

Scanning Legally-Significant-Content

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Short Introduction

When scanning documents for legal compliances it is essential that the scans match the original by 100%. Algorithms that use “Pattern Matching & Substitution” are not compliant to the above requirement.

Information about affected KYOCERA devices

All current and past Kyocera Multifunctional devices do not implement those algorithms and as a result are not affected.

The Kyocera Client Tool however offers the user the possibility to select such an algorithm – High Compression PDF, JBIG2, MASK + Image Mask – by his own choice, as a file format.

The Client Tool is supporting the following models:

- TASKalfa 1800, TASKalfa 1801, TASKalfa 2200, TASKalfa 2201
- FS-1220MFP, FS-1320MFP, FS-1325MFP (Western Europe)
- FS-1020MFP, FS-1120MFP, FS-1025MFP, FS-1125MFP (EMEA outside of Western Europe)

For scanning documents which will have to match the original by 100% we strongly advise our customers to select another of the offered algorithms in the software’s user interface.

Note:

In Germany the German Federal Office for Information Security (BSI), as part of the Ministry of Interior, has prohibited to use pattern-matching & substitution algorithms for all German federal agencies. This will affect everybody who is doing business with them as well.

The BSI has released the TR-03138 Resiscan (revision safe scanning). This is a guideline for companies who want to scan and then destroy the originals. It contains both technical and organizational measures for a structured scanning process.

The Swiss coordinating agency for long-term preservation of electronic records (KOST) already passed a similar guideline for document managers in Swiss government.

Technical Details

JBIG2 is an image compression that is suitable for both loss and lossless compression. This algorithm is using “Pattern Matching and Substitution” as well as “Soft Pattern Matching”. Although this method can achieve outstanding compression it is prone to substitute errors during the process if the image resolution is low. So in its loss mode JBIG2 can potentially alter text in a way that is not discernible as corruption:

Original document		Scanned document	
110.000	54,60	110.000	54,80
125.000	60,00	125.000	60,00
140.000	65,40	140.000	85,40
155.000	70,80	155.000	70,80
170.000	76,20	170.000	76,20

(This is a manually created image and not a real scan)

As you can see in the image above, the numbers in the red rectangles have been substituted by wrong patterns. This happened as JBIG2 tries to match similar-looking symbols and – in this example – replaces 6 with 8.

This is in contrast to some other algorithms, which simply degrade into blur, making the compression artefacts obvious.