Contents (version 1.7)

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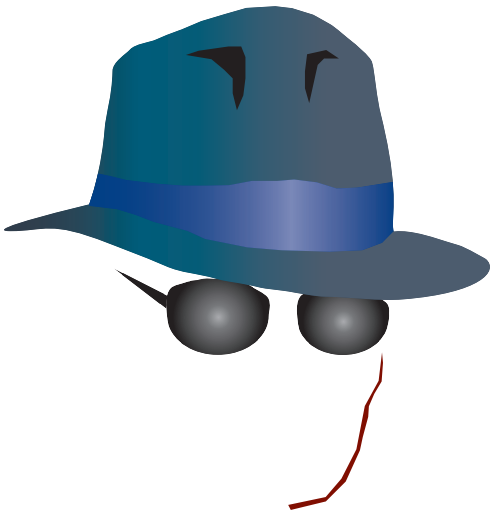

Credits

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The software includes portions from the Independent JPEG Group, and the ZLib compression library.

Quite Revealing

- How do I run Quite Revealing?
- What can I do with Quite Revealing?
- What can't I do with Quite Revealing?
- How do I get support?
- Can I automate Quite Revealing?
- What's new in Quite Revealing 1.6?
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How do I run Quite Revealing?

Quite Revealing is a plug-in for Acrobat 4.0, 5.0, 6.0 or 7.0. This means that before you can run it, you need to put it into the Acrobat plug-ins folder. The location of the folder depends on where you installed Acrobat, but on the Macintosh it is called **Plug ins** and on Windows it is called **plug_ins** (with an underscore).

You need to be running Windows 95 or above (including Windows 98 and Me) or Windows NT 4.0 or above (including Windows 2000 and XP); or MacOS 9.1 or above on a Power Macintosh (including Mac OS X). Windows 3.1, 68K Macintosh, and Unix systems are not supported. Acrobat is required; the free Acrobat Reader will not work. Acrobat 3.0 will not work.

You should check the system requirements for Adobe's Acrobat software. For instance, Acrobat 6.0 Professional will not run in Windows 95, 98, or Me.

This PDF file can be used for on-line help in Quite Revealing. When you click the **?** button on a dialog, this manual should open to the appropriate page. The file must be installed in the same folder as the plug-in itself.

On the Macintosh, there are three plug-in files, which should be called **Quite Revealing**, **Quite Revealing.acroplugin** and **Quite Revealing OSX** and this file should be called **Quite Revealing Guide.** You can install all three plug-in files on any Macintosh system; Acrobat will load only the correct one. To run native in Mac OS X, you need Acrobat 5.0.5 or above.

With Acrobat 6.0 and above on the Macintosh only, the plug-ins folder is now invisible. Quite Revealing has an installer which can find it. To add plug-ins manually, locate the Acrobat 6.0/7.0 application icon in the Finder (not a folder, and not a shortcut.) Use Command+I to get the information pane. An entry “Plug-ins” appears, and you can use it to add, remove or disable plug-ins. Add all three of the files above, even though the guide is not actually a plug-in.

On Windows, the plug-in should be called **qrev32.api**, and this file should be called **qrev32.pdf**.

Once the plug-in is installed, and Acrobat is restarted, you should see a new menu item appear: **Plug-ins > Quite Revealing**. That gives access to all of the features of Quite Revealing in one place.

If you do not have a license, click the **Free Trial** button. This will give a 30 day free trial starting with the current date.

When you purchase a license you will receive a serial number and private code. Click the **Licensing** button, type your details and the two numbers. The serial number you receive is going to look like this: **1234-5678-1234-1234**, with 16 digits in all. The private code is a 4 digit number like **9876**. If you don’t seem to have both, check to see if they have been written together like this:
1234-5678-1234-1234 9876.

The **Licensing** button is on the **About** screen. This screen is shown when you first run Quite Revealing, and can be pulled up at any time by clicking the **??** (two question marks) button on a Quite Revealing screen. This will show the serial number, but never the private code, so you should keep both in a safe place.

What can I do with Quite Revealing?

The functions of Quite Revealing can be described quickly:

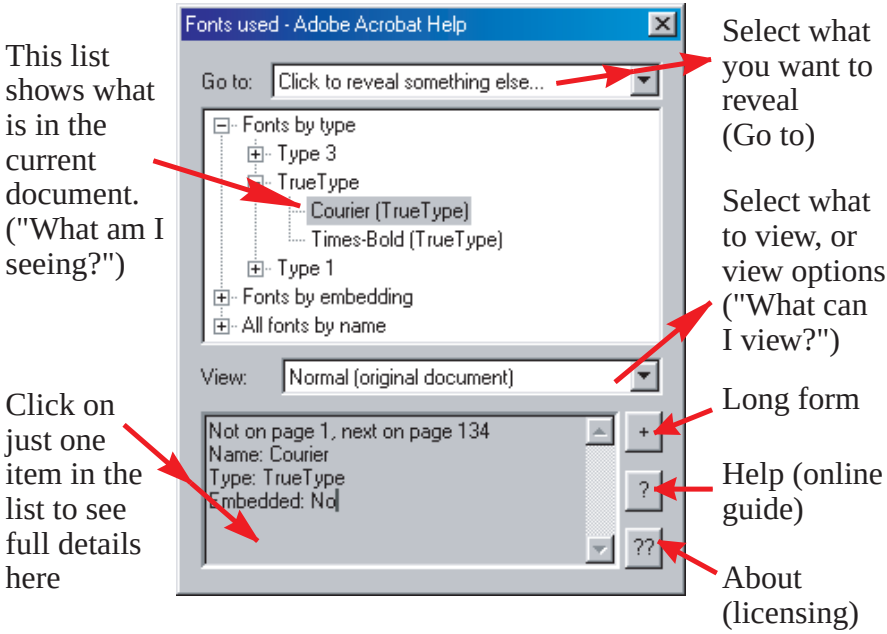
1. To show you information in various categories about the things used in a PDF file. “Things” would be things mainly of interest in a pre-press context, but also fonts which may be of more general interest.
2. To reveal where these things are used, by showing you a live, side-by-side view of the original PDF file and the items you selected. For

instance, you could show a view using only the Helvetica font, or a view using only the Cyan colour plate (in effect, a separation preview).

3. To do a number of actions that relate to these categories. For instance, you can rename spot colours, or apply transfer functions.

All of these are accessed from the Quite Revealing control panel, which should be self-explanatory. There is a short format, designed for compactness, and a long form with more information. Here is the short form.

Short form



Each of the functions is described in detail later in this guide:

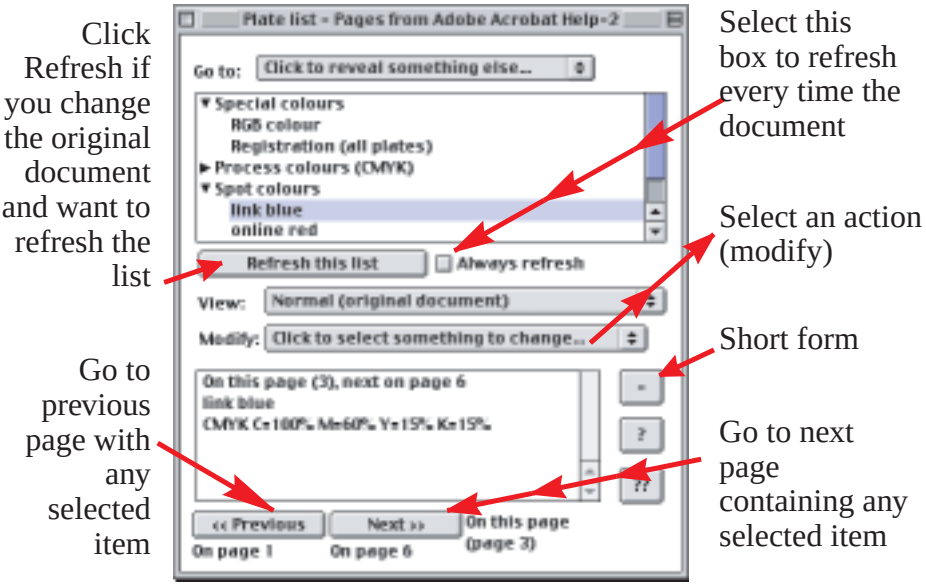
- Reveal plates / colours
- Reveal profiles / tagged colour
- Reveal fonts
- Reveal overprinting
- Reveal transparency
- Reveal image resolution
- Reveal transfer functions

- Reveal halftone screens

Each of these includes a section “What am I seeing?” which describes what information will appear in the list. Each section also includes “What can I view,” which describes what appears in the pull-down list for what to view. That list also always includes **Set viewing options (general)** in every case.

The long form includes all of the same features, and some new ones, including a place to select actions, and a convenient way to locate information that appears on only certain pages. Here is the long form.

Long form (click +)



Actions available are described under each function under “What actions are available”?

What can’t I do with Quite Revealing?

It’s important to understand the limitations of software. Some of the key things Quite Revealing can’t do:

- Save or print the views (this means Quite Revealing is only a previewer of separations, it cannot be used to make separations).
- Select individual items on pages to see their properties. The aim is to reveal everything on a page. You can zoom in while viewing to see just a single item.
- Show the location of invisible items (such as items off the page, behind another item, or a space character in a particular font).
- Convert RGB to CMYK *unless* you also install the Quite A Box Of Tricks product.
- Preview the effect of overprinting on more than one colour plate; only single plates can accurately show overprinting.
- Flatten transparency (preserving appearance).

How do I get support?

We want you to be able to use Quite Revealing to solve your problems. If you have a question that is not answered in these pages, or you think you have found any sort of bug, check on our web site *http://www.quite.com/* for the latest information. If that doesn't help, please contact your reseller or send an e-mail to **help@quite.com.**

All software has bugs, and although we've had the help of well over a thousand beta testers for Quite Revealing, there may still be some lurking. We need *your* help to tell us when you find a bug, so that they can be fixed as quickly as possible. Please don't assume that someone else has already found it and told us about it. Thank you!

Can I automate Quite Revealing?

It is not unusual to have a large collection of files, all of which need the same treatment, such as removing overprint or applying transfer functions.

If you have Acrobat 5.0 or Acrobat Professional 6.0 or 7.0 (not Acrobat Standard 6.0 or 7.0), you can use the "batch sequences" feature that is built in to Acrobat. Quite Revealing provides access to a limited number of actions to Acrobat for use in batch sequences.

We would like to caution you that we only consider Acrobat suitable for light duty automation. By “light duty” we mean perhaps a few dozen files at a time, with someone checking occasionally to make sure that things are going correctly.

We do not support “heavy duty” automation, for instance hundreds of files left to run overnight. There is a high chance that Acrobat will fail during such a task; it was written as an interactive tool.

This information is an outline, because automation is a standard Acrobat 5.0 feature, and should be covered in the Acrobat Guide in more detail.

Actions from Quite Revealing can be combined with other actions. You can use them to process single files, all the files in a folder, or all open files (without saving).

Here is an example, which selects the action “Apply transfer functions”, and applies this to every file in a folder. Remember that you need Acrobat 5.0 to follow this example.

1. Use **File > Batch Processing > Edit Batch Sequences** (Acrobat 5.0) or **Advanced > Batch Processing** (Acrobat Professional 6.0 or 7.0).
2. Click **New Sequence** and type a name for the sequence, say **My Apply transfer**.
3. The Batch Edit Sequence dialog opens. Click **Select commands**.
4. Scroll down in the list of available commands in the left hand panel to find **Quite Revealing**. Click on **Reveal transfer functions** then the **Add** button. A **Reveal transfer functions** action should appear in the right hand panel.
5. Double click on **Reveal transfer functions** in the right panel.
6. In the pull-down list, select **Apply all transfer functions** and click **OK**.
7. Click **OK** again to return to the Batch Edit Sequence dialog. Check that **Run commands on** says **Ask when sequence is run**. Also set **Ask when sequence is run** for **Select output location**.
8. Click **OK**. The sequence is now saved.

Now you can run the selection at any time, by selecting **File > Batch Processing > Apply transfer.** You can select one or more files to process, then you will be asked for an output directory.

This is just one of many ways to set up batch sequences.

You may find that you want to record the messages displayed on screen during batch processing. You can do this by asking Acrobat to keep a log file. This is controlled by choosing **Edit > Preferences > General**, then selecting **Batch processing**. On this dialog, switch on **Save warnings and errors in log file**. Click **Choose location** to select a folder for the log files. All the messages from Quite Revealing are considered to be warnings, so everything is logged.

Only the following actions are currently available:

Reveal profiles / tagged colour.

Untag - remove all profiles

Reveal overprinting

Remove all overprint
Set Illustrator Overprint mode OFF
Set Illustrator Overprint mode ON
Overprint all black elements

Reveal transparency

Remove all transparency effects

Reveal transfer functions

Apply all transfer functions
Remove all transfer functions

Reveal halftone screens

Remove all halftone information

What's new in Quite Revealing 1.6?

There are no new functions in Quite Revealing 1.6. The plug-in has simply been revised to work with Acrobat 6.0. This new version was released in July, 2003.

What's new in Quite Revealing 1.7?

There are no new functions in Quite Revealing 1.7. The plug-in has simply been revised to work with Acrobat 7.0. This new version was released in January, 2005.

Reveal plates / colours

- Why Reveal Plates / Colours?
- What am I seeing?
- What can I view?
- Why do grey bars appear for fonts that should not appear on the plate?
- What actions are available?

Why Reveal Plates / Colours?

This function is designed to show you critical information about the colours in your PDF file, especially how colours will be separated. By using View Selected you can choose to view colour separations. You have several controls over how separations are viewed, which are described below - What can I view?; How do I use Viewing Options (Overprint Control)

What am I seeing?

The reveal plates / colours list will show some of the following types of entry. Only the ones that actually appear in the file will be shown.

- **RGB colour** - this information is made using RGB colours. It will be fine for screen display, but some workflows will not be able to make colour separations. We do not attempt to preview separations for RGB colours, as we have no way to know how they will come out. But you can select **RGB colour** then view the result, to see all (and only) RGB colour.
- **Lab colour** - this is similar to RGB colour, in that it is fine for screen, but may not separate correctly.
- **Transparency - unpredictable** - this uses the transparency features of Acrobat 5.0, in such a way that the result has unpredictable separation. This includes using the “blend modes” of Hue, Saturation, Color or Luminosity. It also includes the case where the “mixing colour” for transparency is not CMYK. We cannot attempt to preview separations. Note that we *can* show separations for more simple

blending, so this is *not* a way to check if a file contains transparency. For that, see Reveal transparency.

- **CMYK with profile** - this is CMYK information tagged with an ICC profile. The importance of this is that tagged CMYK is expected to have its colours all converted in the printer/imagesetter. So, the particular values of cyan, magenta, yellow and black can be expected to change, including the possibility of pure black gaining CMY colours. Because of this, we cannot attempt to preview separations. If you do not want this effect, you can use the actions under Reveal Profiles to remove the tagging, and make the CMYK revert to normal.
- **Cyan**, **Magenta**, **Yellow**, **Black -** these are the normal process colours in colour printing. You can preview the individual separations. Marks made using CMYK will show up, and also any use of spot plates called Cyan, Magenta, Yellow, Black since the rule is that plates by these names will mark the process plates.
- **Registration (all plates)** - a special name which should mark all plates, typically used for registration colour. Note that when you view items the registration item is put on all CMYK and process plates by default, but you can change this behaviour with **Set Viewing Options (Plates/Colours)**.
- **None (separation suppressed)** - a special name which should not appear at all - it should be invisible. This is best avoided!
- All other names are spot colour plate names, which can be previewed individually.

The names are grouped under three headings, Special, Process colours and spot colours. You can select all in a group by clicking on the heading.

What can I view?

You can use **View Selected** in the plate / colours view. Select the items in the list you want to view. If you do not select anything, the view is blank.

This can be used to inspect individual process or spot colour plates. **Important:** overprinting will be previewed according to your options. If

you do not set the options correctly, overprinting may not be previewed correctly - How do I use Viewing Options (Overprint Control).

You can also select the other special categories like **RGB colour** or **Lab colour** in order to see where these, possibly unwelcome, colours are used.

Various options are available to control the preview of separations. After **View:** you can select **Set Viewing Options (Plates/Colours)**. Options available include the following.

- **View single CMYK or spot plates in greyscale**. This option is initially **off**. Normally each view is shown in its natural colour (for instance, cyan for the cyan plate). For light coloured spot plates, this can make things hard to see. If this option is **on**, then single CMYK or spot plates are shown instead in shades of grey. (The grey is not the same brightness as the original colour; 100% of the original spot or process colour will be shown as black.) This option has no effect if you select more than one plate, or if viewing other kinds of item like **RGB colour**.
- **View images in low resolution**. This option is initially **on**. Many files for press use have high resolution images which are slow to preview plates. For the purposes of checking separations, the full high resolution image is rarely necessary. If this option is **on**, images are reduced to 72 dpi. Note that this affects only the view of plates / colours; the original document still displays with high resolution.
- **Show registration on every CMYK or spot plate, as it should separate**. This option is initially **on**. The special colour called All or Registration is intended to show on every separation produced. With this option **on**, that is how CMYK and spot plates are shown. Turn this option **off** only if you want to separately preview your registration colour. Note that even with this option **on**, you can click on the item for Registration in the colour list to view *only* registration colours.

Why do grey bars appear for fonts that should not appear on the plate?

Sometimes you will see grey bars on a plate view, which do not seem to belong there. They will correspond to text, that should appear on different plates. If you zoom in, the plate grey bars will vanish.

This is caused by *greeking*, a technique used by Acrobat to speed up the display of very small text. Instead of the text itself, a grey block is shown; the blocks run together to make bars.

When you view a plate, text not on the page is still there, but in white. This is essential, since this is how other plates can knock out text. Unfortunately, when it is greeking, Acrobat will show a grey bar *even for* white text.

But fortunately, greeking can be turned off. In Acrobat 5.0 this is under the **Display** tab of preferences. Modern computers are now so fast, that very little speed is lost by choosing to turn this option permanently **off**.

Quite Revealing will warn you if greeking is on, but this warning can be suppressed.

What actions are available?

After **Modify:** is a pull-down menu where you can select actions to perform on the file. (Tip: if you do not see **Modify:** click the button marked with a + sign). The following actions are available when using Reveal plates / colours.

- **Selected items to CMYK** - select one or more items and use this option. All spot plates will be converted to process plates (CMYK). This may invite you to “Fix plates” - see below. What exactly happens depends on the kind of item you select.
    - Spot plates - these are converted to CMYK using the value shown by Quite Revealing. **Important**: every spot colour has a colour equivalent shown in the PDF file, and this is used for conversion. Neither Acrobat, nor Quite Revealing, has any table giving special meanings to names, such as those from the Pantone® library.

- RGB and Lab - this cannot be converted to CMYK by Quite Revealing. However, it can be converted by its sister product **Quite A Box Of Tricks.** Provided Quite A Box Of Tricks 1.5d or above is also installed, you can convert RGB and Lab (only both together), directly from **Reveal plates / colours**.
- CMYK with profile - the profile is removed, converting to regular CMYK

In all other cases, Quite Revealing cannot convert. This includes transparency, registration, and items that are already CMYK,

- **All spot plates to CMYK** - converts all spot plates to CMYK, without affecting anything else (such as RGB). This may invite you to "Fix plates" - see below. This ignores which items are selected in the list.
- **Rename/recolour one plate** - select exactly one spot colour plate in the list. This may invite you to "Fix plates" - see below. You will be shown the plate's name, and its CMYK equivalent. You can change either or both of these values. Note that you cannot use this to combine plates - see below for that option. If you change the name only, the view on screen will not alter. If you change the CMYK colour values, this does not affect how the plate will separate, but it does affect the screen view, the printout when not making separations, and the result of converting this spot plate to process. You can also type the name Cyan, Magenta, Yellow or Black as the new name. This will change the plate so it marks on the CMYK plate of your choice. You will not be able to change it again.
- **Merge two plates** - select exactly two spot plates. You will be shown the name and CMYK value for both plates. This may invite you to "Fix plates" - see below. You simply pick the "winner". All colours made using the other plate are changed. This is a way of reducing unnecessary plates in a job, especially when slightly different names are used for the same task.
- **Fix all plates** - Quite Revealing likes to find all of the spot colours in a PDF file to be completely consistent and have CMYK colour values. This is not always the case, and where a plate needs fixing, you are invited to type in the CMYK value for it. A plate needs fixing

if it does not use CMYK for its alternative colour. Sometimes, Lab or RGB colour is found in a PDF for this alternative colour. Also, a PDF might contain the same spot colour name with two different CMYK values. This means that the on-screen display cannot be right (at least one of them must be previewed wrongly). It is up to you to pick the CMYK value that is best for the colour. If you intend only to make separations, it is not important to pick an exact colour.

- **All plates and RGB to CMYK** - This option only works if **Quite A Box Of Tricks 1.5d** or later is installed. It simply uses Quite A Box Of Tricks to convert all spot colour, RGB and Lab into CMYK. This can be done anyway from within Quite A Box Of Tricks, but may be a convenient place to do the conversion. Note that this also converts registration colours to CMYK.

Reveal profiles / tagged colour

- What are profiles / tagged colour?
- Why should I care about profiles / tagged colour?
- What am I seeing?
- What can I view?
- What actions are available?

What are profiles / tagged colour?

Colour changes between different people's systems. Even on two computer monitors next to one another, the colour of the same file may look different.

A PDF file can contain information about the colours in the file. This information gives information about the scanner used to scan images, or the monitor on which the colours were checked, or the printer for which they were intended.

This information can be used to adjust the display or printing of colour, to more closely *match* the original. This matching is the essence of colour management, but it is only possible if correct information is known, not only about the original intention but about the equipment you are using now. To get accurate colour on screen, you have to accurately describe your current screen - a process known as *profiling*.

Profiling creates *profiles* which are a description of the way colour will look on a particular device (such as monitor or printer). These profiles are files that can be embedded in a PDF, and Quite Revealing can report on them. The action of putting a profile in a PDF is called *tagging* because it does not actually change the colours, but only tag the colours with information to help them display more accurately.

Why should I care about profiles / tagged colour?

Profiles are important because they affect how colours are displayed and printing. Many people start out with the view that a particular RGB colour is somehow "absolute", for instance that 100% red + 100% green is not only blue but it is the *same* blue for everyone. This is not the case!

Similarly, the results of printing a CMYK colour depend on the printing technology, the ink, and even the paper used.

If you work on a calibrated system (one where the colour characteristics of your monitor and/or printer are known), it can be useful to tag the PDF file with profiles to match your working environment. This makes accurate colour more likely in other environments. However, it cannot guarantee anything! This is because it can only be accurate if the *other* user has a calibrated system. In the general case, outside the publishing area, only a tiny fraction of systems are calibrated.

For some people it is very important *not* to have profiles. A particular case is CMYK colours. Commonly people will design with a specific mix of CMYK colours. For example, they may design with a colour in mind called “warm red”, knowing that they require 100% magenta and 80% yellow on their printer or press. If you have CMYK profiles, you are asking the printer to change colours to match the profile.

Even if the profile you use exactly matches your printer, some conversion can take place. Although the result *should* look the same, the conversion may lose information like overprinting. So, for many people, removing CMYK profiles is important.

Acrobat Distiller can be used to set profiles for files; also profiles may come from the applications used to create the pages, and may come separately for different graphics. **Reveal profiles / tagged colour** can be used to check the usage is consistent.

What am I seeing?

You may see the following entries in the profiles / tagged colour list. You will see only the ones that are used in the file. This list is alphabetical.

CMYK (untagged) - this is the normal CMYK which is what is wanted in most pre-press workflows.

CMYK with profile <name> - this is CMYK tagged with an output profile. This affects on screen display. **Caution**: CMYK profiles have an effect which may be unwelcome in many workflows. It may causes colour to be converted in the printer or imagesetter, so the original CMYK numbers can be completely changed, including adding process

colours to pure black. **Note**: the profile name cannot always be shown. Quite Revealing will show it if it is available, but sometimes it is lost in the process of making the PDF, replaced with generic names like **PostScript CSA Profile**.

Damaged ICC profile - the profile in this file is damaged; Acrobat ignores it with no error message. This is seen quite often, because Distiller 4.0 would always embed broken profiles!

Greyscale uncalibrated - normal greyscale.

Greyscale with profile <name> - this greyscale includes an embedded profile which allows it to be adjusted for display on screen. It might also be adjusted on printing.

Greyscale untagged (no profile) - this greyscale includes calibration information (gamma and white space). Although this is not in the form of a profile, it otherwise behaves exactly like greyscale with profile.

Lab (always calibrated) - Lab colour in effect has a built in profile, so it is similar to RGB with profile.

RGB (untagged) - this is normal RGB, which may look different on each monitor.

RGB with profile <name> - this RGB colour has a profile attached. It might affect screen and printing colours, and can in theory lead to better colour matching. Quite A Box Of Tricks can use profiles in conversion to CMYK.

RGB calibrated (no profile) - this RGB includes information similar to a profile, but using an older system predating profiles. It otherwise behaves as if it has a profile. Quite Revealing will report in the detail field if this is equivalent to common profiles for SRGB, Apple RGB, Adobe RGB, or ColorMatch RGB.

Spot colour - spot colours do not use profiles, so they are shown separately. Note that the process plates Cyan, Magenta, Yellow and Black can be named as spot plates; in this case all profiles are ignored too.

What can I view?

You can use **View Selected** in the profiles / calibrated colour view. Select the items in the list you want to view. If you do not select anything, the view is blank.

This will let you identify which parts of the file might be a problem.

What actions are available?

After **Modify:** is a pull-down menu where you can select actions to perform on the file. (Tip: if you do not see **Modify:** click the button marked with a + sign). The following actions are available when using Reveal profiles / tagged colour.

- **Tag - set RGB profile**. This allows you to set an RGB profile, which will affect how RGB items appear on screen, and how they are converted for printing. This does not affect the display of CMYK or greyscale items, nor Lab colour.

  You will be shown a list of all the RGB profiles in your system profile folder (the location of this folder varies with the release of operating system you are using). If you want to use a profile in a different location, click the **Browse** button.

  You can choose to tag everything in the file, or only images, text or line art.

  There is an option **Do not tag data already tagged - leave existing profiles**. If this option is **on**, and you have existing profiles, they will be left alone. However, any damaged ICC profiles will be replaced. If this option is **off**, the profile you select is applied to all RGB, overriding existing profiles.
- **Tag - set CMYK profile**. This allows you to set a CMYK profile, which will affect how CMYK items appear on screen. It may affect how they print, though if printing to a PostScript printer it may require a PostScript 3 printer for the tag to take effect. Options are the same as for **Tag - set RGB profile**.
- **Tag - set greyscale profile**. This allows you to set a greyscale profile, which will affect how greyscale items appear on screen. Bear in mind

that an item which *looks* greyscale may actually be made using RGB or CMYK colour - use the viewer to decide. Options are the same as **for Tag - set RGB profile**. Note, though, that your system may not contain any greyscale profiles unless you add them.

- **Untag - remove all tagging**. This will remove all profiles and colour tagging from the current document, except for Lab colour which is always tagged. All RGB, CMYK and greyscale colours will be shown as untagged. Colours now depend completely on the device used to view or display it.

  While this may seem to produce less accurate results, removing tags can be important, especially if working with CMYK colours for press.

  If you want to remove only CMYK profiles, leaving other profiles alone, this can be done from a different view; see Reveal plates / colours. In the plate list, you would select **CMYK with Profile** and then the action **Selected items to CMYK**.

  This action can be automated - see Can I automate Quite Revealing?

- **Extract embedded profile to file**. It may be useful to be able to match the profiles in several documents. You may also want to use the same profile with tools like Adobe Photoshop to get matched colours. If you do not have the original profile file, that can be difficult.

  This function allows you to take a profile embedded in a PDF and write it to a file. This file could be used to tag other PDFs, or placed in the system profile folder.

  Please note that profiles are copyright. When the profile is extracted, Quite Revealing tells you the copyright information from the file. There are often limitations on sharing, selling or giving away copyright items, so if in doubt, consult the copyright holder. The creator of the profile can also mark it as protected; in this case Quite Revealing will refuse to extract it.

Reveal fonts

- Why should I care about fonts?
- What am I seeing?
- What can I view?
- What are the font types?
- What do the font embedding entries mean?
- What actions are available?

Why should I care about fonts?

In most cases, display and printing of fonts is trouble free. However, there are some causes of problems. First among these is a failure to embed fonts. Some people also find problems with particular kinds of fonts in their workflow. However, there is a lot of mythology about bad fonts; if your printer/imagesetter and other software is up-to-date all font types should work. Before rejecting font types out of hand, do some tests.

What am I seeing?

The font list is unlike the lists shown in all of the other views of Quite Revealing, in that it shows the same information three times over. This is done to provide you with fast access to the information you need.

The fonts are organised into categories, and you can open and close the listings. Quite Revealing will remember which categories you have open and closed, so you can largely ignore the categories you are not interested in. Here are the top-level categories, each of which includes all of your fonts.

- **Fonts by type**. This opens to show each type of font used in the document. If you want to see which fonts are included in each type, you can open the listing for each one. Only the types actually used in the current document will appear in the list.
- **Fonts by embedding**. This opens to show you up to four different categories of embedding. You can choose to view the fonts in the categories you are interested in.

- **Fonts by name**. This is a single alphabetical list of fonts. Note that the same font may appear more than once, possibly many times. This happens if the document contains multiple copies of the same font. Each copy is potentially different e.g. some may be embedded and some not.

What can I view?

You can use view selected fonts in the Reveal fonts view. Select the items in the list you want to view. If you do not select anything, the view is blank. Tip: by clicking on the group names, such as **Embed: no** or **TrueType** you can easily view all the text in the fonts of these kinds.

There are two view options:

- **View selected fonts plus all other objects** - this shows everything normally *except* the fonts you do not select, which vanish. It is often useful to see text in its original context, surrounded by pictures etc.
- **View selected fonts only, all in black** - this shows only the selected text and nothing else. The colour of text is changed to black, because sometimes text can be invisible because it is white, yet still cause problems.

  Note that sometimes you still may not see text. This may happen if the text is used outside the visible page; if only a space character is used; or if the text has been created to be invisible, for instance by the Adobe Acrobat Capture product.

What are the font types?

The font listing can show fonts organised by font type. Also, for a font in any of the listings you can click to see more detail including the type. The types of font are as follows.

- **Type 1**, a PostScript font (also known as “ATM fonts”). When TrueType fonts are printed through PostScript, they often turn into PostScript fonts too. These fonts are generally the least trouble.
- **TrueType**, a TrueType font. TrueType fonts have a reputation for being problematic, but this is not always fair. For most people,

TrueType fonts will work just as well as PostScript fonts. The main cause of problems is outdated RIP (imagesetter) software.

- **Multiple master** (also known as **MMType1**), a multiple-master PostScript font - one that can take different shapes. In most cases these are trouble free.
- **Type 3**, a font actually made by drawing line art and images. The quality of these is often poorer than PostScript or TrueType fonts, especially on screen. However, they rarely cause printing problems. Note that type 3 fonts are *always* embedded.
- **Type0, Type 1(CID)** which is also known as **CIDFontType0**, and **TrueType(CID)** which is also known as **CIDFontType2**: these are mainly used for very large fonts typically found in Far Eastern languages. These are also starting to be used in Western files, to hold Unicode font information, as they overcome the limit of 256 characters per font. For instance, Adobe InDesign will use these fonts. These can cause problems on older imagesetter (RIP) software. If you have problems with these it is best to contact the maker of your RIP as most have now issued corrections.

What do the font embedding entries mean?

The font listing can show fonts organised by font embedding. Also, for a font in any of the listings you can click to see more detail including the embedding status. The types of embedding are as follows.

- **Yes (full)**. This means that the font is embedded in the PDF file. This should mean that the exact choice of font prints every time. However, in some systems a printer-resident font of the same name may be used.
- **Yes (subset)**. This also means that the font is embedded. However, the font has been modified to remove the characters that are not used. This should print the embedded font in every case. This makes smaller files, and is therefore often a good choice. However, if you merge PDF files with subset fonts, the subsets remain separate and so the file can actually end up larger.

- **No**. This means that the font is not embedded. The font you see will come from your system, if it is available. Otherwise, Acrobat creates a substitute. This is not recommended in any workflow where font accuracy is important. Note: Acrobat has an option **View > Use Local Fonts**. If this option is **off**, then Acrobat will not use the fonts on your system, and will always make a substitute. This is often a good idea to see font problems earlier.
- **No (base 14)**. This means that the font is not embedded, but that it is recognised as one of the "base 14" fonts (the Helvetica, Times and Courier families, plus Symbol and ZapfDingbats). Acrobat viewers and printers are required to make these fonts, or ones very like them available, so they do not need to be embedded. Versions of Acrobat older than 4.0 would never embed them at all. Opinions differ on whether failing to embed the base 14 fonts is a good idea.

What actions are available?

Only one action is available in font view, and it has a special purpose.

- When you are inserting pages from one document into another, you may sometimes get the error "This document contains subset fonts that cannot be merged." The causes of this are not clear.

  This is also a problem with Quite Revealing, which is unable to show views of some documents, with the same error.

  Quite Revealing has a special action that should get rid of this error, by making changes to the fonts in the document. The action **Font Fix: avoid duplicate names** will do this.

  Use this action with caution, because if you use the Text Touch-up tool to edit document text, you may not be able to do so after the action. This does not always happen, but it is not possible to predict whether it will.

  In detail, the action will do two things. First, it changes the subset name of every subset font. The subset name has a six letter prefix, like ABCXYZ+ArialBold. Second, any type 1 or TrueType font that is embedded but *not* subsetted is changed so it appears subsetted. The font is not reduced in size, just marked. This is needed because the

error message can occur, misleadingly, for fonts that are *not* subsetted.

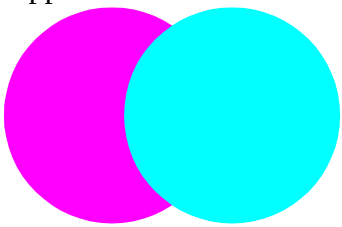
Reveal overprinting

- What is overprinting?
- Why should I care about overprinting?
- How does the separation method affect overprinting?
- How do I use Viewing Options (Overprint Control)
- What is Illustrator Overprint Mode?
- What am I seeing?
- What can I view?
- What actions are available?

What is overprinting?

Overprinting is a special technique controlling how printing inks are mixed. It is a little like transparency, but it is a much older technique.

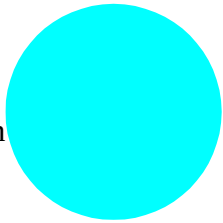
Consider the case of two circles overlapping, one made using magenta ink and one made using cyan ink. Suppose the magenta one appears on the page first. Then the appearance will be like this:



This is the normal arrangement, and will look similar on screen, and on the printed page. Consider what that means on the colour separations. It does not contain two circles. In fact, the cyan circle will *knock out* a hole in the magenta circle. The separations will look like this:

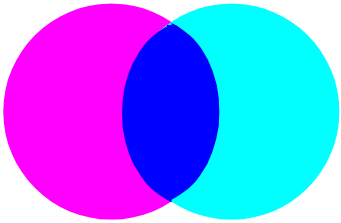
Magenta separation

Cyan separation



This is normal whenever objects overlap. If they did not, the colours would mix together. But suppose we *wanted* the colours to mix. If we

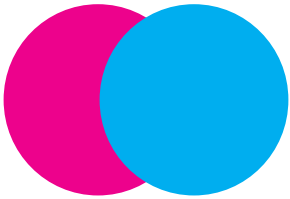
were to allow both circles to be full size on their separations, the result would be something like this:



So the inks would mix to make blue. Many design tools, like Illustrator and QuarkXPress allow you to choose whether items are to overprint.

Always remember that overprinting is a property of the item *on top* (in the example above, the cyan circle). The item beneath does not need to be overprinting, since it is the action of the top object to knock it out, or not. It is a common mistake to think of overprint as needing to belong to the *bottom* object (the magenta circle) because this is the object that changes shape on the printing plate.

Finally, if you want to see whether items *really* overprint, here is an example that actually uses overprinting. All the above examples are faked, so that they print consistently. In this example, the cyan is set to overprint.



Why should I care about overprinting?

Overprinting may seem a convenient way to design certain kinds of effect. However, overprinting is not a general solution to this, and in particular it will only appear in certain situations:

1. Overprinting is, as its name suggests, related to *printing*. That means it does not normally have any effect on screen. This is potentially serious; it means that the PDF file potentially displays on screen and prints differently.

2. Overprinting is not normally performed by ordinary printers, whether PostScript or non-PostScript. They typically (but not always) reflect the screen view.
3. Overprinting is traditionally applied only when making separations when printing on a press. However, the rules for whether to overprint objects are still fairly complex and poorly understood.
4. Overprinting is based on the principle that you understand exactly what printing inks will be used. This is not necessarily the case unless you are directly involved with, and producing for, a known press.

Acrobat 5.0 introduced a new feature, where transparency can be automatically used to preview overprinting. If you switch **on** the option **View > Overprint preview**, then Acrobat previews the effect of overprinting inks, on screen. You can also select the option **Apply overprint preview** when you print (this is not switched on automatically). Take care not to use this option if you want overprinting to take place in the output device, rather than be simulated by Acrobat!

This can be very valuable, but is not the whole solution. The most common kind of overprinting is black text. Suppose black text is to be printed over a coloured background. If the black text knocks out the coloured plates, the slightest imperfection on the press will cause a white shadow to appear around the text.

To avoid this, black text is often overprinted. The background has no "white hole" for the text. The result is still, because black is such a dark ink, essentially black. However, an overprint preview in this case will look *exactly the same*. In this case, Quite Revealing can tell you whether the black text will overprint.

However, even when overprinting is chosen carefully and used appropriately, there are still some major differences in how colour separations are made, which are discussed in the next section.

How does the separation method affect overprinting?

It is very little realised that overprinting can produce different results depending on how you make separations. The main differences relate to how (and whether) process colours overprint each other.

Looking at the example above (What is overprinting?) it may seem obvious that it the cyan colour is specified as 100%,0%,0%,0% CMYK, and the magenta colour is specified as 0%,100%,0%,0% CMYK; and the cyan object set to overprint; then the results will be to mix cyan and magenta. Unfortunately this is not always the case.

The differences are for historical reasons, but very much still with us. Here are four examples of how separations are made and the corresponding results:

Separation method	Result of cyan + magenta example
Export level 1 EPS file, place in QuarkXPress, print separations	Overprint *yes* (colours mix) in all cases
Print in-RIP separations to an Adobe level 2 imagesetter, using Crackerjack.	Overprint *no* (colours knock out) in all cases
Print in-RIP separations to an Adobe level 3 imagesetter, using Crackerjack and selecting “Use level 3” features with correct PPD	Overprint *yes* (colours mix) provided “Illustrator Overprint Mode” is selected - What is Illustrator Overprint Mode?
Print in-RIP separations to Harlequin RIP, using Crackerjack.	Overprint *maybe* Depends on settings made in Harlequin RIP.

This is often very unexpected. The rules mainly affect whether process colours will overprint, and whether greyscale will overprint the cyan, magenta and yellow plates. There is also a problem of “invisible whites”, where 0%,0%,0%,0% CMYK which is set to overprint may (or may not) completely disappear.

You may now be wondering how you can possibly get an accurate preview. Fortunately Quite Revealing provides a way to *test* your current setup and put the results back into settings that affect how overprint is previewed on screen. This is done by selecting **Viewing Options (Overprint Control)**.

How do I use Viewing Options (Overprint Control)

This selection appears on the list after **View:** when you are using Reveal Plates/Colours or Reveal Overprint. Currently four options are listed, but you don't have to really worry about what they mean.

Instead, you click the button **Open Overprint Test Document**. This opens a 1-page PDF document.

Now, you should use your current system to make separations from that document. Do exactly what you would normally do. You are only interested in the **magenta** plate. Simply examine the four numbered boxes and see which ones have check boxes. Go back to the Overprint control options and make sure that the same boxes are checked, and Quite Revealing should now give an accurate preview of your separations.

The default values are chosen to match the normal behaviour of a level 3 imagesetter with in-RIP separation. These are also the values used by Acrobat's built in **Overprint preview** option. Acrobat's Overprint preview cannot be configured.

What is Illustrator Overprint Mode?

Illustrator Overprint Mode (also known as OPM) was introduced by Adobe in Acrobat 4.0, to help overcome the limitations in their overprinting design, where process colours would not overprint to an Adobe RIP. While it does help with that, it becomes one more variable to remember to get right in your workflow. Also, because overprinting is so dependent on the output device, the effect is hard to describe.

Probably the best way to summarize is this: if Illustrator Overprint Mode is on, then process colours are more likely to be able to overprint. It does not force overprinting, but allows it to happen.

In theory a PDF can have some parts with Illustrator Overprint Mode on, and others off. This is unlikely to be seen in real PDF files, though. For most purposes we recommend making sure the option in Distiller (under **Advanced Job Options**, conveniently called **Illustrator Overprint mode**) is **on**.

If by any chance this option was left off, you can use the actions available in Reveal Overprinting to switch this option on for the whole file.

What am I seeing?

Reveal overprinting is *not* used to preview your separations. That is the job of another part of the plug-in (Reveal plates / colours*)*. Instead, it is used to check which parts of your document will overprint.

The information is listed in (up to) four categories. Important: the first two categories are not fixed; depending on how you separate the file, files may fall into either class. Quite Revealing uses your options to decide which category to use. If you are interested in overprinting, setting the options accurately is a must - How do I use Viewing Options (Overprint Control).

Warning: sometimes overprinting is controlled outside the PDF. For instance, some imagesetters, and the Crackerjack plug-in have the option to force black to overprint. We cannot preview these unknown effects.

- **Overprint spot and process**. This is used for items which should overprint both spot and process (CMYK) plates. Within this various categories are shown. Some will mention “Illustrator Overprint Mode” being on or off - see the above discussion - What is Illustrator Overprint Mode?
- **Overprint spot only**. This is used for items which are expected to overprint spot plates, but which are expected to knock out CMYK plates.
- **Overprint no**. These are items which simply do not request overprint. In many files this is the only category shown.
- **Overprint unpredictable**. These are items which indicate that they should overprint, but where we cannot say whether this will happen. This includes information that is still RGB, and certain kinds of transparency.

What can I view?

You can use **View Selected** in the plate / colours view. Select the items in the list you want to view. If you do not select anything, the view is blank.

Bear in mind still that this is not intended to *preview* the overprinting. It is a way of seeing which items in the PDF document will overprint, and how they will overprint.

Also remember that when two objects are combined, the overprint settings for the *top* object are what affect whether the *bottom* object is knocked out or overprinted.

What actions are available?

After **Modify:** is a pull-down menu where you can select actions to perform on the file. (Tip: if you do not see **Modify:** click the button marked with a + sign). The following actions are available when using Reveal overprint.

- **Remove all overprint**. Removes the overprint settings from the entire PDF document. Everything should now overprint.
- **Overprint all black elements** - this switches on the overprint setting for all elements that are (exactly) black. Only objects that are CMYK with 0% cyan, magenta, yellow and 100% black; or greyscale 100% black, will be considered. This affects text and line art.
- **Set Illustrator Overprint Mode ON**. This will increase the change that process colours will overprint - What is Illustrator Overprint Mode?

  Set Illustrator Overprint Mode OFF. Just in case this is wanted. It may be more use in testing.

Each of the above actions can be automated - see Can I automate Quite Revealing?

Reveal transparency

- What is transparency?
- Why should I care about transparency?
- What am I seeing?
- What can I view?
- What actions are available?

What is transparency?

Transparency is a method for allowing the objects in a PDF to be partially see-through and mix with other elements. This is most often used to produce artistic effects.

Transparency is new with Acrobat 5.0. Earlier versions of Acrobat will open files without an error, but will not show the transparency - all objects will be solid (opaque).

At the moment, the main tools able to create transparency are Adobe Illustrator 9.0 and above, and Adobe InDesign 2.0. In both cases, you would have to save or export PDF directly. Using Distiller will remove all actual transparency, and replace with something visually similar. This is called “flattening”.

Why should I care about transparency?

1. As noted above: if a file with transparency is opened in an earlier version of Acrobat, the intended effect may be lost, and the end result when printed may be rejected.
2. Some people use imagesetters (RIPs) that can read PDF files directly. At the time of writing, very few of these understand the new transparency, so the effect may be lost.
3. When it is printed from Acrobat 5.0, transparency may produce very large files, or a loss of quality. This is because areas containing transparency may have to be turned into images (bitmaps). This is also the case if an EPS is saved from Acrobat 5.0.
4. Transparency effects may not be obvious on inspection of a page.

5. Transparency has subtle effects on some of the other aspects of a PDF. Specifically: some transparency effects cannot be previewed for separation, as they will depend on conversions made at the time the file is printed - see Reveal plates / colours; transfer functions and halftone screens do not apply to transparency; transparent areas will usually ignore overprinting.

What am I seeing?

You may see the following entries in the transparency list. You will see only the ones that are used in the file.

- **Normal/opaque** - this is the ideal state. This part of the file is not affected by transparency. If the only entry is **Normal/opaque**, then the file is clean, with no transparency at all.
- **Simple blend** - this is a fairly simple kind of transparency. Objects are simply blended together by mixing their colours (for instance, there may be 70% of the background, and 30% of the foreground).
- **Soft masked image** - this is an image to which a soft mask has been applied. The soft mask allows the image to be from 0% to 100% transparent, and is usually used to soften edges.
- **Complex blend** - this is a more complex blend (such as one where mixing the colours darkens them) or a mixture of blends with soft or hard masked images.
- **Hard masked image** - this is not strictly speaking “transparency” in the sense we have described it above, but it is something worth knowing about. Hard masked images have a mask which allows only 0% or 100% transparency. These are important because (a) they do not print correctly in versions of Acrobat older than 5.0 and (b) they do not print correctly to PostScript level 1 or level 2. To summarise: a hard masked image must be printed from Acrobat 4 or 5, to PostScript level 3, or the effect is lost.

What can I view?

Your choices are **View Selected** and **Preview without transparency effects**.

- You can use **View Selected** in the View Transparency view. Select the items in the list you want to view. If you do not select anything, the view is blank.

  Normally you would expect to see the items you have selected, as they would appear. But transparency is tricky stuff. Consider what happens if you have a solid (non-transparent) green background, and a semi-transparent blue shape above it. When viewing with transparency, the shape will appear yellow, from the mix of green and yellow. However, if you view only the transparent items, there will no longer be a blue background to mix with, and you will see only the shape at the front, in blue. The blue will simply be paler because it is mixing with the white background.

  Even white objects can affect transparency because they can be blended in different ways. However, these can disappear when shown alone. You can choose that the view is shown on a grey background, using **View: Set Viewing options (general)**. In this case it will be easier to see light or white items. However, these continue to be treated as blended with a white background; the grey background is not considered in the transparency mixing.
- If you select **Preview without transparency effects**, you will see a view of the page without transparency. This is how it will appear in Acrobat 4.0 and in any other method that does not support transparency. The view is always the same and does not depend on what (if anything) is selected in the list of transparency types.

What actions are available?

After **Modify:** is a pull-down menu where you can select actions to perform on the file. (Tip: if you do not see **Modify:** click the button marked with a + sign). The following actions are available when using Reveal transparency.

- **Remove all transparency effects** will remove all transparency from the file. **Important:** this is *not* the same as “flattening” or “applying” the transparency. It simply drops all transparency, making all objects opaque.

You can use this option if you want to guarantee the file is printed the same everywhere, whether or not transparency is supported; or, for example, to send a client a view of how their file might print.

This action can be automated - see Can I automate Quite Revealing?

Reveal image resolution

- Why reveal image resolution?
- What am I seeing?
- What can I view?
- What actions are available?

Why reveal image resolution?

Using **Reveal Image Resolution** you can check the resolution of the images in your PDF documents. This function is not designed to give detailed information on each image, but allows you to decide what range of resolutions will be acceptable, and quickly see which documents use images of higher or lower resolutions.

What am I seeing?

There are six categories of information shown in **Reveal Image Resolution**. They should be reasonably self explanatory. The assumption is that you are able to give a range of acceptable resolutions for colour and greyscale images (the same value), but that you may want a higher resolution for monochrome images, such as line art, scanned text or "copy dot" work.

The categories are shown **as Low Colour/Greyscale; Medium Colour/Greyscale**; **High Colour/Greyscale**; **Low mono**; **Medium Mono**; and **High Mono**. If a category is not shown, it means that there are no images in that category. This allows a fast check for suitability of a file.

To change the resolution settings (thresholds) select **Set Viewing Options (Image Resolution)** after **View:**. You choose what resolution is considered "low" and "high" for each type of image.

Quite Revealing does not give the actual resolutions of images. Our **Quite A Box Of Tricks** product can be used to click on images for full details. This function is active even in the free demo version of Quite A Box Of Tricks.

What can I view?

You can use **View Selected** in the image resolution view. Select the items in the list you want to view. If you do not select anything, the view is blank.

The view will show only images whose resolutions are in the specified ranges. The view will never shown anything that is not an image.

What actions are available?

No actions are currently available in the image resolution view.

Reveal transfer functions

- What are transfer functions?
- Why should I care about transfer functions?
- What can I view?
- What actions are available?

What are transfer functions?

Transfer functions are used to change the colours or shades on a page. So that the PDF contains one colour or shade, but you print or see on screen a different shade.

One use of transfer functions is to darken or lighten a page to match the needs of a press. EPS files saved from Adobe Photoshop might do this, and they would keep the transfer function if they are distilled.

Some programs use transfer functions for special effects, such as to simulate duotones, or to tint a greyscale image.

Transfer functions are not recommended, and the advice for many years has been not to use them. This has not stopped inventive programmers for finding many uses for them.

Why should I care about transfer functions?

1. If transfer functions are lost, the appearance can change, which may make the results unacceptable.
2. Transfer functions can be lost when you print. In Acrobat 5.0 there is an option **emit transfer functions**; if this is **off** the functions are lost. In Acrobat 4.0 there is a much less obvious **Use printer's halftone screen** option; if this is **on** the functions are lost. There may be similar options when saving an EPS, or using a separation plug-in.
3. Some printers or imagesetters may be set up to ignore transfer functions, even if you do preserve them when printing.
4. Transfer functions are device dependent. Even if they are not lost, they can produce different results, depending on how the PDF is

viewed or printed. For instance, tinted images may be much brighter on screen than on print.

What am I seeing?

You may see the following entries in the transfer function list. You will see only the ones that are used in the file.

- **None/Default** - this is the ideal state. There are no transfer functions used on part of the file. If the only entry is **None**, then the file is clean, with no transfer functions at all.
- **Identity (flat) function** - this is in many cases the same as None/Default. However, it requests that there is *no* transfer function. This can have a different effect if the output device sets a default transfer function; this may cause that to be ignored, losing any calibration intended to lighten or darken pages.
- **Darkening function** - this makes the affected objects darker.
- **Lightening function** - this makes the affected objects lighter.
- **Inverting (negative) function** - this turns light to dark and dark to light, making the affected objects negative. This does not mean you will see negative on screen, because the original may itself be negative, so cancelling out the effect.
- **Non-tinting transfer function** - we can't describe this as simply darkening, lightening or inverting, so it may be used for special effects. But we do know that it only changes brightness, and does not change the colour (tint).
- **Colour transfer function (tint)** - this is used to change the colour of the affected objects completely. It is often used to turn a greyscale object into a tinted, colour one.
- **Complex transfer function** - we have not actually seen any of these in real-world PDF files, but they potentially set a different transfer function for each colour including spot plates.
- **Transparency - transfer unpredictable** - the rules of PDF are clear, if surprising. If any transparency of any kind is used, the transfer function is to be ignored. However, we suspect that this rule may

change, and it may also not be followed in all cases (such as EPS export). So we consider the transfer functions in such cases to really be unpredictable. Note that this item selects only transparent items, but in fact the rule extends to everything mixed with them (including a solid background or any other item that overlaps).

What can I view?

You have a choice of **View items using selected functions**, **Preview apply all**, and **preview remove all**.

- You can use **View items using selected functions** in the transfer function view. Select the items in the list you want to view. If you do not select anything, the view is blank.
- You can choose **Preview apply all** to see what the effect of using the **Apply all transfer functions** action would be. The view is always the same and does not depend on what is selected.
- You can choose **Preview remove all** to see what the effect of using the **Remove all transfer functions** action would be. The view is always the same and does not depend on what is selected. This is useful if you are concerned that transfer functions may be lost when the file is output. If the file looks wrong in this view, the **Apply all transfer functions** action is recommended.

What actions are available?

After **Modify:** is a pull-down menu where you can select actions to perform on the file. (Tip: if you do not see **Modify:** click the button marked with a + sign). The following actions are available when using Reveal transfer functions.

- **Apply all transfer functions produces a file with no transfer functions, but attempts to keep the visual appearance unaltered. This is useful if you are going to send the file to a output where transfer functions may be lost. It makes the file safer.**

  Generally, the appearance should not change. However, in the case of **Colour transfer function (tint)** the shade may change. We have found that the applied function is closer to how this would normally

print, but can cause colour shifting on screen. This is because tinting transfer functions produce different results in RGB (on screen) versus CMYK (on paper).

- **Remove all transfer functions** produces a file with no transfer function. No other changes are made, so the file can change appearance radically.

Both of the above actions can be automated - see Can I automate Quite Revealing?

Reveal halftone screens

- What are halftone screens?
- Why should I care about halftone screens?
- What am I seeing?
- What can I view?
- What actions are available?

What are halftone screens?

When you view a document on screen, the screen can show millions of different colours by changing the brightness of each component (red, green, blue) on the monitor. But most printers are not able to use this technique.

In most black and white printers, every point on the page is either a black dot or nothing at all, so you see the white paper. A close pattern of dots gives the illusion of many shades of grey.

The same technique, more or less, is used on almost all printing presses and colour printers. (By contrast, most photographic prints can show many different shades).

A halftone screen is specific way of showing shades of grey or colour. Instead of a random pattern of very small dots, dots are collected together into shapes such as circles or squares. These are important on printing presses, because on many presses ink could not stick to very small dots. Effectively these shapes get larger or smaller depending on how dark the shade is to be. Halftones will often photocopy better than random dots too.

These shapes are arranged in a grid over the page. The size of the grid controls how much detail you can see. For instance, a newspaper page may have a grid with 53 cells per inch (that is, 53 x 53 = 2809 cells per square inch). On the other hand, a quality printed book may have over 150 cells per inch, so much more detail is visible - these cells are smaller.

Since small cells give more detail, it is reasonable to wonder why anyone would use larger cells. The reason follows from limitations in printing technology. On newsprint (used for newspapers), ink would not stick to

small cells. Also, if the cell is made of only a few dots, not many different shades of grey are possible.

The size of cells is measured in terms of the number of cells per inch. This is called the *halftone frequency*, or *lines per inch.* This is most often written as *lpi*.

The cells are often at an angle. In colour printing, it is especially important that the different colour plates use different and very specific angles, chosen by the press operator, otherwise unpleasant visual effects can appear.

The important things about a halftone screen, then, are its frequency (lpi), its angle, and the dot shape. The halftone screen may need to be different for each colour plate.

A PDF file may store halftone screen information - not just one setting but possibly many settings for the different parts of the page. Quite Revealing can report all these.

Note that sometimes the word “halftone” is used to mean almost any picture or image that will print in shades of grey or colours. We do not use the term in that sense; for instance, some people might expect an action “remove all halftone information” to remove images. It does not, it only removes information that might be used in printing.

Why should I care about halftone screens?

When a PDF file is output, the halftone screen *might* be used. The *might* is important; it often is not.

The halftone screen is *never* used with a non-PostScript printer.

Otherwise, for all PostScript output, a number of factors will decide whether it is used. Every printer has a default halftone that it will use if the information is not specified in another way.

1. If you print from Acrobat 4.0, there is an option **Use printer’s halftone screen**. If this is on, all halftones in the PDF document are ignored when you choose **File > Print**.

2. If you print from Acrobat 5.0, there is an option **Emit halftone**. If this is **off**, all halftones in the PDF document are ignored when you choose **File > Print**.
3. If you output with a different method (not **File > Print**) each method has its own rules. For instance the **Crackerjack** plug-in *always* ignores the halftone information from the PDF (so, if you always use Crackerjack, the halftone viewer will never tell you anything interesting).
4. When you export an EPS from Acrobat you have similar choices.
5. Some printers will ignore the halftone anyway.

So you can see it is highly variable, but fairly predictable in a given workflow. In fact, most people do not use halftones in PDF files, but some people may find that PDF files can override halftone settings unexpectedly. In this case, removing the halftones may be a good idea.

You cannot choose or set halftones in Quite Revealing. This is done in your original design application. However, Quite Revealing will report in detail the halftones it finds in the PDF.

What am I seeing?

You may see the following entries in the halftone list. You will see only the ones that are used in the file.

- **Default (use printer's halftone)**. This means that the printer's default will be used - or a default supplied by some other software. Anyway there is no information in the PDF.
- **Named halftone <name>**. A PDF file can refer to a special halftone by a name. For this to work, a halftone by that name has to be set up in your output device. You may also see items starting **Named halftone <name> or...** These items will use the named halftone if available, otherwise the rest of the description is used.
- **<nn> deg. <nn> lpi. Spot <shape>**. This describes a normal halftone, with an angle (in degrees), frequency (lpi) and shape. The shape may be a built-in PDF name like **Round** or **Diamond**, or the word **Custom** if it is a special shape defined in the PDF.

- **Type 6**, **type 10**, **type 16**. These are rarely seen, but are halftones which use a custom shape.
- Each halftone may be preceded by the name of a spot or process plate, indicating it is supposed to apply only to that plate. It may also be preceded by **Others:** meaning this is used in all other cases, or **All plates:** if this is used for every plate.

  Do not be alarmed to see plate names that do not appear in the file; often unused plates are listed. For actual plates see Reveal plates / colours. You will sometimes see a list containing *all* of Cyan, Magenta, Yellow, Black, Red, Green, Blue, Gray.
- **Transparency - screen unpredictable** - the rules of PDF are clear, if surprising. If any transparency of any kind is used, the halftone information in the PDF is to be ignored. However, we suspect that this rule may change, and it may also not be followed in all cases (such as EPS export). So we consider the halftones in such cases to really be unpredictable. Note that this item selects only transparent items, but in fact the rule extends to everything mixed with them (including a solid background or any other item that overlaps).

What can I view?

You can use **View Selected items only** in the image resolution view. Select the items in the list you want to view. If you do not select anything, the view is blank.

This will show you only the items in the file which use the selected halftone.

What actions are available?

After **Modify:** is a pull-down menu where you can select actions to perform on the file. (Tip: if you do not see **Modify:** click the button marked with a + sign). The only actions are available when using Reveal halftones is as follows.

- **Remove all halftone information**. This removes all halftone information stored in the current document. This can be used if the file has been overriding a default, and you preferred the default.

This action can be automated - see Can I automate Quite Revealing?