Shapes and Type elements*

see how the tools used are an integral part of the creation process, as well as facilitating the idea itself.

As with any other program, you'll need to be aware of the limitations of Photoshop, or you could end up painting yourself into a corner. Often you will need to think ahead in order to progress smoothly. For instance, it may be necessary, in concept, to remove a foreground element from its background so that it can be used in the artwork seamlessly. However, this can be a very difficult thing to do – arguably the single most difficult task a Photoshop artist can be faced with, especially if the object in question

has an ill-defined edge. Wispy hair is a classic case; it can be nearly impossible to extract this from a background using Photoshop alone. Indeed, there are a number of third party plug-ins designed solely to tackle this very problem.

Eggs and baskets

Do not make the execution of a difficult task pivotal in the creation of an image. It may not work, and if it doesn't, you'll be left with nowhere to turn. Photoshop is a rich and varied system; explore it thoroughly and remember any quirks you discover – you never know when you may need to use them.

Creating a montage

Now we can experiment with a montage using all the techniques we've learned

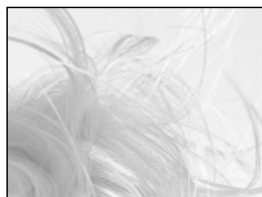


Experimentation

Because this is a creative exercise, we can risk experimenting with cutting out the background, since there may be a creative solution to any problems we encounter.



1 Here's the starting image for our illustration/montage. It's a straight portrait of a model, with even lighting and good all-round quality. It's also at a high resolution of about 3,000 pixels.



2 We intend to apply as many Photoshop tools as we can, while attempting to produce as artistic an image as we can. Cutting out the background in such an image can be tricky because of the wisps of hair. We need to keep this in mind before we commit to a total removal of the background.



Background layer

When increasing the canvas, the background layer, which cannot have transparent pixels, is filled with the colour in the background colour swatch. Set this before you run the command.



3 Let's begin by attempting to remove the background to see how well we can achieve this. The Magic Wand tool will be first up to bat. Using the default settings of a 32-pixel tolerance, we shift-click to select each sector of the background.



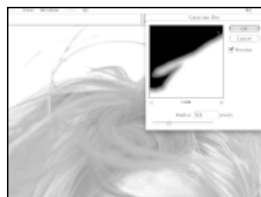
4 Here's the resulting selection as a mask. Not too great, but not bad either. It's promising and worth having as a half decent mask, so let's keep it and refine it further.



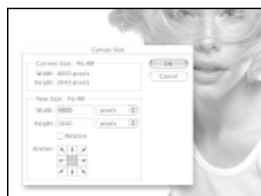
5 In Channel view we can see the mask and the RGB channels at the same time by clicking the eye icons next to the channels. The mask is displayed as a rubylith overlay, just like in Quick Mask mode. This enables us to paint out the problem areas with careful use of the Brush tool.



6 The fixed mask is loaded as a selection and applied as a layer mask to a duplicate of the background layer. Another layer has been added below the new layer and filled with white. The mask needs to be inverted, which you can do by selecting it in the Layers palette and typing [Alt]+[I].



7 The layer mask can be smoothed to remove some of the graininess by applying a filter to it. By applying the Gaussian Blur filter to the mask (not the image part of the layer) we can vary the smoothness to get the right effect. This also has the effect of fading the edges of the subject, which looks quite cool.



8 At this point we need to make the canvas area larger. Using the Image > Canvas Size command we can expand the document horizontally to 4,000 pixels.



Invert a selection

We could have avoided this step by inverting the selection before applying it as a layer mask. To invert a selection (as opposed to the pixels within a selection) type [Alt]+[Shift]+[I].



Inverted layer masks

If you want to load a selection as an inverted layer mask, you can do so in one action by [Alt]-clicking the Add Layer Mask button in the Layers palette.

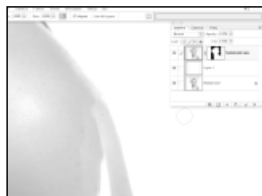
Fix missing parts of the image

We can regenerate our subject with the Clone tool and add shading with the Burn tool



Cut and paste

Another approach is to use selections to cut and paste sections of the skin from other areas of the image.



- 1 Using the Clone tool we can paint back part of the model's left arm, which had been cropped off in the original image. Sampling from skin tones nearby the cropped part of the image we begin to rebuild the missing portion.



- 2 We use a hard-edged brush for the edge of the arm to get a good line for her arm. The inside parts are filled in using a softer brush. This can be tricky, but don't worry if it looks flat – we can add back the shading later.



Safety layer

If you are unsure of what you are doing, try cloning onto a new layer rather than the image's own layer. Make sure Use All Layers is checked, though.



- 3 The tones are a bit blotchy but we can even them out using the Blur tool. Remember the tip of reducing the Spacing of the brush to increase the strength of the effect. This won't fix everything but it'll help.



- 4 To add back some shading we begin by adding a bit of highlight to the edge of the arm to match the existing highlight on the shoulder. We'll use a textured brush for this, and the temptation is to simply paint it on by hand, which is fine, but there is another way.



Using the Pen as a brush

We can use the Pen tool to create accurate, repeatable brush strokes



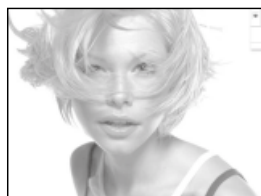
1 In order to have a bit more precision when adding the highlight, we can use the Pen tool. We begin by drawing a path along the length of the arm.



2 We select the Dodge tool and set up a large textured brush for it in Midtones mode at 50% strength. By clicking the Stroke Path with Brush button selected in the Paths palette, the Dodge tool will be stroked along the path.



3 By repeating this action with successively smaller radius brushes we can create a nice fake illumination to the edge of the arm. Each stroke passes in exactly the same position because of the path.



4 The rest of the arm is touched up to remove any further unevenness in tones on the skin (the eye is very sensitive to this) using the Burn and Clone tools. The result is pretty good, especially if you didn't know where to look for the fix-up job. »



Sketchy stroke

The technique of using a pen as a stroke can be applied in other ways. You can give vector shapes a more 'hand-drawn' look by stroking them with sketchy brushes.



Broken paths

Break up a complex path into different sections to add variety and detail to stroked paths.

» Using the Pen as a brush continued



Keep it real

Overdo a touch-up job and your subject can end up looking like one of those plastic models on the front of countless fashion mags. Remember to keep your effects subtle.



Progress report

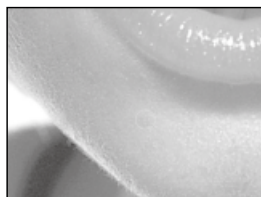
Use the Zoom tool to zoom out of the image to look at the image as a whole. This will give you a good idea of how well the touch-up is coming along.



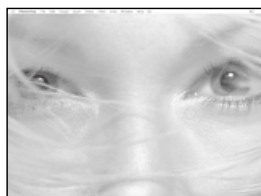
5 The next tool we need to use is the wonderful Healing Brush. We can use this to just subtly remove some wrinkles and blemishes from the model's face.



6 The most obvious lines to fix are those on the brow. Using a brush that's about three times the width of the line, we take a sample just above it and paint it out. You must be careful not to overdo it and remove all the lines totally, as it can look too false.



7 Next we can tackle the occasional blemish. The odd spot is removed using the same technique with the Healing Brush tool. Note that even where there are areas of high contrast and detail (such as where the light strikes her face at the edges) the tool will still work well.



8 You can be as thorough or as subtle as you like when using the Healing tool. In this example we've removed the small wrinkles near the corners of the eye. The right side has been done and the left side has not.

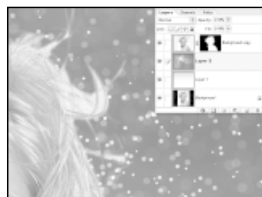


Adding a background

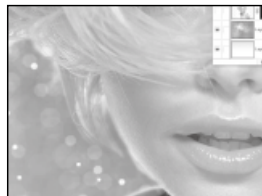
We can add a colourful background in order to provide more visual impact



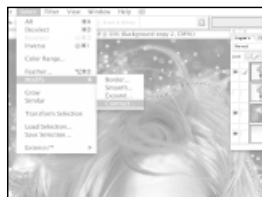
1 The white background was just a stand-in to enable us to see the effect of the layer mask. We can replace it with a better image, such as this. This is not a photo or a painting, but a 3D render produced using some special focus rendering effect.



2 The render is dragged into the main Photoshop illustration document by dragging its layer from the Layers palette and dropping it over the image. Placed below the masked layer we can see the edges of the original background more clearly.



3 We decide to go with a creative effect to solve this problem – blurring them until they are unnoticeable. Before we do that we remove as much of the white as possible using an eraser. The layer is duplicated and the mask is applied to the layer by dragging it over to the trash beforehand.



4 Next we load the layer mask as a selection, and then use the Selection > Feather command and a large value (about 60) to smooth the selection. Then we shrink it by 20 pixels using the Selection > Modify > Shrink command.



Discard or apply?

When you discard a mask by dragging it to the trash, you are prompted to discard or apply the mask.

Choosing the option to Apply cuts away the masked pixels before the mask is deleted.



Trash layers

Any layer element can be deleted by dragging it to the trash can icon at the bottom of the palette.

» Adding a background continued



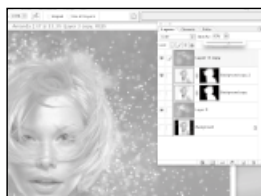
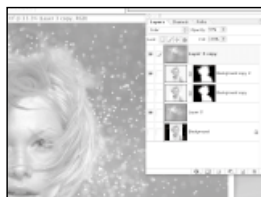
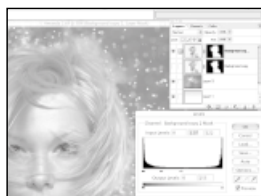
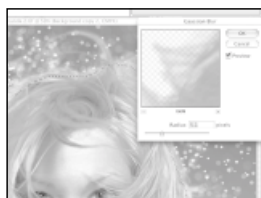
More layers

Always think how something can be accomplished without actually changing any pixels destructively. Rather than adjusting the colours of the girl layer directly we use another layer in Colour blending mode.



Overwrite rules

You will find that some work you do earlier will be negated by later artistic changes. Don't worry - it's a part of the process that even best laid plans can't avoid.

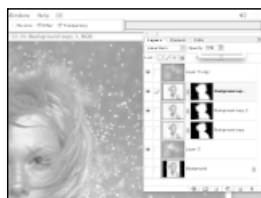


5 The selection is inverted using [Alt]+[Shift]+[I] so that only the outer edges will be affected; the face will stay sharp. Gaussian Blur is used to blur the edges of the girl, producing a forced 'depth of focus' effect and hiding a lot of the white edge.

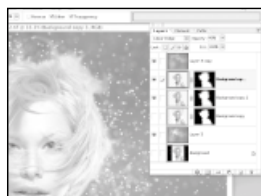
6 We can make use of this same selection again by applying it as a layer mask to the blurred girl layer and inverting it. This fades out the blurred portion, blending it into the background. Levels are used to adjust the degree of blending.

7 To blend the colours of the background and the girl better we can make use of Photoshop's blending modes. The red background layer is duplicated, blurred and placed above the girl layer. Using Colour mode, the layer's colours are transferred to the girl layer.

8 The Opacity is adjusted to get the right blend. Too much and the girl's colours are washed away; too little and she stands out too much. The greenish/yellow patch of the red layer is removed by cloning over it.



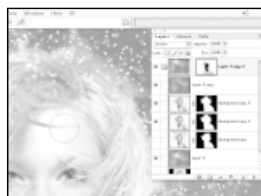
9 To intensify the girl layer and add more contrast to it once more, Layer Blending modes come to the rescue. The girl layer is duplicated and applied in Linear Burn mode, with an opacity of 50%.



10 In fact, the opposite works well too: applying the duplicated layer in Linear Dodge mode brightens the girl up, but likewise it also intensifies the image – it's time to make a decision.



11 The sharp red layer is once again duplicated and moved to the top. We want some of the sparks to be in front, as well as behind, to give some more depth to the image. The Layer is applied in Screen mode but most of the flat red colour is removed using the sliders in its layer options.



12 A mask is added to remove the sparks that cover the girl's eyes and face. This is painted on using a large soft brush, varying the opacity as we go, by making use of the numeric key pad.



Advanced blending

Access a layer's options panel by double-clicking it. Here you can find the advanced blending options. In this case, the 'This Layer' slider is set to Red and the dark slider moved towards the right to fade out those colours only.



Split the sliders

To 'split' the sliders you [Alt]+drag them. This has the effect of feathering the transparency of the layer to prevent an obvious cut-off point for the blend.

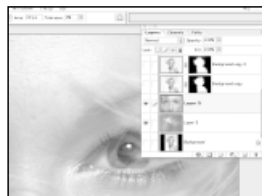
Applying artistic detail

We can use the Art History Brush here to add some extra background detail

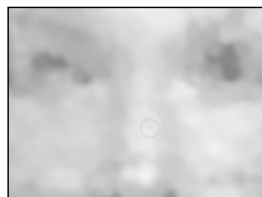


All about image

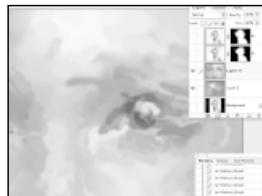
Because the Art History Brush applies new pixels using original colour, you can make low-res images into high-res ones.



- 1 A selection is made of the girl's eyes and copied to a new layer. This layer is enlarged to fill the document. However, when you do this, the image quality will suffer.



- 2 To get round this we can apply the Art History Brush to 'regenerate' the pixels in the enlarged layer. We mark a previous state as the source for the Art History Brush and begin filling in the canvas with a large brush in Dab mode.



- 3 Using successively smaller brushes and changing to the Tight Medium Art mode, we can add back some detail. The brushes we used were 200, 100, and then 50 pixels in radius.



- 4 A very fine brush is finally applied to pick out the fine edges. You only need to do this where needed, because it can be quite slow. The layer is applied in Hard Light mode and a Gradient Layer Mask fades out the left side. The other elements are repositioned for better composition.



Effect limitations

Very small images blown up very large will start to show pixels and compression artefacts, so the effect has its limits.



Vector Shape and Type layers

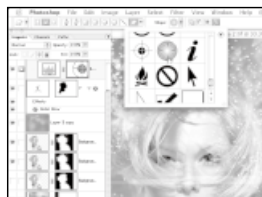
We can add further creative elements using Vector Shape and Type layers



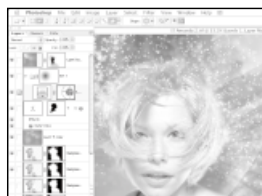
1 A Type layer is added by clicking on the image with the Type tool. Appropriately, the number 7 will be used as a graphic element for the image, since 7 is the current version of Photoshop.



2 The Warp Text tool helps to bend the 7 into a more interesting shape, and assists in integrating it into the image depth-wise. A layer mask aids this further making it appear to wrap around the girl. Applied in Screen mode, an Outer Glow Layer Style makes for a subtle effect.



3 A Levels Adjustment layer is applied to the image and a Vector Shape is used as a mask to create a further layer of detail in the image. A combination of two overlapping Vector Shapes in Exclude mode interacts to create an interesting shape.



4 Finally, a layer mask is applied to the Levels Adjustment Layer. Using the Gradient tool set to black and white and Radial mode, a gradient is drawn that protects the girl's face from the effect of levels.



Balancing elements

When creating an image such as this, try to balance the foreground and background elements, making sure the background detail does not overpower or clash with the main subject.



Big impression

Using a Hue/Saturation Adjustment Layer you can change the feel of the entire image just by changing some of the colours.

On your

CD-ROM/DVD

Here's how to get the most from the disc that accompanies your Focus Guide

Featured software...

☐ **Video tutorials to take you through the tools**

☐ **Every Photoshop hotkey for PC and Mac**

To access the programs and files on this disc, including the photo collection from Image Source, first insert the disc into your drive. Whether you're using a PC or an Apple Mac, the disc will work equally well. If it doesn't run automatically, look at the opposite page to find out how to start your installation manually.

Before you go on

The first item that should appear on your screen is the disclaimer window; here you'll need to click

on 'I Accept'. Please remember that this disc has been thoroughly scanned and tested at all stages of production, but – as with all new software – we still recommend that you run a virus checker before use. We also recommend that you have an up-to-date backup of your hard disk before using this disc. Future Publishing does not accept responsibility for any disruption, damage and/or loss to your data or computer system that may occur while using this disc, or the data and programs on it. Please consult your

VIDEO TUTORIALS

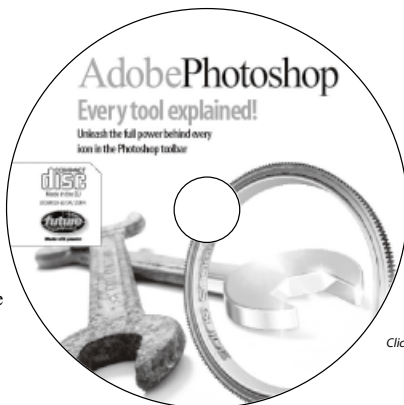
The toolbar explained by Photoshop expert George Cairns

As well as the printed tutorials in this issue, George Cairns has supplied a range of video tutorials covering a wide variety of the tools available to Photoshop users. George will take you through the basics of each tool, what they are called, what they do, where they can be found as well as a brief description of how to use them.

Watch and learn about the following essential tools: Blur tool, Brush tool, Crop tool, Dodge and Burn tool, Erase tool, Eye Dropper tool, Gradient tool, Hand tool, Healing tool, History Brush tool, Lasso tool, Magic Wand tool, Move tool, Note tool and Slice tool.



Photoshop expert George Cairns takes you through the tools of the trade in our superb video tutorials



network administrator before attempting to install any software on a networked PC.

Installation

Once inside you'll find yourself on our introduction screen, with a number of options in the menu bar along the top. Click on the relevant link in the menu bar to access the file or program that you require. If you have a query about your disc's interface or content, email our support team (support@futurenet.co.uk) for help. If you want to talk to a member

of the team, call 01225 822743.

Please note that we can only provide basic advice on using the interface and installing the software. We cannot give in-depth help on specific applications, or on your computer's particular hardware or operating system.



Finding your files

Click on the Focus Guide link at the top of the disc interface screen to access all the files that accompany this book.

PHOTOSHOP HOTKEYS

Over 250 keyboard shortcuts for just about any Photoshop task

The PDF documents on your disc, provided by GFXTM, contain every Photoshop 7.0 hotkey for both PC and Mac. A hotkey is simply a keyboard shortcut that saves you having to click through on-screen menus with your mouse. While you may know that pressing [Ctrl]+[C] on your keyboard is how you would copy a selection, for example, you may not know that 'Fill from History and Preserve Transparency' can be accessed by [Ctrl]+[Alt]+[Shift]+[Backspace]. These indispensable documents catalogue over 250 keyboard shortcuts and are a useful resource for Photoshop beginners and experienced users alike.



There's a wealth of Photoshop training material and experience on the GFXTM website: www.user.fundy.net/morris

<http://user.fundy.net/morris>



Index

Turn straight to the information you need
with the help of our comprehensive index

A

Add Anchor Point..... 93
Adjustment
(Levels, Curves and Hue/Saturation). 69, 71, 77
Adjustment layers 65, 77
Adobe Illustrator..... 80, 91
Alpha channels..... 20
Annotation, Notes
and Measure tools..... 100-107
Anti-aliasing..... 84
Art History Brush 45, 118
Auto measurements..... 107

B

Backgrounds 66-67, 115-117
Bevelled and Embossed type 89
Bézier handles..... 31, 92, 94
Blending mode 73
Brush dynamics 39
Brush hardness 37
Brush shape 38
Brush tool 34
Brushes and Pencil tools 32-45
Brushes – customisable, preset..... 35
Brushes palette 38-39
Burn..... 75-76, 78, 79, 112

C

Changing Marquees 12
Channels..... 20, 65
Characters..... 85
Circular Marquee tool 12
Circular gradient 63
Clone 48, 49, 50, 112
Cloning and Healing tools 46-53

Cloning skin 50
CMYK..... 81, 104
Color palette 34
Colour Dynamics 41
Colour Sampler 104, 106
Colour Stops 61
Contiguous option 16, 67
Convert Anchor Point tool 94
Corel Draw 91
Corel Painter 32
Count Jitter 40
Creating a montage..... 110-111
Creating Top Quality Artwork 108-119
Custom Shapes 95

D

Darken mode 71
Delete Anchor Point tool..... 94
Destination mode in Healing 52
Direct and Path Selection tools 30-31
Dither 60
Dodge..... 75-76, 78, 79, 113
Dual Brushes 41

E

Effects tools..... 68-79
Elliptical Marquee tool 12, 20
Exposure tools
(Dodge, Burn and Sponge) 68-69, 75-79
Extrude and Move 29
Eye Dropper..... 104-105

F

Fade..... 74

Feathering 11
Fill tools 56-58
Finger Painting..... 73
Flow setting for Brushes 36
Focus tools (Blur, Sharpen and Smudge) 70-74
Focus and Exposure..... 68
Foreground to Background,
Transparent and Custom gradients 60
Freehand 80, 91

G

Gaussian Blur 65, 111
Gradient, Fill and Eraser tools 54-67
Gradient Masks..... 64
Gradient Styles..... 63
Gradients 54-65
Graphics tablet 38

H

Healing Brush 51-53
Healing Brush 51, 114
Healing Patch tool 52-53
Highlight..... 78, 79
History Brush 42-44
Horizontal and Vertical Type 83, 87

I

Intersect mode..... 13

K

Kerning, Leading and Scale 80, 85

L

Lasso tools 14-15



-
- Layer Blending 62, 64, 117
- Layer Folders (Layer Sets)..... 98
- Layer Styles..... 89
- Levels Adjustment layer..... 62
- Lightness..... 71
- Linear Dodge..... 117
- Linear gradient..... 63
- Luminosity..... 72
- M**
- Magic and Background Erasers 66-67
- Magic Wand 16-17, 56, 110
- Magnetic Lasso 15
- Marching ants 19
- Masks 18-20, 64-65, 98
- Measure tool 49, 107
- Midtones mode..... 75-76, 78, 113
- Modifying selections 19
- Move tool 27, 28-29
- Move, Align and Distribute..... 27
- N**
- Navigating and Editing Images 22-31
- Navigator panel 25
- Noise 57, 72
- O**
- Opacity 116
- P**
- Paint Bucket 56-57
- Panning and Zooming..... 24
- Paths, Vectors and Masks..... 90-99
- Pattern mode in Healing..... 51
- Pen tools..... 90-93, 113-114
- Polygonal Lasso 14
- Q**
- Quick Mask 18-19
- Quick Mask mode 65, 79
- R**
- Rasterization..... 81, 83, 88
- Rectangular Marquee tool 12
- Rubber Stamp (Clone) tool 48-50
- Rulers, Guides and Grids 26, 107
- S**
- Sample mode in Cloning 48
- Sample mode in Healing..... 51
- Saturate..... 77
- Scattering in Brushes 40
- Scratch disk space 33
- Selecting text 86
- Selection tools 10-21, 23
- Selections for web pages 21
- Shadows mode..... 76, 79
- Shortcuts 22, 37
- Single Column/Row Marquee tool 12
- Slices 21
- Strength slider..... 70, 73, 74
- Styled Type..... 89
- Subtract mode..... 97
- T**
- Textures 41
- Tolerance setting for Eraser tools 66-67
- Tolerance setting for Magic Wand 16
- Tolerance setting for Paint Bucket 56-57
- Transparency..... 60
- Type and text 80
- Type layers 82-88, 119
- Type masks..... 83
- Type options 84
- Type Tool 80-89
- U**
- Undo..... 42
- Use All Layers in selections 16
- Using the Brushes and Pencil tools ... 32-45
- Using the Cloning and Healing tools . 46-53
- V**
- Vector Shapes 31, 95-97, 119
- Vector text 83
- View Management..... 26
- W**
- Wacom Intuos..... 38
- Warp Text..... 87, 119

Glossary

Finding the lingo a puzzle? Here's your handy guide to essential terms found in this Focus Guide

Alpha channel

Alpha channels are stored alongside colour channels within Photoshop files but do not affect the final image printout. Instead, they store information that is helpful to you, such as saved Masks.

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Brush

Brushes enable you to paint on Photoshop images with colour, other bits of images and pre-defined patterns. They mimic real brushes in that you can alter the size, hardness and texture in order to achieve the effects you want.

Colour channel

There are three colour channels in all colour images: red, green and blue. Each one contains information specific to that colour. Photoshop enables you to alter each channel independently, making it possible to reduce grainy blue skies without affecting the rest of an image, for example.

Feathering

Softening the edges of pixels in a selection, so that they will blend smoothly when moved elsewhere. Photoshop does this by only partially selecting some of the pixels around the edge of the selection.

Filter

One of Photoshop's preset tools that applies an effect to an image (or a selection within the image). Examples include sharpening, blurring, creative

and artistic filters. You'll find a complete list by clicking in the Filter menu at the top of the Photoshop window.

Font

A commonly used term used to describe the typeface you are using. For instance, Times New Roman is a font where all the letters look fairly formal. In Arial, however, all the letters are far simpler looking.

GIF (or .gif)

A type of image file format best suited for producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Almost all digital camera files, for instance, will be in colour. But you can turn them into black and white with many fine gradations of grey, from within Photoshop by turning them in to greyscale images.

Image size

This refers to the physical size of an image. For instance, a photograph you are working on may be 20x15cm. This matters most when you come to printing out the image.

JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file sizes and good quality photo reproduction. It is commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layer

Layers containing effects or bits of images can be stacked on top

of the original image layer (the background) in order to change the appearance of the image.

Layers do not directly affect the layers beneath them, in the same way as a blurry piece of glass placed over a photograph does not actually affect the photograph – in both cases, it is the appearance that is changed, leaving the original untouched.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Navigator

In Photoshop's default screen layout, the Navigator is positioned in the top-right corner and gives you access to the whole image, even if you are currently zoomed in to a specific part. The red box within the Navigator image denotes the area that is currently on screen; you can move around your image by clicking and dragging the red box around the Navigator image.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images.

Selection

Any part of an image which you select with Photoshop's tools, shown by a marquee around it. You can then work on certain parts of an image, or remove them without affecting the rest.

Slices

These are special kinds of selections for web page design. An image can be split into segments or slices, and Photoshop creates an

HTML file, plus separate image files, for each slice. The web browser then reassembles the slices in their original position to give the appearance of a single image.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find them in folders of images and in Photoshop's File Browser – Because they're smaller than a full size image you can browse through them more quickly, which makes finding the file you're after far easier.

Pixel

An abbreviation for 'picture element', it is essentially a tiny dot of colour on screen. Most images are made of up millions of pixels, which combine to make an image look seamless. Zoom in very close on an image, however, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves things such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you have made to remain editable when you next open it.

Tool Options bar

When a tool is selected, the corresponding Tool Options bar automatically appears at the top of the Photoshop window, giving you access to various options, including such things as Brush Sizes and Feathering.









Adobe Photoshop

FocusGuide
From the makers of **Computer Arts**

Ten chapters of expert tips and advice

- ☐ Master every tool in the Photoshop toolbar
- ☐ Navigate and manipulate images with ease
- ☐ Use the Cloning and Healing tools to retouch your photos
- ☐ Make pixel-perfect selections every time
- ☐ Harness the power of the stunning Effects tools

All book related CD content can be found on the magazine cover disc

- ☐ Tailor-made video tutorials
- ☐ Every keyboard shortcut for PC and Mac

Free with issue 19 of

DigitalCamera
magazine

