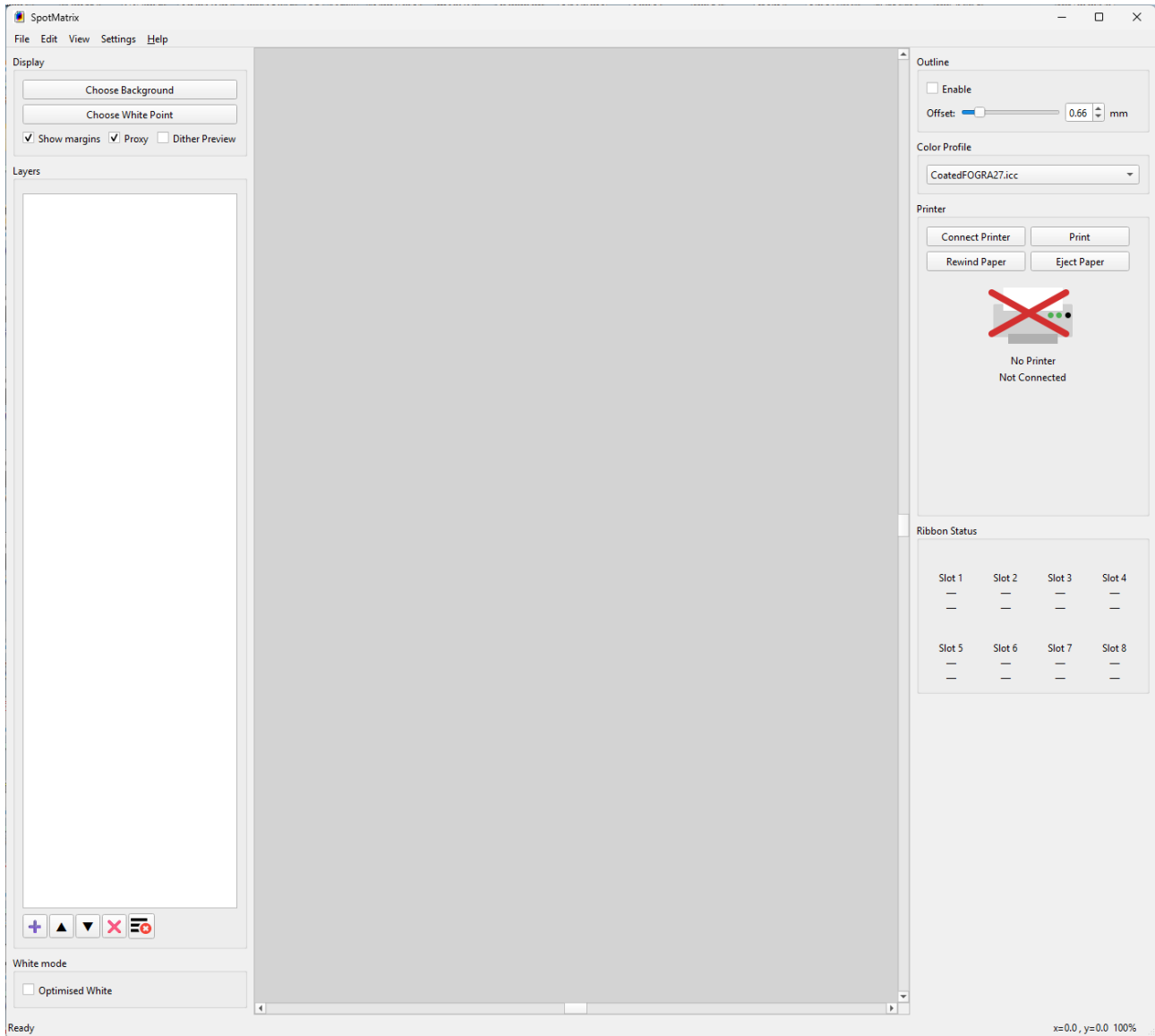


SpotMatrix Quickstart.

This will guide you through verifying your printer and USB adapter are compatible with the application. Please download the User Manual for complete documentation.

Unplug the usb cable from your printer.

Launch SpotMatrix.



UI with blank canvas should appear.

Plug in the printer USB cable

Printer should immediately appear as connected with an indication of which ribbons are currently loaded. Ribbon inventory is live and it should update automatically if ribbons are changed.

Printer

Connect Printer

Print

Rewind Paper

Eject Paper

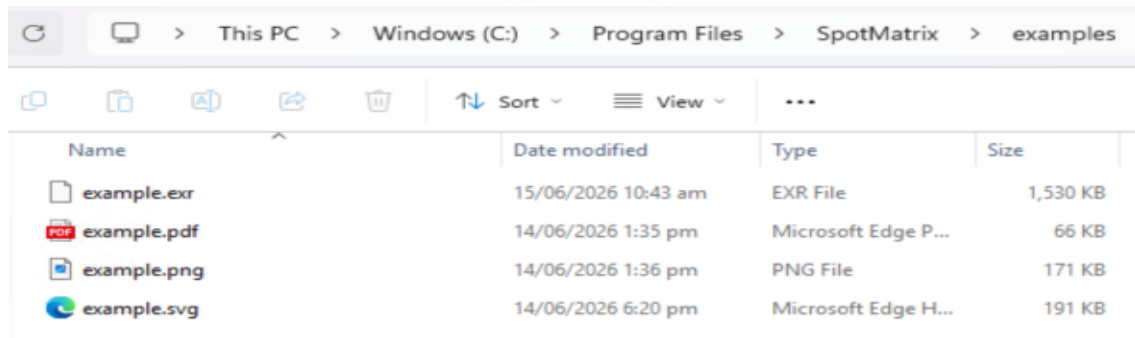


MD-1000/T-03
Connected

Ribbon Status

			
Slot 1	Slot 2	Slot 3	Slot 4
Magenta	Yellow		Cyan
2	1	0	3
			
Slot 5	Slot 6	Slot 7	Slot 8
None	None	None	None

Use File-> Import Image to load one of the example files

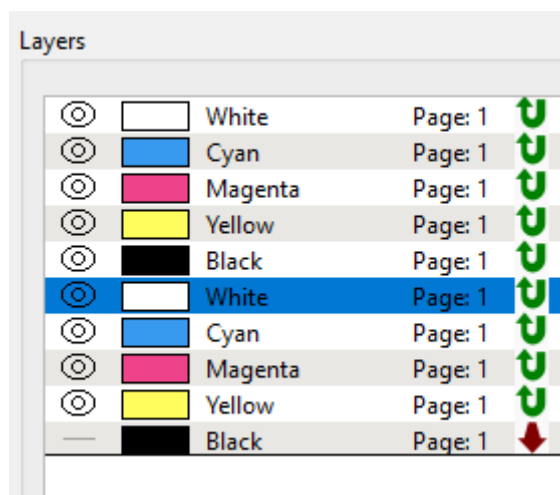
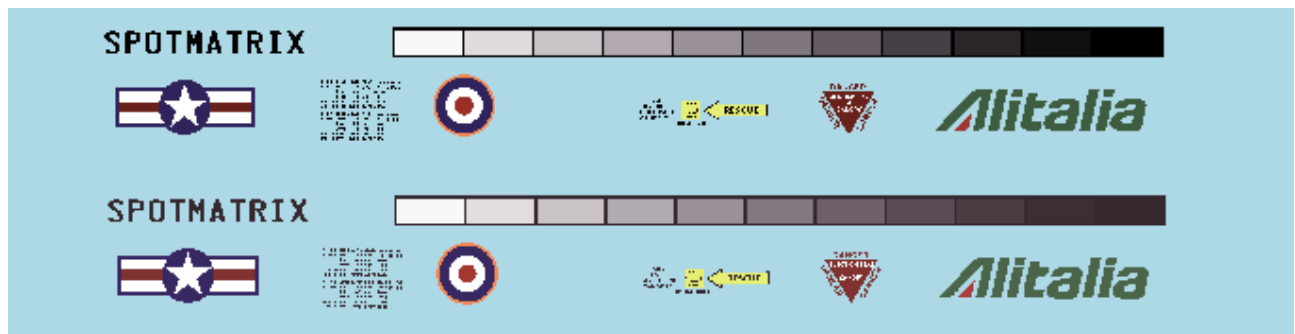


Use example.svg to verify inkscape is found for svg conversion

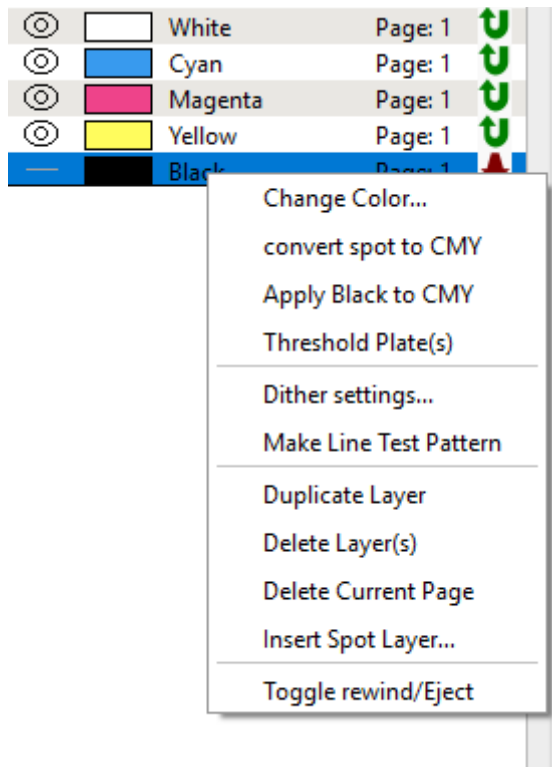
Use example.pdf to verify stet.exe is found for pdf conversion

Example.png is a 600dpi rgba image exported from Inkscape– this is the application's native import format

Example.exr is a saved job containing 2 copies of the example decals.

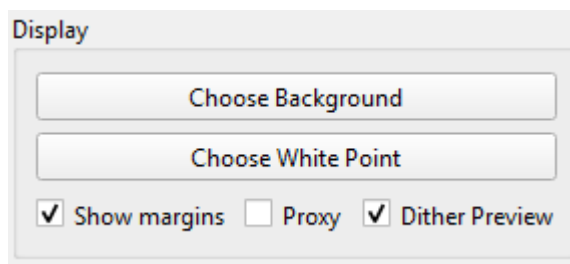


You can see that the bottom black layer has been disabled as that black channel has been transferred to the CMY channels using the "Apply Black to CMY" function.

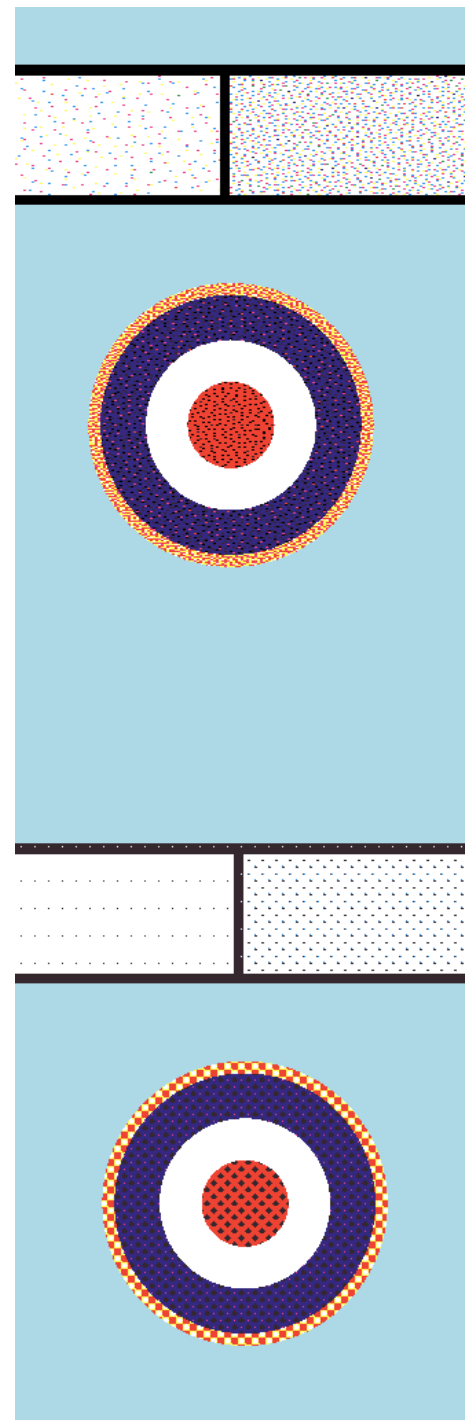


This takes the K value and applies it to CMY layers immediately above and is useful if you want to print white underlay plus full colour using only 4 ribbons on a printer with only 4 ribbon slots.

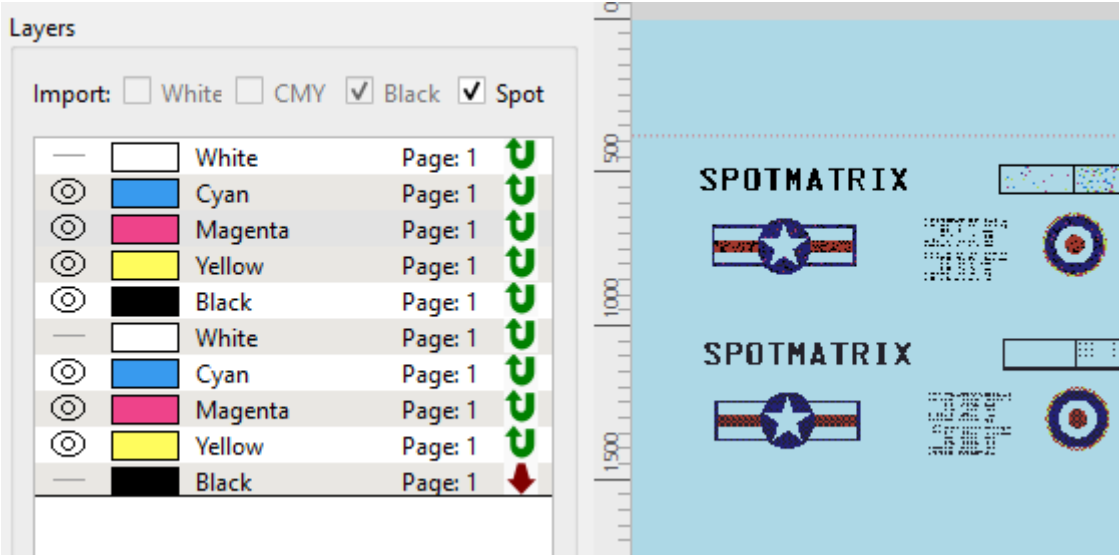
The bottom section in the test image have also had their settings changed to use the OEM dither pattern. Uncheck "proxy" in the display section and check "dither preview". Press '1' to show the image pixels unscaled.



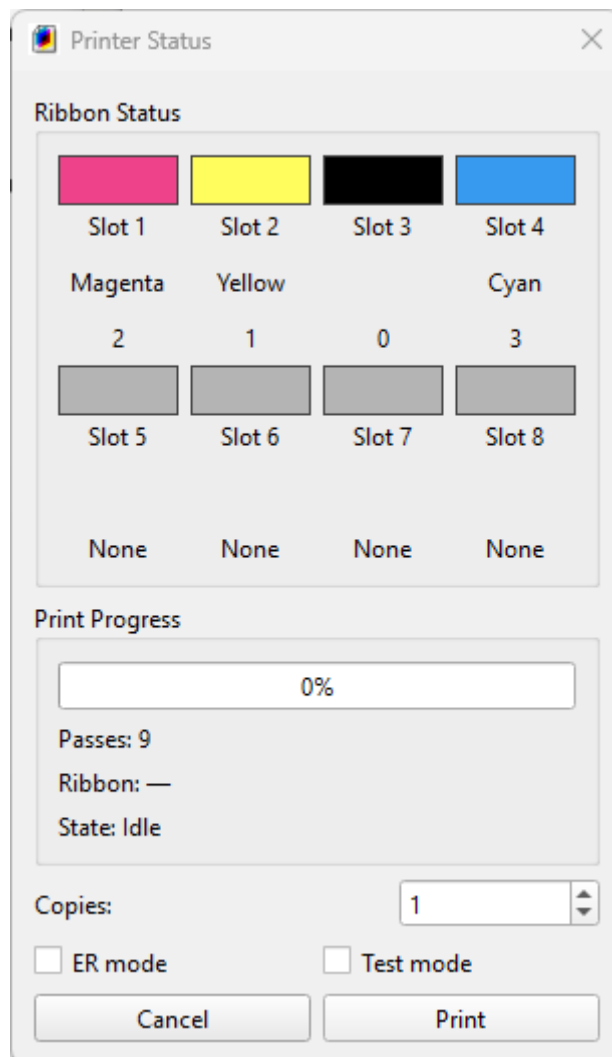
You can see the halftone pattern (bottom) compared to the application's native dither. Obviously spot colours (if you have them) will produce pure colours without dithering but the noise based dither alleviates visual artifacts from the coarse 5x5 pixel grid the original driver used.



If you are testing with plain paper – click on the eye icon on the white layers to disable them.

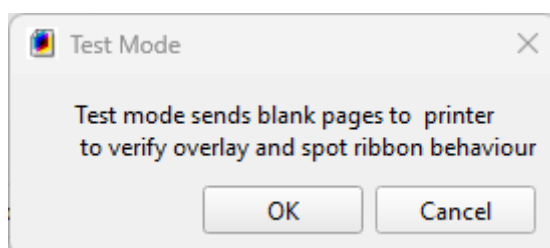


To test printer comms – press the "Print" Button – this will bring up another dialog showing the ribbon inventory – this dialog will stay on top of all windows and is only active while printing.

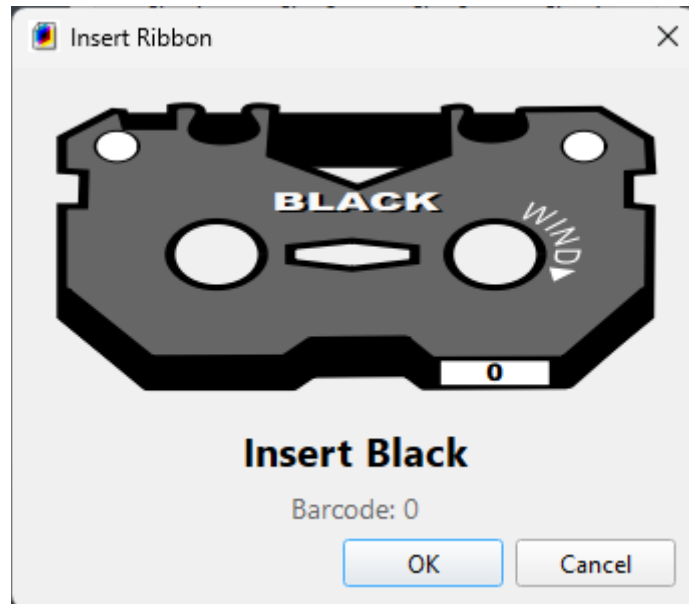


ER mode is experimental and should only be used if your printer is equipped with the "Elephant's Switch" modification which bypasses the door closed sensor. Refer to the Elephant's Rocket website for details.

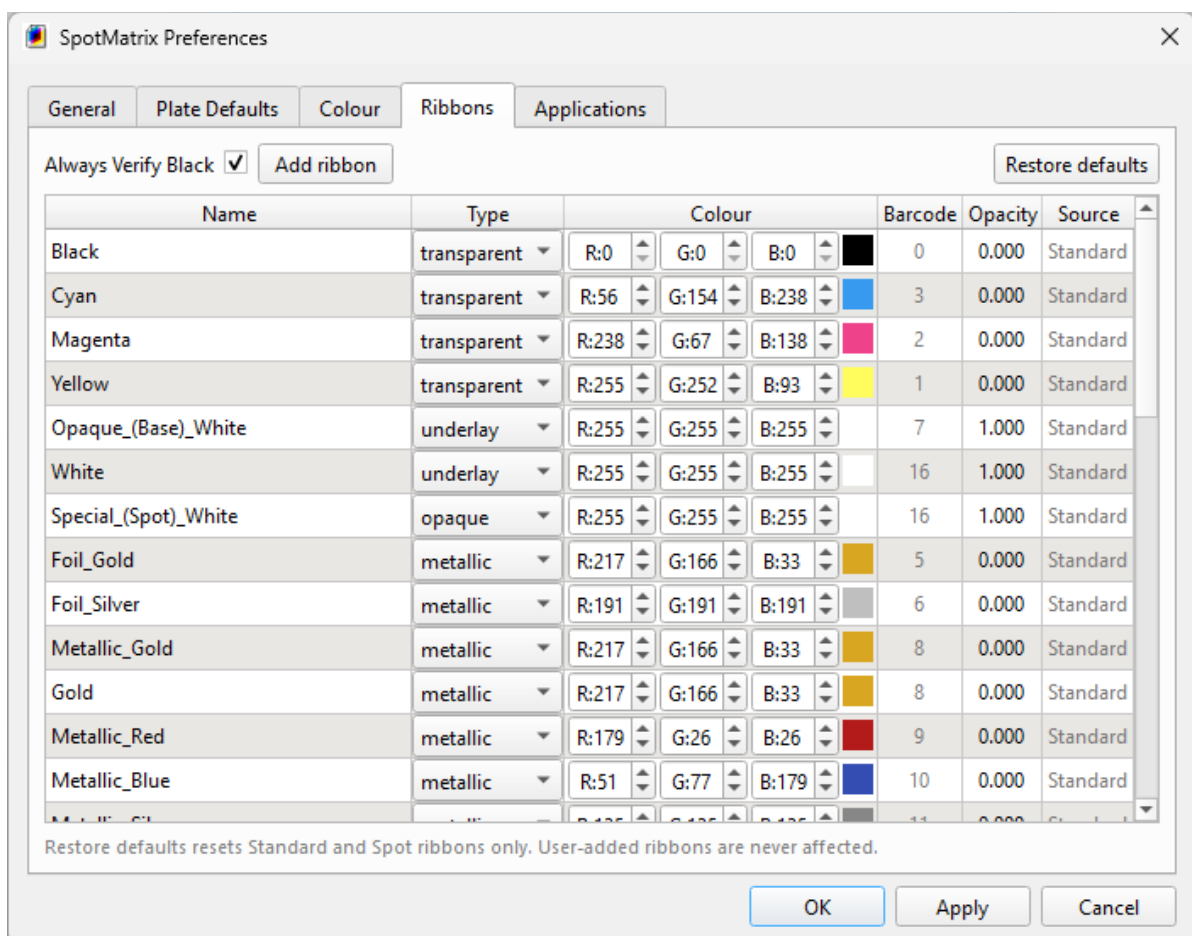
I'd recommend clicking "Test Mode" before committing ink to paper the first time. You'll be shown this message:



After clicking OK – Press the "Print" Button The printer should go through the motions of a real print but no ink will be consumed. If your job contains ribbon changes it'll prompt and won't continue until the required ribbon is present. The first time it needs a black ribbon – it'll prompt to insert. This is a safety feature for users with Spot Colour inks and a reminder to check that the ribbon with barcode 0 is actually black and not a spot colour from a previous job.



To disable this check – uncheck "Always Verify Black" in the Ribbons preferences tab:



Pressing cancel in any pop-up or the printer dialog box will terminate sending data to the printer and return to the main screen. If it's halfway through printing a page, chances are the printer has already buffered most of the page and it'll continue the page then rewind or eject based on the current pass's rewind/eject setting.

Once the test/empty job has finished the dialog should dismiss and return control to the main window.

Beta testers – if it stalls mid-print or returns to the main window before it should – then we're kind of stuck. You'll find a file in the same directory as the executable called:

spotmatrix_output.log

Please email the file to the developer.

If the test job finished successfully – you should see "Print Finished" at the bottom left of the main window.

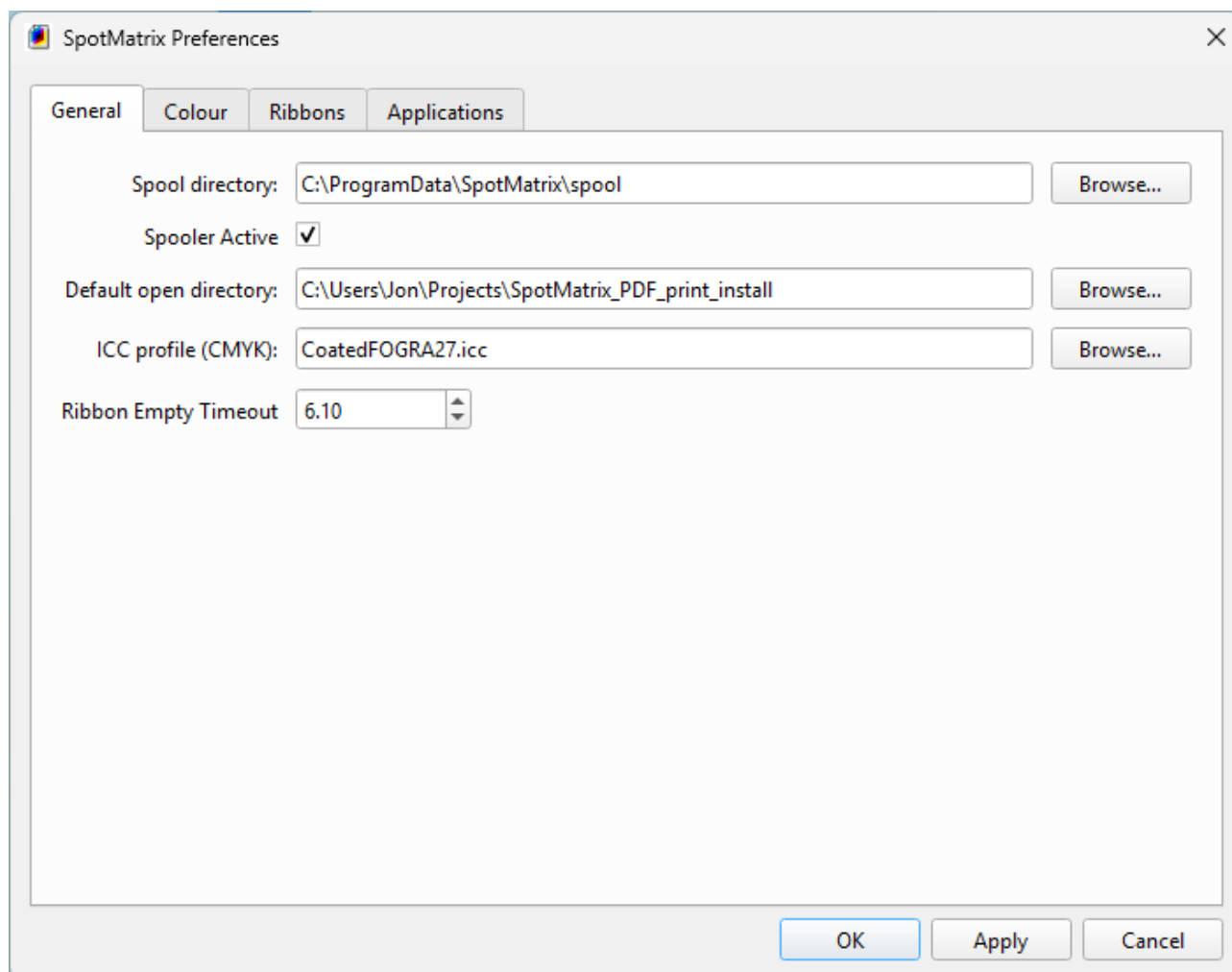
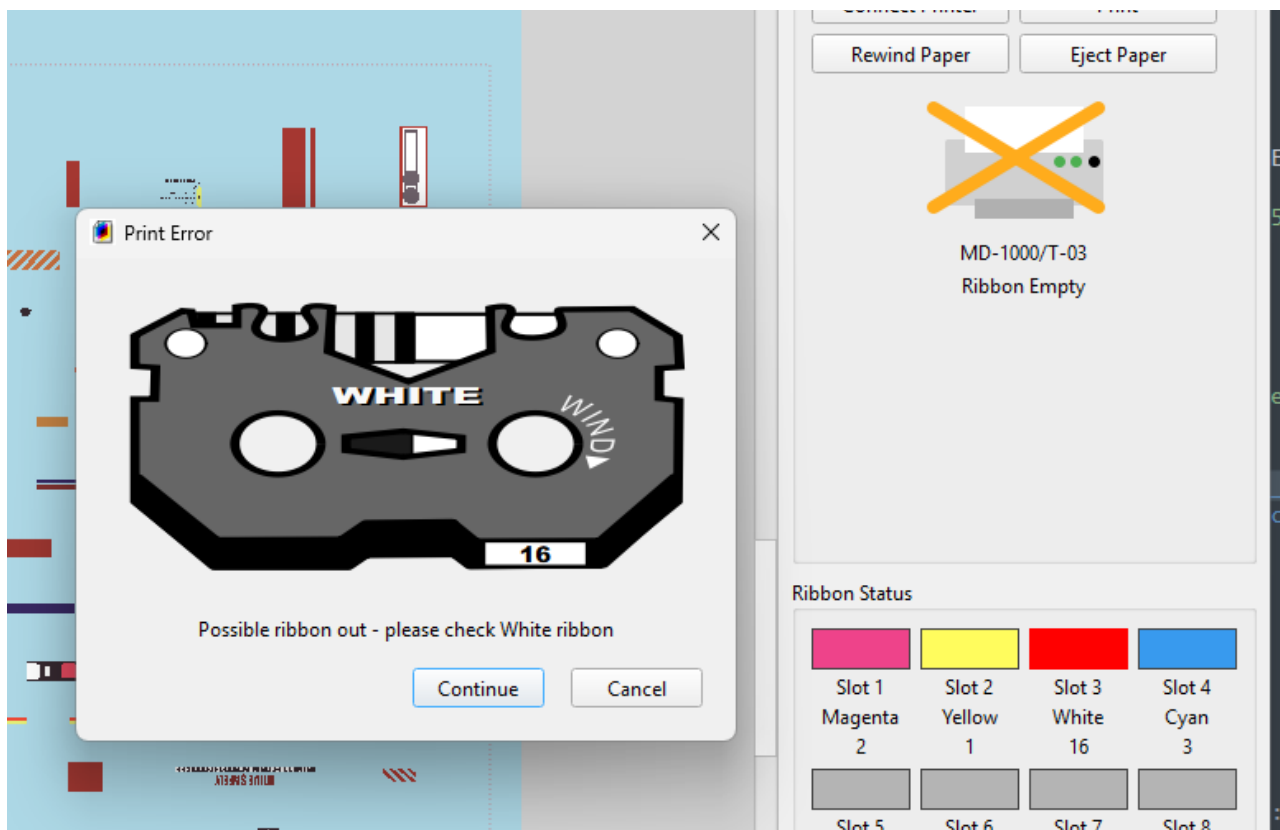
Click on the visibility icon of both white layers to disable them, load a plain sheet of paper and press "Print". This time, leave the Test Mode button unchecked and it should print the image.

Inspect the print with a magnifying glass to see the visual difference between the halftone and dithered versions.

Congratulations – your printer and adaptor appear to be compatible – but we're not out of the woods yet. The developer has tested MD5500 and MD1000 with a PL-2305 and ELCOM adaptor, as well as the MD5500 native USB, and this configuration appears stable but the USB comms are finicky and it's possible for the low level code to stall. MD1000 was particularly difficult to keep the USB port alive while it's moving the printhead of feeding paper – but MD1000 has had the most testing.

Some other notes – if a hardware print error occurs – most likely a ribbon-out event, the printer will park the empty ribbon and rewind the paper. This is detected by SpotMatrix as a timeout and a dialog box will be shown with a ribbon icon and advice to replace the ribbon. Once the printer detects a fresh ribbon cassette the print will resume and the dialog will dismiss automatically. This timeout is set to 5.5 seconds by default – which should be enough time to print a line and process the next block of raster data. If a ribbon-out dialog appears and disappears occasionally, increase the "Ribbon Empty Timeout" in the preferences.

Unfortunately there's no easy way to abort a print which has run out of ribbon – data is left hanging in the print buffer and a power cycle is required to flush the data. MD5500 on native USB interface will reset if the USB plug is unplugged/replugged.



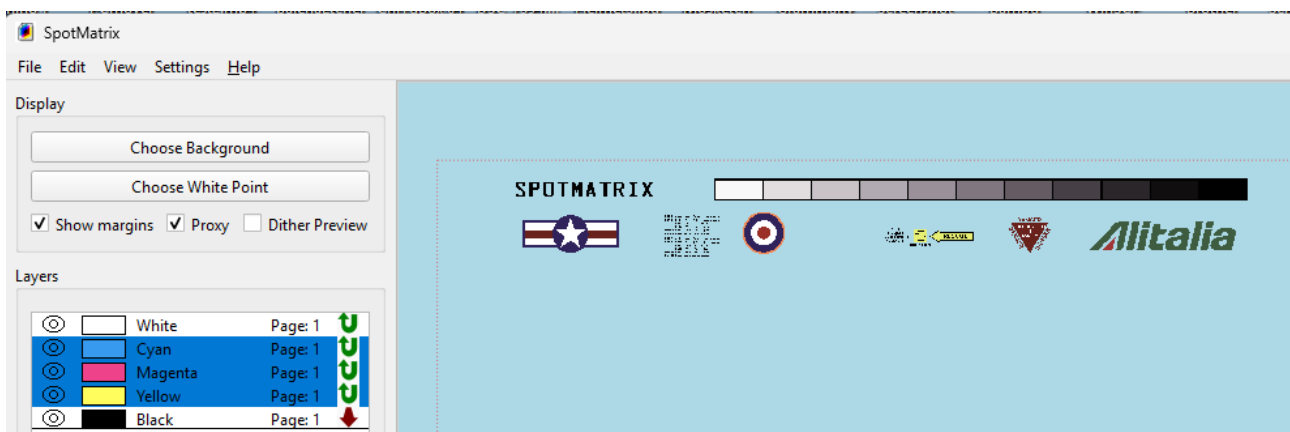
To activate spool directory monitoring – Click the "Spooler Active" checkbox in the Preferences dialog.

If you've installed the SpotMatrixPDF windows printer driver, print-jobs will be sent to the Spool directory location shown – If SpotMatrix is running it will automatically load pages as they're printed. A full colour image will be loaded as White+CMYK by default. A black and white image will be treated as a spot layer and the user will be prompted for a ribbon colour – you can build up a print job in layers like the original OEM driver – but you can examine the layers before committing any ink to paper.

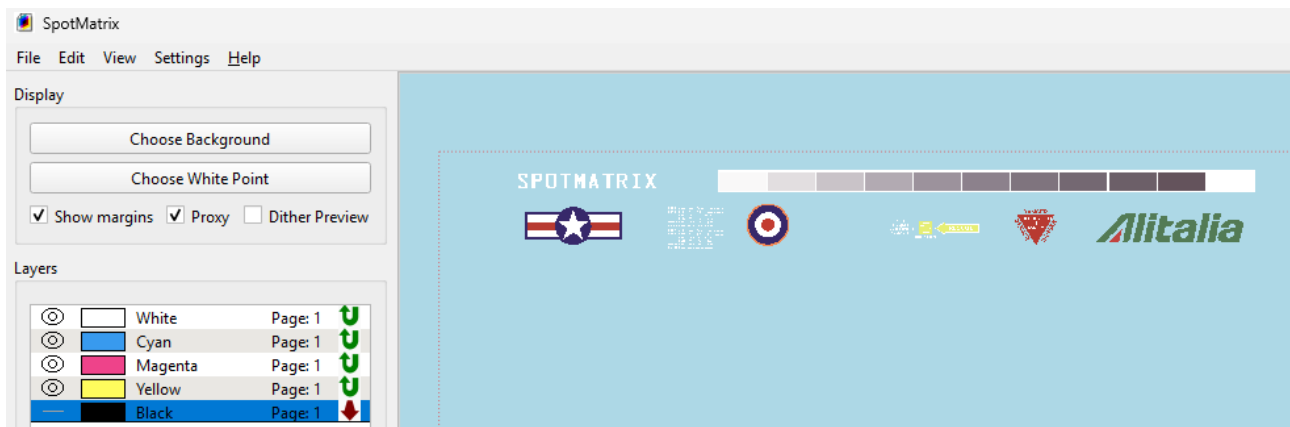
Note: Printing to the Microsoft PDF print driver and saving a pdf from Inkscape follow 2 different paths – complex Inkscape effects may not transfer exactly. Saving an Inkscape SVG and loading from "File->Import Image(s)" or exporting a PNG from Inkscape as a 600dpi RGBA image guarantees a 1:1 match between what you see in Inkscape in what gets printed. Exporting a PDF from Inkscape and loading that seems to get it 100% correct 98% of the time. So – check carefully the image displayed in the SpotMatrix application is what you intend before sending to the printer.

Example transferring black to cmy and thresholding colours:

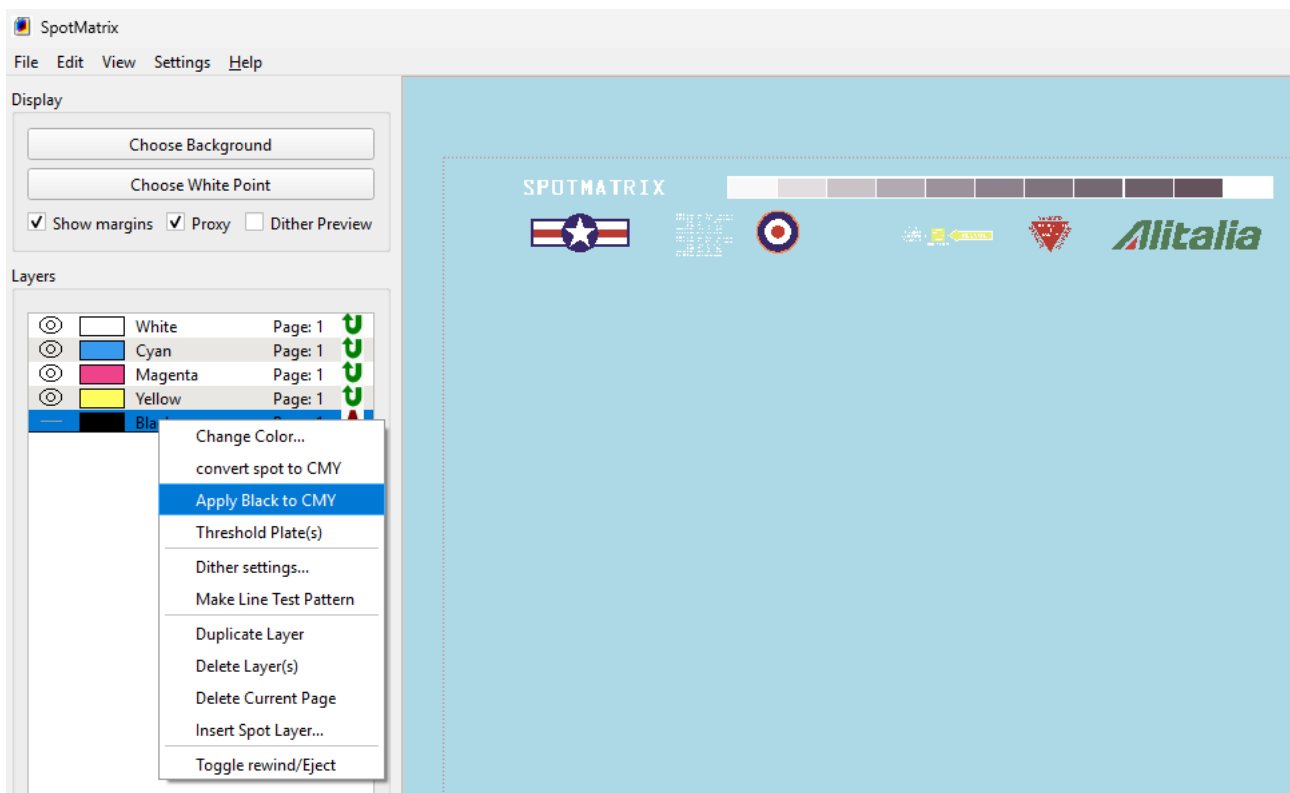
Load example.svg or example.png



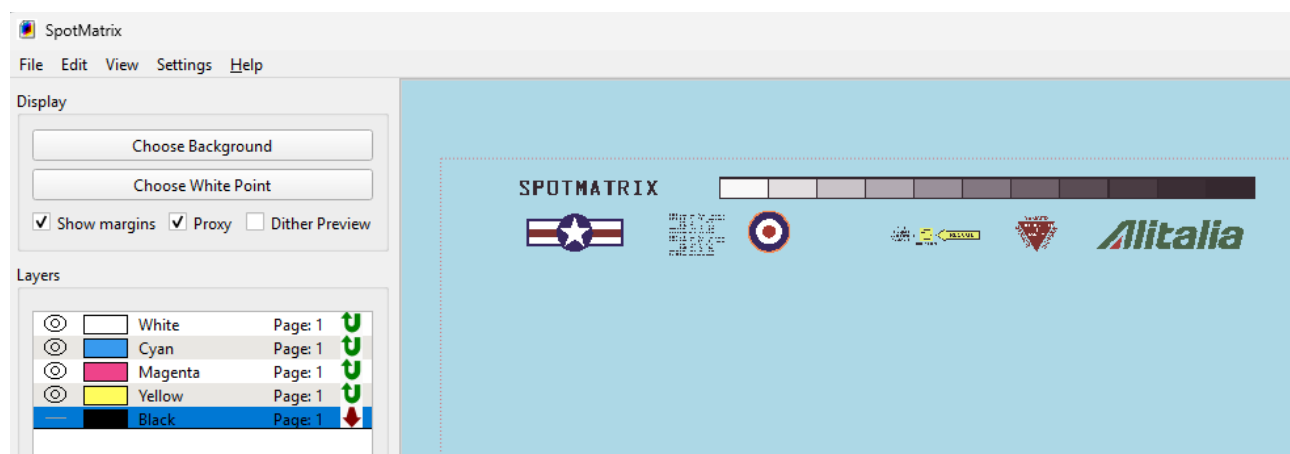
Click the eye/visibility on the black layer



Right click on the black layer and select "Apply Black to CMY"



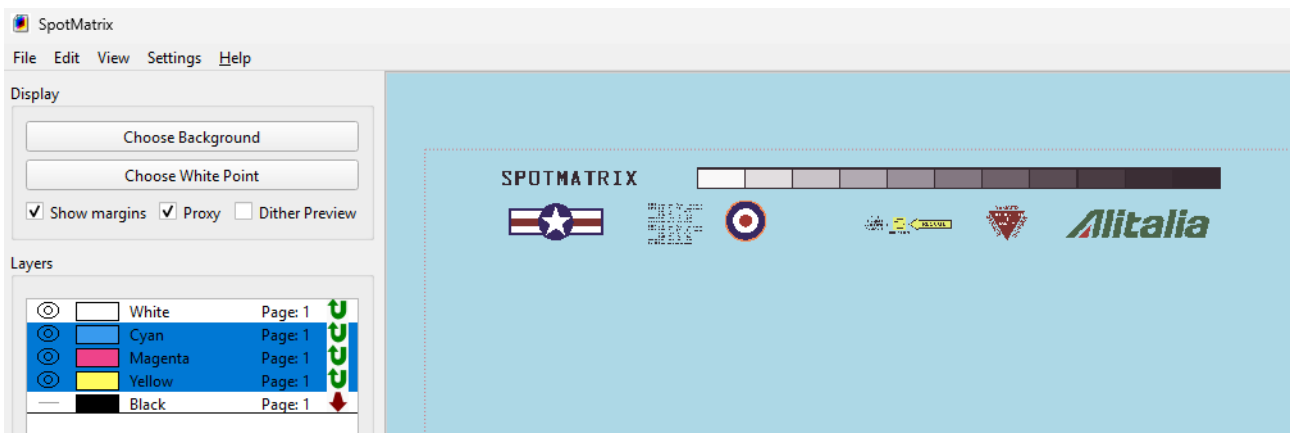
You should see the black layer become baked into the CMY layers.



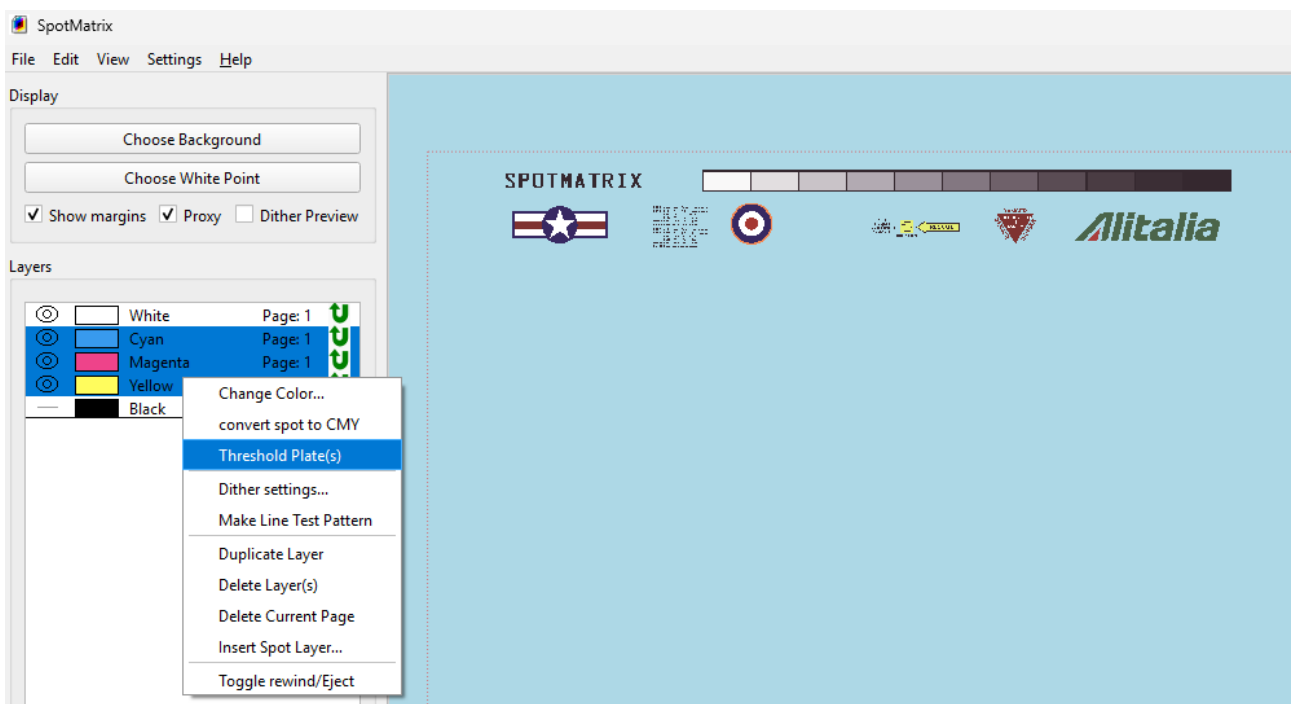
This means you can print white + full-colour without ribbon changes – useful if you have several decal sheets to print or if you run out of black ribbon.

If you have primary colours (Red, Green, Blue, Yellow etc) you can threshold the CMY to produce pure, undithered prints.

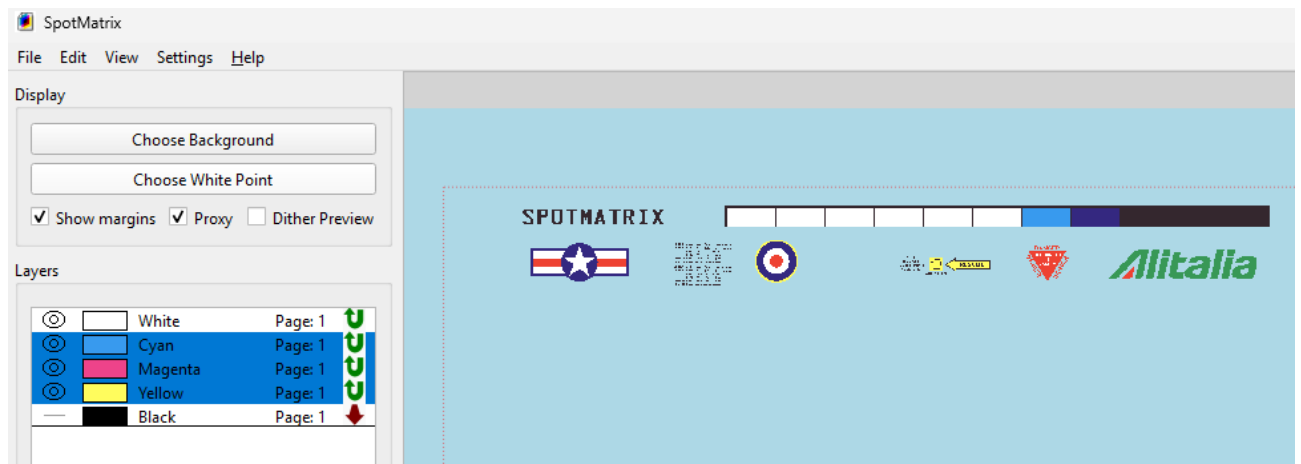
Shift-select the CMY layers



And select "Threshold Plates"



This will destroy the greyscale – but "purify" the Red, Blue and Green sections. The orange border of the RAF roundel has been converted to Yellow in this case.



To verify – click the "dither preview" button – the result should be indistinguishable from the undithered image. Use with caution and check resulting colours carefully.

To save your layers with all visibility and per-layer settings intact select File->Save Job...

This will save the file as an .exr file which can be reloaded. Exr is an image file format capable of storing an arbitrary number of channels with metadata.

To delete all the layers too get a fresh canvas – Either select File->New Canvas or press the rightmost button at the bottom of the layer list. To delete a single layer – select the layer and press the X.



Note on Spot Colours:

Elephant's Rocket sell a range of pure spot colour ink cassettes. SpotMatrix will show a representation of them layered and composited appropriately. When a spot colour layer is required during a print, SpotMatrix will prompt the user to insert the required ribbon. To verify compatibility with Elephant's rocket spot colours - here's a representation of the Elephant's Rocket colour chart in SpotMatrix consisting of 69 separate print passes. You can see that the overprinting of lighter and darker colours is simulated.

