

## **USING ICC COLOUR PROFILES**

There are two basic ways to apply ICC profiles: at the operating system level or via an application. In both methods the printer driver needs to be configured properly to get the best results.

The operating system method is simple but inflexible. The profile is applied to every print job sent to the printer, however there is no control over the rendering intent nor is it easy to change the profile for different ink/media combinations.

The most popular professional imaging application is Adobe Photoshop. This provides a convenient interface to control ICC profiles. Photoshop version 5.x and version 6 are ICC aware but vary in the way the profiles are applied.

Photoshop LE does not have ICC-based colour management and does not support profiles hence they would need to be applied at the system level.

Although Windows NT 4 is ICC aware, profiles can only be applied via an application.

Other imaging applications may or may not be ICC aware, consult the manuals for further information.

### **1. Printing with ICC profiles in Photoshop 6.0**

#### **1.1 Photoshop 6 Colour Settings.**

To access the colour settings select Menu “Edit>Color Settings....”. To see the full set of options select “Custom” settings and check the “Advanced Mode” box.

The following are the recommended settings for a typical ink jet printer, other settings such as CMYK and grey controls are the discretion of the user and will not effect RGB output.

##### 1) Working Space

Adobe RGB(1998) is the recommended working colour space.

##### 2) Color Management Policies

Photoshop 6 provides document specific colour management i.e. documents with different colour spaces can be edited at the same time. To best manage this, setting the “RGB color” management policy to “Preserve Embedded Profile” and checking the three tick boxes directly beneath will ensure the user is alerted when an image being opened has a profile other than the working space. A series of options will then be presented that allows the user to decide whether to convert to the working space, use the embedded profile or use another profile. Full details of all the colour management policy options available can be found in Photoshop’s help files.

##### 3) Conversion Options

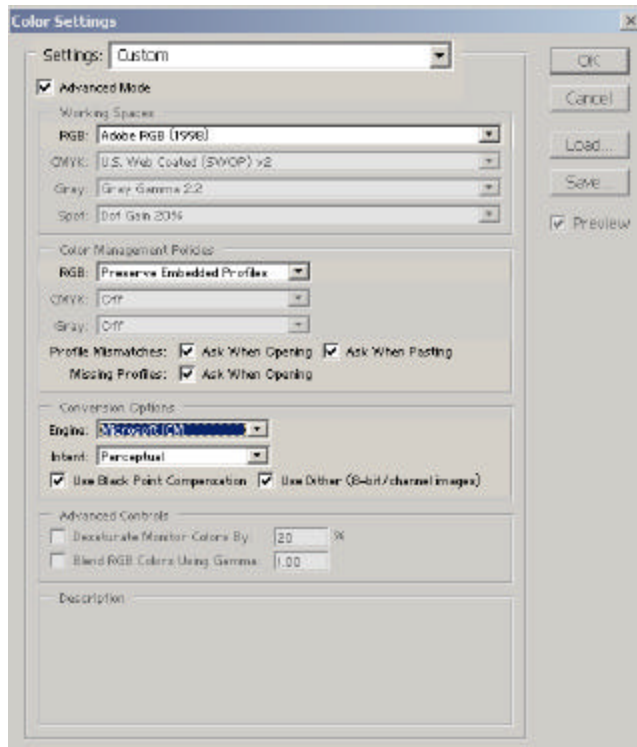
Two colour ‘engines’ are offered in Photoshop 6: Microsoft ICM and Adobe (ACE). A colour engine is a program module that applies the profile to the image data. Extrapolation is required to calculate all colour values from a profile. The engines achieve this in different ways, hence the results may vary slightly.

NB the operating system will only use the Microsoft ICM option.

Four rendering intents are available. For most photographic images the perceptual intent should be selected. Details of the other rendering intents are available in the Photoshop help files

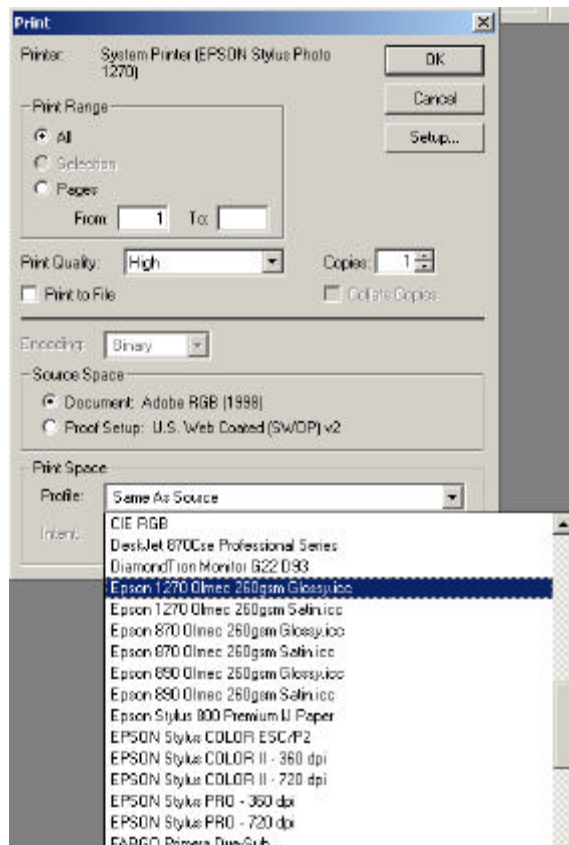
Checking the “Use Black Point Compensation” option will allow the full dynamic range of the source space to be mapped into the destination space thus avoiding blocked or stepped gradations.

Checking the “Use Dither” box will prevent banding or blocking of colours when a 16 bit image is down sampled to 8 bits.



## 1.2 Printing with an ICC Profile

Make sure there are no profiles associated with the printer at the operating system level by following the instructions in “Printing with ICC profiles via the operating system” and removing all associated profiles.



The appropriate profile is applied via the print dialogue box.

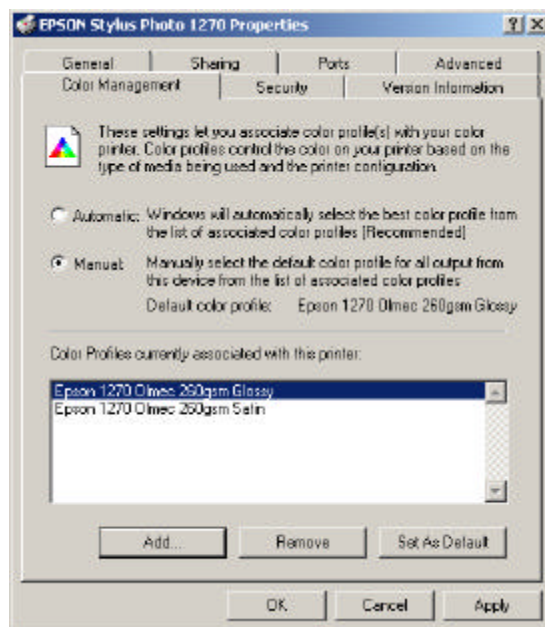
Enter the print dialogue box “File>Print...”, click ‘Setup’ and make necessary changes to printer driver. Click the OK buttons until the first dialogue box is active again. In the ‘Print Space’ section select the appropriate profile for the printer model and paper and click ‘OK’ to print.

NB If the profile is not set after the printer setup has been completed the user may notice that the profile setting will not be maintained. Hence it should be the last action before printing.

After the first print in a session it is possible to make subsequent prints directly from the first dialogue box since the printer settings will remain unchanged.

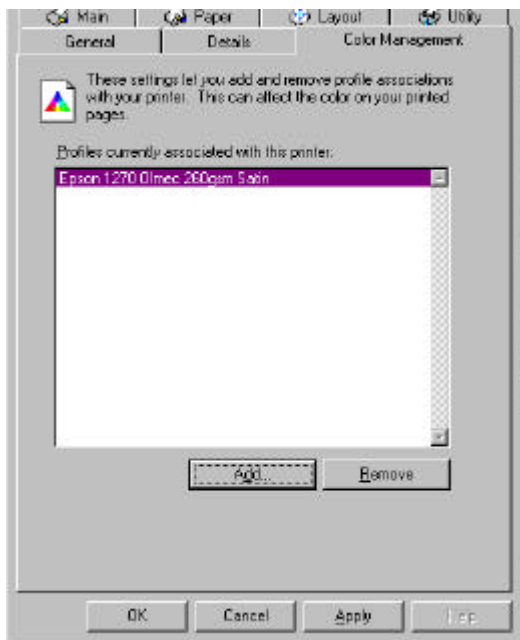
## **2. Printing with a profile via the operating system.**

Enter the properties dialogue for the relevant printer usually via menu “Start>settings>printers” and right clicking on the printer, selecting the “Properties” option.



Click on the “Color Management” tab to bring up the dialogue box above. Click on the “Add” button and select a profile from the list. If more than one profile will be used add them all and select “Manual” mode, select the profile that is required and then “Set As Default”, it should be shown as “Default color profile:”.

NB Windows 98 First Edition will not allow a default profile to be set. Therefore a list of profiles cannot be added to the dialogue box. If the user wishes to change the media then the previous profile must be removed and the appropriate replacement added.



When printing from an application it is still necessary to ensure the print driver is set EXACTLY as detailed. The profile will be applied as the job is sent to the printer.

If a different profile is required the “Color Management” dialogue must be entered again and the new profile selected as the default.

### **3. Where to put ICC profiles**

Profiles can be put in a system directory where they are available to both Photoshop and the operating system. Alternatively they can be put in a special Photoshop directory where they will not be available to the operating system

System directories:

Windows 2000  
C:\WINNT\SYSTEM32\SPOOL\DRIVERS\COLOR

Windows NT 4.0  
C:\WINNT\system32\COLOR

Windows 98  
C:\Windows\SYSTEM\COLOR

Photoshop 6 directory:

C:\Program Files\Common Files\Adobe\Color\Profiles

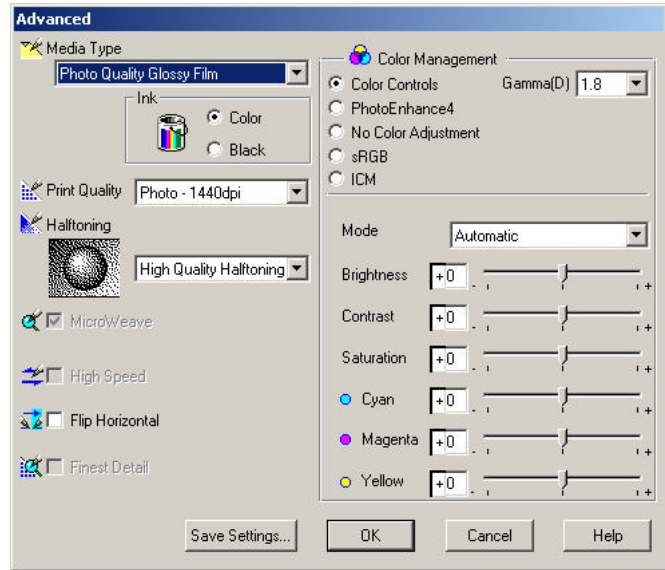
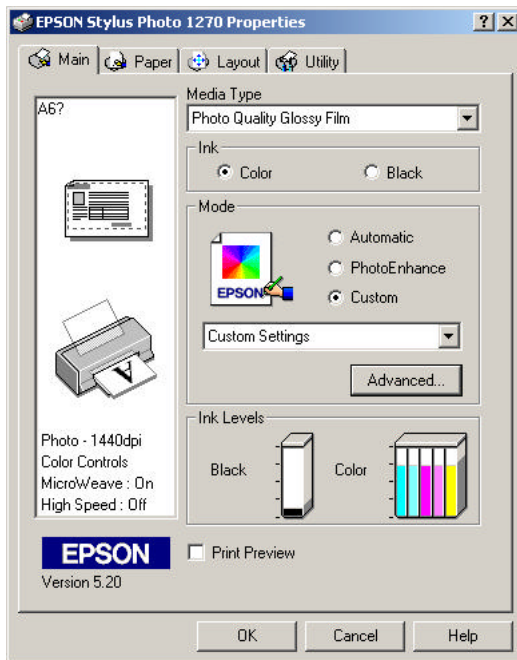
### **4. Printer driver settings**

Olmec colour profiles will only give the best results if the print driver is set correctly.

Epson Photo Stylus 870, 875, 1270, 890, 895, 1290 Printers

These printers share a common driver format.

The media type should be selected in the 'Main' dialogue box. 'Custom Settings' should be selected and then the 'Advanced' button clicked to configure the remaining settings. Details of the settings are given in the table below.



	MAIN			ADVANCED		
Olmec Paper	Media type	Mode	Print Quality	Halftoning	Color Management	Mode
Satin 260gsm	Photo Quality Glossy Film	Custom	Photo-1440dpi	High Quality	Color Controls	Automatic
Glossy 260gsm	Photo Quality Glossy Film	Custom	Photo-1440dpi	High Quality	Color Controls	Automatic
Matte 230gsm	Matte Paper Heavy Weight	Custom	Photo-1440dpi	High Quality	Color Controls	Automatic