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Adobe

Adobe® CMM Read Me

OVERVIEW
The Adobe CMM (Color Management Module) provides methods to transform colors using industry-standard ICC (International Color Consortium) color profiles.

The Adobe CMM is intended for users who wish to achieve consistent color workflows using a common CMM. The Adobe CMM is included in Adobe applications that use the Adobe Color Engine, a full Color Management System. However, the Adobe CMM component of the Adobe Engine has previously been unavailable to users in parts of their workflows that do not include Adobe applications.

The Adobe CMM can be used by applications that support selection of third-party CMMs. It can also be integrated into workflows using operating system-level Color Management Systems to access the Adobe CMM or using custom software to access the Adobe CMM APIs directly.

WHAT'S NEW IN THIS RELEASE
This release of the Adobe CMM includes the following new features:

* Support for Abstract profiles.
* Support for xCLR profiles up to 8CLR.
* Support for floating-point color transform profile tags.

Macintosh® only:
* Support for CMFloatBitmap via the CMM exported functions CMMMatchFloatBitmap (10.4) and CMM_ MatchFloatBitmap (10.5).
* Support for 10.5 updated CMM APIs.

GETTING STARTED
Follow these steps to get started with the Adobe CMM:

1. Familiarize yourself with the Adobe CMM by reading the Overview above.
2. Read the FAQ and other Product Details below.
3. Download and install the Adobe CMM.
   Important: Installing the Adobe CMM means you have accepted the terms of the End User License Agreement.

INSTALLING THE ADOBE CMM
To install the Adobe CMM on Macintosh

1. Download the Adobe CMM for Macintosh from Adobe.com.
2. Open or double-click the dmg file.
3. Double-click the **Setup** file to start the installer.

To install the Adobe CMM on Windows®

1. Download the Adobe CMM for Windows from Adobe.com.
2. Open or double-click the zip file.
3. Double-click the **Setup.exe** file to start the installer.

UNINSTALLING
To uninstall the Adobe CMM on Macintosh

1. Navigate to the folder /Applications/Utilities/Adobe Installers.
2. Double-click the **Adobe CMM** file to start the uninstaller.

To uninstall the Adobe CMM on Windows XP

1. Choose Start > Control Panel.
2. In the Control Panel, choose **Add or Remove Programs**.
3. In the list of currently installed programs, select Adobe CMM, then select the Change/Remove button.

To uninstall the Adobe CMM on Windows Vista™

1. Choose Start > Control Panel.
2. In the Control Panel, if you are in Control Panel Home, choose **Uninstall a program**; if you are in Classic View, choose **Programs and Features**.
3. In the list of currently installed programs, select Adobe CMM, then select Uninstall/Change.

CONTROLLING BLACK POINT COMPENSATION (BPC) AND DITHER
By default, the Adobe CMM enables Black Point Compensation and Dither in color transforms. The following describes how to change the default settings.

Macintosh
The installer includes a sample preferences file for controlling BPC and Dither. To control BPC and Dither for all users on the system, copy the file com.adobe.AdobeCMM.plist, located in the folder /Applications/Utilities/Adobe Utilities/Adobe CMM, to

> /Library/Preferences

To control BPC and Dither only for a specific user, copy the same file to

> /Users/<current user name>/Library/Preferences

When searching for a preferences file, the Adobe CMM checks the specific user location first, before checking the all users location.

To change the BPC or Dither settings:

1. Open or double-click the com.adobe.AdobeCMM.plist file. This will open the file in the **Property List Editor** application.
2. In the Property List column, click the triangle to the left of the entry Root.
3. Click in the Value column to the right of BlackPointCompensation or Dither to change the setting. A value of Yes means that the setting is enabled, No means that it is disabled.
4. Quit the Property List Editor.

    If the **Property List Editor** application is not installed on your system, you can edit the **com.adobe.AdobeCMM.plist** file with a text editing application, such as **TextEdit**.

1. Open the **com.adobe.AdobeCMM.plist** file in a text editing application. The contents will look like the following:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple Computer//DTD PLIST 1.0//EN" "http://www.
```

```
        apple.com/DTDs/PropertyList-1.0.dtd">
    <plist version="1.0">
    <dict>
        <key>Black Point Compensation</key>
        <true/>
        <key>Dither</key>
        <true/>
    </dict>
    </plist>
```

2. Edit the line that follows <key>Black Point Compensation</key> or <key>Dither</key>. Change the text to <true/> to enable the setting, or <false/> to disable the setting.

Windows
The installer includes a sample preferences file for controlling BPC and Dither. To control BPC and Dither for all users on the system on Windows XP, copy the file AdobeCMMPrefs.txt, located in the folder \Program Files\Adobe\Adobe Utilities\ Adobe CMM, to

> \Documents and Settings\All Users\Application Data\Adobe\Color

> On Windows Vista, the location is

> \ProgramData\Adobe\Color

To control BPC and Dither only for a specific user on Windows XP, copy the same file to

> \Documents and Settings\<current user name>\Application Data\Adobe\Color

> On Windows Vista, the location is

> \Users\<current user name>\AppData\Roaming\Adobe\Color

When searching for a preferences file, the Adobe CMM checks the specific user location first, before checking the all users location.

To change the BPC or Dither settings:

1. Launch a text editing application, e.g., Notepad: choose Start > All Programs > Accessories > Notepad.
2. Choose File > Open, navigate to the directory where you copied the AdobeCMMPrefs.txt file, and select it.
3. The file will contain text like the following:

    [AdobeCMM]
    BlackPointCompensation=1
    Dither=1

4. To enable BPC or Dither, change the value to the right of the '=' equals sign to 1. To disable BPC or Dither, change the value to the right of the '=' equals sign to 0.
5. Choose File > Save to save your changes.
6. File > Exit to quit Notepad.

PRODUCT DETAILS
FAQ
What is the difference between ACE and the Adobe CMM?
The Adobe Color Engine (ACE) is built into Adobe products and cannot be used by non-Adobe products. The Adobe CMM takes the ACE color conversion engine and packages it into an OS compliant CMM that can be used by applications that

support external CMMs using the Windows ICM2/WCS and Mac OS® X ColorSync APIs.

Which applications will work with the Adobe CMM?
Adobe does not have a comprehensive list of applications that support external CMMs. We encourage you to try the Adobe CMM with applications that support external CMMs and provide us with feedback on your experiences.

Note that on Windows, ICM2 will check the preferred CMM field in the profile header and use that CMM if it is installed. Applications that use Windows color management, but don't provide a means of selecting specific CMMs, can still use the Adobe CMM if you use profiles created by Adobe or if you set the preferred CMM field in your profiles to ADBE.

How do I enable Black Point Compensation and Dither using the Adobe CMM?
Color conversion parameters are controlled by the application that uses an external CMM. However, Black Point Compensation (BPC) and Dither, two features available in ACE, are not generally supported in applications. In order to control BPC and Dither using the Adobe CMM, a preferences file can be used. The previous section provides more details on how to use the preferences file.

Features
The Adobe CMM supports creating color transforms and gamut test transforms for the following profile types:

> Input Device (scnr), Display Device (mntr), Output Device (prtr), DeviceLink (link), and Abstract (abst).
> Gray, RGB, CMYK, Lab, XYZ, and xCLR (up to 8CLR) color spaces.
> ICC version 2 and version 4 profiles.

It supports conversion of 8-bit and 16-bit integer and 32-bit floating-point data. Black Point Compensation and Dither can be enabled.

It supports the D2Bx and B2Dx floating-point color transform profile tags.

The Adobe CMM does not support Named Color profiles.

System Requirements
Windows
> * Intel® Xeon®, Xeon Dual, Intel Centrino®, or Pentium® 4 processor
> * Microsoft® Windows XP with Service Pack 2, Windows Vista

Macintosh
> * PowerPC® G4 or G5 processor
> * Intel Core Duo, Core 2 Duo, or Xeon processor
> * Mac OS X 10.4, 10.5

RESOURCES
Online Resources
> * International Color Consortium (http://www.color.org/)
> * White Papers published by the ICC (http://www.color.org/whitepapers.html)
> * Join the ICC users mail list (http://www.color.org/icc_users.html)
> * Join Apple's ColorSync mail list (http://lists.apple.com/mailman/listinfo/colorsync-users)

TECHNICAL DETAILS
Windows
The Adobe CMM DLL exports the following functions, as specified in the section *ICM Functions for Color Management Modules (CMMs) to Implement* in documentation on Image Color Management:

> CMCheckColors
> CMCheckColorsInGamut

CMCheckRGBs
CMCreateMultiProfileTransform
CMCreateTransform
CMCreateTransformExt
CMCreateTransformExtW
CMCreateTransformW
CMDeleteTransform
CMGetInfo
CMTranslateColors
CMTranslateRGB
CMTranslateRGBs
CMTranslateRGBsExt

For developers of applications and plug-ins, the Windows API SelectCMM should be used to select the preferred CMM to use for color conversions. The ID for the Adobe CMM is ADBE:

```
if (SelectCMM ('ADBE') == TRUE) {
        // The Adobe CMM has been selected.
}
```

Macintosh

The Adobe CMM Bundle exports the following functions, as required for a ColorSync CMM:

CMMOpen
CMMClose
NCMMInit
CMMConcatInit
NCMMConcatInit
CMMMatchColors
CMMCheckColors
CMMMatchBitmap
CMMMatchFloatBitmap

The CMM additionally exports the following CMM functions, which are new to OS X 10.5:

CMM_ConcatColorWorld
CMM_MatchColors
CMM_CheckColors
CMM_MatchBitmap
CMM_MatchFloatBitmap

For developers of applications and plug-ins, there is no ColorSync API that allows specifying an application-wide CMM. Instead, the NCWConcatColorWorld API should be used to construct a CMWorldRef. The NCMConcatProfileSet struct that is passed to NCWConcatColorWorld includes a field for specifying the preferred CMM. The ID for the Adobe CMM is ADBE:

```
NCMConcatProfileSet profilelist [2];

profilelist [0].cmm = 'ADBE';
profilelist [1].cmm = 'ADBE';

// ...

CMWorldRef cwRef;

if (NCWConcatColorWorld (&cwRef, profilelist, NULL, NULL) == noErr) {
        // A CMWorldRef has been constructed which will use the Adobe CMM.
}
```

October 21, 2008

LEGAL NOTICES