



Mural depicting scenes at Kew created by Robert Games from original artwork by Terry Thomas



Input and Output

Some photographers still have a considerable involvement and investment in film – either their clients still understand and prefer the medium, or it is the photographer's conscious decision to continue to shoot on either color negative or transparency. If the obligation does not end with handing over a series of prints or transparencies, and these images are to end up on your computer, then your digital door is the scanner.

Should you relinquish this task to a lab or bureau? Or should you invest in the equipment, and ultimately the expertise to carry this out for your client? If holding this data gives you greater potential to benefit your client and offer further services, then buying a scanner makes sense. The quantity of legacy negatives and transparencies coupled with the residue of photographers continuing to shoot on film, means that scanning will be with us for a few years yet.

Regardless of whether you enter digitally or start with film, more knowledge of the subsequent processes has now come within your remit.

Image Capture

Where is it? What does it do?

These are not the actual questions I get asked!

The question is usually asked out of frustration: – ‘How come every time I put a Compact Flash card into my PowerBook, iPhoto opens up?’

Or:

‘Every time I plug my camera into the USB socket on my Mac, iPhoto is launched – how do I stop it happening?’

The issue is not so much that it happens; it is where is it controlled from, and what should I be looking for? Well, I have the answer for you – it is called ‘Image Capture’, and the program is quite clever, but Apple are so determined for you to use iPhoto, that it is set to automatically open it for you regardless. Leopard has improved on this approach slightly.



Fig. 7.2 When you first encounter Image Capture in Leopard, this is the newer, improved message; it should be less baffling, since you do now know what is happening.

Scanning

The options available will vary with the quantity and quality needed from what you shoot, at the high end are the outside bureaux and repro houses, and lower down the scale you could purchase a scanner and keep control in-house. If your throughput is high you could even consider having your own desktop drum scanner, or an Imacon/Hasselblad type.

Mac OS X will communicate with them all, but only offers direct control at the low end, and this is done by a small program called Image Capture, which is found in Applications. It is very capable; able to sense when Cameras, Card Readers or Scanners are attached to the computer by Firewire, USB or Ethernet. It will intercept and respond appropriately, set via its Preferences.

Image Capture

In Tiger, after the initial ‘No Capture Devices connected’ alert, you go to its Preferences as shown in Fig. 7.1 below. Ticking the scanner box means that when a scanner is on and connected, Image Capture will open the scanner application and do the Overview or Preview scan. All the settings are made in the pull out drawer (see Figs. 7.3 & 4).

Image Capture, as its name implies, does more than offer a scanner interface, so I will complete a description of what it does, before dealing with drum scanning.

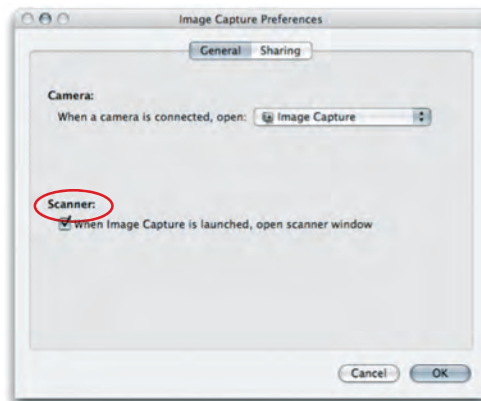


Fig. 7.1 Selecting Image Capture’s Preferences will show this window.

Scanner input

The scanner module queries the scanner itself to provide the necessary functions, such as whether you use the flatbed or transparency adaptor, or you are scanning a negative or transparency. All these controls appear in a drawer that comes out of the side of the platen area. Additional settings are made available in a sheet when you click the Options button.

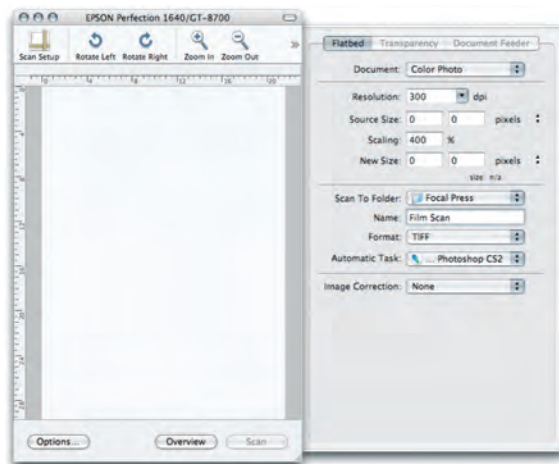


Fig. 7.3 The scanner interface with the drawer open showing the settings you can make.

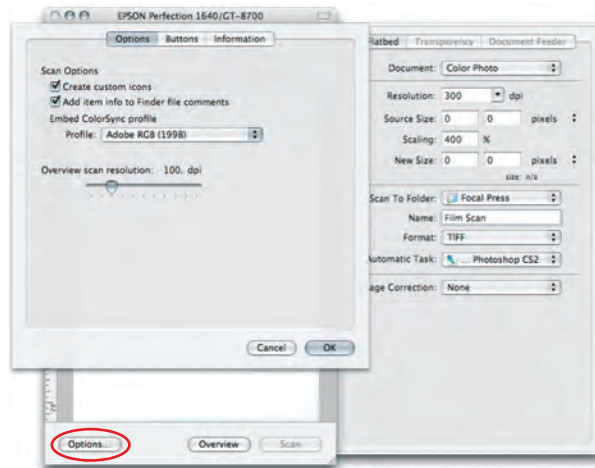


Fig. 7.4 There is a further set of options available to the Scanner module as shown in the sheet here, which appears when the Options button is clicked.

Image Capture and VueScan

Image Capture shares similarities with Shareware favorite VueScan from Ed Hamrick, they can both be used to access a wide variety of different scanners with a single interface, which can be a boon, since it avoids learning a new interface when changing scanners.

When you click Options, you can set whether you want a custom icon for the file showing a preview of the image, what resolution you want for the Overview image, whether you want to embed an ICC profile, and if so which, and also whether you wish to add details in the Comments file. I shall mention this feature overleaf in Fig. 7.10. The second tab, Buttons, applies only to scanners with Auto buttons that scan using preset parameters, the final tab summarises information about your connected scanner.

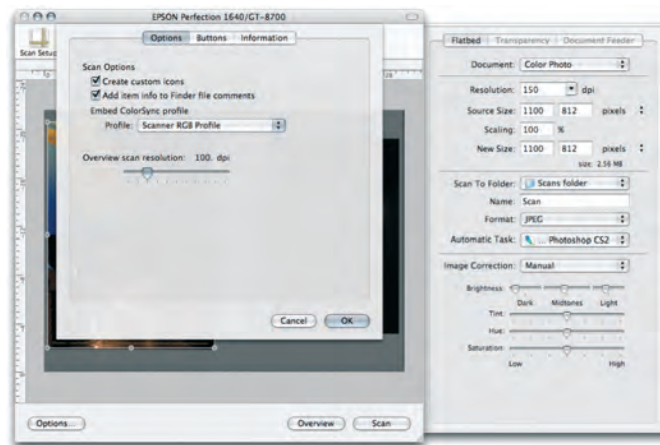


Fig. 7.5 Although limited, the scanner driver within Image Capture is a quick way to get scans into your system with the minimum of fuss.

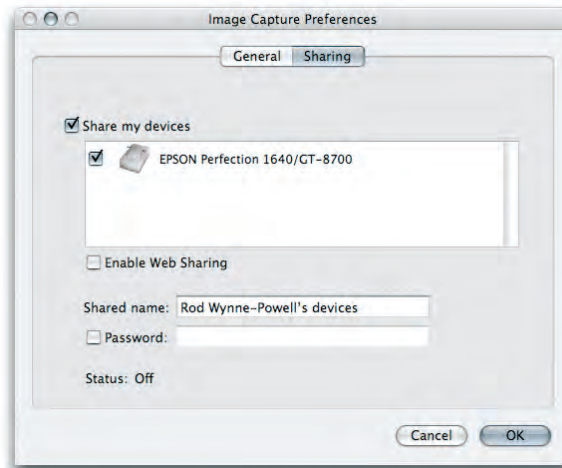


Fig. 7.6 In the Preferences, you can select Sharing, and allow others to share the scanner using Bonjour, Apple's method of allowing devices to link without involving the user in the complexities of IP addresses.

Image Capture – from camera or camera card

Image Capture will not only recognise scanners, it will also intercept cameras, or a card reader, connected via Firewire or USB. If you had iPhoto installed when you first launch Image Capture, then iPhoto would be launched when the camera or card reader was detected. That is handy if you wish to use iPhoto, but this response can be changed to launch another application or Image Capture itself, offering you the chance to decide which images need to be transferred to one of your hard disks. So you have a chance of a preliminary cull of files you don't need.

Note

At the high end, some of the cameras can communicate via Firewire, but many DSLRs use USB, not necessarily USB 2.0. However, most card readers are now USB 2.0, and some are Firewire, even Firewire 800. Since time is money and may even be critical, I suggest you opt for the fastest card reader you can afford. I use a Firewire 800 reader, because the Canon 5D files are large, this means even a full 2 GB card is reasonably fast to access.



Fig. 7.7 This dialog tells you how many files it has found on the card, and allows you to choose where to send either all or some of the images, it retains the last destination by default.



Fig. 7.8 Once you have made your choice, you will see a progress bar with previews of each image as it is saved.

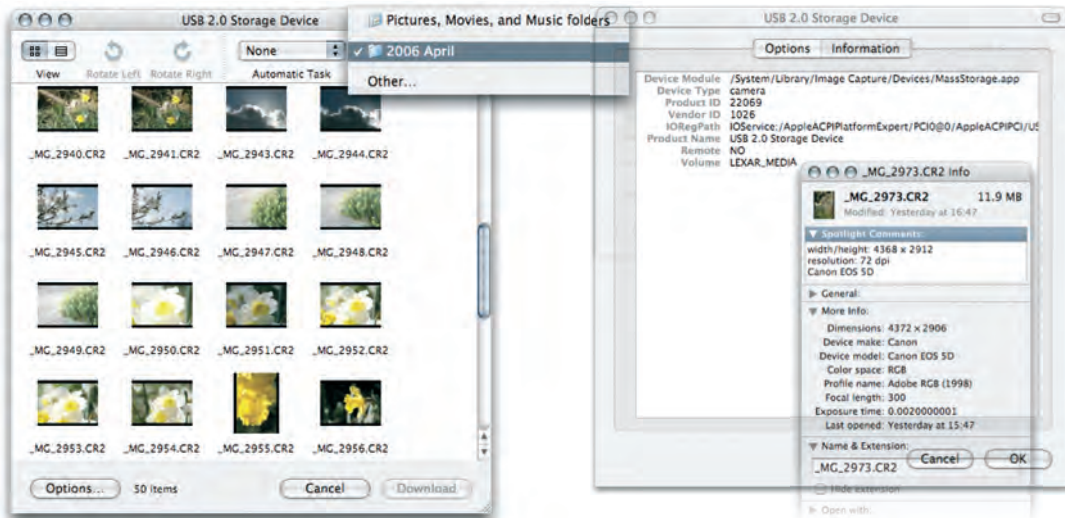


Fig. 7.9 If you click 'Download Some', you will see scaleable thumbnails of all it finds.

Fig. 7.10 When you choose Information, it is about the media card, not the Finder Info about the shots shown. Overlaid – Spotlight gives the correct Image Info!

A drum scan is a file!

Obviously, I know, but in thinking about a scan, somehow this is forgotten. Possibly the reason is because it can come in so many forms, and some descriptions are less than familiar.

Unless you specify clearly what it is you want, it can be a far more cumbersome file than one from a digital camera. Where it differs is in the resolution terminology, the color mode, and the size in terms of megabytes.

Resolution will often be described in the mystical term 'Rez' and yet without a unit of measurement seemingly: Rez25 or Rez80!

Be baffled no more – these are pixels per millimetre. To add to your confusion, Adobe in Photoshop refer to pixels per cm. These sizes also tend to be for RGB files, yet the reason for the scan in the first place is generally for a file that is going to be for print purposes. So, a drum scan from a full 10x8 color transparency at Rez25 might well be roughly a 92 MB RGB file.

I use a rough guide in my head to compare drum scans to original digital capture files that for equivalent detail a 50 MB RGB drum scan equates to an 18 MB digital capture. Or, a good digital file interpolated to 50 MB is equivalent to an average 5x4 drum scan. Please do not take this as gospel, simply a general comparison.

Only go for a CMYK scan if you know the file's final destination. Certainly most photographers deal with designers and agencies, and often have no idea who is to print their work or whether it is to be retouched or planned into pages at particular sizes, so the conversion should only be undertaken when those details are known for certain.

If a bureau is offering a scan that includes a custom ICC profile, the omens are good that they know what they are doing, but ask for a trial scan and proof the first time.

Drum scanning

Drum scans can come to you in any number of ways, and are simply an image file to Mac OS X, it is very likely to be to your specifications precisely, and hopefully spotted and color corrected. There is no recognised standard, and it may well not have an embedded profile, and could be in either RGB or CMYK. You will need to discuss exactly with your supplier, just what you expect. You may well be asked 'What Rez would you like? – See the side panel for guidance on this.

When discussing your needs, get them to ensure cleaning the transparency or negative is part of the price, as there is nothing worse than receiving an oily original back, half-stuck to a sleeve.

Labs dealing with professional photographers regularly will likely offer RGB or CMYK to your specifications and return your originals cleaned, but going to a repro house or printer varies wildly, just remember that cultivating someone local will bring long term benefits if you have a regular need for drum scans.

I would recommend that you ask for your scans on CD, rather than downloaded via Broadband, because you will be able to make duplicates swiftly before you start your work with them, giving you adequate backup for security. You could possibly consider creating an action at this stage to give you the opportunity to rename the images to conform to your own filing system; you could for instance create an Automator workflow that you attach to a folder as a Folder Action.

To create an Automator Action and to attach it as a Folder Action to a specific folder, you need to be careful to create that folder beforehand. You save the Workflow as a Plug In, and that Plug In needs to be attached to the source folder. Then, using the Context menu you click on that folder and choose to attach it to the folder.

If you spend some time setting up and checking your Workflow and the Folder Action, you need to be careful to follow all the steps each time, otherwise you will likely find that your action will misbehave – each time you edit, the link is broken, so you have to re-establish the connection between your Automator Workflow Action, the Folder Action, and the folder to which it belongs.

An Automator workflow for a Folder Action

1. Create the destination folder for the outcome of the workflow.
2. Open Automator and either drag the three actions from the Action pane or double-click each item in the order shown – Get Selected Finder items, Copy Finder items, and Rename Finder Items.
3. Save As a Plug In, choosing Folder Action and the name for that Action.
4. Create the Source folder, and holding the Control key, click the folder to reveal the Context menu and choose Attach Folder Action... It should show the Folder Action Scripts, select the script you have just created.

Remember

It is important that you create the Destination folder, before the Automator action.

In many cases you may also have to consider creating the source folder beforehand; this will not be the case if you create a Droplet.

A Droplet is a freestanding application that will respond to a file, a folder or a selection of either, and carry out the designated steps upon each file encountered.

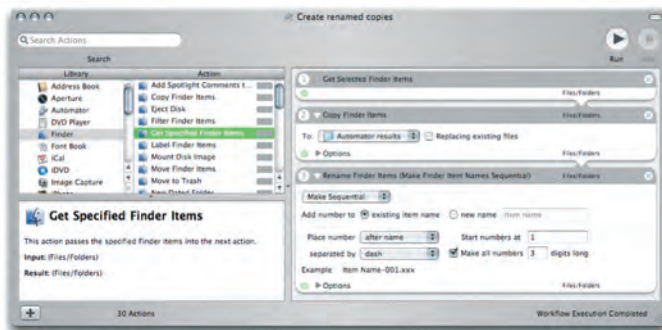


Fig. 7.11 Highlight the Application (Finder here), drag each action into the Workflow pane in order, click Run to test, then Save As Plug In.

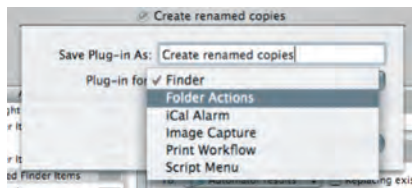


Fig. 7.12 This drop down sheet shows the Save As... action allowing you to name the Action which is a Plug In to be a Folder Action.

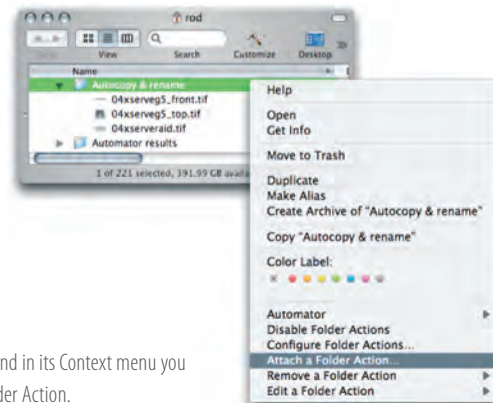


Fig. 7.13 Here the Folder is selected in Finder and in its Context menu you choose to attach the Workflow Plug In as a Folder Action.



Fig. 7.14 This is a highly enlarged corner of a Drum-scanned 10x8 color transparency showing the clip mark and resultant bubbles in the oil. I had to twist someone's arm to capture this rare occurrence on film!

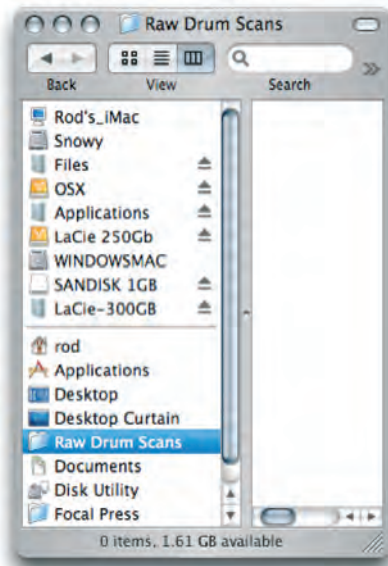


Fig. 7.15 Dragging the 'Raw Drum Scans' folder below the divider line in a Finder window sidebar, creates an alias that is readily available. This area is called Favorites, and is always easy to find in any application's 'Open' dialog boxes.

Scanning images

Scanned images can often require further work before being supplied for use in a page layout program such as Quark Xpress or InDesign; this can stem from small amounts dust and dirt, bubbles of oil in a drum-scanned image, scratches on the film surfaces, and Newton rings. For this reason, I would suggest you save these to a separate folder. Once that preliminary retouching has been carried out, then they can be placed in a folder pertaining to a specific project.

If you are doing a large amount of scanning, you could create a 'Raw Scans' folder, and to make it readily available you could select the folder in Finder and press **Command+T** to place an alias of it in the Favorites section of Finder Windows.

The pitfalls when scanning differ with the type of scanner involved. Drum scanning very often involves a sandwich of a foil taped to the drum's outer surface under which the transparency or negative is placed. A bead of light oil is then run along the back edge and the foil stretched across the film before being squeegied to eliminate air bubbles, then the final tape is applied.

In the case of sheet film, unless the film was roller-processed, it may well have quite noticeable hanger grip marks on the four corners, and this can result in a cluster of air bubbles within the image area. Also, there can sometimes be Newton's Rings due to interference patterns creating a series of moiré patterns like undulating parallel rings often in rainbow colors. Another problem can be small dirt particles trapped within the sandwich.

Any scanner involving glass contacting the film, can be subject to Newton Ring problems, and in 35 mm film in high humidity even without contact this can be an issue. Flatbed scanners without glassless holders can also suffer, however the drier the atmosphere, the less likely the problem.

Severely scratched film will tend to show lines that may have both black and lighter edges due to refraction and shadowing, this is where cleaning and drum scanning using oil can in some cases eliminate this completely.

If any of the above problems exist, then you will have the task of retouching these blemishes, which is often best tackled within Photoshop using the Spot Healing Brush and Clone Stamp tools.

Scanning – bit depth

When selecting a scanner, a factor you need to take into account is the number of levels the scanner is able to record in the range between the deepest shadows to the brightest highlights. This is dependent upon the dynamic range and the bit depth it is able to use in its calculations.

Although the files you pass on to others is invariably an 8-bit per channel file, capture should be at a higher bit depth, and the reason for this is that you are likely to make some corrections to the color to achieve the quality you wish to supply. Any color changes you make will involve a loss of data as you ask for the numbers in the three channels to be swapped for others.

What this means is that a color you take away for exchanging, leaves a gap, and the color you move adds to the amount already there. In exaggerated cases this is what gives rise to the gaps and spikes in a histogram. By starting off with more than 8-bits per channel, making the corrections in that larger domain, then converting to 8-bits per channel, you are more likely to fill each possible level, so giving a smoother end result.

Flatbed scanners offer ranges that go from 10 to 14-bit generally, and sometimes you can get access to this level when saving. The format that Photoshop calls 16-bit, deals with all color bit depths beyond 8-bit and up to 16-bit. Because it makes good sense to be able to have a mathematical midpoint, they in fact have a 15-bit per channel model, and this still handles the 10, 12 and 14-bits that scanners variously use.

When scanning photographic images, if they are prints remember that the print may have quite large grain, whereas the negative though small was always intended for enlargement, but due to its lower contrast may well still end up grainy, there is a tradeoff here, and the surface of the print may well also have a bearing. A transparency on the other hand, unless the original process was pushed, should give a smoother more pleasing result. A print film transparency from a negative often gives a better scanned result than either a print from the negative or directly scanned from the negative, but the print film needs to be the fine-grained variety, not the display material.

Resolution

Optical resolution of flatbed scanners is often described by two numbers, one represents the vertical travel the other the horizontal travel, so you might see 1200 ppi x 600 ppi. When considering what actually matters go by the lower figure, because what is meaningful to you is identical resolution for both axes, and the lower figure will require interpolation up to give you this, so there is no further detail.

dMax or maximum density

This is the maximum density the scanner is able to read, and unfortunately this is an area where marketeers overstate the figures sadly, but generally 3.6 to 3.8 are good high levels – ignore any blurb that states 4.0 or over, as it is not feasible!

The ability to read detail in high densities and avoid flare in low densities is what you should seek, if a scanner manufacturer tries to gain speed by enhancing shadow detail, it will come at a cost of increased noise.

Digital ICE® (Image Correction Enhancement)

Primarily a Nikon technology, uses an Infrared prescan to map out surface scratches and dust. It only benefits standard color transparency and negative films, it has no beneficial effect on black and white films or Kodachrome® transparencies.

TWAIN

I have always liked the alleged origin of the acronym – Technology Without An Interesting Name!

This is a common scanner interface, that is used by a number of companies to provide the fundamentals of scanning for use with a wide range of less expensive scanners. Some manufacturers use elements of the technology, without necessarily using the TWAIN interface itself.

It is maintained and developed by a group of leading Industry names, such as Epson, Adobe, Hewlett-Packard, Kodak, Xerox, Fujitsu and others, and is often used for the underlying communication between the scanner and operating system of the computer, especially in many of the more universal scanning softwares.

Remember

The important factors to note are dynamic range (the deepest shadows to the brightest highlights), the optical resolution, and the build quality. The longer the range, the better will be the retention of detail in both shadows and highlights.

Drum scanners mainly scan using oil with a similar refractive index to the film which obviates some of the problems of surface blemishes, but one manufacturer, ICG, makes scanners that can work by using centripetal force to press the film against the inside of a revolving drum (this method still using oil, they term 'SlickMount'®). This method avoids the extra surfaces of the foil. These scanners use vertically mounted drums that can also be used conventionally, mounting films to the outside.

There are a number of high end flatbed scanners, but generally these tend to be aimed at the repro end of the market, they come from Kodak (formerly Creo), Fuji, Purup Eskofot and Scitex, Agfa rebadge the Lanovia from Fuji, so for anyone involved in large numbers of scans, these are the heavyweight players.

Hasselblad Flextight scanners are a breed apart in terms of the way in which they work, in that they use a method that the manufacturer calls a 'Virtual Drum'. By putting a slight compression in one direction across the film, they ensure a very flat surface in the opposite, the arc of the curve corresponding to the radius of the scan. Many photographers support the claims made by Hasselblad that the resultant scans are close to drum scan quality for a fraction of the cost.

For 35 mm and 6x6 cm film there are a wide range of dedicated film scanners, and some employ an infrared scan for dust and scratch removal, and multipass scanning to reduce noise and improve the dynamic range. Photoshop CS3 Extended offers a similar effect using multiple exposures on separate layers.

Although there are examples of scanning software that works for more than one make of scanner, such as Vuescan, Silverfast, and ScanXact, most scanner software is tailored to specific makes, TWAIN driver software does provide a basic interface to many scanners, and may lie beneath software that works on more than one scanner make. Some of the more recent flatbed scanners have transparency adaptors that are capable of producing very acceptable scans, but do not expect comparable results to the dedicated film scanners from the likes of Hasselblad or Nikon.

Filmscan and digitally captured image differences

Once you have a good scan with correct white balance, good range, and the right resolution for the intended purpose, everything you can do with digitally captured images will be similarly applicable. You will though, likely have a more textured image than an equivalent digital capture, but from this point on the primary difference will be one of metadata content. Unless you spend a small amount of time to apply some information about the image using File Info within Finder, or Photoshop, the file will be less traceable than its digital counterpart.

Adding Spotlight Comments is going to be speedy only if it is a few items, because you do not have to open any application. If Photoshop or Bridge are open, then multiple files can receive the information simultaneously, and can be read in these and other programs, such as iView Media Pro. The Spotlight Comments can be read at system level, but there is no categorisation, and it is not cross-platform, whereas the XML metadata of Bridge and Photoshop is readable on Windows or Mac machines.

Using Comments to aid linking files

Although the example I use is not a scan, the principle is the same, the logo in this case has a descriptive title visually, but has no relationship with the name 'Howarth'.

By making this link in Comments in the Get Info dialog, it is now possible to search using 'Howarth', 'Tim', 'T_' or 'Logo'.

By locating scans in a folder so named, helps in categorising, and adding metadata in Comments, refines the search.

Spotlight will find the Comments when you search, but the effort and return from Comments will not match what your digital camera, Bridge and Photoshop can achieve. So, although I would like to say the operating system can offer you some help here, Adobe Bridge or Lightroom will still be your safest bet to apply searchable metadata to scanned images at this time.

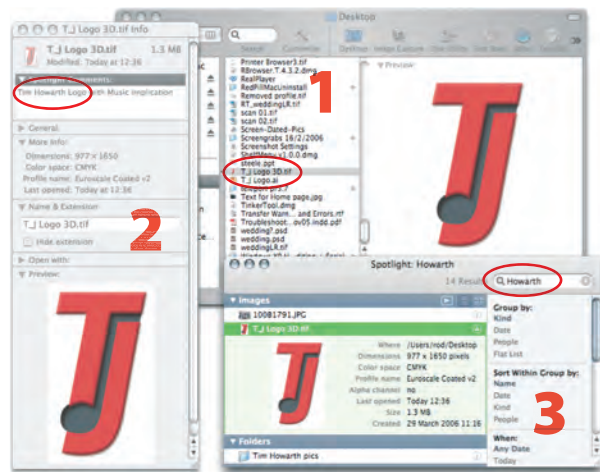


Fig. 7.16 Selecting the file that does not contain 'Howarth' in its name – 1, and doing a Get Info – 2, to add the comment shown here, where the name does now occur, allows the file to be found – 3, using Spotlight and the name 'Howarth'.

Spotlight – EXIF search

Below is an example of a search for images shot using the 12–24 mm lens – I knew that they would all have ‘Canon’ and ‘12.0’ in the EXIF data from when they were shot, hence the search criterion I chose. The total shown to the left of the Search String box displays the total files found, not the total images, that is only shown against the top of the Images List, which has been scrolled beyond the window.

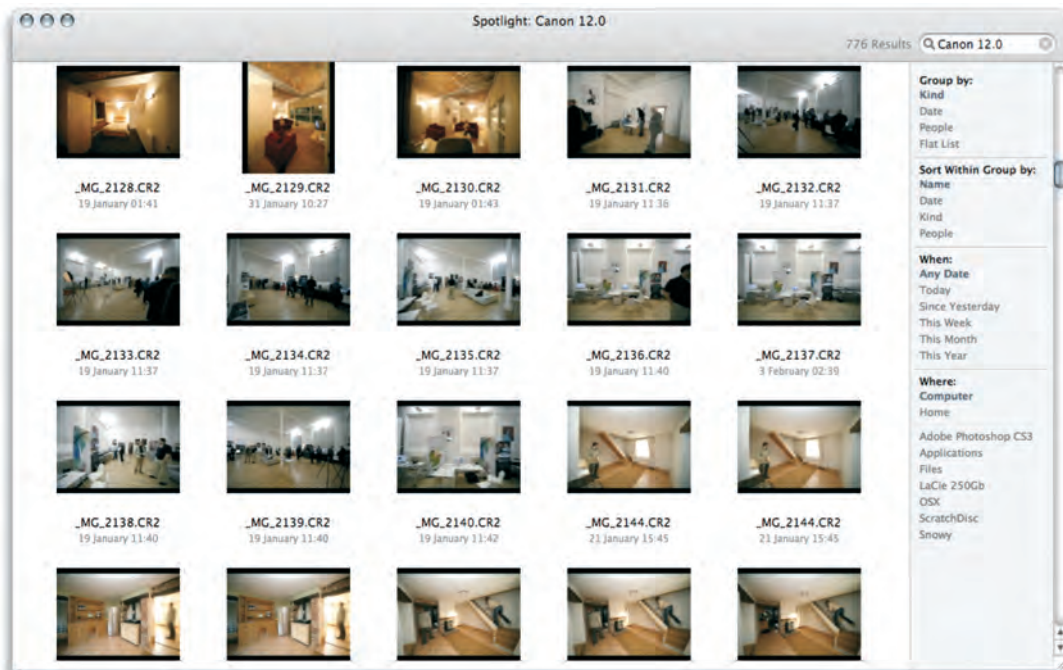


Fig. 7.17 The total shown indicates numerous .THM and .XMP files located on the drives that essentially contain similar text information.

DNG and metadata

As explained here, Spotlight reads more of the available data in a DNG file, so support for this format is beneficial to photographers in several important ways, so do help in pressurising manufacturers to increase its adoption.

You can do this at:

<http://www.openraw.org>

A more robust way to ensure the EXIF data is found by Spotlight is to convert your files to Adobe’s DNG format (see overleaf for more details), as Spotlight finds more of the EXIF data in this format. When you couple that advantage with others such as small file size and an open standard, I can highly recommend that you consider using DNG in your workflow. The more photographers and libraries that adopt it, the greater the pressure on camera manufacturers to improve their support.

Digital capture and metadata

Once you have clicked the shutter of a digital camera, not only have you taken the picture, but you have taken the first step towards the tracking of that shot by adding metadata. How much you have added will depend upon how much preparation you have done both within the camera and on the memory card.

The sensor chip has to capture the information to a buffer first in the most highly efficient form it can, then remove it ready for the next capture. In this minuscule amount of available time it has to transfer that information onto your removable storage, often a Compact Flash Card or SD Card. This information is not in a form you would consider useful, it is simply an array of numbers.

This RAW format varies between camera manufacturer and camera model. There are variations of sensor chips, as well as different interpretations of how the arrays are constructed. RAW is not a standard format that fits every sensor chip or camera manufacturer, because how all this information is dealt with at speed and with high quality is considered a valuable commodity. There is great reluctance to either, part with the information, or to place it in a standard format for the benefit of photographers. Adobe has released a converter that goes a long way towards standardising the storage of all the available parameters in a freely available and well-documented format that it has dubbed the Digital Negative – DNG for short. So far, only a handful of camera manufacturers have made a commitment to support it. There is little doubt that photographers could benefit, if it were possible to save our images directly to DNG.

RAW is fundamentally uninterpreted data of what the sensor captured. Given that our computers have more time and power to carry out that interpretation after the event, it makes sense to make the most of that opportunity. For those times when we do not have the time, we have the option of storing interpreted and compressed files very swiftly so that a sports photographer can send his peak of the action shot of a footballer heading the ball into the net, straight to the picture editor of the newspaper.

Some of the newer Compact Flash cards can be preprogrammed with metadata, that can be applied to the images as they are extracted, which means such information as the photographer's copyright information and location are immediately available.

Note

Since not every flaw or distortion in the computation of a lens can be adequately corrected, but the information about the lens, where it is focused and what aperture is in use can be captured and held in metadata, lens manufacturers can now consider using the metadata in their software to make final adjustments to improve the capture quality. Hasselblad were one of the first, and Nikon seems to be following suit. This is an area where the original manufacturer can tailor its own software more accurately than a third-party, and retain a competitive edge over the competition.

View cameras and camera backs

There is less capture information for photographers using camera backs and View cameras, as there is currently no easy way for the backs to necessarily know what lenses are being used, so EXIF metadata is less complete than for DSLRs.

Another reason is that the proprietary files created by the likes of Leaf, Sinar and Betterlight are of less use because their capture software forms an entirely essential part of the workflow.

The output files are often high bit depth and high dynamic range, and it is only on export that a standard file format becomes available, these are likely to be either TIFF or PSD, and the accompanying profile may well also be custom.

In situations like this almost all the color adjustment has taken place prior to import to a program like Adobe Photoshop or Lightroom.

Digital images

The files from digital cameras have improved in quality; the cameras themselves and the lenses specifically computed for digital imaging have also improved, so fairly naturally the file sizes have increased. This has brought with it a major problem for storage, sorting and searching, and as I have explained, here is the most significant reason digital imaging is more effective, the way accurate information concerning your image remains with the image itself, as metadata.

Sorting and searching your images is reasonably accommodated, but the storage is still an ongoing problem, and each photographer will have different requirements. If images are in regular demand once taken, ready access must form part of the solution. But if once taken and you have received the payment, there is little chance of reuse, then perhaps there is an argument for asking your clients whether they would like you to be the custodian for a fee, or would they like to purchase the primary images for a nominal sum for them to store, as you have decided you will only store the back catalogue free for a limited time, say, one calendar year from date of exposure.

Storage costs. If that is so, you have a right to make a charge. Increasingly the buyers of our photography consider charge for reuse to be untenable, well, it is only fair to lay the burden of storage in their charge, unless they are prepared to pay for storage and retrieval.

RAW and Metadata

RAW data is very much subject to interpretation, and is an area that has seen a great improvement, with updated algorithms improving the image quality obtained from earlier captures. Also the scope for manipulation by the user has become another factor for the transition from film to digital. Metadata can also play a part in allowing software to better understand what can be done to improve or alter the original image, it can play an integral part in later transformations such as correcting distortions in some lens conditions, such as a zoom lens with barrel distortion at the wide angle end of its travel, or when stitching overlapping images, where knowledge of focal distance, focal length and aperture could allow for accurate undistortion of the original images.

Adobe DNG Converter

Adobe have tried to make it very easy for photographers to convert their files to DNG with their free Converter, and even to store the original proprietary RAW file untouched, within that container. This can also still be extracted separately.



Fig. 7.18 The creation of the Converter which is supplied free to Users and Developers is an elegant way to try to future proof the wide range of differing RAW formats that are currently available. Hopefully, its adoption by Hasselblad will spur other camera manufacturers to follow suit.

Shooting in RAW using a DSLR camera

Shooting RAW for the two Apple photo products, iPhoto and Aperture, you need to ensure that your camera's RAW format is supported, and this is an area where there can be issues. So far, Apple has not caught up with Adobe in their support for a wide range of compatible formats. If your RAW format is supported, you will have more control over that image than a JPEG.

In Adobe Camera RAW you will have access to the White Balance, the Exposure, the Contrast and Sharpness, together with the possibility to correct for Chromatic Aberration and Vignetting. There are also controls for Calibration which allow you to make allowances for the possibilities of lenses or cameras that might have a consistent color bias, and this setting could be substituted for the default, or simply be a preset for a lens, or group of lenses. The difference between them is that in the default it will override the original, whereas you can create any number of presets for specific lenses, cameras or particular lighting conditions.

With JPEG, most of those controls are no longer available; the choices were made when you pressed the shutter – the interpretations have been made and frozen in the file, so if any substantial changes need to be made, you will have to carry these out in Photoshop. Some minor changes could be made in iPhoto. Aperture and Lightroom can do slightly better.

At the high quality/minimal compression end, artefacts are likely to be minimal, so here is the first difference, JPEG is not a lossless format, but what is lost is decided by where you set the Compression/Quality slider. For a subject with minimal fine detail, you should be able to set a lower value than would be the case if there is a fair amount of fine detail.

Whether you shoot in RAW or JPEG, the camera captures details of the Camera, Lens, Date & Time, ISO setting, the White Balance, Shutter Speed, Aperture, whether the flash fired, and so on. This specific camera and lens data is stored in a standard format known as EXIF (Exchangeable Image File format). Some of this data is readable by Spotlight. RAW files converted to DNG allows greater access to this data using Spotlight, and this is likely to improve with Leopard.



Fig. 7.19 Although not considered a fully professional camera, the Canon 5D is an excellent workhorse that is light enough to carry around for extended periods, takes the full range of lenses, has a large reviewing screen and has a 'full size' chip. So, for those used to 35 mm film SLRs, choosing a suitable lens for a particular angle of view, is second nature.

Quartz engine – PDF and Preview

Mac OS X uses its Core Graphics to output to screen using Quartz, which is closely allied to PDF, Core Audio for Sound, Core Video for Movies and Core Animation for much of the interface animations. Open GL drives the video card rather than the CPU for 3D work and rendering.

Preview benefits from these to natively open many different graphics and text formats in a very simple interface, it can read PDFs and annotate them in a simplistic manner, without you having to buy the full version of Acrobat.

Core Technologies

Apple has a series of system technologies that allow it and its third-party developers to communicate directly with its hardware, making overall software development more efficient, the latest being Core Animation.

This has two major effects, a developer simply feeds its code into readymade routines, avoiding reinventing the wheel, and often tasks are hived off to specialist onboard hardware rather than hogging the CPU. Many tasks that historically took valuable processor time to put images to screen are now handled directly by the video card, letting the CPU carry out the really meaningful tasks.

Many of the smooth graphic effects that help you understand more about what happens when you are using Finder, for instance, the Genie effect when you minimize a window, or drag and drop a file from one folder to another, no longer tie up the CPU.

The extra RAM onboard the recent video cards makes it a simple task to provide you with transparent icons when dragging a file around, making it more obvious what it is you are doing.



Fig. 7.20 You can annotate any image in Preview with an oval or a text box.



Fig. 7.21 You can also select text within a PDF to copy elsewhere, such as getting an email address or telephone number.

Preview

When time is short and you have captured and downloaded some RAW files that you want to look at quickly, Preview can help you do just that; it opens quickly and if, as I show below, you select five image files and drag them to the Preview icon in the Dock, all five will appear in Preview's Drawer, and the first one is shown filling the window.

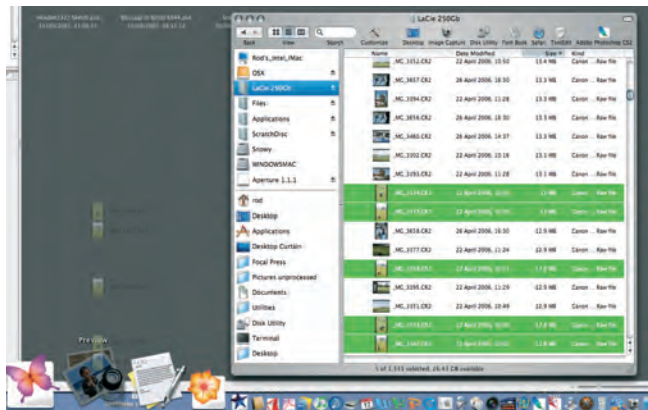


Fig. 7.22 From the Finder you can drag multiple files to the Preview icon in the Dock to open and view your selection.

You now have a range of possible options; you can select each in turn, zoom in on any or all of them, you can put Preview into Slideshow mode. You can save each of them out individually. As the default for RAW files is 16-bit, you can save TIFFs, PNG, and Photoshop files in either 8-bit or 16-bit. PDF is yet another possible output format. The file formats open to you when saving from Preview, will depend upon the original file/s opened.

Interestingly, you can choose to open each image into the same window, and keep adding subsequent files to the Drawer. If you wish to open groups into the same window, then you go to Slideshow mode and choose the Index View. To open individual windows from a series of images, click it from here. So, for instance you could see a slideshow comprising a range of differing file types, or zoom in to check sharpness and detail.

You can add or change color profiles in Preview, and do a range of color corrections, even converting to black and white.

Multiple open files in Preview



Fig. 7.23 Multiple selections appear in the drawer, with the first filling the window. The thumbnails are scaleable.

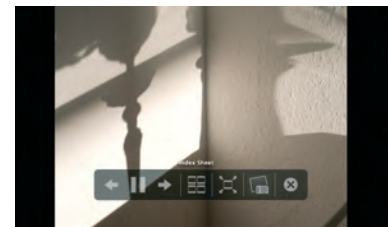


Fig. 7.24 The controls appear momentarily, returning if you bring the cursor onto the screen.



Fig. 7.25 Multiple Images can also be viewed as a Slideshow or Index Sheet view; here the four images are in Index Sheet view. Hover over an image to see its filename appear.

Conversion to black and white

Many people, photographers included, dismiss Preview as something for kids, and not for serious work, but they fail to look just that little bit deeper. Here is a fast-opening piece of free software that can open scores of different format files – a simple example is shown here opening a RAW file, and converting it to black and white.



Fig. 7.26 Preview has not got the sophistication of Photoshop, but its simple controls do a swift and competent job of converting this RAW image into black and white.

Preview – a PDF reader

When you do not have the full Acrobat, or simply, that you have Acrobat, but it is not open, then dragging a PDF file onto Preview will be faster to open and show you the contents – in less time than it will take for Acrobat to even open.

But as you can see from this spread, Preview can do so much more. For someone who finds Photoshop daunting and wants to quickly carry out a change to a snapshot, Preview can do a very passable job.

Color correction

Under Tools/Color Correction you can very quickly achieve a sepia-toned image from any color file that it opens. Imagine that in your hectic life, you suddenly realize that you have twenty minutes before last post goes and you need an idea for a card – Photoshop will do the job, no doubt about it – but as quickly and as easily? Take a more serious look at Preview, before you dismiss it out of hand.

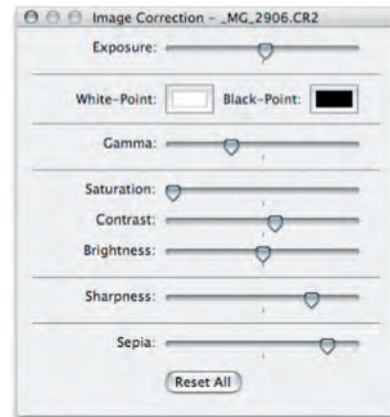


Fig. 7.27 The settings above are all it took to create the sepia print from the shot on the left.

Apple has been altering the underpinnings of image creation in Mac OS X over the last few upgrades, by transferring various tasks from the CPU to the graphics card, and streamlining the entire operation, utilising the power and memory aboard the latest generation of graphics cards.

In Leopard, the original QuickDraw routines will have finally been removed entirely, and even more of the current tasks will be handled by the graphics card. At the heart of all this development are two technologies, Core Image and Open GL – as yet only Apple and a handful of third-party developers use Core Image. Major players may well be reluctant, due to it not being a cross-platform technology, but this could yet change.

Preview uses ColorSync, Core Image and Open GL, as do iPhoto and Aperture, and these all sit well with the likes of Photoshop.

Leopard Note

An added feature to Preview in Leopard is an Auto Alpha feature, which can be useful for the creation of masks around objects for use in Apple's Keynote or Pages programs. It is visualised as red, in a similar manner to Photoshop's Quick Mask.

It does need a fairly good contrast from the object to be effective, but when speed is essential and you need a cutout, it could prove useful, but it lacks the precision needed for high quality work for print production.

Quick Look in Leopard

An interesting addition to Finder in Leopard is QuickLook, which provides all the functionality of Preview without actually launching it. It is accessed speedily by selecting a file in a Finder window and hitting the Space bar, or via the contextual menu (Control+clicking a file or folder) or right-clicking, and choosing QuickLook from the subsequent menu.

In Flow View, the Space bar enlarges one step, from there you can enlarge to full-screen, a boon to photographers.

Spotlight – slideshow

Spotlight has an interesting feature to augment its searching – you can do your search in icon mode, then click the right-facing triangle at the top right of the images pane, this launches the Slideshow module. When it starts the controls appear, and after three seconds without cursor movement, these will disappear.

Using the controls, you can either page through, or run the slideshow automatically. There is also an Index Sheet mode that means you can jump around the search results, and either simply view the selected image, or run the show from that point.

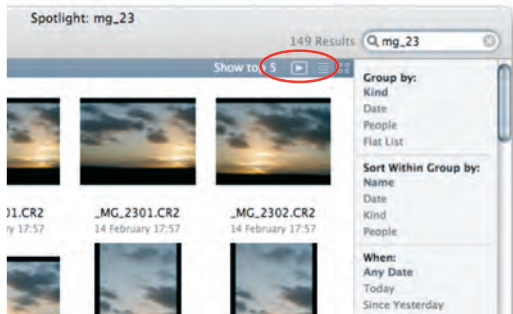


Fig. 7.28 Clicking the highlighted triangle opens the Slideshow feature of Spotlight.

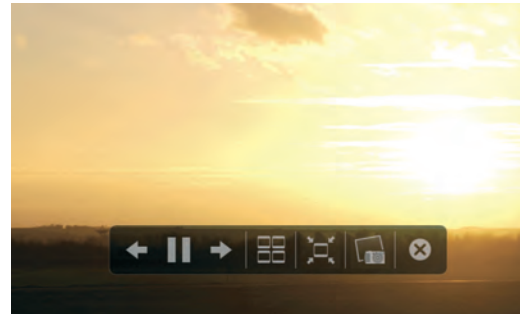


Fig. 7.29 The first image in the Search Results fills the screen, and the controls appear as shown above.



Fig. 7.30 As your cursor passes over the images, each highlights and displays its filename, as shown here. A single click enlarges the thumbnail to fit the screen, and after a few seconds, a higher resolution version appears in its place.

Output

Getting photographs from a digital camera, either by direct connection or via card, via a storage device, or by scanning from an analogue source, negative or transparency, is one third or a quarter of the job. Editing the images by viewing them and manipulating them is the middle bit, but the important part is getting them out, and off to a client. It may well be that this stage is a two part operation, first send a minimally culled selection to the client for initial reaction and their approval. After more whittling down, you work on these, to crop, size, color correct, enhance and tidy up, then you supply finished files either as hardcopy, as flattened files ready for a designer or printer or a combination thereof. You have numerous decisions to make in consultation with your client as to which route you take.

- Does the client want files on CD/DVD?
- Are they to be supplied such that they can be read on Windows and Mac computers?
- What file format is needed, TIFF, PSD, EPS, or PDF?
- Are they to be supplied as RGB or CMYK?
- What size are the files to be?
- Does the client need a proof?
- Does s/he want an AIM print?

Lastly, you'll need to back these up and file them in a systematic fashion for future retrieval.

Probably no two clients will have the same requirements: you may be the one who makes those decisions for them, based on how they plan to use the images. If the client is an experienced advertising agency, the specifications may be really tightly defined, which should make your job far easier.

Certainly, you do need to ask how they are to be used, and this is as much about Rights as about technicalities. It may well be that the image/s chosen may be needed for more than one purpose, and so there will need to be different versions.

Both parties need to be aware of the intended use – at the time you hand over the work.

Photographer's dream!

The client says 'I need these shots for a brochure that is six pages overall; I want a full bleed front cover at A4, a center spread bled A3, and none of the rest will exceed 6 inches or 15 cm over the longest dimension and the bleed on all the images need be no more than 4 mm. – Oh, and supply me Adobe RGB files on CD with hard copy!'

You really do know what is needed, and should have little difficulty supplying files that meet their requirements – rarely are jobs quite so cut and dried!

Even if they did not ask for hard copy, I would allow for them, and provide them.

Some guidelines:

- Never assume you know the use for your images.
- Ask – knowing the client has not decided, is still far better than making a wrong assumption.
- Try to anticipate how an image might also be used differently, at a later date.
- Discuss Rights, charges and other issues upfront.
- Don't be afraid to offer suggestions for other shots, other uses.
- Make sure you know what size image is required.
- If asked for CMYK, ask for a profile – this will often give you a clue as to whether they really understand what is needed.
- If they won't pay for a proof, make sure you at least provide an AIM print from a profiled printer.
- Keep copies, and a record of what you have sent.
- Backup your material, both editable and final copies.

Size of a folder you are building?

Command+Option click+I on a new folder, and this Info panel will update as you fill the folder, in this way you get an idea of the size prior to burning to your chosen media.

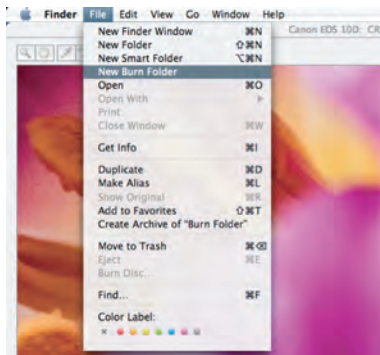


Fig. 7.32 You create the Burn Folder from Finder.

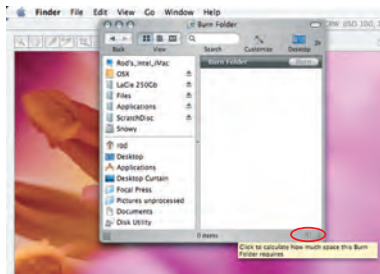


Fig. 7.33 Click the button at the bottom of the window to calculate the size needed.

The choice of format for supplying a CD or DVD will obviously depend on the number and size of files you have to hand over. If they will fit comfortably in 650 MB, then choose CD.

As discussed earlier this can be burnt to a CD using the Mac OS X Burn Folder. You create the Burn Folder say, on your Desktop, then put your files inside till you reach the limit you set. Allow room to add a ReadMe file that explains your terms and conditions of supply, and tells the client how you have organised the files on the CD, whether the files are in RGB or CMYK, and what profiles have been applied.

Only leave unclosed sessions if you know the client might need any extra unused space and they have Macs – most Windows users face problems with multi sessions.

If you know your client can handle DVDs and that you would otherwise have to write more than three or four CDs, I would suggest you go for that route, as it will save you valuable time. A single layer DVD will take about 4.3 GB of files. Double layer DVDs will store about 8 GB, but do remember to ask clients whether they are capable of reading the media on which you supply your images.



Fig. 7.31 You can create a branding image for your CD or DVD by using a picture rather than a white background to the folder, and also make a handy and attractive CD cover in place of the nondescript white sleeve. Using some Inkjet printers, you can add branding to the CD/DVD itself, if you get the white coated versions. There is also a very slow method whereby you can with certain recorders using 'DiskScribe' actually burn an image into the surface of the media.

Output to your printer

Most desktop printers will connect to your Mac using either USB or USB 2.0, although many of the drivers bundled with Mac OS X are what are known as CUPS or GIMP drivers, you would be better advised to search out up-to-date manufacturer's drivers. When setting up many Epson printers, locate the drivers using 'Epson USB', rather than plain 'USB', as those would likely be the GIMP ones, and so would lose you some measure of functionality.

The Setting up is shown fairly fully on page 133 of Chapter 2.

You can also work remotely to your printer using an Airport Express Base Station, which may be more convenient by avoiding untidy and lengthy cabling. You do this by first connecting your USB printer to the USB output from Airport Express and powering it up. Next you create a Network using Airport Setup Assistant, which you will find in Applications/Utilities. Follow the Instructions to setup the Airport Express to a Printer (shown in diagram form on page 123 in Chapter 2).

There is an Airport Assistant program to help you set this up; just follow the simple instructions, by answering the bulleted questions. There used to be a separate Airport Express Setup Assistant, but this has been rolled into a single piece of software covering all the base stations, and there have been numerous firmware updates.

If you have the Airport Extreme 802.11n, this has Airport Utility, which is even more comprehensive, and allows you to connect a USB 2.0 hard disk as Network Attached Storage (NAS) using what Apple calls AirDisk. This allows all Network users access to the same disk drive wirelessly.

Always check that system software is the most up-to-date version, as almost invariably each update has simplified the steps you need to take. I shall show screenshots on the following pages.

On the right, I run through the Reset procedure before the setting up procedure, which is not covered in the instructions for the Airport Express. Simply pressing the reset button and starting again – can often defy all normal procedures to get it working.

Airport Express Base Station

You will need either a spent ballpoint pen, or a straightened paperclip (you know the one that you use to relieve all your stress, by straightening and rebending!)

Plug in, but do not yet power up the Airport Express, this next procedure is more easily done if you use the Express with a lead, as opposed to plugging the unit directly into the wall socket.

Click and hold in the reset button, and turn the mains on, keep holding as the light goes from amber, momentarily to green, then back to a steady amber, keep holding for about a further fifteen seconds till the unit shows green pulsing about four or five times before settling to pulsing amber, you are now in a position to start.



Fig. 7.34 The Reset button on the Airport Express Base Station often requires more than simply a press, and when used with the direct UK three-pin plug is difficult to access as the reset button lies on the underside of the unit.

Output to printer via Airport Express

Airport Express is Apple's entry-level Base Station, and with the later firmware and software will provide you with access to both your USB printer remotely, and AirTunes, so your music can mask the sound of the printer and keep the mood in the studio!

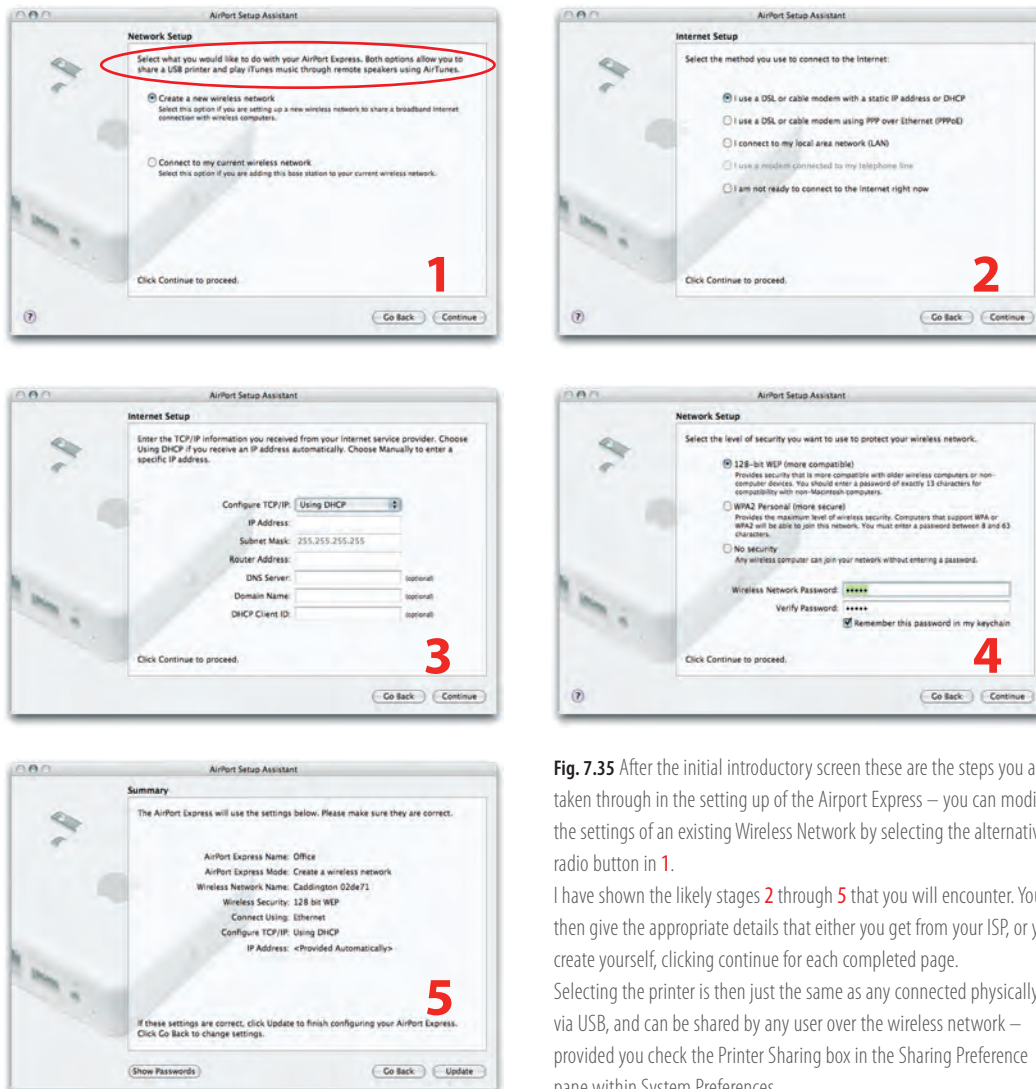


Fig. 7.35 After the initial introductory screen these are the steps you are taken through in the setting up of the Airport Express – you can modify the settings of an existing Wireless Network by selecting the alternative radio button in 1.

I have shown the likely stages 2 through 5 that you will encounter. You then give the appropriate details that either you get from your ISP, or you create yourself, clicking continue for each completed page. Selecting the printer is then just the same as any connected physically via USB, and can be shared by any user over the wireless network – provided you check the Printer Sharing box in the Sharing Preference pane within System Preferences.

Outputting image files

If you take a series of images for a client, and you have ascertained what they wish to do with them, they will now be fully color-managed files in either RGB or CMYK, or even black and white, they will be flattened files more than likely, but what file format should they be? TIFF or EPS, or PDF, or JPEG, they could even be DCS 2.0, but what governs the decision? Sometimes the client is not the printer, and may not know themselves, so what are the differences?

TIFF is probably the best, and now possibly the most common. In Quark Xpress, this will generally look best, but many printers prefer EPS for speed. Many of you will have seen your on-screen results at a printers or Repro house looking very pixelated on their screens, well, these are likely EPS files. However, do not fret, they should still print fine, but the first time you see them in this form, your heart will sink! A TIFF in a similar page layout will not look so ghastly, but will probably slow the planner or designer down, hence their choice. Historically, it was only EPS files that allowed for clipping paths to cut out images from the background, and some people have simply not moved with the times. Also, if your images are not for cutout, for other similar reasons where technicians have not updated their software, it is an idea to remove all traces of any paths you may have used in the creation of your finished images*.

In the latest versions of Quark Xpress and InDesign, clipping paths can be understood if using PSD, TIFF and EPS files, but I do not advocate the sending of layered PSD files (saved with Maximum Compatibility checked) or layered TIFF files, or TIFFs saved with ZIP compression, but stick with what the Industry has generally accepted – flattened TIFF and EPS files.

The essential point to remember is not to assume what kind of file is needed; liaise with your client to glean as much detail as possible as to what they are expecting you to supply.

PDF and PDF-X output for files

You might now also be asked to supply files in PDF (the Native format for Acrobat).

PDF and PDF-X are two forms of Adobe's Portable Document Format, and if your images have text embedded within the Photoshop document, this is a good way to ensure that the fonts are treated exactly as you intended, there are distinct advantages of PDF, because you can lock the file from being printed or even viewed until a password is entered, which can be useful.

The variant, PDF-X is where the end process is known, and the client or their printer has supplied a preset Job Definition File (JDF), so that your file is known to exactly comply with their requirements. One other feature of PDF is that images can be supplied compressed.

You can also consider sending files as JPEGs if you can afford to sacrifice detail for the sake of speed of transmission via email or FTP (File Transfer Protocol), but use Save As... not Save for Web to create the file, and preserve your color profile.

*Note

The reason for the removal of paths, basically those that are not a Clipping Path, is that it may mask out most of your image in the page layout program. These paths are likely to have been used to create layers or layer masks, and they may now isolate just that area of your final image.

Terminal

In order to use the Terminal for file transfer using FTP, I recommend you open Utilities/Terminal, and at the prompt, type 'Man' – short for manual – this will display all the commands it understands, and the 'arguments', the items of information it needs to carry out each task. You use a space between each argument.

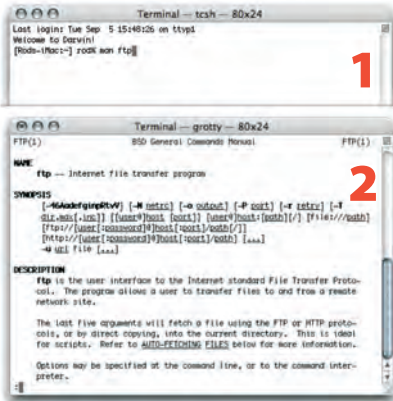


Fig. 7.36 If you feel the urge to use the Terminal to carry out ftp, then use the Man command to learn more about how to go about it. 1 – shows the line you type, then press <Return> to see the result 2.

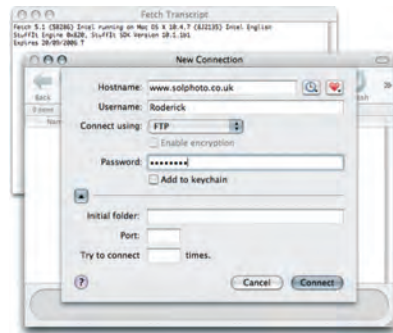


Fig. 7.37 Fetch Softworks, one of the earliest Mac FTP programs is now Universal, and its interface is not too dissimilar to RBrowser, which is free for just FTP use.

Putting images on the Internet

If you want to display your images on the Web in the form of a Gallery, the first stages can be accomplished simply in various versions of Photoshop, Bridge and Lightroom. The engine in Bridge and Photoshop is the same, but it is easier from Bridge.

Once the site has been created all the files can then be uploaded to your webspace, using File Transfer Protocol (FTP). I suggest that unless you are really techie, you do this using software such as Cyberduck, Fetch, RBrowser, Anarchie or Transmit, the last being probably the most popular currently.

HTTP is the protocol for serving web pages. Web browsers use this protocol to download pages from websites, but for getting files and moving them from one server to another, FTP is the way; and with appropriate software, can also be more secure by offering SFTP. Some browsers do also allow FTP downloads.

Using Connect to Server via the Go menu in Finder (**Command+K**), you can access an external IP address with authentication provided by user name and password. If the server is on your machine using the built-in Apache Web Server that comes with Mac OS X, you will be using the Users and passwords you have allocated with associated Home folders. If the webspace is located on an ISP's server, the authentication will have to be arranged with your ISP.

Lightroom and Photoshop can create Web Photo Galleries using templates (editable as well) for ad hoc sites for clients to view the results of shoots, and some can provide you with feedback.

A stage further

If you need a more sophisticated presence than the Web Photo Gallery, then this can be achieved with site building software such as Dreamweaver, GoLive, or Softpress Freeway.

These are primarily desktop publishing programs for the Web, and as such give you more total control over not only the creation of your site, but manage the editing and updating in a formalised way. If the prepackaged look is not to your taste, BBEdit and TextWrangler allow you to get 'down and dirty' with coding and editing the HTML, PHP, Perl and JavaScript – none of which I am qualified to help you with!

Apache Web Server

Apache Web Server is supplied with Mac OS X, and when this is set up on a Mac that is permanently online, you can serve your own web pages which would mean you have total control, but you may well find that using an external ISP is less trouble.

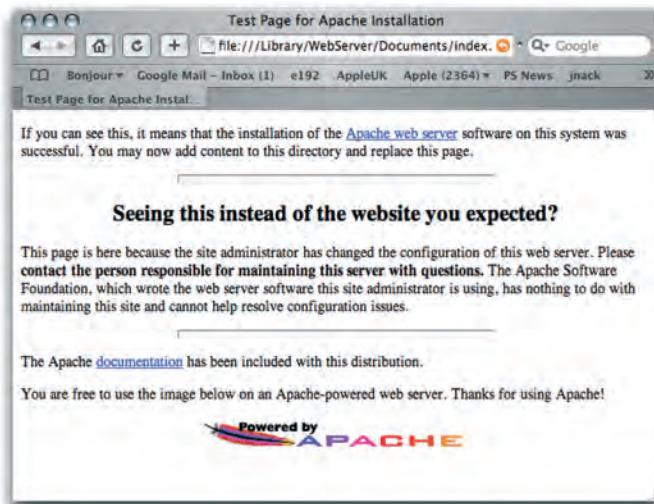


Fig. 7.38 If you have not created your own webspace for Apache to serve, you are likely to find yourself seeing this holding page.

Apache

It is not immediately obvious where Apache resides, or how to use it, but the easiest way to start it is to go to System Preferences, choose Sharing and tick Personal Web Sharing.

At this point a default screen may become available to web browsers explaining that Apache has not yet been setup.

Probably the best place to start to learn what you do next is to look for a file 'FAQ.html' located generally in:

Library/Documentation/Services/apache/misc/FAQ.html

In there you will find the information to get Apache up and running for you.

.Mac

Another option is to consider using the Apple offering – .Mac, which is scalable, and can also be used as external backup for other personal items such as your email, iCal and AddressBook and iDisk.

If you are in the habit of regularly sending largish files to clients, you may well have hit the limits imposed by using email, either at your end or theirs. In which case, you may want to consider asking your ISP for FTP space and the use of an FTP Server, so that you upload files to the server, then simply email your client to say they can be collected, thus removing the pressure of direct delivery to them. This may also avoid problems involved with corporate Firewalls.

iWeb

Another way to get images into your own web pages is actually bundled with Mac OS X. Known as iWeb, this program is designed to work alongside iPhoto and utilise the space that comes with .Mac.

It provides a series of themed design templates for which you supply the images and text. To help guide you Apple provide a link to their site and a series of tutorials. It is not exclusively for display by .Mac, but the links are all there for retrieval of images from iPhoto and uploading to a .Mac account webspace, with the mechanisms for updating the site.

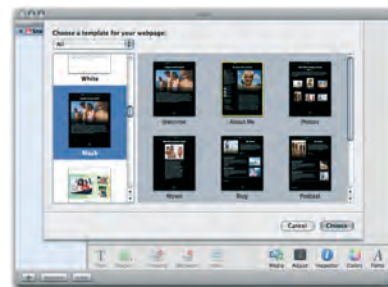


Fig. 7.39 Selecting a basic theme from those in the left-hand column of the sheet shows a subseries.

Handing over images

As a Mac-using photographer, you will have become reasonably familiar with a world that considers that everything you produce is likely to present a problem, whereas the reality is very different. Handing off files to clients is a case in point, so make life easier for yourself – add extensions to filenames. If you are doubtful about the knowledge of the recipient, ask them for precise details over filenaming. If you have color profiles, check whether the client understands the need for them. Always try to make sure clients see hardcopy, ask them to come back to you if they meet a problem.

Essentially, develop a sound working relationship

Make sure you are supplying work that fits with the use they need to make of your images. 'Don't know at this stage' is not a good enough answer. If the job is to be printed, at what size? On what paper stock? Is it coated? Will it be sheetfed or web offset? Do I supply RGB or CMYK? Get all these answers beforehand, or take precautions to cover possible eventualities.

For most photographers images will come as either a series of individual pictures or a collection, they will rarely come as text and pictures; they might occasionally come as cutouts, so file formats are likely to be TIFF, EPS, PSD, PDF, or JPEG probably in that order of likelihood. I generally prefer to supply TIFF, but when dealing remotely, I do often resort to JPEGs (most often at level 12). I do supply a lot of cutouts, and these will invariably be TIFFs unless asked specifically for EPS. Despite general reservations about layered files, I do sometimes supply in this form when I know that certain specialist work is going to be carried out later, but these occasions are rare. If I ever have doubts regarding how images are being used, I write concise ReadMe files in TextEdit. To protect myself, I have even used the IPTC file info to embed a small message relating to supplying a separate ReadMe!

Paranoid? Who, me?

Using the Web for client approval/selection

With the advent of Aperture and Lightroom, it has become possible to really make use of the Web to put up Photo Galleries of a shoot, often in a secure fashion to your own web page where clients have this area to view the images after entering a password that you supply.

They can run through your images and make decisions over selection, cropping and size, and send their instructions via email.

This method adds not only to your efficiency, it puts the onus on the client to get back to you, and adds to your prestige.

Handing over image files – PDF

PDF offers something that other formats do not – Security.

First, it can be password-protected against being opened by just anyone, secondly, the end user can view it in Adobe Reader. An example might be that your client is handing the files to a printer or designer, but he/she only has a Windows PC and without Photoshop, but does have Adobe Reader.

I have had to supply DCS 2.0 files where spot colors and bump maps have been a part of what I was required to produce, but it is rare. Very frequently, I have supplied Adobe RGB, with and without accompanying CMYK files.

One of the joys of working as I do, is that I meet very different photographers and working practices. There seem to be no rules that are sacrosanct. Most photographers will say: 'Only ever supply flat files'. It is often said out of fear, sometimes because the files that are then used by the client may not be as you supplied them, but were they ever? I worked in a London professional color lab, and I can tell you, we often made duplicates for reproduction, some to match, some to improve.

I agree, you rarely, if ever, handed over negatives, but working for some government agencies and on prototype cars and other secret products, it was common practice, so do you never hand over RAW files? Never hand over layered TIFFs? These situations are judged individually. When I work with studios I frequently hand over all my editable files as well as flattened versions, and some of those studios hand on layered files for those last minute client changes.

But invariably, my editable files are simply as an adjunct to the flattened TIFFs which may often have no channels or paths unless Clipping Paths are specified for cutouts. A couple of points here. Clipping paths can be used on subjects that are cutouts plus soft shadows, but pull the path just outside the last remnant of the shadow, this avoids nasty edges (printer willing!). The second is if you have several such images, first fully desaturate the shadows (or reflections sometimes) so then they are grayscale within RGB* or CMYK – it aids consistency.

Note

*I feel this comment needs expanding.

If you are working in RGB, make the shadows neutral here, because provided the correct conversion takes place, the resultant values in CMYK will be correct for neutrality, but the values for CMYK may not be equal, they will likely read something like this:

	C	M	Y	K
1	7	5	5	0
2	10	7	8	3
3	46	39	38	38
4	58	50	50	52

Some printers isolate the black, and only print this for the shadows, but such shadows look very mechanical and lack the richness of a full-color black.