# The **P2P53** target
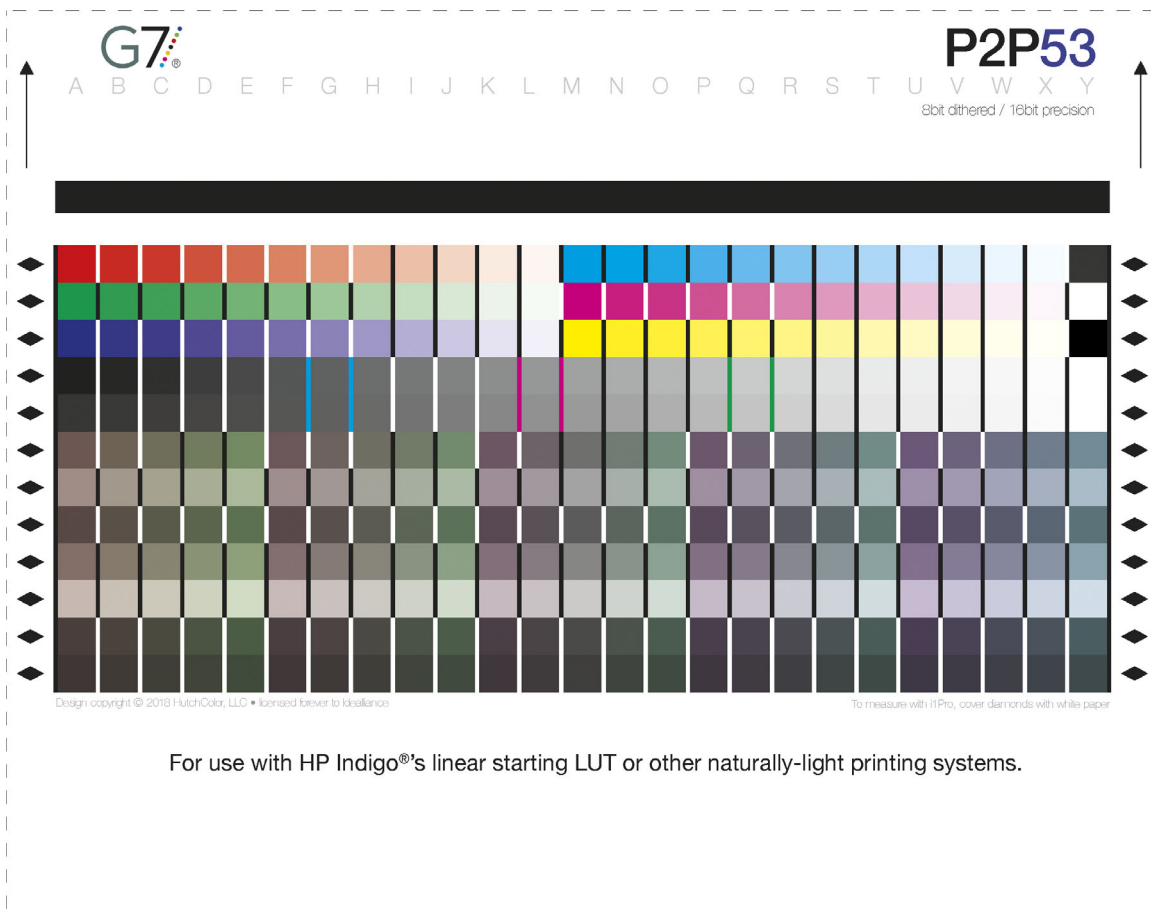
August 21 2018

The P2P53 target is designed to improve gray balance calibration on an HP Indigo (when starting with its built-in Linear LUT) or any other printing system whose initial state is very light.

CMY percentages in the lower seven rows have been darkened by a TVI curve that peaks at about 18%. All other rows are identical to those in the P2P51.



For use with HP Indigo®'s linear starting LUT or other naturally-light printing systems.

## When to use the P2P53

The P2P53 should ONLY be used when the printing system's initial state is unusually light, for example when it exhibits no TVI (dot gain), which is the default state of an HP Indigo when using the "Linear" LUT. Other printing systems should normally use the P2P51.

## Instrument compatibility

At the time of writing, the P2P53 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)

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

## Supplied target precision

The supplied P2P52 target is an 8-bit per channel TIFF with an effective precision of 16 bits per channel (achieved through lsb error-diffusion). The file is saved with loss-less lzw compression to minimize file size. On very smooth, stable devices, this 16 bit precision target can produce a small accuracy increase in light gray patches of 15% or less, when compared to calibrating with a standard 8-bit image in .

*CAUTION: When saving or converting, avoid JPEG or other lossy compression schemes and **DO NOT re-size the target.***

## Making custom P2P53 target images

The supplied .txt files can be used to generate a custom target in X-Rite i1Profiler, MeasureTool, ColorPort, BabelColor PatchTool, Barbieri Gateway and other software, but custom targets may not have the same precision as the supplied targets, unless the software can generate 16 bit targets.
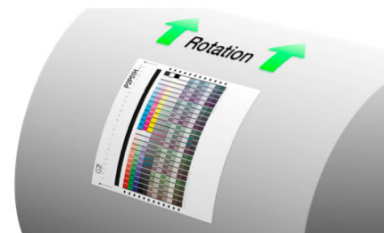
## Supplied reference files

Place the .rwxf or .txt files where they can be found by your measuring software.

- .rwxf files are used by i1Profiler, Curve4 and possibly other software.
- .txt files are used in software like CoPrA4, basICColor catch, MeasureTool, etc.
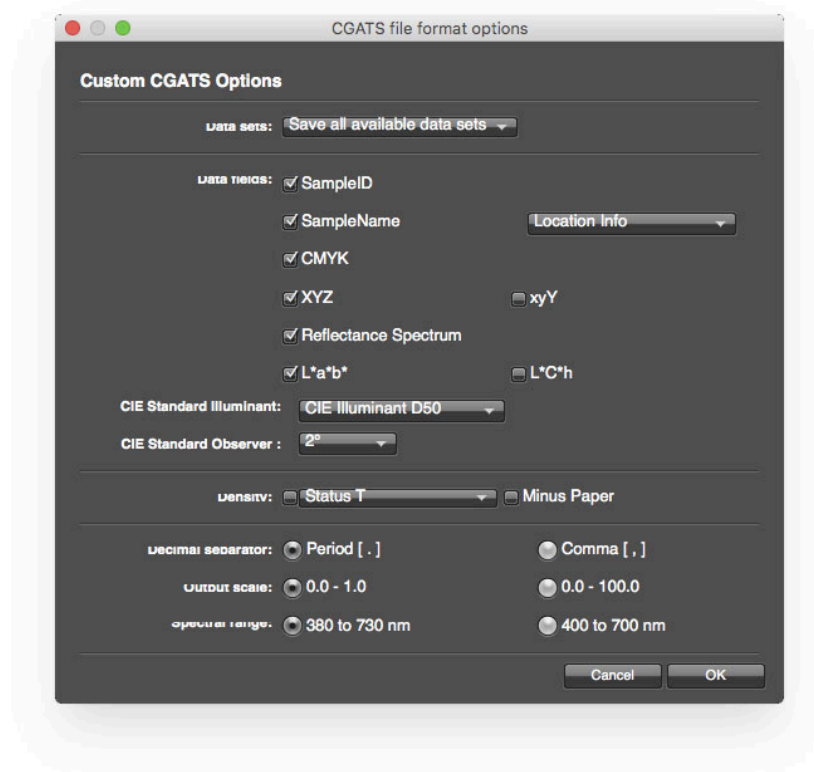
## Printing orientation

On printing systems with uneven inking or directional ink starvation, align the P2P51's columns parallel with any linear streaks or starvation marks (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 wΔCh and wΔL* errors.

# Measuring in i1Profiler

- 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 *MeasureReferenceWorkflow*s 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 or the *Measurement* icon at the bottom of the screen.
- Set *Measurement Mode* to (M2) or Dual scan (M0, M1 and OBC).
- 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) and select the options shown below
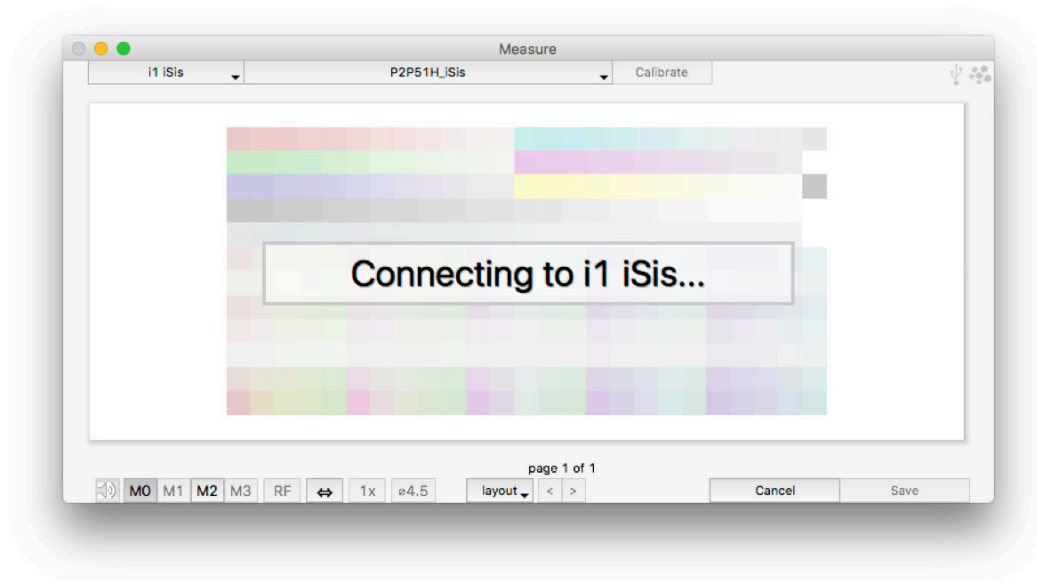- Click OK.



- 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 .rwxf 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...*

## Measuring with a hand-held i1Pro

If the target will only be measured with an i1Pro, either cover the diamonds with white paper or remove the diamonds and bar from the image before printing.

## Verifying G7 Master compliance

All patches used to evaluate G7 Grayscale or Targeted compliance are unchanged, so the P2P53 should be compatible with any G7 Master Verification tool that accepts the P2P51. If in doubt, check with your software provider.