

## LITTLE ARGYLL

*Argyll is a very beautiful place in Scotland.*

*Consequently, Little Argyll's program icon is a green-blue-red Scottish Tartan.*

The main application Argyll is a standalone program for calibrating printers, scanners, screens and cameras. You can use a variety of instruments on the market for the program. The disadvantage is that you work in a DOS environment and have to type in a lot of command strings, which is difficult for people like me. Also, it is not always easy to remember how to go about it, at least when you do not use it daily.

“Little Argyll” is a graphic shell, simplifying usage of the main program “Argyll”. One should still know the basic structure of Argyll to facilitate its use and get good results.

### Argyll's basic structure

1. TARGEN (*generate target, ie a color chart to print and then measure*).
  - a. Here you define the number of panes and the distribution of white / black / gray scale steps etc.
  - b. You can also specify a "pre-conditioning profile", ie the program is based on an existing profile and defines the color squares where they are most useful.
  - c. The result is a **.ti1** file, for example Solution\_Glossy\_255G.ti1
  - d. The **.ti1** file then becomes the basis for the next step
2. PRINT TARG (*nothing is printed here, but the program creates an image - usually TIFF - based on the above parameters*)
  - a. You have to choose which instrument to use, so that the size and shape of the boxes fit the instrument (*many users of ColorMunki however, use other smaller patches intended for professional instruments*)
  - b. The page size is specified (*you can process and crop the image afterwards, in which case it is important to have sufficient resolution so that there are margins*)
  - c. What kind of image file you want to generate, as well as the bit depth
  - d. The result will be a TIFF and a ti2 file, for example Solution\_Glossy\_255G.ti2
  - e. The ti2 file then becomes the basis for the next step
3. CHARTREAD (*measuring the printed color squares with the measuring instrument*)
  - a. The result is a ti3 file, for example Solution\_Glossy\_255G.ti3
  - b. The ti3 file then becomes the basis for the next step
4. COLPROF (*generate a color profile*)
  - a. The generated profile is then placed in the Windows nearly inaccessible color folder (**C: \ Windows \ System32 \ spool \ drivers \ color**)
  - b. A shortcut to the color folder is advantageously placed on the desktop and / or on the quick start list

#### **NOTE:**

If you download and use Argyll and Little Argyll, you really should make a generous donation to the creators of the programs. Fortunately that is easy using supplied links.

## A look at Little Argyll's interface

Little Argyll GUI 0.1.1

Working folder, base name:

Monitor calibration | Monitor profiling | **Printer profiling** | Printer calibration | Setup

**Generate patch values (targen)**

Patches - white (default 4) -e:

black (default 4) -B:

single channel steps (default 0) -s:

gray axis steps (default 0) -g:

full spread, to total (default 836) -f:

Pre-conditioning profile -c:

[examples: profiling | calibration](#)

**Create patch images (printtarg)**

Instrument -i:  ☐ Double density -h 90 patches per sheet

Page size -p:

Output file:  Tiff resolution:  ☐ Dither 8-bit -D ☐ Don't randomize patches -r

Calibration file -K:

**Read the patches (chartread)**

Filter -F:  ☐ Patch by patch -p ☐ Resume -r ☐ Disable bi-directional -B ☐ High resolution (if available) -H

**Create the printer profile (colprof)**

Manufacturer -A:

Model -M:

Description -D:

Copyright -C:

Default intent -Z:

Illuminant -i:

FWA comp -f:

Gamut mapping profile -S:

[example](#)

**This will be the profile name, as you see it in the Explorer**

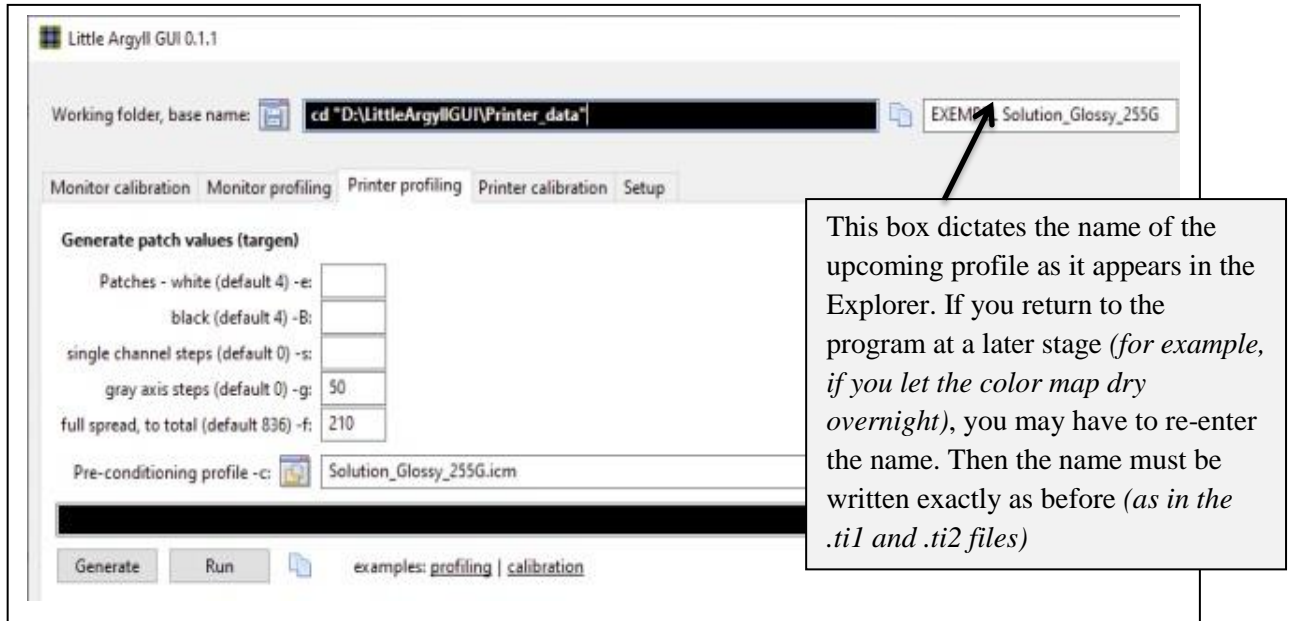
**"Description" = This is how the profile is displayed in Q-Image**

## TARGEN

Target generator. Works in two steps, first you set the desired parameters and generate the premises that are sent to the main program Argyll.

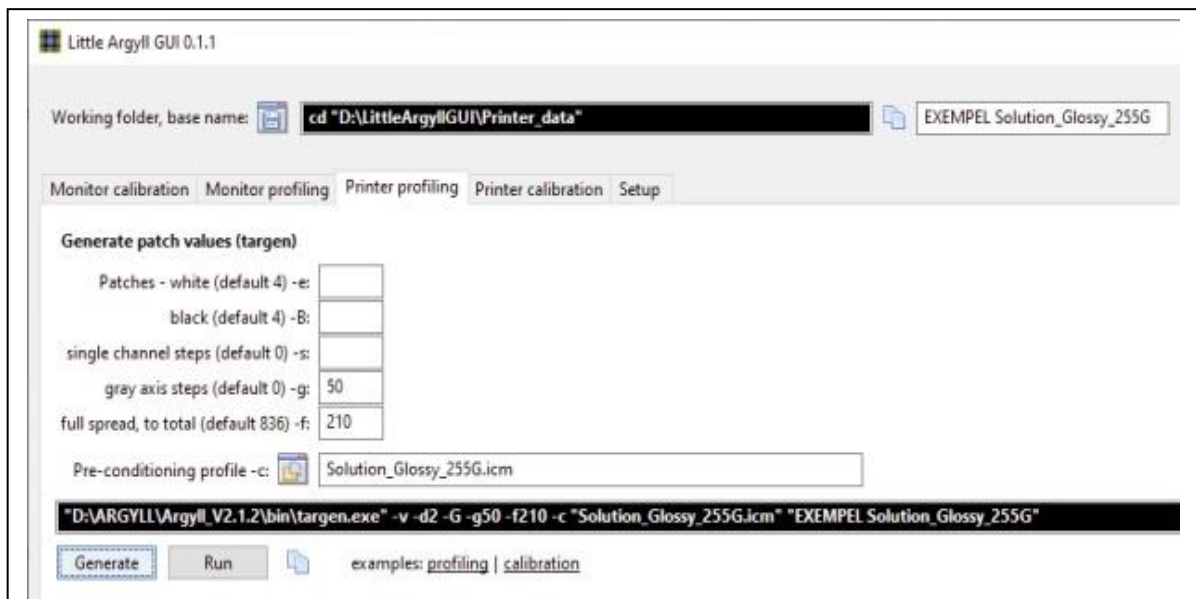
Explorer: Make a folder for the profile you want to create. Place the folder in the "Printer data" folder. Here are all the files that the program produces. For the program to find the right one, use this folder under LittleArgyll / Printerdata if you want to work more with this profile.

You can advantageously specify a source file, the "pre-conditioning profile", which the program takes as a starting point. This gives you better precision because the program knows where to place the center of the measurements.



The "Generate" button generates a command string (based on the choices made), which ends up in the black text field. The command string is editable if desired.

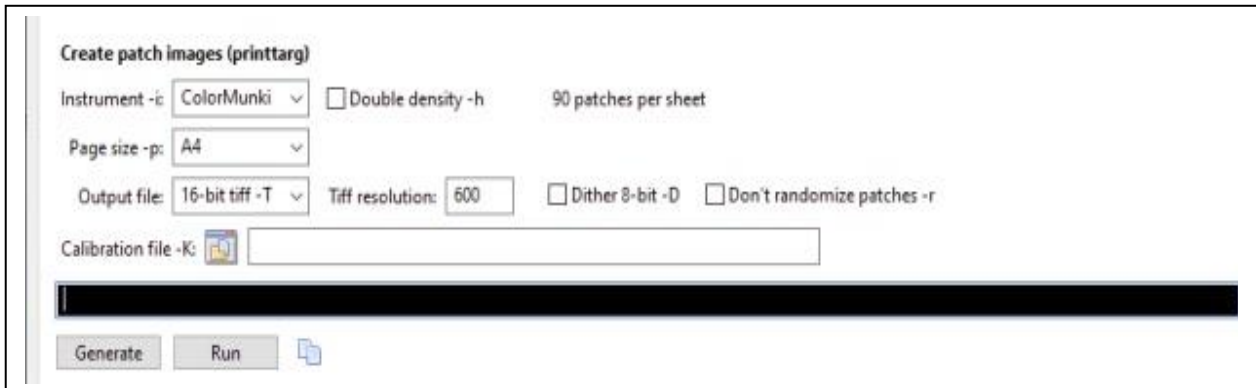
The "Run" button generates a .ti1 file with the selected name in the selected destination folder. From this file, the program will then, among other things, make a TIFF file (most common) with the test chart we will later print.



## PRINTTARG

Generates an image file with the test patches. Here are the parameters that the board should have, which measuring instrument we use (*controls the size and shape of the color patches*), the paper size and the file format.

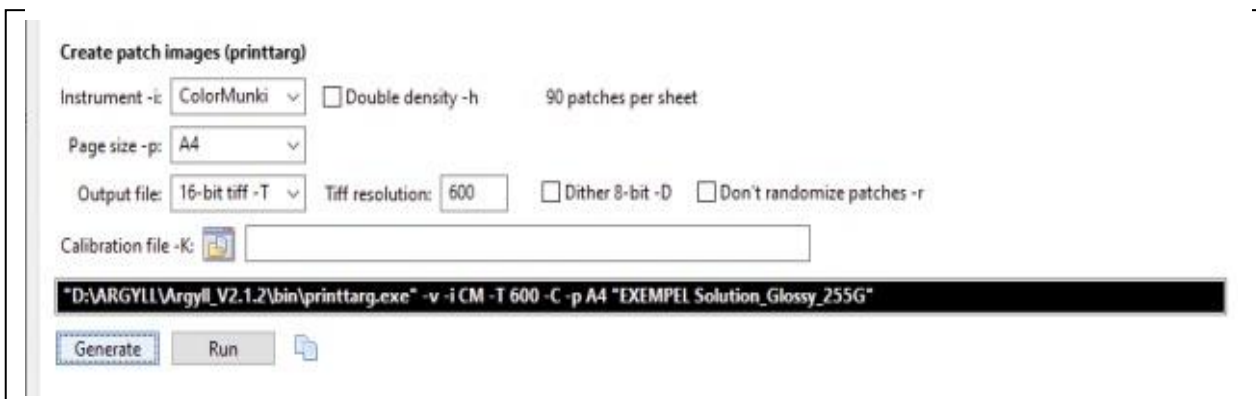
A high image resolution is good if you will rework the test chart, then you have a margin to enlarge. If you plan to reduce an A3 to A4, 300 dpi is good enough as resolution increases when you shrinks the image.



The "Generate" button generates a command string (*based on the choices made*), which ends up in the black text field. The command string is editable if desired.

The "Run" button generates a (*most common*) TIFF file with the test board we will later print, as well as a .ti2 file with the selected name in the selected target folder.

The .ti2 file is then used as a comparison when measuring the test board. **It must be left unchanged** so that the program knows what color value each frame in the image file should have and be able to make a correction table (= *profile*). You cannot retroactively create a new .ti2 file that works with the color chart you previously printed, because the color squares are generated randomly.



When printing the TIFF file, it is very important that all color management is turned off. Both in the printing program and in the printer driver. Sharpening and speed printing should also be turned off. All other parameters should be kept equal when printing, such as

1. Paper
2. how many dpi resolution is used
3. ink quantity mm (*on some papers, I increase ink amount 2-6% in order to obtain maximum black*)

## CHARTREAD

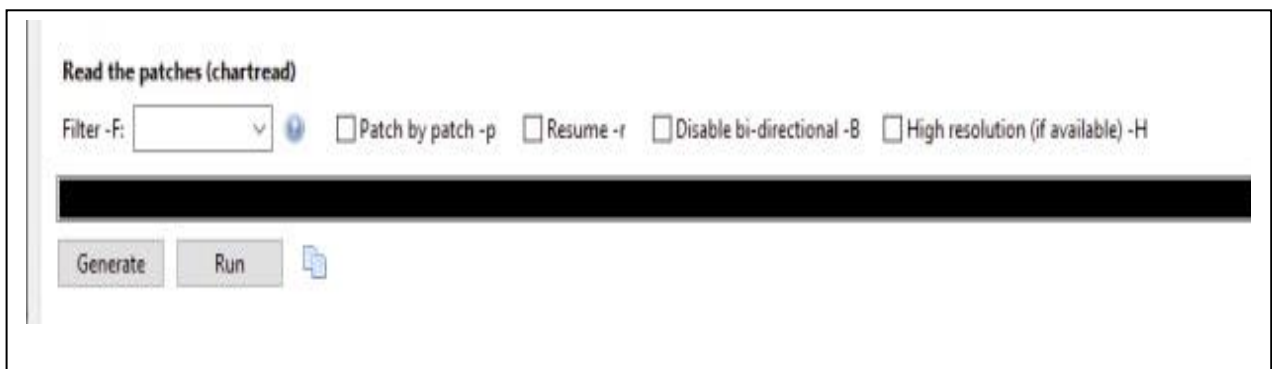
Now it's time to measure the color squares with our measuring instrument. The result is a **.ti3 file**, for example `Solution_Glossy_255G.ti3`

The **.ti3** file then becomes the basis for the next step

### WAIT!

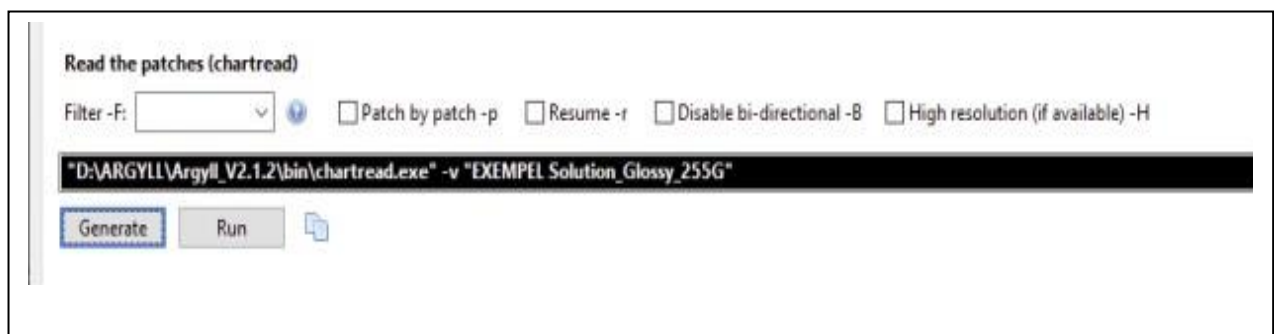
Keep in mind that the paper needs drying time so that colors and density can settle permanently. This can range anywhere from 10-15 minutes to a few hours. For safety reasons, it should therefore be allowed to dry overnight, ie at least 12 hours.

Do not leave the test card in the light!



The "Generate" button generates a command string (*based on the choices made*), which ends up in the black text field. The command string is editable if desired.

The "Run" button starts the measurement. The black dialog box gives instructions and indicates if something is wrong, for example if the reading gives too few or too many patches. When the measurement is complete and you press the command "D", a **.ti3** file with the selected name is generated in the selected target folder. The file is then used in calculating the printer profile.



### NOTE!

In order to avoid that the color of the table under the test chart affects the reading (*even white can have a color our eyes do not perceive*), it is wise to put one or a few sheets of current photo paper under the color map.

## COLPROF

Generates a color profile. The "Description" field controls how the profile is displayed in the printing program.

Create the printer profile (colprof)

Manufacturer -A: Epson

Model -M: 3880

Description -D: 200121\_LA210\_Solution\_ink\_Solution\_Glossy255!

Copyright -C: Anders Olofsson

Default intent -Z: Relative colorimetric

Illuminant -i:

FWA comp -f:

Gamut mapping profile -S:

This is how the profile is displayed in Q-Image

The "Generate" button generates a command string (*based on the choices made*), which ends up in the black text field.

Create the printer profile (colprof)

Manufacturer -A: Epson

Model -M: 3880

Description -D: 200121\_LA210\_Solution\_ink\_Solution\_Glossy255!

Copyright -C: Anders Olofsson

Default intent -Z: Relative colorimetric

Illuminant -i:

FWA comp -f:

Gamut mapping profile -S:

`"D:\VARGILL\Argyll_V2.1.2\bin\colprof.exe" -v -A"Epson" -M"3880" -D"200121_LA210_Solution_ink_Solution_Glossy255G" -C"Anders Olofsson" -Z`

Here it is fortunate that the string is editable, for the dialogs with the terms "Illuminant" (-i) and "FWA comp" (-f) cause problems regardless of how or if they are filled in. The program requests the values of these parameters or states that my ColorMunki does not have any FWA lighting (*to measure and then correct the effect of fluorising paper surfaces*).

So when a text string is generated with the "Generate" command, I have to remove the -i and -k conditions from the string before finally pressing the "Run" button ..

`on" -M"3880" -D"200121_LA210_Solution_ink_Solution_Glossy255G" -C"Anders Olofsson" -Zr -qh -i -f -cmt -dpp "EXEMPEL`



The "Run" button generates a printer profile with the selected name in the selected target folder.

The profile is placed in the Windows inaccessible color folder (*C: \ Windows \ System32 \ spool \ drivers \ color*)

A shortcut to the color folder is advantageously placed on the desktop and / or on the quick start list

```
C:\WINDOWS\SYSTEM32\cmd.exe
*****
*****
Doing White point fine tune:
Before fine tune, rel WP = XYZ 0.964197 0.999963 0.824861, Lab 99.998556 0.005262 0.001074
After fine tune, rel WP = XYZ 0.964203 1.000000 0.824905, Lab 100.000000 0.000000 0.000000
abs WP = XYZ 0.84740648 0.88455916 0.73708759, Lab 95.352580 -1.031679 -0.647697
Creating fast inverse input lookups
White point XYZ = 0.84740648 0.88455916 0.73708759, Lab = 95.352580 -1.031679 -0.647697
Find black point
Black point XYZ = 0.01097971 0.01129268 0.01060099, Lab = 10.024977 0.312591 -1.975879
Done A to B table creation
Setting up B to A table lookup
Creating B to A tables
Rev cache RAM = 729 Mbytes
Initializing nnrev arrays...
There is 1 rev cache instance with 729 Mbytes limit
nnrev initialization done
Initializing nnrev arrays...
There are 2 rev cache instances with 2512 Mbytes limit
nnrev initialization done
52%
Done B to A tables
Creating gamut boundary table
100%
Done gamut boundary table
There is 1 rev cache instance with 729 Mbytes limit
Profile check complete, peak err = 2.557737, avg err = 0.579063, RMS = 0.726860
D:\LittleArgyllGUI\Printer_a\420 RUTOR Solution Glossy 255G>
```

## Profile check

Found at the bottom of the dialog box after the profile has been generated

**Peak error:** Should be below 3

**Average error:** Should be less than 1.5

If the errors are larger, it is probably due to measurement errors / read errors from the scanning of the color squares, writes Anders Torger in his fine guide "*Printer profiling with Argyll and ColorMunki*".

<https://www.ludd.ltu.se/~torger/photography/argyll-print.html>

It is wise to save screenshots with the settings you have made for each paper profile (*I save each profile in it's own folder*).

They are conveniently saved as jpeg:s in the respective color profile's folder under "Printer Data".