

# The P2P target



The P2P target is a key tool in the application of the G7 calibration method.

Originally designed for the free G7 graph paper method, it is now used by numerous software packages to create G7 calibration curves automatically, and as a verification target for G7 Grayscale or Targeted compliance. Since its first release in 2005, the P2P has undergone many improvements, culminating in today's P2P51. This document describes how to use the P2P51, with appendices for measuring the P2P51 in various software packages.

You can download the P2P package free at [Idealliance.org](http://Idealliance.org) and [hutchcolor.com](http://hutchcolor.com).

Note that both the package and documentation may change without notice.

Document version 2017e

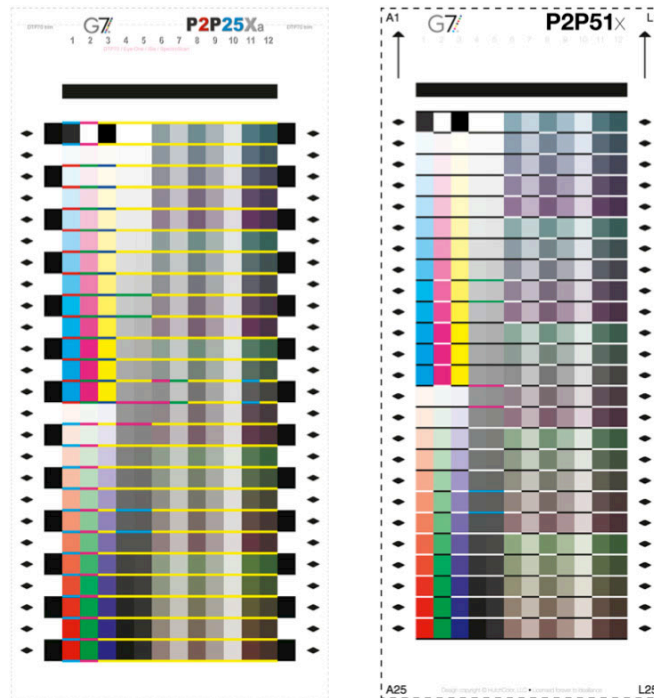
April 1, 2017

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# P2P51

## Introducing the P2P51 target



*P2P25Xa (left) and P2P51x (right)*

### P2P51 vs. P2P25

Introduced in 2016, the P2P51 performs the same functions as the earlier P2P25 but with several improvements, including;

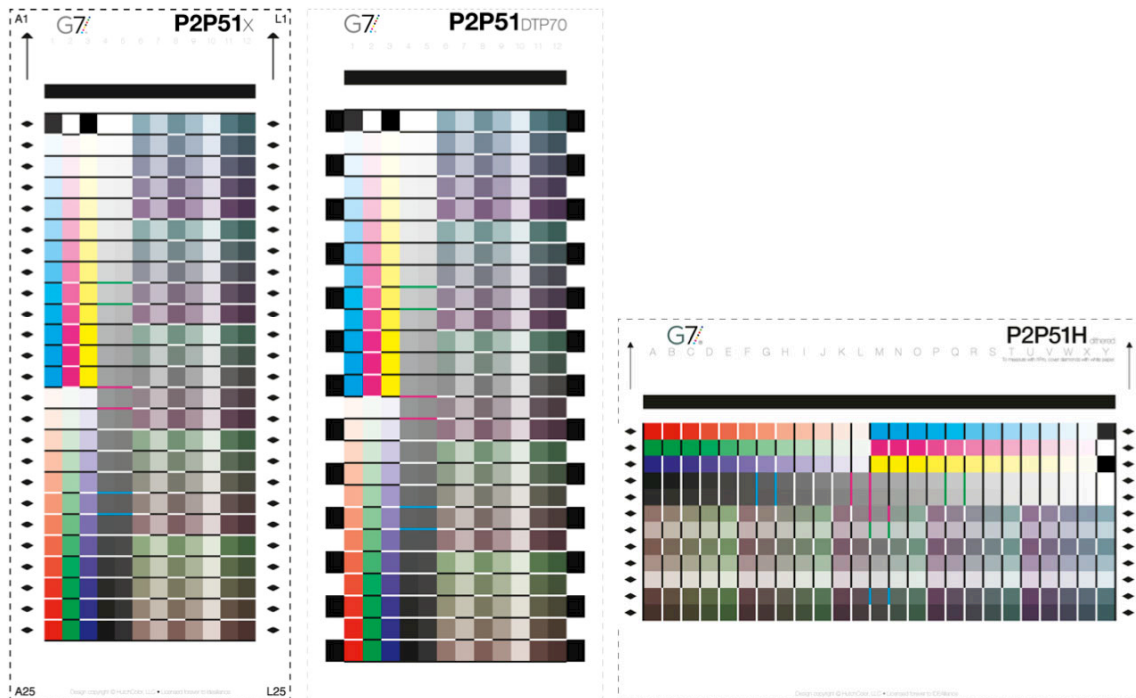
- Columns 6 - 12 provide more accurate calibration of non-neutral printing systems.
- M and Y gray balance percentages adjusted slightly to match CGATS TR015 formulae.
- Where possible, whole integer percentages now used instead of nearest-8-bit fractional percentages, for example, Cyan or Black 1.98% in the P2P25 is now 2% in the P2P51.
- DTP70 blocks removed for smaller size and better compatibility with new devices. (A special DTP70 P2P51 is available – see next page.)
- New Idealliance G7 logo and other cosmetic changes.

*Users should switch to the P2P51 as soon as practical.*

### Idealliance-issued P2P51 targets

To date, the P2P51 target has been released in four official versions, P2P51, P2P51X, P2P51H and P2P51DTP70. All four are FUNCTIONALLY IDENTICAL with exactly the same patch percentage values.

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*P2P51x, P2P51DTP70 and P2P51H, shown to the same scale*

- The P2P51x is identical to the P2P51 except for cosmetic changes.
- The P2P51DTP70 (new in 2017) is for legacy X-Rite DTP70 users.
- The horizontal P2P51H measures about 30% faster on the iSis than the P2P51x.

## Instrument compatibility

At the time of writing, the P2P51, P2P51x and P2P51H can be measured with:

- Konica Minolta FD9
- X-Rite i1iSis and iSis XL (1 & 2)
- X-Rite i1Pro (1 & 2, hand-held or with iO table)

The P2P51DTP70 can be measured with:

- X-Rite DTP70
- X-Rite i1Pro (1 & 2, hand-held or with iO table)

Other devices may also be compatible. Please check with your supplier.

## Custom P2P51 targets for Barbieri LFP

Custom P2P51 targets and reference files are included for the Barbieri LFP. See page 8 for measuring instructions in Barbieri Gateway software.

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## Supplied image precision

The 8 bit CMYK supplied target images incorporate LSB error diffusion for 16 bit per channel precision (effective). This is important in light gray patches of 15% or below.

*CAUTION: Lossy compression or re-sizing can reduce the 16 bit precision in supplied targets. When saving or converting, avoid lossy compression and DO NOT re-size the target.*

## Making custom P2P51 target images

The supplied .txt files can be used to generate custom targets in X-Rite MeasureTool, ColorPort, BabelColor PatchTool and others, but custom targets may not have the same precision as Idealliance targets, unless the software generates 16 bit targets.

*Note: Do NOT create targets in X-Rite ColorPort software due to a fault in how it interprets fractional percentages. The supplied P2P51DTP70 target does not have this problem.*

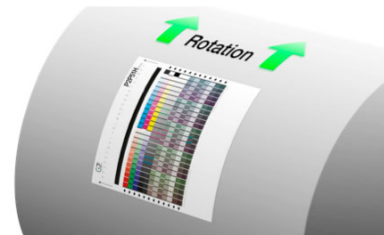
## Supplied reference files

Place the .rwx, .txt or .xml files where they can be found by your measuring software.

- .rwx files are used by i1Profiler, Curve4 and possibly other software.
- .txt files are used in software like CoPrA4, baslCColor catch, MeasureTool, etc.
- The P2P51\_DTP70\_CP.xml file is used exclusively by X-Rite ColorPort.

## Printing orientation

On printing systems with uneven inking or directional ink starvation, align the P2P51's columns to point in the direction of paper travel (e.g. around an offset cylinder), as shown. This minimizes the chance of variations within each gray ramp and typically yields smoother curves with lower  $w\Delta Ch$  and  $w\Delta L^*$  errors.



## P2P targets accepted by the G7 Master program

Idealliance accepts standard versions of the P2P25, P2P51, P2P51X or P2P51H for G7 Master Qualification testing. The P2P51DTP70 will be measured on the i1i/O, not the DTP70.

*Note: All submitted targets must be readable on the i1Pro or i1iSis or Barbieri LFP.*

## Measuring with a hand-held i1Pro 1 or 2

Most versions of the P2P51 can be measured on both the iSis and i1Pro i/O table, but the iSis diamonds and black bar can make it hard to measure with a hand-held i1Pro.

- To measure the P2P51H with a hand-held i1Pro, cover the diamonds with white paper.
- To measure the P2P51x or P2P51DTP70 with an i1Pro, cover the bar with white paper.
- If the target will only be measured with an i1Pro, the diamonds and bar can be removed in pre-press.

## Measuring in i1Profiler

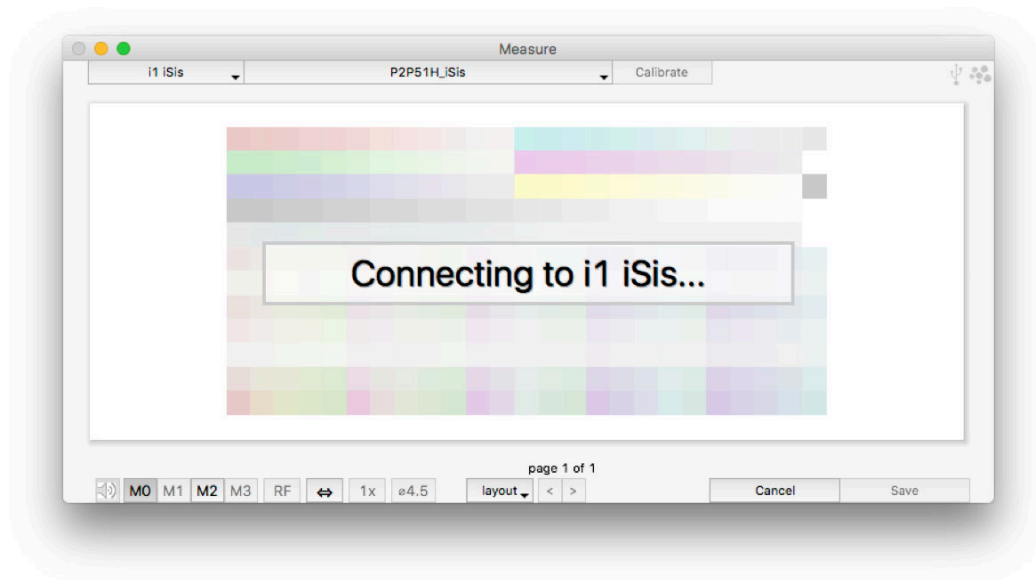
- Turn on the device (i1iSis or i1Pro) then plug it into the computer.
- Launch i1Profiler and select User Mode: Advanced, Device Selection: CMYK Printer, Workflow Selection: Measure Reference Chart (an Assets panel will appear).
- In the Assets panel, right-click or Control + Click (Mac) to display a contextual menu.
- Click Show in Finder (Mac) or Open Containing Folder (Win) to find the Assets folder.
- Copy the .rwxf files into the MeasureReferenceWorkflows folder then close the folder.
- Click the circular arrow in the right corner of the Assets panel to refresh the contents.
- Double-click the desired .rwxf workflow file in the Saved Workflows list.
- Select the connected device from the pop-up list at the top of the screen.
- Click the Next arrow icon or click the Measurement icon at the bottom of the screen.
- Select Single scan (M2) or Dual scan (M0, M1, M2 and OBC) Measurement Mode.
- Click the Measure button under the test chart and follow measuring instructions.
- When measurement is complete, click the Save button above the Measurement icon.
- Set Files of Type to i1Profiler CGATS Custom (\*.txt) with the values shown below:



- Click OK.
- Note that one file is saved with the suffix “\_M2” if single scan was selected; two files - \_M0 and \_M2 if dual scan was selected with version 1 iSis or i1Pro, or three files \_M0 , \_M1 , and \_M2 if dual scan was selected with version 2 iSis or i1Pro.

# Measuring in Curve4

- Turn on the i1iSis (or i1Pro) and plug it into the computer.
- Launch Curve4 and select the VERIFY or CALIBRATE tool.
- Click the **New** button above the Verifications or Calibrations list.
- Below the Measurements list, click **Measure**.
- In the Target list (top of the Measure window), select **Open Target Folder...**
- Drag (or copy and paste) the supplied .rwx files into the folder for your device.
- Select your device from the drop-down list.
- Select the appropriate target file.



- Follow the instructions in the Measure window.

*Note: The file is automatically loaded into the Verification or Calibration you just created and automatically saved when you save that Verification or Calibration.*

- To export the data, select the file name in the Measurements list and click **File – Export Measurement File...**

## P2P51

# Measuring in Barbieri Gateway

- Plug in the Spectro LFP to computer, then power, then turn it on.
- Locate the Barbieri folder in the Documents folder (Mac and Windows).
- Open the Charts folder inside the Gateway folder inside the Barbieri folder.
- Unzip the *P2P51X (2mm).zip* or *P2P51Xb (6mm).zip* file and place the contents of each folder into their respective folders in the Charts folder. If there is no Templates folder, copy the entire Templates folder into the Charts folder.
- Launch Gateway and wait for the Spectro LFP to connect.
- In the Operation Mode pane, select the *Chart Measurement* icon if not already selected.
- At the bottom of the left pane select *Advanced* if not already selected.
- In the Chart Measurement pane, select the *P2P51X (2mm)* or *P2P51Xb (6mm)*.
- Click the *Next* arrow button (>>) in the lower right corner.
- Make no changes to this screen and click the *Next* arrow button (>>) in the lower right corner.
- Make changes to the Measurement Mode if necessary and click the *Next* arrow button (>>) in the lower right corner.
- Mount the printed P2P51X or P2P51Xb chart on the Spectro LFP and click the *Next* arrow button (>>) in the lower right corner.
- Move the Spectro LFP table using the arrow keys on the keyboard to position the white pointer on the head over the upper left registration mark (circle and dot) on the chart.
- Click the *Next Corner* >> button.
- Move the Spectro LFP table using the arrow keys on the keyboard to position the white pointer on the head over the upper right registration mark on the chart.
- Click the *Next Corner* >> button.
- Move the Spectro LFP table using the arrow keys on the keyboard to position the white pointer on the head over the lower right registration mark on the chart.
- Click the *Next Corner* >> button then click the *Next* arrow button (>>) in the lower right corner.
- The Spectro LFP will measure the chart. When it is finished, click the *Next* arrow button (>>) in the lower right corner.
- Click the *Browse...* button to choose a name and location to save the file and click the *Save* button.
- Check only the *Save Spectral Values* checkbox.
- Click the *Next* arrow button (>>) in the lower right corner (this is important as the measurement data isn't saved until *Next* arrow button (>>) is clicked).
- A green light means the measurement data has been saved.
- Click the *Open measurements folder...* button to see the measurement files. There will be five files saved. The one to use is the file with the *.CIE.txt* ending.