Current Bank Check Scanning Practices
Check 21

Check Clearing for the Twenty-First Century was implemented in 2004 in the USA.

Permits the transmission of electronic images of checks rather than physical transfer of original checks from bank to bank.
Scanned Images: How Well Do they Depict the Subtle Features in Handwriting?


Inspired this research
Check 21 and Forensic Document Examiners
Bank Scanning Questions:

1. What resolution are your checks scanned at (100 ppi, 200 ppi, or 300 ppi)?
2. Is the image type black and white or grayscale?
3. Are the images saved as JPEG or TIFF files?
4. What is the make and model of your scanner?
5. What is the name of your bank?
JPEG

Joint Photographic Experts Group format. JPEG is a lossy format.
TIFF

Tagged Image File Format.
TIFF is a lossless image file format.
X9.37

An Ansi Standard for the electronic exchange of images of checks by banks.
Bank Statistics

1. 17 banks or credit unions responded
2. 10 banks scanned in black and white
3. 6 banks scanned in grayscale
4. 1 bank from Germany used 24 bit color
More Bank Statistics

5. 8 banks used 200 ppi resolution
6. 4 banks used 300 ppi resolution
7. 4 remaining banks used: 240 ppi, 100 ppi, 1262 x 552 ppi, and 96 ppi
8. 6 banks used TIFF file formats to save images of checks
Even More Bank Statistics

9. 5 banks used JPEG file formats

10. Other misc. file formats reported: X9.37, CDi, BMP, and PDF

11. Reported scanners used by banks included: Unisys Smart Source, Canon and Teller Scan TS 230
Forensic Lab Imaging

- Wisconsin State Crime Lab-Milwaukee scans documents at 300 ppi for documentation.
- 1200 ppi for analytical purposes (cropping into an area of interest)
GREENFIELD POLICE DEPARTMENT
HANDWRITING EXEMPLAR
"SAMPLE VOID"

PAY TO THE ORDER OF:

AAFS

One thousand and 00/100

$1,000

DELUXE CHECK PRINTERS

SAMPLE VOID

MEMO: donation

11/10/2012

1000067894: 12345678
Image of check B/W 200 ppi 2x
Greenfield Police Department
Handwriting Exemplar
"Sample Void"

Pay to the Order of AAFS
One thousand and $1,000
Dollars

Memo: Donation

Signed: [Signature]

Date: 11/10/2012
Number: 187

DELUXE Check Printers
Your City, State 12345

SAMPLE VOID
GREENFIELD POLICE DEPARTMENT
HANDWRITING EXEMPLAR
"SAMPLE VOID"

PAY TO THE ORDER OF AAFS
One thousand and 60/100
$1,000

DELUXE CHECK PRINTERS
SAMPLE VOID

MEMO: donation

[Signature]

[Check number]

[Security features]
Image of check  8-bit grayscale 100 ppi  
2x
GREENFIELD POLICE DEPARTMENT
HANDWRITING EXEMPLAR
“SAMPLE VOID”

PAY TO THE ORDER OF: AAFS

One thousand and 00/100

DOLLARS

SAMPLE VOID

MEMO: donation

Jan A. Larson

11/10 2012

00-6759/0000

187
Image check  8-bit grayscale  200 ppi  2x

SAMPLE VOID

Jan A. Larson
Image check  8-bit grayscale 300 ppi 2x
SAMPLE VOID

Jae A. Jarse

SAFETY PAPER
GREENFIELD POLICE DEPARTMENT
HANDWRITING EXEMPLAR
“SAMPLE VOID”

PAY TO THE ORDER OF

AAFS

$1,000

DOLLARS

SAMPLE VOID

MEMO: donation

11/10 2012 187

deluxe check printers
your city, state 12345

JAN A. JASON
Check for $1,000 to AAFS on 11/10/2012

Memo: donation

Signature: [Signature]

Check details:
- Payee: AAFS
- Date: 11/10/2012
- Amount: $1,000
- Memo: donation

Check printer: Deluxe Check Printers

Check number: 187
GREENFIELD POLICE DEPARTMENT
HANDWRITING EXEMPLAR
“SAMPLE VOID”

PAY TO THE ORDER OF AAFS

One thousand and 00/100

DOLLARS

SAMPLE VOID

 donation

11/0 2012

$1,000

DELUXE CHECK PRINTERS

YOUR CITY, STATE 12345

MEMO

S. A. Larson
Image of check 2 24-bit color 600 ppi 2x
300 ppi Grayscale image in TIFF vs. JPEG
Jane A. Lewis, MFS
Forensic Document Examiner

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