

Max-imize Your Color - Aug 09 - Re-Building ICC profiles: Why and How

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Solution Details



Re-building ICC Profiles: Why and How?

In this month's article we will discuss re-building of ICC profiles using Media Manager including the reasons one might want to re-build an ICC profile and the procedure to do it.

Why Re-build ICC Profiles?

All owners of ProductionHouse version 7.0 and later have the ability to re-build any profile that has been created within Media Manager. (Users that have an earlier version, or are not using ProductionHouse can upgrade to the latest version of ProductionHouse by contacting sales@onyxgfx.com).

Before we get into the reasons for re-building ICC profiles, it is important to understand how re-building an ICC profile is different than recalibration. We discussed recalibration in details in the previous month's newsletter and learnt that it involves printing a set of patches and measuring them using a color device in order to maintain or get back to the state of printing achieved when first calibration was performed. The ICC profile is built to characterize that particular state of printing. Hence it is important to recalibrate to make sure that the characterization (i.e. the ICC profile) is still valid.

Unlike recalibration or building an ICC profile from scratch, re-building an ICC profile in Media Manager does not require that you have a color measurement device or even print anything. When an ICC profile is re-built, the previous measurement data is re-used along with potentially modified profile generation options and any updated transformation logic (or algorithms) to re-create the ICC profiles. As a result of this there are two basic reasons for re-building an ICC profile:

1. Changing the Profile Build options to achieve a different set of output objectives

There are several settings in building an ICC profile that offer trade-offs between gamut size and output quality. Specific settings involve gamut mapping strategies, and black generation settings. Since there is not always a right answer to what the settings should be, being able to go into a previously built profile and change the options may allow one to optimize the output goals as needed.

(Note: Please refer to the ICC build options section of the Media Manager profiling guide (<http://onyxgfx.net/Wiki/ICC%20Build%20Options.html>) that gives an in depth overview of the several settings available when building an ICC profile with the ONYX profile generation engine.)

2. Taking advantage of improvements to the ICC profile generation engine

There are two separate parts to ICC color management - profile application (via a Color Management

Module), and profile generation (via a profile generation engine). Improvements/changes to profile application (CMM) will apply to all profiles whenever they are used to process images. Improvements/changes to profile generation will only apply when new profiles are created or previous profiles are re-built. This is because the color transform logic used to build an ICC profile becomes part of the profile itself. Hence, to take advantage of improvements/changes in the profile generation engine, profiles need to be re-built. (Note: because of this it may be inadvisable to rebuild an ICC profile (initially created with a newer version of the software) with an older version of the software since improvements to the build engine will not be re-employed).

How to Rebuild ICC Profiles

The recommended approach to “re-build” a new ICC profile is performed without changing or replacing existing profiles. This can be achieved by making a copy of the current print mode and then rebuilding the profile in the copied mode. If you do not make a copy of current print mode then you will lose the existing profile when you rebuild on top of it. Thus it is important to first back-up the current print mode so that if the changes are unacceptable then you can go back to the previous settings.

(Note: Profiles that have been imported from other ICC profiling packages into Media Manager cannot be re-built using these methods. Please consult with the documentation of the other package to determine if a re-build option is available and how to do it. If a profile is re-built in another package it will have to be re-imported into media manager before it can be used).

Re-building a Profile from a Copied Mode

This involves two steps. First is to make a copy of the mode, and then re-build the profile in the copied mode.

To copy a mode:

1. Run Media Manager.
2. Ensure that you are working with the correct printer and then select “View Media Library”.
3. From this view select the Media Group, Media, and mode that you want to copy.
4. Then press the “Make Copy” button on the right.
5. You will be asked to give the mode a new name. (Suggestion add “Copy” to the name). The mode has now been copied with a new name.

To re-build an existing profile:

1. From the “View Media Library” screen, Select the Media Group, Media, Mode, “ICC Color Matching Profiles”, and the ICC profile to be re-built. Then press the “Edit...” button on the right.
2. At this point you might be asked to select the appropriate profiling workflow. If this occurs select the correct workflow for the print mode you are working with.
3. The Profiling wizard will then be displayed with the ICC Profile step shown. Since the ICC profile has been previously built the Print Swatch and Read Swatch buttons should be enabled. Press the Read Swatch option.
4. A dialog titled “Build Profile – ICC Profile” is then displayed with the measurements used to build the ICC profile. Press the “Options...” button on the right to review/modify the ICC profile build settings.
5. Make any desired changes in the Build Options dialog, and press OK when you are done.
6. With profile build options in place you can then press the “Build” button on the right to re-build the ICC profile. A Build Profile Progress dialog will then be displayed showing the progress of the profile build. After some time the build will complete and the progress dialog will go away.
7. (Note: For some printers there may be an option to build a named color profile table in the ICC profile step of the profiling wizard. Since the named color table is based upon the ICC profile it is advisable to also re-build the named color table after re-building the ICC profile).
8. The profile re-build is complete, and the stop button (bottom-middle button with a square on it) can be pressed to exit the profiling wizard. A dialog will ask if you want to save the results of the session. Press the “Yes” button.
9. At this point you can exit Media Manager and use the print mode with the newly re-built profile. Test the output of the profile. If you like the results and you made a copy of the print mode you can later go back into the View Media Library section of Media Manager, delete the old mode, and rename the new mode to be the same as the old mode.

Now that we have learnt what re-building of ICC profiles is and the procedure to do it, in next month’s newsletter we will look at some of the benefits of re-building profiles using the soon to be released 7.3.2 version of ProductionHouse.