This tutorial will explain how to calibrate a Calibrated Printing Mode. Additionally there is also a small section on profile tuning.

Calibration and Profile tuning is only possible on custom made Calibrated Printing Modes. Agfa certified CPMs are protected and may not be calibrated nor the profile may be tuned. See the "Media Hub – Creating a CPM" basic tutorial to create one.

1. Calibrating a Calibrated Printing Mode

Due to changing circumstances prints start deviating more and more from the initial quality. This happens due to changed conditions in hardware (UV lights, ink system, print heads…), consumables (media, ink…) and/or environmental (humidity…). The printed result can be different as expected.
Calibrating a CPM will compensate these variables and bring the printer back in the state of first characterization.
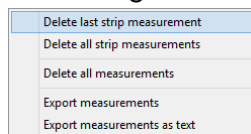
1. Calibrating

1. Open the Media Hub (context click on the digital printer in the printer pane from the jobs overview)
2. Select the Calibrated Print Mode which has to be calibrated.
3. Unlock the Calibrated Print Mode and click on the cogwheel next to the print mode (Color on Media or Color on White). Select "Calibrate…"
4. The calibration wizard opens.
   Connect a supported measurement device (EyeOne or EyeOne IO). Click the cogwheel to change and/or to calibrate the device. Notice that the calibration strip will automatically be created for the selected measurement device (calibration is automatically done for EyeOne iO).
5. Click "Print" to print the calibration strip. The wedge is automatically generated in Asanti and dispatched to the Anapurna or Jeti.
6. The measure button will only be available when the measurement device is available. After calibration click measure. Follow the wizard.
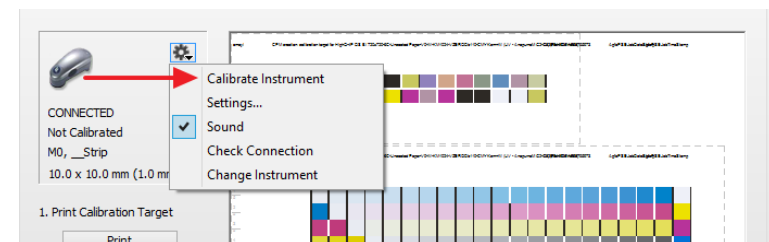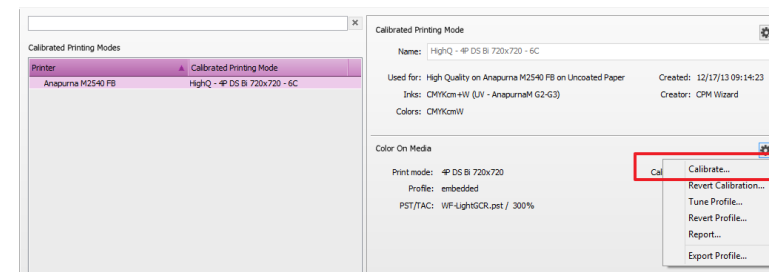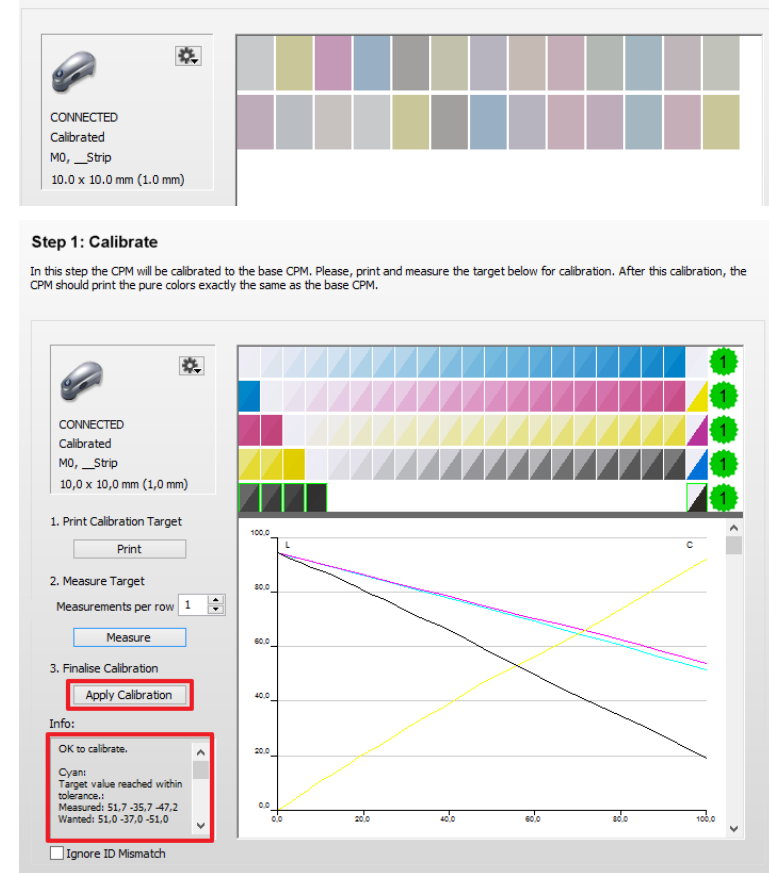
Further steps in this tutorial use the most commonly used measurement device: the EyeOne Pro. Calibration, ID strip measuring and wedge measuring are done automatically with an EyeOne iO table once the positioning of the printed wedge on the table is done.

7. The ID strip needs to be measured first. The ID strip is necessary for Asanti to recognize which Calibrated Print Mode needs to be calibrated. The wizard will automatically switch to the next step when the ID strip is measured: the calibration strip itself.

8. A successful measured row will receive a green check mark (minimal amount of measurements reached depending on preference set in left pane). Notice the sound generated when a row is measured (different if successful or not). Useful when measuring strips printed on large substrates. It's advised to measure each wedge 2 times.

    Measurements can be deleted or exporting by context clicking at the target.

Delete last strip measurement
Delete all strip measurements
Delete all measurements
Export measurements
Export measurements as text

9. The result of the measurements are displayed once all patches are measured. The curves display the decline from light to dark (L value) for cyan, magenta and black. Yellow uses chroma (C value). A warning will be posted when the measurements deviate too much from the target values (see info window). The values displayed here are in L*a*b*.

10. Click Apply Calibration to accept when satisfied.

Step 1: Calibrate

In this step the CPM will be calibrated to the base CPM. Please, print and measure the target below for calibration. After this calibration, the CPM should print the pure colors exactly the same as the base CPM.

CONNECTED
Calibrated
M0, __Strip
10,0 x 10,0 mm (1,0 mm)

1. Print Calibration Target
   Print

2. Measure Target
   Measurements per row 1
   Measure

3. Finalise Calibration
   Apply Calibration

Info:
OK to calibrate.

Cyan:
Target value reached within tolerance.:
Measured: 51,7 -35,7 -47,2
Wanted: 51,0 -37,0 -51,0

☐ Ignore ID Mismatch

The Media Hub will warn/fail when the measured results differ too much from the reference value. The current quality deviates too much from the reference values. Another action is needed: check output quality (clogged nozzles, damaged strip ...), engine state (UV, inks ...) ...

2. Reverting a calibration

It is always possible to go back to a previous calibration. This is called: "Revert Calibration". This might be needed when the printed result after calibration isn't what would be expected.

1. Open the Media Hub. Browse to your CPM which is previously calibrated.
2. Unlock the CPM (if locked) and click the cogwheel.
3. Click "Revert Calibration..."
4. An overview of all previously done calibrations is displayed. Select the previous calibration and click "Revert".
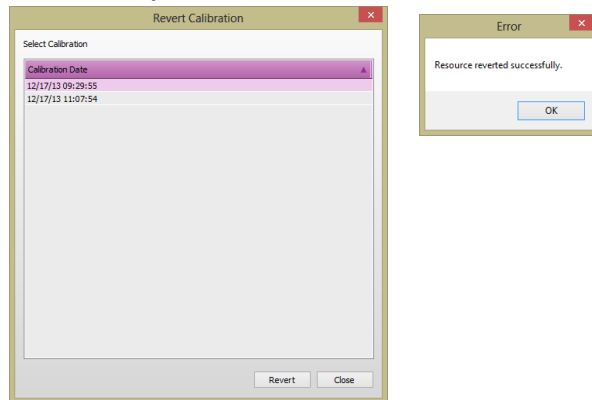
5. All calibrations stay available and can be used for future reverting.

2. Profiling

It may sometimes be necessary to switch profiles for content related issues (less GCR...). No need to generate a complete new CPM. The profile tuning option offers the possibility to update a profile in a small wizard based cycle.
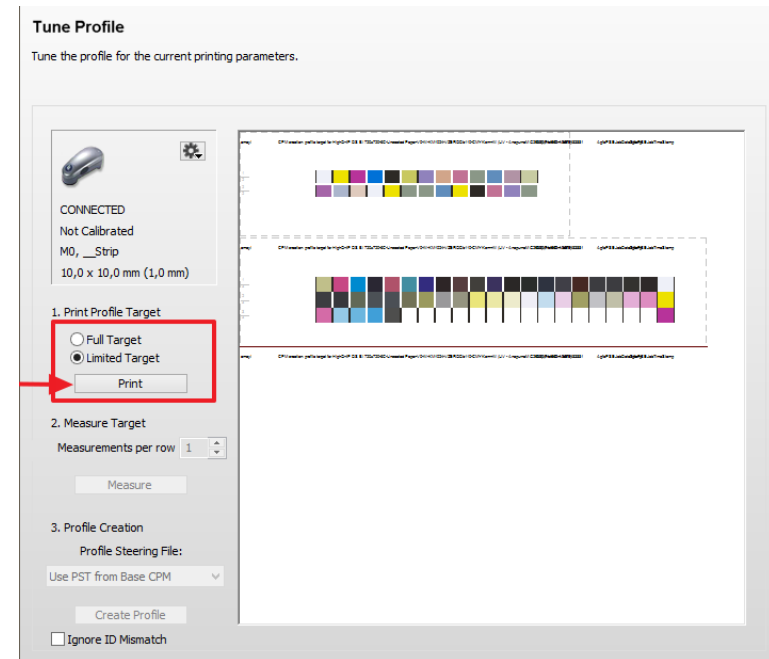
1. Tuning a profile

1. Open the Media Hub. Browse to your CPM.
2. Unlock the CPM (if locked) and click the cogwheel.
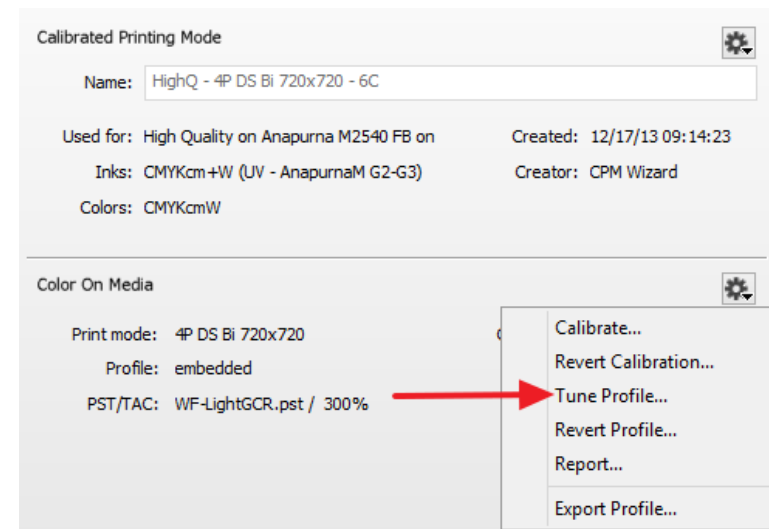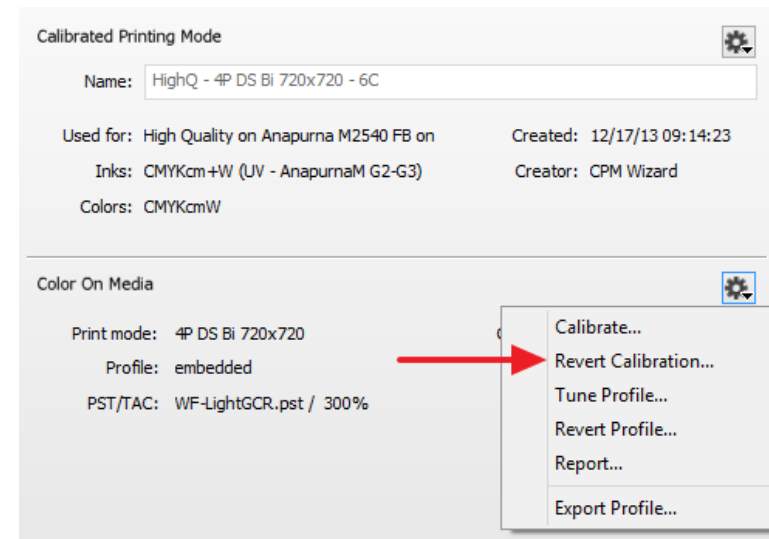
3. Click "Tune Profile..."

4. The Profile Tuning wizard opens.
   Connect a supported measurement device (EyeOne or EyeOne IO). Click the cogwheel to change and/or to calibrate the device. Notice that the calibration strip will automatically be created for the selected measurement device (calibration is automatically done for EyeOneIO).
5. Activate the Limited Target.

There are 2 target options for profiling: "Full Target" and "Limited Target". The limited target will print a smaller strip. The measured results are combined with the original profile into a new tuned profile. A full target will print the same target as used for the original profile. The profile is then generated from scratch. Advantage: more exact profiles. Disadvantage: a lot more work to measure (especially with a handheld device).

6. Click "Print" to print the profile target strip. The wedge is automatically generated in Asanti and dispatched to the Anapurna or Jeti. It is advised to measure the calibration strip twice.
7. The measure button will only be available when the measurement device is available. After calibration click measure. Follow the wizard.
8. The ID strip needs to be measured first. The ID strip is necessary for Asanti to recognize which Calibrated Print Mode needs to be profiled. The wizard will automatically switch to the next step: measure the calibration strip itself.
9. A successful measured row will receive a green check mark (minimal amount of measurements reached depending on

Tune Profile

Tune the profile for the current printing parameters.

CONNECTED
Not Calibrated
M0, __Strip
10,0 x 10,0 mm (1,0 mm)

1. Print Profile Target
   ○ Full Target
   ● Limited Target
   Print

2. Measure Target
   Measurements per row   1

   Measure

3. Profile Creation
   Profile Steering File:
   Use PST from Base CPM

   Create Profile
   ☐ Ignore ID Mismatch

preference set in left pane). Notice the sound generated when a row is measured (different if successful or not). Useful when measuring strips printed on large substrates.
Measurements can be deleted or exporting by context clicking at the target.

10. Change the Profile Steering File (click on the drop down list) to "WF-LightGCR". The profile will then use a very light GCR setting (light replacement of CMY by K).
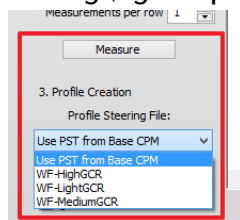

11. Click "Create Profile" to complete the profile tuning cycle.

Depending on the type of target (especially the full target) the profile creation may take a significant amount of processing time. This isn't always a bad thing since the profile is regularized. During this profile regularization the profile is manipulated in such a way to smooth out eventual small measurement errors or other effects by too noisy drops in faster print modes such as express modes. The Windows Task Manager will report a significant CPU usage when the Asanti client is regularizing the profile although the application is in a "non-responding state".
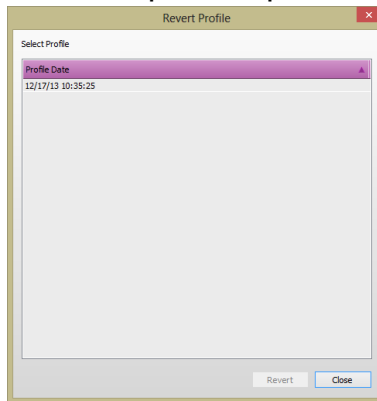
2. Reverting a profile

Reverting a profile will alter the profile in the CPM again with another one. This might be necessary depending on job content (profile with different GCR settings/steering file may be needed.

1. Open the Media Hub. Browse to your CPM which is previously calibrated.
2. Unlock the CPM (if locked) and click the cogwheel.
3. Click "Revert Profile…"

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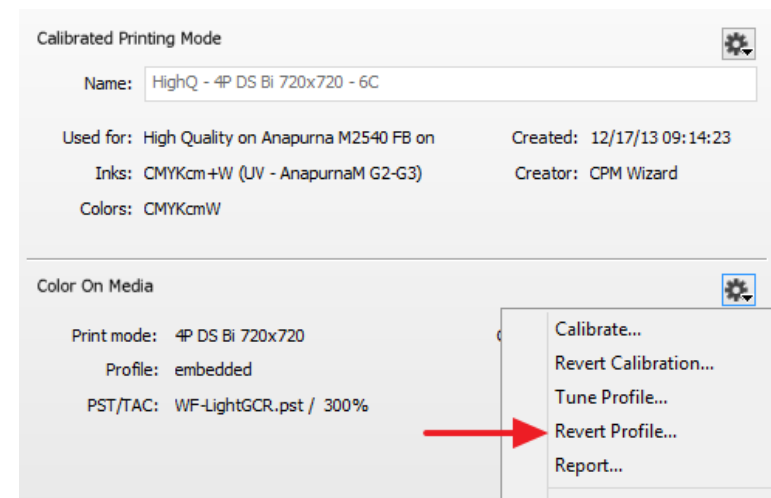
4. An overview of all previously generated profiles is displayed.
   Select the previous profile and click "Revert".

5. All profiles stay available and can be used for future reverting.

3. Reporting

A validation report can be made. This validation report contains 3 components:
CPM details (calibration date, media …), calibration info (usage of individual inks,
tonal response) and characterization info (validation against a reference profile)

In this validation report the CPM is matched to a reference (e. g. ISOcoatedv2 or
Gracol Grade 1).

1. Open the Media Hub. Browse to any CPM.
2. Unlock the CPM (if locked) and click the cogwheel.
3. Click "Report…"
4. A report is generated with all kinds of info:

- CPM info: ink, quality, printing mode, calibration…

- Calibration info: ink usage

- Characterization info: validation report (ISO12647-7) against the reference
  profile.

5. Eventually change the Reference Profile to generate a report for
   another reference.