



Questioned Documents Section - 2012

J7 Current Bank Check Scanning Practices

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After attending this presentation, attendees will learn about the history of the law regarding check clearing for the Twenty-First Century, also known as Check 21. The examination of images of checks with current bank check scanning practices will be described. Implications of scanned low resolution versus higher resolution images of checks as they relate to forensic document examination will be presented.

This presentation will impact the forensic science community by presenting information about the existing bank check scanning practices. Attendees will be made aware of the resolution and image types used by banks to scan and save images of checks.

According to ASTM Standard Guide for Examination of Handwritten Items – E2290-07a, 7.5.1, *if the original is not submitted, evaluate the quality of the best available reproduction to determine whether the significant details of the writing have been reproduced with sufficient clarity for comparison purposes and proceed to the extent possible. If the writing has not been reproduced with sufficient clarity for comparison purposes, discontinue these procedures and report accordingly.*

Low resolution (200dpi or less) images do not reproduce significant details necessary for a proper examination by a forensic document examiner. ASTM E2290-07a describes the potential significant handwriting features considered by forensic document examiners. *Note 6 - Among the features to be considered are elements of the writing such as abbreviation; alignment; arrangement; formatting; and positioning; capitalization; connectedness; and disconnectedness. Cross strokes and dots, diacritics and punctuation; direction of strokes; disguise; embellishments; formation; freedom of execution; handedness; legibility; line quality; method of production; pen hold and pen position; overall pressure and patterns of pressure emphasis; proportion; simplification; size; skill; slant or slope; spacing; speed; initial, connecting, and terminal strokes; system; tremor; type of writing; and range of variation are other forms of handwriting features considered by forensic document examiners.*

Forensic document examiners in the United States, Canada, Australia, and Europe were asked to contact their banks to ask five questions:

1. What resolution are checks scanned at your bank?
2. Is the image type black and white or grayscale?
3. Are the images saved as jpegs or tiffs?
4. What is the make and model of the scanner?
5. What is the name of your bank?

Results were analyzed to determine the current bank practices for scanning checks since implementation of Check 21 in 2004.

The most common scanning resolution in the banking industry is 200 dpi. Banks most often save images in black and white rather than grayscale. Files of check images were saved as either jpeg or tiff formats.

A case study example of a sample check scanned at 100 dpi, 200 dpi, 300 dpi, and 800 dpi will be presented. Forensic document examiners benefit from the best quality images of questioned checks. The better the resolution, the more handwriting details are available for examination. Images with resolution of 300dpi are superior to the current bank scanning resolution of 200 dpi.

It is recommended that the banking industry consider adopting a standard of scanning checks at 300 dpi or higher resolution. Forensic document will appreciate the current state of bank check scanning practices in the United States and internationally.

Document Examination, Scanning, Checks