ASC X9 TR 100–2013

Organization of Check-related Payments Standards

Part 1: Organization of Standards

Part 2: Definitions used in Standards

A Technical Report prepared by:
Accredited Standards Committee X9, Incorporated
Financial Industry Standards

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Foreword

This foreword is informative and not part of X9 TR 100-2013.

Since the advent of magnetic ink character printing in the late 1950s, check standards have been developed as they were required and as a result, a few standards contained duplicate requirements. In 2002, ASC X9 decided it was time to clarify the relationship among check standards. This technical report is a result of those efforts.

In Part 1, all standards (excluding technical reports/guidelines), have been classified as either core standards or application standards. Core standards cover such items as paper requirements, MICR requirements, optical requirements, and image requirements. Application standards cover such items as check documents, deposit tickets, internal documents, image replacement documents, other documents, MICR, security, and electronic.

Part 2 of this technical report contains the definition for all terms defined in X9 check standards and technical reports/guidelines; identifying the standard that defines them and the documents that use them. X9 expects this approach will help facilitate the understanding of check standards.

This publication is a revision of ASC X9 TR 100-2010, *Organization of Standards for Paper-based and Image-based Check Payments.* In order to insure this technical report is up to date, it is revised annually.

Publication of this Technical Report that has been registered with ANSI has been approved by the Accredited Standards Committee X9, Incorporated, 275 West Street, Suite 107, Annapolis, MD 21401. This document is registered as a Technical Report according to the "Procedures for the Registration of Technical Reports with ANSI." This document is not an American National Standard and the material contained herein is not normative in nature. Comments on the content of this document should be sent to: Attn: Executive Director, Accredited Standards Committee X9, Inc., 275 West Street, Suite 107, Annapolis, MD 21401.

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Introduction

Suggestions for the improvement or revision of this Technical Report are welcome. They should be sent to the X9 Committee Secretariat, Accredited Standards Committee X9, Inc., Financial Industry Standards, 275 West Street, Suite 107, Annapolis, MD 21401 USA.

This Technical Report was processed and registered for submittal to ANSI by the Accredited Standards Committee on Financial Services, X9. Committee approval of the Technical Report does not necessarily imply that all the committee members voted for its approval.

At the time this technical report was approved, the ***X9*** committee had the following members:

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The ***X9AB1 Organization of Standards for Check-related Payments*** working group which developed this technical report had the following members:

John McCleary, Work Group Chair

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Organization of Check-related Payments Standards

Part 1: Organization of Standards

1 Scope

Part 1 of this technical report provides the numbering scheme for all standards associated with paper-based and image-based check payments that collectively will be referred to as check-related payments. The basic numbering scheme is divided into two sections; core standards and application standards. Core standards cover such items as paper requirements, MICR requirements, optical requirements, and image requirements. Application standards cover such items as check documents, deposit tickets, internal documents, image replacement documents, other documents, MICR, security, and electronic.

Part 2 of this technical report lists the definitions of terms used within X9's check-related payment standards.

The structure covered in this technical report was developed to define and explain the requirements for automated handling of paper-based and image-based check payments. It also offers a repository of definitions used in these standards.

This technical report is available in electronic form free of charge to aid the user in identifying the standards for purchase.

2 Organization

The basic numbering scheme for standards uses two sections: one for core standards and the other for application standards. Technical reports/guidelines are not included in this new numbering scheme.

Standard(s)	Description
X9.100-00 to X9.100-99	Core Standards
X9.100-100 to X9.100-999	Application Standards

Table 1 - Numbering Scheme for Standards

2.1 Core Standards

Core standards are those with basic components needed for the applications of paper-based and image-based check payment standards.

Standard(s)	Description
X9.100-0 to X9.100-9	Reserved
X9.100-10 to X9.100-19	Paper Requirements
X9.100-20 to X9.100-29	MICR Requirements
X9.100-30 to X9.100-39	Optical Requirements
X9.100-40 to X9.100-49	Image Requirements
X9.100-50 to X9.100-99	Future Requirements

Table 2 - Core Standards Numbering

2.2 Application Standards

Application standards are those with requirements for specific actions to be accomplished for paper-based and image-based check payment standards.

Standard(s)	Description
X9.100-100 to X9.100-109	Reserved
X9.100-110 to X9.100-119	Check Document Applications
X9.100-120 to X9.100-129	Deposit Ticket Applications
X9.100-130 to X9.100-139	Internal Document Applications
X9.100-140 to X9.100-149	Image Replacement Document Applications
X9.100-150 to X9.100-159	Other Document Applications
X9.100-160 to X9.100-169	MICR Applications
X9.100-170 to X9.100-179	Security Applications
X9.100-180 to X9.100-189	Electronic and Image Applications
X9.100-190 to X9.100-999	Future Applications

Table 3 - Application Standards Numbering

2.3 Standards Disposition

2.3.1 Under Review Standards

The following standards are presently open for editing and updating or for reaffirmation.

Standard Number	Approval Date as of:	Title	Expected Ballot Date
X9.100-20	08/01/11	*Print and Test Specifications for Magnetic Ink Printing (MICR)*	07/31/16
X9.100-110	08/09/11	*Document Imaging Compatibility*	11/2013
X9.100-111	07/10/09	*Physical Check Endorsements*	07/09/14
X9.100-140	11/17/08	*Image Replacement Document - IRD*	11/16/2013
X9.100-160-1	06/26/09	*Magnetic Ink Printing (MICR), Part 1: Placement and Location*	06/25/14
X9.100-187	11/11/08	*Electronic Exchange of Check and Image Data -*	11/2013

Table 4 - Under Review Standards

2.3.2 List of Current Standards

The following standards are the active check-related American National Standards being managed by the X9AB Payments subcommittee.

New Standard Number	Title	Old Standard Number
X9.100-10	*Paper for MICR Documents*	X9.18
X9.100-20	*Print & Test Specifications for Magnetic Ink Printing (MICR)*	X9.27
X9.100-30	*Optical Background Measurement for MICR Documents*	X9.7
X9.100-40-1	*Specifications for Check Image Tests, Part 1: Definition of Elements and Structures of Check Image Tests*	N/A
X9.100-40-2	*Specifications for Check Image Tests, Part 2: Application and Registration Procedures for Check Image Tests*	N/A
X9.100-110	*Document Imaging Compatibility*	X9.7

X9.100-111	*Physical Check Endorsements*	X9.53
X9.100-120	*Bank Deposit Tickets*	X9.33
X9.100-130	*Universal Interbank Batch/Bundle Tickets*	X9.64
X9.100-140	*Image Replacement Document – IRD*	DSTU X9.90
X9.100-150	*Check Carrier Envelopes*	N/A
X9.100-151	*Check Correction Strip Specification*	X9.40
X9.100-160-1	*Magnetic Ink Printing (MICR), Part 1: Placement and Location*	X9.13
X9.100-160-2	*Magnetic Ink Printing (MICR), Part 2: EPC Field Use*	X9.13
X9.100-161	*Creating MICR Document Specification Forms*	X9.47
X9.100-170	*Check Fraud Deterrent Icon*	X9.51
X9.100-180	*Specifications for Electronic Exchange of Check and Image Data (non-domestic)*	N/A
X9.100-181	*TIFF Image Format for Image Exchange*	N/A
X9.100-182	*Bulk Data and Image Delivery* *Part 1: Overview and Structure* *Part 2-1: Check General Delivery* *Part 2-2: IRD Creation Delivery* *Part 2-3: Electric Deposit Delivery* *Archive Extraction Instructions for XML XSD Schema Files*	X9.81
X9.100-183	*Electronic Check Adjustments*	X9.83
X9.100-187	*Electronic Exchange of Check and Image Data*	DSTU X9.37

Table 5 – Active Standards Managed by X9AB Payments subcommittee

2.3.3 Current Standards Numbering Scheme

The table below shows the breakdown and interaction of the standards numbering identification structure.

Core Standards Requirements								
Paper	**MICR**	**Optical**	**Image**	**Subject**				
X9.100-10				Paper for MICR Documents				
	X9.100-20			Print and Test Specification for Magnetic Ink Printing (MICR)				
		X9.100-30		Optical Background Measurement Specifications for MICR Documents				
			X9.100-40	Specifications for Check Image Tests				
Application Standards Applications								
Check Document	**Deposit Ticket**	**Internal Document**	**Image Re-placement Document**	**Other Document**	**MICR**	**Security**	**Elect. & Image**	**Subject**
X9.100-110								Document Imaging Compatibility
X9.100-111								Physical Check Endorsements
	X9.100-120							Bank Deposit Tickets
		X9.100-130						Universal Interbank Batch/Bundle Tickets
			X9.100-140					Image Replacement Document - IRD
				X9.100-150				Check Carrier Envelope
				X9.100-151				Check Correction Strip
					X9.100-160			Magnetic Ink Printing (MICR)
					X9.100-161			Creating MICR Document Specification Forms
						X9.100-170		Check Fraud Deterrent Icon
							X9.100-180	Electronic Exchange of Check and Image Data
							X9.100-181	TIFF Image Format for Image Exhange
							X9.100-182	Bulk Data and Image Delivery
							X9.100-183	Electronic Check Adjustments
							X9.100-187	Exchange of Check and Image Data

Table 6 - Numbering Scheme

See Figure 1 for an illustration showing some of the individual standards and how they pertain to different parts of actual checks, deposit tickets, and/or other financial documents.

2.3.4 Retired Standards

Retired standards are documents that are extracts of the specification from previous standards that have been replaced. Once retired, X9 no longer maintains the document through its normal ANSI/X9 maintenance process. Retiring a standard is determined by X9 only.

Standard Number	Title	Retired Date
	There are no retired standards at this time.	

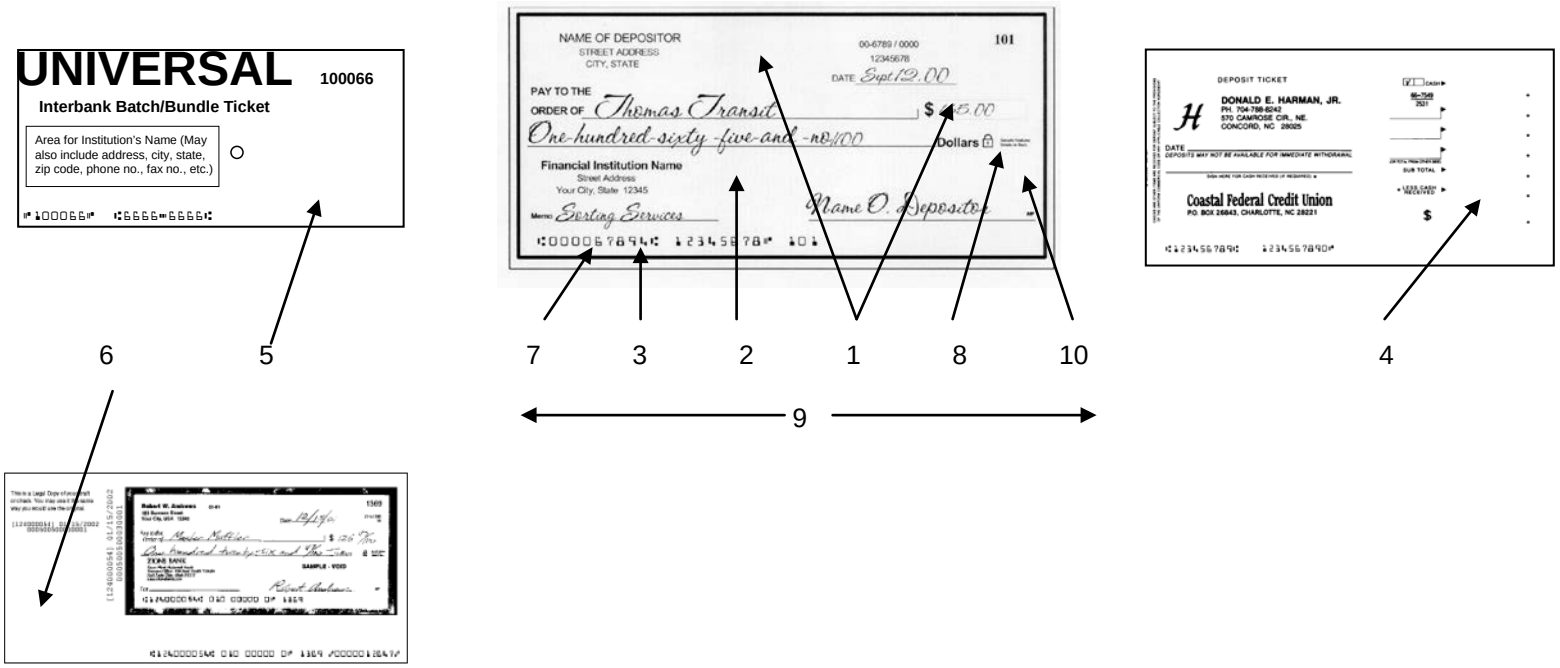
Table 7 - Retired Standards

2.3.5 Withdrawn Standards

Withdrawn standards are documents that are no longer available for industry use. A document can be withdrawn for cause, old technology, stale data, or other significant reasons. Withdrawing a standard is determined by both ANSI and X9 agreement.

Standard Number	Title	Withdrawn Date
X9.29-1998	*Check Carrier Envelope Specifications*	12/20/2004
DSTU X9.37-2003	*Specifications for Electronic Exchange of Check and Image Data*	11/13/2006
X9.46-1997	*Financial Image Interchange: Architecture, Overview, and System Design Specification*	12/1/2004
X9.100-171-2005	*Specifications for Automated Identification of Security Features*	2/2/2007
DSTU X9.100-172 – Parts 1-4	*Specifications for the Validation of Interoperable Check Security Features (ICSF)*	8/10/2010
X9.100-172 – Parts 1-4	*Specifications for the Validation of Interoperable Check Security Features (ICSF)*	8/10/2010

Table 8 - Withdrawn Standards



Key	ANSI Number	ANSI Title	Key	ANSI Number	ANSI Title
1	X9.100-110	Document Imaging Compatibility	6	X9.100-140	Image Replacement Document (IRD)
2	X9.100-10	Paper for MICR Documents	7	X9.100-160-1	Magnetic Ink Printing (MICR), Part 1: Placement and Location
3	X9.100-20	Print and Test Specifications for Magnetic Ink Printing (MICR)	8	X9.100-170	Check Fraud Deterrent Icon
4	X9.100-120	Bank Deposit Tickets	9	X9 TR 2	Understanding, Designing and Producing Checks
5	X9.100-130	Universal Interbank Batch/Bundle Tickets	10	X9 TR 8	Check Security

Figure 1 – Example of X9 Check Standards Usage

3 Recommended Formats

This clause recommends formats to use in standards and technical reports having references and terms and definitions.

3.1 References

Verbiage is necessary to illustrate differences between normative references and informative references. Also in some cases, such as the TAPPI references in the *Paper for MICR Documents*, an explanation helps in the understanding of where they can be obtained. The decision to use any verbiage rests with the working group chairs, their editorial committees, and the X9/X9AB voting members.

Type style, point size, and general layout are specified by X9 document templates. Generally the reference document number is in normal Arial type while the document title is in Arial italics.

The following illustrates a sample normative reference listing. Standards are listed first in numerical order (the first number denotes the current version), followed by Technical Reports (the first number denotes the current

X Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the specific edition cited applies. For undated references, the most recent edition of the referenced document (including any amendments) applies.

ANSI X9.100-110-2011, *Document Imaging Compatibility*

ANSI X9.100-111-2009, *Physical Check Endorsements*

ANSI X9.100-160-1-2009, *Magnetic Ink Printing (MICR), Part 1: Placement and Location*

ANSI X9.100-160-2-2009, *Magnetic Ink Printing (MICR), Part 2: EPC Field Use*

ANSI X9.100-181-2010, *TIFF Image Format for Image Exchange*

ASC X9 TR 8-2010, *Check Security*

ASC X9 TR 100-2012, *Organization of Standards for Check-related Payments Standards*

3.2 Terms and Definitions

Verbiage is necessary to explain how the defining standards are listed and it is recommended that technical reports have a terms and definitions statement that reads, “For the purposes of this report, all terms and definitions are found in ASC X9 TR 100.” However in some cases, such as in technical report TR 33, *Check Image Quality*, there are many new definitions being presented for the first time. In that case, the terms and definitions listing is justified.

The decision on using sub-definition headings rests with the working group chairs, their editorial committees, and the X9/X9AB voting members

Type style, point size, and general layout are specified by X9 document templates. Generally the term and defining standard is in Arial bold type while the definition is in Arial normal.

The following illustrates a sample terms and definitions listing.

X. Terms and Definitions

The defining standard is listed in parentheses after each term. The first listing is the current defining standard and the second listing, if present, is the past or future defining standard. If a definition starts with the words, "As used in this standard,…", it indicates the definition is altered to meet the needs of this standard and differs from the definition in the referenced defining standard.

X.1 average edge (ANSI X9.100-20)

An imaginary line that divides edge irregularities of MICR characters such that the summation of the non-inked areas on the inked side of the line equals the summation of the inked areas on the non-inked side. Used for defining both vertical and horizontal edges of printed MICR characters.

X.2 background (ANSI X9.100-110/X9.7)

The basic colors and patterns that appear on a document, apart from lines and information printed on it.

X.3 capture (ASC X9 TR 6)

The gathering of data from the check MICR line during machine processing or manual methods to enable funds represented by the check to move between financial entities.

X.4 character space (MICR) (ANSI X9.100-160-1)

A 0.125 inch space in the MICR print band within which one MICR character may appear.

X.5 clear band (MICR) (ANSI X9.100-20)

A horizontal band, 0.625 inch high, on the front and back of the document, measured from the aligning edge, that must be free of any magnetic ink other than the E-13B font.

X.6 concatenated (ASC X9 TR 33)

To link together in a series.

Organization of Check-related Payments Standards

Part 2: Definitions used in Standards (As of 9/1/13)

1 Scope and purpose

1.1 Scope

Part 2 of this technical report contains the definition for all terms as defined in X9 check standards and technical reports, along with the standard that defines them and the documents that use them.

1.2 Purpose

Part 2 provides a single place where definitions as used in check-related standards and technical reports may be found.

2 Definitions

The definitions in this section are controlled by the defining standard. The user of the definitions in this technical report/guideline is cautioned that as the defining standard is revised it is possible that the definition may be superseded by a revision therefore the revised definition will apply.

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
1	**account number:** The number used by a bank to identify a customer's account. It is usually contained in the On-Us field of the MICR line.	X9.100-187	11/11/08	X9.100-180 X9.100-183
2	**Accredited Standards Committee X9 (ASC X9):** The group accredited by ANSI to be responsible for the creation of financial standards used throughout the financial community.	NA	NA	NA
3	**A/D converter (Analog-to-Digital):** Hardware or software for converting analog data into digital data.	TR 33	8/28/06	None
4	**adjustment:** An accounting entry to correct errors on cash letters or checks.	X9.100-187	11/11/08	X9.100-180
5	**adjustment message:** Any group of records as specified in this standard, constituting an Electronic Check Adjustment (ECA), exchanged between two parties.	X9.100-183	8/3/10	None
6	**adjustment notice:** A message, which alerts the receiver that the sender has taken action to modify a previously completed transaction. The message describes the action taken and includes information pertinent to the original transaction and the modification.	X9.100-183	8/3/10	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
7	**adjustment request:** A message, which requests that the receiver take a specific action. The message describes the action requested and includes information pertinent to the original transaction.	X9.100-183	8/3/10	None
8	**administrative return:** Distinguishes to the presenting bank an item returned for reasons other than a dishonored item. These items are usually handled internally by the presenting bank rather than being charged to a customer. These types of items can also be handled through the adjustment process. Examples include poor quality image, ineligible items, etc.	X9.100-187	11/11/08	X9.100-180
9	**aligning edge:** The bottom edge of a document when its face is viewed.	X9.100-160-1	6/26/09	X9.100-110 X9.100-20 X9.100-111 X9.100-120 X9.100-140 X9.100-150 X9.100-151 X9.100-161 X9.100-170 X9.100-172-1 TR 6
10	**alteration:** Changing an original document to a different amount or payee for fraudulent purposes.	X9.100-170	7/20/10	None
11	**amount field:** Positions 1-12 of the MICR line on a document, within which the dollar amount is encoded.	X9.100-160-1	6/26/09	X9.100-180 X9.100-183 X9.100-187 TR 6
12	**amount symbol:** The symbol in the E-13B font which identifies the field that bears the dollar amount of a check or other MICR encoded transaction document.	X9.100-160-1	6/26/09	None
13	**analysis:** The process of extracting quantitative measurements from a check image.	TR 33	8/28/06	None
14	**ANS:** American National Standard	NA	NA	NA
15	**ANSI:** American National Standards Institute	NA	NA	NA
16	**AOI:** See area of interest	NA	NA	NA
17	**area of interest (AOI):** Refers to a rectangular area 0.250 inch (6.35 mm) high having the length of each particular field for the - essential data elements-	X9.100-110	8/9/11	None
18	**arithmetic binary image compression (ABIC):** A proprietary lossless image compression algorithm, developed by IBM that can be applied to either bi-tonal or limited gray level images.	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
19	**arrow points:** Special symbols to be used before and after the nine-digit routing number in endorsements by the Bank of First Deposit; for example, **> 111122223 <**.	X9.100-111	7/10/09	None
20	**artifact:** A condition introduced into an image by the scanning process, the digital image preprocessing or the compression process.	TR 33	8/28/06	None
21	**ASC:** See Accredited Standards Committee X9	NA	NA	NA
22	**aspect ratio:** The value obtained by dividing the horizontal pixel count by the vertical pixel count of an image. The intent is to hold this value constant when scaling (zooming) an image so that the new image will not be distorted relative to the original image.	X9.100-140	11/17/08	None
23	**assessment:** The automated or subjective evaluation of a check image. Automated check image assessment combines measurements extracted during image analysis with a set of decision rules and thresholds to determine the presence (or absence) of a particular image defect or usability problem. Subjective check image assessments are generally performed by the human eye reviewing the check image and making a determination as to its legibility and/or usability for payment processing.	TR 33	8/28/06	None
24	**assurance:** The procedures and systems used by a financial institution to ensure that a high degree of quality is being maintained for each check image that is being generated and/or processed.	TR 33	8/28/06	None
25	**authenticate:** Examining a document in an attempt to conclude if it is genuine.	X9.100-170	7/20/10	None
26	**auxiliary On-Us field:** A variable format, optional field in the MICR line, located to the left of the routing field, used at the discretion of the issuing financial institution.	X9.100-160-1	6/26/09	X9.100-180 X9.100-183 X9.100-187 TR 6
27	**average area reflectance:** A calculation of reflectance applicable to - Areas of Interest.	X9.100-110	8/9/11	X9.100-30
28	**average edge:** An imaginary line that divides edge irregularities of MICR characters such that the summation of the non-inked areas on the inked side of the line equals the summation of the inked areas on the non-inked side. Used for defining both vertical and horizontal edges of printed MICR characters.	X9.100-20	8/1/11	TR 6
29	**background:** The basic colors and patterns that appear on a document, apart from lines and information printed on it.	X9.100-120	9/20/10	X9.100-161 TR 6
30	**background clutter:** The remnants of background in a binary image that interferes with legibility of written or printed data.	X9.100-110	8/9/11	X9.100-30
31	**background reflectance:** A calculation of the reflectance of the check background in the Convenience Amount and Optical MICR Clear Band.	X9.100-110	8/9/11	X9.100-30

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
32	**Bank of First Deposit (BOFD):** Same as "Depositary Bank"	X9.100-111	7/10/09	X9.100-150 X9.100-180 X9.100-183 X9.100-187
33	**basis weight:** The weight in pounds of a ream (500 sheets) of paper cut to a given standard size for the grade (if 500 sheets of 17" x 22" (43.18 cm x 55.88 cm) bond paper weighs 24 pounds it is considered 24 pound bond paper).	X9.100-10	4/29/11	None
34	**batch header:** A batch header is a serially numbered process control document that conforms to the size and MICR printing requirements for checks and usually precedes a batch of items to be entered for machine processing. Generally the batch header contains a predetermined MICR printed total which is frequently the dollar total of items in the batch.	X9.100-40-1	3/22/06	X9.100-40-2
35	**bilevel:** A bilevel image contains two colors – black and white. Also known and referenced as a bitonal image.	X9.100-181	6/2/10	None
36	**binarization:** The process of converting a greyscale or color image into a black and white image representation.	TR 33	8/28/06	None
37	**binary image:** A black and white image where each pixel can be stored in memory by one bit of information since it is either black or white.	X9.100-110	8/9/11	None
38	**black and white image:** A digital image rendition where each image pixel can be represented by a single binary bit. With a black and white image each pixel value can be represented using one bit of information to indicate whether the image pixel is either black (1) or white (0). Sometimes black and white images are referred to as bi-tonal or binary images.	TR 33	8/28/06	None
39	**block form of endorsement:** A format of endorsement in which the contents are arranged in successive lines such that the minimum width is consumed by the endorsement	X9.100-111	7/10/09	None
40	**BOFD:** See Bank of First Deposit (BOFD)	NA	NA	NA
41	**box:** A physical package used for storing and transporting checks. A typical box holds about 3 000 checks. The box total also may serve as an additional control total on the cash letter listing.	X9.100-187	11/11/08	X9.100-180 & X9.100-183
42	**brightness:** A measure of the greyscale intensity of a tonal image a portion of a tonal image or an individual pixel. The lower the brightness value the darker the image image area, or pixel; the higher the value the lighter the image area, or pixel.	TR 33	8/28/06	None
43	**bundle:** A subset of a cash letter usually containing about 200-400 checks. The dollar amount of the bundle serves as a control total and is listed on the cash letter.	X9.100-187	11/11/08	X9.100-180 & X9.100-183

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
44	**byte:** A binary string of length 8. A byte is represented by a hexadecimal string of length 2. The first hexadecimal digit represents the four most significant bits of the byte. The second hexadecimal digit represents the four least significant bits of the byte. For example 9D represents the binary string 10011101.	X9.100-187	11/11/08	None
45	**calibration:** A term used to describe a number of processes including assuring consistent performance of a system assessing differences in image appearance among different systems and aligning output measurements from IQA systems.	TR 33	8/28/06	None
46	**camera analog video:** The voltage signal generated by the image camera that is proportional to the light reflected off the document being imaged. The analog video signal is subsequently sampled and digitized to generate the individual pixel values contained in the document image.	TR 33	8/28/06	None
47	**camera subsystem:** The sub-elements of the overall transport camera system i.e. hardware and software elements of a document scanning system that are responsible for acquiring and generating digital images. Examples include such elements as document illumination camera optics and electronics and image preprocessing and compression hardware/software.	TR 33	8/28/06	None
48	**capture:** The gathering of data from the check MICR line during machine processing or manual methods to enable funds represented by the check to move between financial entities.	TR 6	8/1/11	None
49	**CAR:** See convenience amount recognition (CAR)	NA	NA	NA
50	**carbonized band:** A band of carbonized material on the back of the check to facilitate a carbon impression of critical information. The most common form of this band will extend from leading edge to trailing edge on the reverse of the check.	X9.100-111	7/10/09	None
51	**cash letter:** A group of checks sent by a bank or its agent to another bank a clearinghouse or a Federal Reserve office. A cash letter contains a number of negotiable items usually checks accompanied by a transmittal letter that lists the dollar totals of the check bundles.	X9.100-187	11/11/08	X9.100-180 X9.100-183
52	**cash ticket:** A document that is used by tellers to record the amount of cash received or paid out for a deposit.	X9.100-40-1	3/22/06	X9.100-40-2
53	**cash/currency count boxes:** Dedicated entry areas on the deposit ticket where itemized entries of denominations of currency and coins are totaled.	X9.100-120	9/20/10	None
54	**CCITT Group 4 (G4):** CCITT T.6 bilevel encoding as specified in section 2 of CCITT Recommendation T.6: “Facsimile coding schemes and coding control functions for Group 4 facsimile apparatus.” Consultative Committee International Telephone and Telegraph (CCITT Geneva: 1988). ITU-T supersedes CCITT.	X9.100-181	6/2/10	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
55	**CCITT T.4 and T.6 compression:** CCITT (International Consultative Committee on Telephony and Telegraphy) T.4 and T.6 are both internationally standardized lossless data compression algorithms. T.4 (Group 3) and T.6 (Group 4) were both originally developed to compress bi-tonal images generated by most document facsimile machines. These two image compression standards have been widely adopted for use in compressing bi-tonal check image renditions.	TR 33	8/28/06	None
56	**character (MICR):** Any of the ten numerals or four special symbols comprising the MICR type font known as E-13B.	X9.100-160-1	6/26/09	X9.100-160-2
57	**character space (MICR):** A 0.125 inch space in the MICR print band within which one MICR character may appear.	X9.100-160-1	6/26/09	X9.100-160-2 TR 6
58	**check fraud deterrent icon (CFDI):** A security mark printed on the face of a check to indicate the check has at least the specified minimum level of overt fraud deterrent security features.	X9.100-170	7/20/10	None
59	**check processing system (check payment system):** The series of processing steps performed on a check from initial deposit though return to the maker of the check. These steps include: deposit into a financial institution; capture; forwarding through intermediary collection points; capture and posting at the drawee institution; and any additional sorting required prior to rendering a statement to the maker of the check.	TR 6	8/1/11	None
60	**check-related data:** Check-related data can be processing data, MICR code line data (including amount), the check image data (digital representation of the check) and user-defined data.	X9.100-187	11/11/08	X9.100-180
61	**clear band (MICR):** see MICR clear band	N/A	N/A	N/A
62	**clear band (optical):** see optical clear band	N/A	N/A	N/A
63	**clipping:** Clipping is the process whereby a specific sub-area of a fully digitized image is extracted. The sub-area is defined by the actual pixel count of the x and y coordinates of the clipped area of the full image.	X9.100-140	11/17/08	None
64	**collecting bank:** The bank through which a check is captured and/or processed for funds movement.	X9.100-187	11/11/08	X9.100-180
65	**color image:** A tonal digital representation of an original source document where the brightness and color values of image pixels are represented using multiple binary bits of information (typically ranging from 8 to 24 bits) to represent the red green and blue color components of the image. Color images captured in red blue and green (R B G) are typically transformed to luminance and chrominance components (Y Cr Cb) prior to image compression.	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
66	**color separation:** A photographic technique used to separate the colors of a scene or picture into three or four basic colors that can be screened to produce printed reproductions that look like the original picture.	X9.100-110	8/9/11	X9.100-30
67	**common field:** See fixed format	NA	NA	NA
68	**companion document:** A document developed and implemented among users (i.e. Financial Institution and its customers participants in a network etc.) of the standard to work in conjunction with ANS X9.100-187; companion documents do not stand on their own and must be used with ANS X9.100-187. It establishes and clarifies requirements that may be more restrictive than allowed by the standard. It also may highlight specific needs for a specific exchange network or institution.	X9.100-187	11/11/08	None
69	**compressed image size:** The file size (normally measured in bytes) of the compressed image pixel data including any required compression parameter data defined by the image compression algorithm but exclusive of any image header information.	TR 33	8/28/06	None
70	**consecutive number:** The document's serial number printed in MICR characters. On checks of sufficient length it generally appears in the auxiliary On-Us field. On shorter personal-sized checks it generally appears to the left or to the right of the account number in the On-Us field.	X9.100-160-1	6/26/09	None
71	**continuous form check:** A check manufactured by a method that results in many checks joined together for automatic feeding and printing in data processing printers.	X9.100-110	8/9/11	None
72	**contrast:** A measurement of the differences in brightness between foreground and background information or data present in a tonal image.	TR 33	8/28/06	None
73	**convenience amount:** The value of the check expressed in numbers.	X9.100-110	8/9/11	X9.100-30 X9.100-161 TR 6 TR 33
74	**convenience amount clear area:** The area surrounding the convenience amount rectangle that is clear of any printing that would interfere with the convenience amount.	X9.100-110	8/9/11	X9.100-30 X9.100-170
75	**convenience amount recognition (CAR):** The application of Intelligent Character Recognition to the function of locating and recognizing the characters in the convenience amount area.	X9.100-110	8/9/11	X9.100-30
76	**convenience amount rectangle:** An area within the convenience amount scan area that restricts the location of the convenience amount.	X9.100-110	8/9/11	X9.100-30

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
77	**convenience amount scan area:** The rectangular area on the right side of a check that contains the convenience amount rectangle and its associated clear area.	X9.100-110	8/9/11	X9.100-30 X9.100-161 X9.100-170
78	**copying:** The duplication of an original document by using copying equipment or scanners/printers.	X9.100-170	7/20/10	None
79	**correction label:** A small label with an adhesive backing that is placed over MICR information to give a new MICR encoding surface.	X9.100-151	7/20/10	None
80	**counterfeiting:** The creation of a new document that is apparently identical or similar to another item in an attempt to perpetrate a fraud.	X9.100-170	7/20/10	None
81	**covert feature:** Security feature(s) not visibly detectable or described on the document.	X9.100-170	7/20/10	None
82	**creation institution:** The institution that creates an IRD. The IRD can be an Original IRD or a Subsequent IRD.	X9.100-140	11/17/08	None
83	**customer return (a.k.a. monetary return):** Distinguishes to the presenting bank a dishonoured item. These items are usually charged to a customer account. Examples are NSF stop pay closed account etc.	X9.100-187	11/11/08	None
84	**cycle:** A number or letter that can be translated to a processing day of the week.	X9.100-187	11/11/08	X9.100-180
85	**data elements:** Information that is contained on a check that is legally necessary or desired by the payor to convey funds. A signature payee name and amount are each examples of data elements which are legally necessary. A memo line and invoice number are each examples of data elements not legally necessary but often desired by the payor for payment tracking.	X9.100-110	8/9/11	X9.100-30
86	**data print boundary line:** A defining line on the front and back of an IRD and extending its full length below which no data is printed other than the E-13B character font specified in Regions 5F and 6F.	X9.100-140	11/17/08	None
87	**debossment:** A physical impression of the typeface into the paper surface causing the printed characters to be below the surrounding paper surface.	X9.100-20	8/1/11	TR 6
88	**deposit ticket:** A document that conforms to the size and MICR printing requirements for checks and which is used at a depository institution to list each item of deposit and total the net amount to be credited to the account holder.	X9.100-120	9/20/10	X9.100-40-1 X9.100-40-2

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
89	**depositary bank:** The first bank to which a check is transferred even if such bank is also the paying bank or the payee; or a bank to which a check is transferred for deposit in an account at such bank even if the check is physically received and indorsed first by another bank. X9.100-180 & X9.100-187: As used in this standard the first bank to which a check or the image of a check is transferred for deposit even if such bank is also the paying bank or the payee; or a bank to which a check or check image is transferred for deposit in an account at such bank even if the check or check image is received and indorsed by another bank (a collecting bank not the depositary bank).	X9.100-111	7/10/09	X9.100-150 X9.100-180 X9.100-183 X9.100-187
90	**designated peak(s):** The peak or peaks of a waveform which is (are) used for the purpose of determining signal level of a character.	X9.100-20	8/1/11	None
91	**digital certificate:** A data structure that is digitally signed by a trusted third party (i.e. Certificate Authority) to securely convey a public key or other data elements needed to verify that digitally signed images have been generated by the proper owner and have not been altered or replaced. The specific data structure format used is X.509 Version 3 Digital Certificates.	X9.100-180	7/11/06 (R2006)	None
92	**digital certificate issuer distinguished name:** Information used to uniquely identify the issuer of a digital certificate. The Issuer Distinguished Name is used in conjunction with the Digital Certificate Serial Number to uniquely reference the Digital Certificate for a given image. Information is conveyed as a set of characters of “attribute = data” pairs. Typical attributes include organization (o=) country (c=) common name (cn=) and organization unit (ou=).	X9.100-180	7/11/06 (R2006)	None
93	**digital certificate serial number:** The Digital Certificate Serial Number within a Digital Certificate is unique and is used in conjunction with the Issuer Distinguished Name to uniquely reference the Digital Certificate for a given image.	X9.100-180	7/11/06 (R2006)	None
94	**digital signature:** A number created from a variable length image (or other data set) to produce a fixed length hash value that is encrypted using a private key. The process of creating a digital signature from the image (or other data) is called “digitally signing” the image. Images are verified by decrypting their digital signature using the public key that corresponds to the private key used to produce the digital signature.	X9.100-180	7/11/06 (2006)	None
95	**disparity of peaks:** The difference between the amplitude of any given peak in an actual MICR character's/symbol's normalized waveform and the amplitude of the same peak in its respective reference waveform.	X9.100-20	8/1/11	None
96	**document (MICR):** Any printed item including but not limited to checks which conforms to all applicable MICR standards.	X9.100-160-1	6/26/09	None
97	**dollar sign:** see “dollar symbol.”	X9.100-120	9/20/10	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
98	**dollar symbol:** a sans serif character, formed by a single continuous solid line drawn through the vertical center line of, and extending above and below, an S-shaped curve, used to denote US currency.	X9.100-110	open	X9.100-120, ASC X9 TR 2
99	**dropout element:** An element which is human readable but not intended to be captured by automated recognition systems.	X9.100-120	9/20/10	None
100	**dry ink:** Toner used in non-impact printing technologies.	TR 6	8/1/11	None
101	**dynamic contrast image (DC Image):** A generic binary (i.e. black and white) image generated from a greyscale image by comparing the reflectance value of each pixel to the average of all pixels (including itself) in the 0.125 inch x 0.125 inch (3.18 mm x 3.18 mm) immediate surrounding area. Each pixel is thereby converted to a black or white value.	X9.100-110	8/9/11	X9.100-120
102	**dynamic contrast ratio (DCR):** The mathematical formula for creating a dynamic contrast image. It is the same as the formula for PCS but the calculation is performed at a pixel level.	X9.100-110	8/1/11	X9.100-120
103	**E-13B:** A special type font consisting of ten numerals and four special symbols developed for magnetic ink character recognition.	X9.100-20	8/1/11	X9.100-160 TR 6
104	**eastern time:** Eastern time is the eastern time zone of the United States of America (USA) and Canada. Eastern standard time (EST) is 5 hours behind Greenwich Mean Time (GMT-5).	X9.100-187	11/11/08	None
105	**ECE:** See electronic check exchange (ECE)	NA	NA	NA
106	**ECE institution:** The institution that creates and sends the electronic cash letter information.	X9.100-180	7/11/06 (R2006)	X9.100-183
107	**electronic check:** A generic term designating an end-to-end negotiable instrument that has only existed in an electronic form.	X9.100-187	11/11/08	X9.100-180
108	**electronic check adjustment file (ECA):** The file formats designed to convey all of the data required to process the adjustment notice or request thereby minimizing reliance on supporting physical documentation.	X9.100-183	8/3/10	None
109	**electronic check exchange (ECE):** The electronic exchange of check-related data in lieu of or in addition to the exchange of paper checks. For forward presentment usually referred to as electronic check presentment (ECP).	X9.100-187	11/11/08	X9.100-180 X9.100-183
110	**embossment:** A physical build-up of dry ink on paper causing the characters to sit above the surrounding paper surface.	X9.100-20	8/1/11	TR 6
111	**encoding strip:** See MICR encoding strip	TR 6	8/1/11	None
112	**endorsement or indorsement:** Information used to transfer a negotiable instrument from one holder to another. Endorsements are placed on a document by payee(s) by the Bank of First Deposit and by institutions subsequently handling the document.	X9.100-111	7/10/09	X9.7 TR 33

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
113	**endorsement areas:** Regions on the reverse of a check reserved for endorsements according to a functional role in the collection of cash items.	X9.100-111	7/10/09	None
114	**engine:** In the context of software a module that performs a specialized task but is not a complete solution or application.	TR 33	8/28/06	None
115	**EPC:** See external processing code (EPC)	NA	NA	NA
116	**escape:** The failure of an automated image quality assurance system to determine that a check image contains an image defect or usability problem. (Also referred to as a false negative.)	TR 33	8/28/06	None
117	**exchange file:** A file containing data and associated images organized in a structure suitable for exchange of value between Depository Financial Institutions. (Example is ANSI X9.100-187-2008 exchange file standards).	X9.100-181	6/2/10	None
118	**extension strip:** A paper strip affixed to the bottom of a check to permit correct encoding of a MICR line. It is typically utilized for repairing rejected checks.	X9.100-160-1	6/26/09	None
119	**external processing code (EPC):** A MICR digit that conveys special information regarding the correct handling or routing of a check or check data to financial institutions and other processors.	X9.100-160-1	6/26/09	X9.100-160-2
120	**external processing code field (EPC field):** An optional single digit field located to the left of the routing field on a check. The EPC field is used for special purposes as authorized by ASC X9.	X9.100-160-1	6/26/09	X9.100-150 X9.100-160-2 X9.100-161 X9.100-180 X9.100-183 X9.100-187 TR 6
121	**extraneous ink:** Magnetic ink or other ink not intentionally printed.	X9.100-20	8/1/11	TR 6
122	**face:** The surface of the check that bears the amount payee payor bank name signature etc. The surface of a strip that is intended to be MICR encoded.	X9.100-151	7/20/10	None
123	**faithfulness:** The accuracy and completeness of a digital representation of the information and graphic details contained within the source document. Typically image faithfulness is a function of capture DPI image type (black and white greyscale or color) and image compression algorithms.	TR 33	8/28/06	X9.100-140
124	**false positive:** The determination by an automated image quality assurance system of an image defect or usability problem when no defect or usability problem is actually present.	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
125	**field guide:** A visual indicator for entering numeric amount data on deposit tickets printed with graphics having a PCS < 0.30 but which because of its color is easily seen by humans.	X9.100-120	9/20/10	None
126	**field of view (FOV):** The maximum document height (or width) that can be imaged by the document scanner. FOV is usually determined by the focal length of the camera lens the number of sensors in the camera's CCD sensor and the physical separation between the camera and the document being imaged.	TR 33	8/28/06	None
127	**fields of interest:** Locations on a check and its image that contain transaction information some of which are considered key to completing the payment.	TR 33	8/28/06	None
128	**filtering:** The process or device that selectively separates or removes unwanted signals data or noise. In the context of image filtering a hardware or software process that modifies the original input image pixel values.	TR 33	8/28/06	None
129	**fixed format:** A term applied to the required and optional fields for which the location digit sequence and structure are completely specified.	X9.100-160-1	6/26/09	X9.100-20 X9.100-140 X9.100-160-2 X9.100-180 X9.100-187
130	**fixed format field:** A predetermined description or specification of information content for example the routing number field.	X9.100-20	8/1/11	None
131	**full endorsement:** The endorsement placed on a document by the Bank of First Deposit. This endorsement includes the nine-digit routing number date institution's name/location trace/sequence number and branch. The full endorsement will also include the "arrow points" at each end of the nine-digit routing number.	X9.100-111	7/10/09	None
132	**GIF (graphic interchange format):** A common format for image files that is especially suitable for images containing large areas of the same color. It is a common format for inline images placed in HTML documents.	TR 33	8/28/06	None
133	**GMT (Greenwich Mean Time):** The Greenwich Meridian (Prime Meridian or Longitude Zero degrees) marks the starting point of every time zone in the world. GMT Greenwich Mean (or Meridian) Time is the mean (average) time that the earth takes to rotate from noon-to-noon.	X9.100-180	7/11/06 (R2009)	None
134	**grain direction:** The direction in which paper fibers lie which corresponds to the direction the paper is made on a paper machine.	X9.100-120	9/20/10	None
135	**gray level resolution:** The number of gray levels allowed between white and black for each image pixel. Grayscale resolution is typically measured in units of bits-per-pixel (bpp).	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
136	**grayscale image:** An image where each pixel can have a full range of gray tonal values usually more than 2 up to 256 levels. TR 33: As used in this report a tonal image where each image pixel can represent a range of gray level values (typically 16 to 256) between white and black.	X9.100-110	8/9/11	X9.100-30 TR 33
137	**group adjustment:** An adjustment that involves more than one bundle within a cash letter or more than one item within a bundle. Must be same date within same cash letter and same bundle.	X9.100-183	8/3/10	None
138	**half-toning:** A printing process based on halftone screens used by the printing industry. It effectively simulates shades of different density based on the number and density of dots in the image. The human eye perceives a combination of basic colors in the dots as a mixture or hue. In the case of a single color the human eye perceives a shade of the basic printed color that is dependent on the dot size and spatial density.	TR 33	8/28/06	None
139	**height:** The vertical dimension of the check or strip when its face is viewed.	X9.100-151	7/20/10	None
140	**horizontal streaks:** The presence of one or more dark (for all images) or light (for greyscale and color images) horizontal lines or bands that extend across a specified percent of the image from leading to trailing edge.	TR 33	8/28/06	None
141	**human-visible spectrum:** The wavelengths of light that can be observed by the human eye ranging between 400 and 700 nanometers with the peak human response at 555 nanometers. These wavelengths span the full range of pure colors; 400 nanometers is perceived as deep blue 550 nanometers is yellow-green and 700 nanometers is deep red.	X9.100-110	8/9/11	X9.100-120
142	**icon area:** The location on the face of a check where the check fraud deterrent icon must be printed.	X9.100-170	7/20/10	None
143	**icon clear area:** Open space surrounding the check fraud deterrent icon to be clear of other information.	X9.100-170	7/20/10	None
144	**ICR:** See intelligent character recognition (ICR)	NA	NA	NA
145	**image (digital image):** A digital representation of all or part of a physical item including any associated parameters required to interpret the digital representation. The digital representation is created by sensing light reflected from the item.	TR 33	8/28/06	none
146	**image anchor point:** Represents the starting X and Y point of origin for printing a digital image.	X9.100-140	11/17/08	None
147	**image area:** Specific region(s) on the front and back of an IRD that is reserved for the printing of the image of the original check or the areas clipped from the image of an IRD.	X9.100-140	11/17/08	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
148	**image compression:** The application of data compression techniques to a digital image with the goal of reducing the image's file size to reduce subsequent image storage and transmission costs. A number of data compression techniques have been specifically designed and standardized for the compression of a variety of image representations (e.g. color gray level bi-tonal etc.). See definitions associated with: Lossy and Lossless Data Compression CCITT T.4 CCITT T.6 JBIG and JPEG.	TR 33	8/28/06	None
149	**Image Defect Assessment (IDA):** The analysis of a document image based upon an established defect list. Defects will be assumed to be present in the image when defect metrics exceed industry established threshold values or limits. Image defect analysis is performed using a set of image defect metrics. These metrics may measure characteristics of the source document (e.g. size folded corners skew) or characteristics of the image itself (e.g. too dark too light streaks). Image defect assessment must be able to be performed reasonably accurately without reference to the source document or analysis of the information content from specific fields of interest.	TR 33	8/28/06	None
150	**image defect metrics:** The set of measures used to quantify the overall likelihood that a digital check image has conditions that would render the information contained within the source document usable in the image.	TR 33	8/28/06	None
151	**image file:** The data set representing a single image view formatted in accordance with the TIFF 6.0 standard. The image file may be a stand-alone file (.TIF extension) or embedded within an exchange file (e.g. within Image View Data Record (Type 52) Image Data Field (Field 19) in ANSI X9.100-187-2008 exchange file).	X9.100-181	6/2/10	None
152	**image file directory (IFD):** An image file directory contains tag information about the image as well as pointers to the actual image data. There must be at least 1 IFD in a TIFF file and each IFD must have at least one entry.	X9.100-181	6/2/10	None
153	**image quality:** The totality of image characteristics that bear on an image's ability to satisfy stated or implied needs.	X9.100-140	11/17/08	TR 33
154	**image quality assurance (IQA):** A process for validating image quality.	TR 33	8/28/06	None
155	**image quality suspect:** An image that fails one or more automated image defect or usability analyses.	TR 33	8/28/06	None
156	**image rendition:** A term describing whether the check image is black and white greyscale or color.	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
157	**image replacement document (IRD):** An Image Replacement Document (IRD) is a paper item substitute for an original paper item check or previous IRD and contains a machine readable MICR line and images of the original check item or images clipped from a previous IRD item. An IRD conforming to X9.100-140 may be used as a Substitute Check. An IRD that meets the requirements of a Substitute Check within Regulation CC can be considered the practical and legal equivalent of the original paper check or of a previous IRD.	X9.100-140	11/17/08	X9.100-180 X9.100-187 TR 33
158	**image scaling:** The mathematical process of increasing or decreasing the number of pixels in the original document image in order to create a larger or smaller image suitable for image display or print applications. Also see 'pixel replication' and 'pixel decimation.'	TR 33	8/28/06	None
159	**image test parameter:** Data used to generate an image test result. Threshold values used to compute a pass/fail image test result and constant values used in a formula or algorithm to compute an image test result are examples of image test parameters.	X9.100-40-1	3/22/06	X9.100-40-2
160	**image test result:** An outcome realized from executing an image test. The outcome will typically be the observed or measured value of some attribute pertaining to the image being tested. Example attributes are image height image width compressed image size skew angle and field presence. The outcome could also be secondary data related to the observed or measured value of the attribute such as a confidence level for the result.	X9.100-40-1	3/22/06	X9.100-40-2
161	**Image Usability Assessment (IUA):** An analysis of selected information contained within an image to determine its usability. If the selected information is determined to be usable then the image could be considered suitable as a substitute for the original document.	TR 33	8/28/06	None
162	**imaging:** A system based on monochrome scanning of checks processing discrete picture elements to remove data redundancy followed by compression and storage of the image data. Images can be retrieved decompressed and displayed on image work stations or printed on a printer either locally or remote to the storage site.	X9.100-110	8/9/11	X9.100-30 X9.100-120
163	**immediate withdrawal disclaimer:** A notice printed on transaction account deposit tickets that informs depositors that the deposits may not be available for immediate withdrawal.	X9.100-120	9/20/10	None
164	**intelligent character recognition (ICR):** Algorithms used to provide character or symbol recognition from the captured or stored image data.	X9.100-110	8/9/11	X9.100-30 X9.100-120
165	**interchange wrapper:** File formats for exchanging images.	TR 33	8/28/06	None
166	**investigation type:** Categories of errors or problem situations used to classify adjustment notices and adjustment requests. The type attached to an adjustment message determines the format and field requirements for the electronic file.	X9.100-183	8/3/10	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
167	**item:** An item is the physical representation of a financial transaction. Examples include checks IRDs and related paper objects such as deposit slips and cash in or cash out tickets. Items are generally referred to by their type as for instance cash items transit items on-us items clearing items general ledger items etc. X9.100-187: As used in this standard an item is the physical representation of a financial transaction. Examples include checks IRDs and related paper objects such as deposit slips and cash in or cash out tickets. The monetary amounts of items will be posted in total or in detail as a debit or credit to some account in the bank. Items are generally referred to by their type as for instance cash items transit items on-us items clearing items general ledger items etc.	X9.100-180	7/11/06 (R2009)	X9.100-187
168	**item entry area:** The designated space where amounts of cash and individual checks being deposited are written onto the deposit ticket.	X9.100-120	9/20/10	None
169	**joint bi-level image experts group (JBIG):** An international (ISO) image compression standard designed to more efficiently compress bi-tonal images using a “lossless” data compression algorithm similar to IBM’s ABIC compression technology. JBIG typically yields image file size reductions of 15-30% compared to the older CCITT T.6 (Group 4) bi-tonal image compression standard.	TR 33	8/28/06	None
170	**joint photograph experts group (JPEG):** An international (ISO) image compression standard defined to compress gray level and color imagery using a “lossy” image compression technique. The JPEG baseline compression standard has been adopted by many vendors to compress both gray level and color check images.	TR 33	8/28/06	None
171	**leading edge:** The right edge of a document when its face is viewed.	X9.100-160-1	6/26/09	X9.100-110 X9.100-20 X9.100-111 X9.100-120 X9.100-140 X9.100-150 X9.100-151 X9.100-161 X9.100-170 X9.100-172-1 TR 6
172	**legend:** Printed text that is defined by this standard and applicable law.	X9.100-140	11/17/08	None
173	**legibility:** Legibility is defined as the quality of a letter or numeral that enables a reasonable observer to identify it positively and quickly to the exclusion of all other letters or numerals. X9.100-140: As used in this standard distinctness that makes perception easy. TR 33: As used in this report distinctness that makes perception easy.	X9.100-111	7/10/09	X9.100-140 TR 33

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
174	**Lempel-Ziv-(Dan)Welch (LZW):** A (patented) data compression algorithm that is commonly used to compress image data associated with GIF and TIFF files.	TR 33	8/28/06	None
175	**length:** The dimension across the face of the check or strip parallel to the aligning edge.	X9.100-151	7/20/10	None
176	**linear form of endorsement:** As used in this standard the linear form of endorsement is that in which the contents of the endorsement are laid out next to each other in a straight line extending horizontally across the check so as to consume the least vertical space.	X9.100-111	7/10/09	None
177	**listing:** The printing or writing of the amount of each item in a bank deposit on the front or back of a deposit ticket usually in a sequential order representing the physical order of paper items.	X9.100-120	9/20/10	None
178	**lossless algorithm:** Lossless data compression algorithm is a class of algorithm that allows the exact original data to be reconstructed from the compressed data. Lossless compression is used when it is important that the original and the decompressed data be identical or when no assumption can be made on whether certain deviation is uncritical.	X9.100-181	6/2/10	None
179	**lossless data compression:** A data compression algorithm that achieves data compression by removing redundancies in the original data set using as invertible mathematical technique or function. As such when the data is decompressed the original data is recovered without any losses.	TR 33	8/28/06	None
180	**lossy data compression:** A data compression algorithm that achieves data compression by introducing some amount of distortion into the original data set. Therefore when the data is decompressed the resultant data does not match the original input data. The amount of data compression achieved is dependent upon the amount of distortion one can tolerate in the original data.	TR 33	8/28/06	None
181	**magnetic ink:** The ink used to print the E-13B characters for all MICR documents. It is formulated by introducing iron oxide particles into the ink materials allowing the characters printed to be read by magnetic readers designed for this purpose.	X9.100-20	8/1/11	X9.100-160-1 TR 6

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
182	**magnetic ink character recognition (MICR):** The common machine language specification for the paper-based payment transfer system. It consists of magnetic ink printed characters of a special design called the E-13B font that can be recognized by high-speed magnetic recognition equipment. TR 33: As used in this report the common machine language specification for the paper-based payment transfer system. It consists of magnetic ink printed characters of a special design called the E-13B font which can be recognized by magnetic recognition equipment.	X9.100-20	8/1/11	X9.100-30 X9.100-10 X9.100-110 X9.100-111 X9.100-120 X9.100-130 X9.100-150 X9.100-151 X9.100-160-1 X9.100-161 X9.100-180 X9.100-183 X9.100-187 TR 6 TR 33
183	**matrix reader:** A MICR reading technology that divides characters into horizontal and vertical cells. The cells are then applied to a "pattern" recognition system to identify the characters. The magnetic cell detectors are very sensitive to any air gap between the MICR ink and the detecting heads during the reading process.	TR 6	8/1/11	None
184	**MICR:** Magnetic ink character recognition	NA	NA	NA
185	**MICR clear band:** A horizontal band 0.625 inch high on the front side and back side of the document measured from the aligning edge that must be free of any magnetic ink other than that of the E-13B font.	X9.100-20	8/1/11	X9.100-110 X9.100-111 X9.100-120 X9.100-140 X9.100-150 X9.100-151 X9.100-160-1 X9.100-161 TR 6
186	**MICR encoding strip:** See “MICR print band.”	NA	NA	NA
187	**MICR print band:** A 0.250 inch high band subdivided into a series of character spaces within the MICR clear band within which E-13B characters are located.	X9.100-20	8/1/11	X9.100-30 X9.100-110 X9.100-120 X9.100-140 X9.100-160 TR 6
188	**MICR tester:** A device that is used in its simplest form to measure the magnetic signal strength of the printed MICR characters. More advanced MICR testers use a waveform reader to recognize and display waveforms for comparison to theoretical waveforms.	TR 6	8/1/11	None
189	**noise:** Background or other information in an image that interferes with the legibility of pertinent data on the image.	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
190	**non-impact printing:** A term used to refer to the print technologies of xerography electron beam imaging magnetography thermal encoding and the like. In these technologies toner or ink is transferred to the paper and fused to the paper. The result is an image that is raised above the surface of the paper (embossed).	TR 6	8/1/11	None
191	**non-read ink:** A graphic treatment used to print elements on a document that are visible to humans but intended to be invisible to an image processing system.	X9.100-120	9/20/10	X9.100-161
192	**normalization:** The mathematical amplitude scaling process performed on an actual waveform in order to compare the waveform to a theoretical waveform. Normalization is also used for disparity of peaks calculations.	X9.100-20	8/1/11	None
193	**normalization (image normalization):** A mathematical process whereby each image pixel undergoes some greyscale correction to correct for non-uniform document illumination and non-linearities that are associated with the digital camera's CCD sensor. Appropriate gray level correction factors are typically generated during a camera calibration procedure.	TR 33	8/28/06	None
194	**normalization factor:** The ratio of the sum of peaks of an actual waveform with respect to the sum of peaks of its respective reference waveform for a given character.	X9.100-20	8/1/11	None
195	**nominal waveform:** A waveform that is equal in signal level to its respective nominal signal level. It is also called 100% of nominal.	X9.100-20	8/1/11	None
196	**OCR:** See optical character recognition (OCR)	NA	NA	NA
197	**On-Us field:** The MICR print band area between the closing amount symbol and the opening transit symbol. Arrangement of the On-Us field is variable specified by the financial institution on which the check is written. It may include such information as the user's account number a consecutive number and a transaction or processing code.	X9.100-160-1	6/26/09	X9.100-180 X9.100-183 X9.100-187 TR 6
198	**On-Us symbol:** The symbol in the E-13B font that identifies the field(s) containing information unique to the issuing financial institution.	X9.100-160-1	6/26/09	None
199	**opacity:** The extent to which a document obstructs light transmission. A high opacity minimizes the show-through from the back. Opacity is expressed as 100 times the ratio of reflectance measured using a black backing to the reflectance measured using a white backing.	X9.100-10	4/29/11	X9.100-120
200	**opaque sheet:** A sheet of material that is difficult to see through and is unsuitable for visual analysis microfilming or image capture of a document located behind such a sheet.	X9.100-150	9/15/10	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
201	**optical character recognition (OCR):** A technology that uses optical sensing to achieve machine readability of the E-13B font on MICR documents. TR 33: As used in this report the technology or process in which an electronic device/software examines printed characters on paper and determines their shapes by detecting patterns of dark and light. Pattern matching with stored sets of characters is then used to translate the shapes into computer text.	X9.100-110	8/9/11	X9.100-10 X9.100-120 TR 6 TR 33
202	**optical clear band:** A 0.300-inch high band that has included within it the MICR print band. This band is located 0.150 inch above the aligning edge and extends the length of the document.	X9.100-20	8/1/11	X9.100-110 X9.100-120 X9.100-160-1 X9.100-161 TR 6
203	**optical filters:** A piece of colored glass or plastic that is used to modify/filter the color of light illuminating the document or used to modify/filter the light reflected from the document prior to detection by the image camera.	TR 33	8/28/06	None
204	**optional fields:** These are fields that are not required to be present in order to process the image. The default value shall be assumed.	X9.100-181	6/2/10	None
205	**original check truncation institution:** The institution that has truncated the original check document and is the holder of the original document or is responsible for knowing the location of the original document.	X9.100-140	11/17/08	X9.100-180 X9.100-187
206	**over-sig:** "Over signature line" is pre-printed information like the check writer's name it is found in an area above the line used for a signature.	X9.100-170	7/20/10	None
207	**overt feature:** Security feature(s) that are intended to be easily discernible and visually detectable by the public.	X9.100-170	7/20/10	None
208	**paper:** Refers to a physical document. X9.100-187: As used in this standard paper refers to the original document the IRD or an indemnified photocopy.	X9.100-180	7/11/06 (R2009)	X9.100-187
209	**pattern recognition:** The automatic finding extraction and classification of shapes. Shapes can be characters logos or other graphical elements on a digital image.	TR 33	8/28/06	None
210	**paxel:** A group of black pixels (equal to or more than 6 of 9) in a binary image measuring 0.010 inch x 0.010 inch (0.25 mm x 0.25 mm) square that is the smallest dark area of background clutter that has been determined to affect the legibility of handwritten data on checks.	X9.100-110	8/9/11	X9.100-30
211	**paxel count:** The number of contiguous paxels that when joined in any shape line or combination can create a background clutter problem that can affect the legibility of handwritten data on checks.	X9.100-110	8/9/11	X9.100-30

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
212	**payee line restraint:** A vertical mark at the right end of the payee line showing the point where writing should end.	X9.100-110	8/9/11	None
213	**payment document:** Any paper document that is used to transfer funds from one party to another.	TR 6	8/1/11	None
214	**payor:** The party issuing the check as an account holder of a payor institution. The payor is also known as the maker or writer of the check.	X9.100-187	11/11/08	X9.100-180 X9.100-183
215	**payor bank:** The institution by or through which a check is payable. The payor bank is also referred to as paying bank.	X9.100-187	11/11/08	X9.100-180 X9.100-183
216	**PCS:** See print contrast signal (PCS)	NA	NA	NA
217	**permanence:** The ability of a MICR image to retain its human and machine readability over the normal life cycle of the check.	X9.100-20	8/11/	TR 6
218	**photometric interpretation:** A bilevel image contains two colors – black and white. TIFF allows an application to write out bilevel data in either a white-is-zero or black-is-zero format. The field that records this information is called photometric interpretation. Also known as the color space of the image data.	X9.100-181	6/2/10	None
219	**photo-sensor array:** An electrical component that contains multiple sensors capable of converting light into an electrical charge or voltage.	TR 33	8/28/06	None
220	**piggyback:** A condition whereby a check adheres during processing to an adjacent document. TR 33: As used in this report two items that appear as one but the items are overlapped (i.e. offset in length or width). The front and back images represent two different items. See double documents for items that do not overlap.	X9.100-151	7/20/10	TR 33
221	**pile height:** The thickness of the ink layer forming an image frequently used with inks that create embossed images. See embossment. Note: Pile height is not equal to the embossment height unless the ink lies completely above the surface of the paper.	TR 6	8/1/11	None
222	**pixel:** A contraction of “picture element” the smallest area of a document considered in capturing an electronic image. Common pixel densities in imaging are 200 and 240 pixels per inch.	X9.100-110	8/9/11	X9.100-30 TR 33
223	**pixel decimation:** A method of creating a smaller image (image down-scaling) by deleting pixels located in the original image.	TR 33	8/28/06	None
224	**pixel replication:** A method of creating a larger image (image up-scaling) by repeating pixels located in the original image.	TR 33	8/28/06	None
225	**porosity:** The resistance of paper to the passage of air under a specific pressure through the paper.	X9.100-150	9/15/10	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
226	**portable network graphics (PNG):** An image and graphic file format designed as the successor to GIF. It features compression transparency and progressive loading as included in GIF but is free of use restrictions associated with the LZW data compression algorithm.	TR 33	8/28/06	None
227	**post-printed MICR data:** Information encoded on a check after presentment for processing through the payment system normally consisting of the amount field.	X9.100-160-1	6/26/09	None
228	**posting data:** All data required by the payor bank to post the item from the exchanged file.	X9.100-187	11/11/08	X9.100-180
229	**pre-printed MICR data:** Information encoded on a check before delivery to the purchaser normally consisting of the routing and On-Us fields.	X9.100-160-1	6/26/09	None
230	**presentment:** The operational process of moving checks and check related data from a collecting bank to a paying bank.	X9.100-187	11/11/08	X9.100-180
231	**print band (MICR):** see MICR print band	X9.100-20	8/1/11	X9.7 X9.100-120 X9.100-140 X9.100-160-1 TR 6
232	**print contrast:** The difference between the reflectance of a printed point and the reflectance of the background on which it is printed.	X9.100-110	8/9/11	X9.100-20 X9.100-30 X9.100-120
233	**print contrast signal (PCS):** The ratio of the print contrast of a particular printed point with respect to the reflectance of a reference or background region.	X9.100-110	8/9/11	X9.100-20 X9.100-30 X9.100-111 X9.100-120 X9.100-161 X9.100-170 X9.100-172-1 TR 33
234	**printed features:** Features printed on paper in the check manufacture such as decorative patterns security patterns Convenience Amount Rectangle outlines hand print constraint boxes dollar signs field designators etc. Printed areas may be either in the background or foreground.	X9.100-110	8/9/11	X9.100-30
235	**printed information:** Lines dollar signs decimal points or other information printed on a payment document or deposit ticket to convey the information content of the document and not considered to be part of the background color pattern or scene.	X9.100-120	9/20/10	TR 6
236	**process control code:** See transaction code	X9.100-160-1	6/26/09	None
237	**QRC:** See qualified return check (QRC)	NA	NA	NA

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
238	**qualified MICR print band:** The MICR line printed with E-13B characters that is contained in the removable tear-off strip of an IRD used for qualified return processing. It contains a MICR 5 in the EPC field the routing number of the BOFD or returns processor and the check amount.	X9.100-140	11/17/08	None
239	**qualified return check (QRC):** A return check prepared for automated processing. It contains a qualified strip or is placed in a carrier envelope and encoded with the routing number of the depositary bank the dollar amount of the check and the value '2' in position 44 of the MICR line of the original and the value '5' in position 44 of the qualified MICR line of an IRD. X9.100-140: As used in this standard a return check prepared for automated processing. It contains a qualified strip or is placed in a carrier envelope and encoded with the routing number of the depositary bank or Return Processing Bank the dollar amount of the check and the value '2' in position 44 of the MICR line of the original and the value '5' in position 44 of the qualified MICR line of an IRD. A QRC is generally used when sending to a clearing house or Federal Reserve; a QRC is typically not used in direct exchanges.	X9.100-187	11/11/08	X9.100-140 X9.100-180 X9.100-183
240	**raw check image:** An image as it was originally captured i.e. the original image pixel data obtained directly from the document scanner (e.g. image camera) prior to any digital image preprocessing or data compression operations being performed on the check image. Raw check images normally represent a full gray level or color rendition of the document image at the image camera's maximum spatial resolution.	TR 33	8/28/06	None
241	**read ink:** A graphic treatment used to print elements on a document that are visible to humans and are also visible to an image processing system.	X9.100-120	9/20/10	X9.100-161
242	**reader/sorter:** An automated MICR document-processing machine that reads E-13B printed characters magnetically in order to sort the documents.	X9.100-10	4/29/11	X9.100-111 X9.100-160-1 TR 6
243	**reference waveforms:** The nominal valued theoretical waveforms that are calculated and generated for each MICR character based upon design centered character shapes uniform magnetization and utilizing the mathematical equivalent of the read head and amplifier as specified in this specification. Reference waveforms are also known as theoretical waveforms.	X9.100-20	8/1/11	None
244	**reflectance:** The relative brightness of an illuminated paper surface as seen by the human eye as indicated by values between 0 and 100%. The eye modifies the apparent brightness at different wavelengths according to its response to the human-visible spectrum. Equipment that measures reflectance requires a filter that matches its response to that of the human eye.	X9.100-110	8/9/11	X9.100-30 X9.100-111 X9.100-120 X9.100-161

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
245	**Regulation CC (12 CFR part 229):** The regulation adopted by the Board of Governors of the Federal Reserve System to implement the Expedited Funds Availability Act (12 U.S.C. 4001-4010) and Check Clearing for the 21st Century Act (Check 21) (12 U.S.C. 5001-5018). The regulation specifies among other things minimum availability standards for deposited funds and rules designed to expedite check collection and returns.	X9.100-187	11/11/08	X9.100-180 X9.100-183
246	**reject(s):** A term used for a rejected check(s) or other MICR encoded documents. The document may be rejected visually as not meeting ANS X9.100-20 (X9.27) criteria or by not being readable on a reader/sorter. Most commonly this term applies to reader/sorter performance.	TR 6	1/31/07	None
247	**return item:** A check returned unpaid by the payor bank. The check may have been dishonoured or returned for administrative reasons. It may be returned to the BOFD directly or through an intermediary.	X9.100-187	11/11/08	X9.100-180 X9.100-183
248	**return reason code:** For return items the particular reason that the paying bank refuses payment.	X9.100-140	11/17/08	X9.100-172-1
249	**routing field:** Positions 33 through 43 of the MICR line that contain the routing number.	X9.100-160-1	6/26/09	X9.100-130 X9.100-180 X9.100-183 X9.100-187 TR 6
250	**routing number:** The numeric identifier of a financial institution as assigned by the American Bankers Association or its agent. Routing numbers are used for routing purposes on checks and virtually all other MICR documents such as deposit tickets and batch tickets. A specific numeric series is reserved for internal bank usage.	X9.100-160-1	6/26/09	X9.100-110 X9.100-111 X9.100-120 X9.100-130 X9.100-180 X9.100-183 X9.100-187 TR 6
251	**same day settlement (SDS):** A set of amendments to Regulation CC (12 CFR part 229) which specifies conditions under which a payor bank must settle for a check with a presenting bank in same-day funds.	X9.100-187	11/11/08	X9.100-180 X9.100-183
252	**saturation (magnetic):** The condition in which the flux density of the printing can no longer be increased by increasing the applied magnetization in a plane parallel to the paper.	X9.100-20	8/1/11	None
253	**scan line:** A linear sequence of pixel values in the digital image representation of a document that spans either the width or height of the image. Scan lines can be oriented horizontally or vertically based on the orientation of the camera optics to the source document during the scanning process. A collection of vertical or horizontal scan lines defines the entire area of the document image.	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
254	**scanning geometries:** Referring to the document scanning orientation used to acquire the pixel data present in the document image (e.g. a sequence of vertical scan lines a sequence of horizontal scan lines).	TR 33	8/28/06	None
255	**scanning window:** The opening in the document transport track wall that provides a slit or window through which the document is illuminated and imaged. On a flat bed scanner the scanning window is the platen that you place the document on to be scanned.	TR 33	8/28/06	None
256	**screen printing (halftone):** A printing process that prints one or more basic colors in discrete patterns of dots that vary in size. The human eye perceives a combination of basic colors in the dots as a mixture or hue. In the case of a single color the human eye perceives a shade of the basic printed color that is dependent on dot size and spatial density.	X9.100-120	9/20/10	X9.100-30 X9.100-110
257	**secondary reference documents:** Paper documents specially printed in magnetic ink with the characters of the E-13B font. These documents are of known relative signal level and are for use in calibration of equipment used to measure relative signal level.	X9.100-20	8/1/11	None
258	**security feature/technique:** An addition to a document that will add complexity in its ability to be reproduced or changed.	X9.100-170	7/20/10	TR 33
259	**settlement:** Settlement of check activity occurs at the time the sending financial institution gains possession of funds from the receiving bank.	X9.100-183	8/3/10	None
260	**short name:** The abbreviated name assigned to a bank typically by the Federal Reserve Bank.	X9.100-187	11/11/08	X9.100-180 X9.100-183
261	**signal level:** Signal level is the amplitude of the voltage waveform which results when a d-c magnetized and fully saturated MICR printed character is moved at a specified speed past a specifically defined magnetic read head whose output is amplified with a defined transfer function.	X9.100-20	8/1/11	TR 6
262	**signal units (SU):** The common practice of scaling the output voltage of a waveform such that 100 units of measure is equal to the value of the average of peaks three and five of an ideal reference On-Us symbol. For convenience we call the units of signal measure when appropriately scaled Signal Units (SU).	X9.100-20	8/1/11	None
263	**skew:** The tilt or angle of a MICR character relative to the aligning edge of the document. The skew of the entire MICR line refers to the average tilt or angle of the line relative to the aligning edge of the document. TR 33: As used in this report the tilt or angle of a document relative to the image camera's field of view.	X9.100-20	8/1/11	TR 6 TR 33
264	**slot reader or single slot reader:** See waveform reader (single slot reader)	TR 6	8/1/11	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
265	**smoothing:** A filtering process applied to image pixel data which increases gray level or color uniformity in the document image while sharpening the edges of character strokes associated with printed or written information. Filtering is normally accomplished by applying a variety of computational techniques to the image pixel values that represent the brightness of the image at a particular location in the image.	TR 33	8/28/06	None
266	**solid printing:** A printing process that applies a single solid color to a piece of paper. The color seen by the eye will be the ink color.	X9.100-120	9/20/10	X9.100-30
267	**source document:** A check sized paper document such as a paper check coupon batch header or Image Replacement Document (IRD). An IRD is considered a source document just as the original check is a source document.	TR 33	8/28/06	None
268	**spatial resolution:** Density of pixels horizontally and vertically in a digital image typically measured in pixels or dots per inch (dpi). Increasing the spatial resolution generally causes finer document details (e.g. thin character stroke widths smaller font sizes etc.) to be visible in the image.	TR 33	8/28/06	None
269	**stroke:** The vertical or horizontal lines of a printed MICR character.	TR 6	8/1/11	None
270	**stroke width:** The measurable width of a printed stroke or line. The edges of the stroke can be irregular depending on printing methods paper surface or both; therefore the stroke width is measured as the average distance between the average edges of a stroke.	X9.100-20	8/1/11	X9.100-110 X9.100-120 TR 6
271	**SU:** See signal units (SU)	NA	NA	NA
272	**substitute check:** A paper reproduction of an original check as defined by the Check 21 Act and Regulation CC.	X9.100-140	11/17/08	X9.100-40 X9.100-180 TR 33
273	**sum of peaks:** A method used to perform normalization of signal level of a MICR character using all peaks and for analyzing disparity of peaks.	X9.100-20-2	8/1/11	None
274	**surrogate characters:** Standard keyboard characters used to indicate the presence of non-numeric or variable data such as special MICR symbols blanks account numbers or serial numbers.	X9.100-161	5/19/10	None
275	**symbol:** Any of the four special characters in the E-13B font used to identify fields of information or to create a separation between groups of digits.	X9.100-160-1	6/26/09	X9.100-20
276	**tagged image file format (TIFF):** A common image file format that stores image parameters and data associated with a document image. This specification was originally developed by Aldus and Microsoft and is now owned and administered by Adobe Systems.	TR 33	8/28/06	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
277	**TAPPI:** See Technical Association of the Pulp and Paper Industry (TAPPI)	NA	NA	NA
278	**Technical Association of the Pulp and Paper Industry (TAPPI):** The organization that develops standardized test procedures for various properties of paper.	X9.100-10	4/29/11	X9.100-150
279	**text overlay:** Text placed over image regions on an IRD.	X9.100-140	11/17/08	None
280	**threshold:** The value at which a defect or usability metric indicates the presence or absence of an image defect or usability problem (i.e. the pass/fail criteria associated with the defect or usability measurement).	TR 33	8/28/06	None
281	**TIFF (Tagged Image File Format):** A tag-based file format for storing and exchanging raster images.	X9.100-181	6/2/10	X9.100-187
282	**TIFF field:** A TIFF field is a logical entity consisting of TIFF tag and its value. This logical concept is implemented as an IFD Entry plus the actual value if it doesn't fit into the value/offset part the last 4 bytes of the IFD Entry. The terms TIFF field and IFD entry are interchangeable in most contexts.	X9.100-181	6/2/10	None
283	**toner:** See dry ink	TR 6	8/1/11	None
284	**total deposit amount entry rectangle:** An item entry area rectangle that contains the total dollar amount of all items listed for deposit.	X9.100-120	9/20/10	None
285	**trailing edge:** The left edge of the document when its face is viewed.	X9.100-160-1	6/26/09	X9.100-110 X9.100-20 X9.100-111 X9.100-120 X9.100-140 X9.100-150 X9.100-151 X9.100-161 X9.100-172-1 TR 6
286	**trans-coding:** The process of converting from one image format (e.g. image representation image compression algorithm etc.) to another.	TR 33	8/28/06	None
287	**transaction code:** An optional code usually located in the On-Us field that can identify document type or handling. Usage is specified by the financial institution on which the check is written.	X9.100-160-1	6/26/09	X9.100-180 X9.100-183 X9.100-187
288	**transaction ID area:** An area adjacent to the left side of the item entry area that is intended to be used to designate the presence of cash (either currency currency and coins or just coins) and to provide an identification listing for any checks that may be included with the deposit.	X9.100-120	9/20/10	None

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
289	**translucent sheet:** A sheet of material that is suitable for visual analysis microfilming or image capture of the document located behind such a sheet.	X9.100-150	9/15/10	None
290	**transit endorsement:** The transit endorsement is an endorsement placed on the document by an institution handling the document after the Bank of First Deposit. This endorsement is limited to nine-digit routing number and date with trace/sequence numbering optional. "Arrow points" are not allowed.	X9.100-111	7/10/09	None
291	**transit field:** See routing field	NA	NA	NA
292	**transit symbol:** The symbol in the E-13B font that identifies the routing number field.	X9.100-160-1	6/26/09	None
293	**trip bar:** An opaque area on a carrier that enhances document detection.	X9.100-150	9/15/10	None
294	**truncating institution:** The institution that truncated the original check.	X9.100-187	11/11/08	None
295	**truncation:** The conversion of the original item into electronic form. X9.100-187: As used in this standard to remove an original check from the forward collection or return process and then substituting for the original check with electronic data or electronic images.	X9.100-180	7/11/06 (R2009)	X9.100-183 X9.100-187
296	**twenty pound paper (20# paper):** Bond paper with a nominal basis weight of 20 pounds ±5% (75.0 g/m^2 ±5%) thereby encompassing bond paper with actual basis weights from 19 pounds to 21 pounds (71.25 g/m^2 to 78.75 g/m^2).	X9.100-10	4/29/11	None
297	**twenty-four pound paper (24# paper):** Bond paper with a nominal basis weight of 24 pounds ±5% (90.0 g/m^2 ±5%) thereby encompassing bond paper with actual basis weights from 22.8 pounds to 25.2 pounds (85.5 g/m^2 to 94.5 g/m^2).	X9.100-10	4/29/11	None
298	**US Payments System:** The general term referring to the total process through which a check passes from origination to settlement within the United States banking system.	X9.100-10	4/29/11	None
299	**variable format field:** A term applied to the On-Us and auxiliary On-Us fields in which the data content and structure will vary.	X9.100-160-1	6/26/09	X9.100-20 X9.100-140
300	**variance:** These are TIFF field contents which while defined under the TIFF 6.0 specification do not fall within the subset that is promoted by this standard. The variance values are specified with the intent that if a Financial Institution is delivering an image that does not meet the proposed standard they can flag the image as a variant and continue to send forward the item.	X9.100-187	11/11/08	None
301	**void(s):** The absence of ink within the specified outline of the printed MICR character.	X9.100-20	8/1/11	TR 6

No.	Definition as of 9/1/13	Defining Standard	Date Revised	Other Publication Usage
302	**voltage waveform or waveform:** The voltage-distance pattern generated when a properly magnetized MICR character is scanned at constant speed by an appropriate electromagnetic read head and amplifier. Such signals are typically provided by calibrated MICR testers (see waveform reader).	TR 6	8/1/11	None
303	**warning box:** An informative summary found on a check that identifies security features and contains the required check fraud deterrent icon information.	X9.100-170	7/20/10	None
304	**watermark:** A genuine watermark is a localized modification of the formation and opacity of a sheet so that a pattern design or word group can be seen when held up to the light.	X9.100-10	4/29/11	None
305	**waveform:** A voltage representation of signals with respect to time that corresponds to a particular character.	X9.100-20	8/1/11	None
306	**waveform reader (single slot reader):** A MICR reader that uses a permanent magnet write head and a single slot magnetic read head usually 0.625 inch high in order to pass over the entire MICR clear band. Each MICR character in the clear band generates a unique voltage waveform consisting of accurately spaced positive and negative peaks. From the peak amplitude and position data individual MICR characters are identified.	TR 6	8/1/11	None

ANNEX A
(informative)

References to Technical Reports/Guidelines

A.1 General

Technical reports/guidelines are published to provide information on how to implement standards and include information that cannot be or should not be standardized. The following technical reports/guidelines are related to paper-based and image-based check payments and are listed along with a brief summary of their scope and purpose. Also listed are technical reports/guidelines that have been withdrawn.

A.2 ASC X9 TR 2, *Understanding, Designing and Producing Checks*

This book presents guidelines for the design of a check and describes the proper location of the data elements on the check. Certain elements of check design are recommended by American National Standards Institute (ANSI) standards and are required of all U.S. checks. This book gives references, where appropriate, to such standards. Other elements of check design are optional, and the appropriate choice depends on a user's specific needs. It is, however, hoped that the use of the guidelines in this book will result in greater uniformity in the design of checks, which will improve processing and handling throughout the check processing system.

All guidelines described in this book are compatible with the existing check standards, and should be used to supplement the standards, not to replace them. Certain guidelines may make recommendations that are outside the scope of current standards. Check designers should always, therefore, refer to the details contained in the standards to ensure proper design and control of the format of the check.

A.3 ASC X9 TR 6, *Guide to Quality MICR Printing and Evaluation*

This technical report covers all MICR printing and is intended to improve MICR quality via understanding and uniform interpretation of existing standards and specifications of MICR. The basic elements of MICR are defined in existing American National Standards, which are referenced where appropriate. This document serves as a single reference for the foremost set of elements that will produce quality MICR documents.

The purpose of the guideline is to aid existing MICR printers as well as a new and ever expanding producer group in the production and evaluation of MICR documents, and to attain broader MICR print specification conformance. Widespread distribution of these guidelines is encouraged in order to include a wide variety of industry groups.

This document is intended to complement existing standards, not replace them. Those responsible for the quality control process of printing and evaluation of MICR documents should always refer to the details contained in the reference standards as listed in Section 2.

A.4 ASC X9 TR 8, *Check Security*

Since the late 1980's, increases in losses due to the fraudulent use of checks have grown dramatically. The guidelines in this document are the first effort by the industry to identify the elements of fraud and fraud prevention tools. The purpose of this guideline is to provide to those who participate in the paper document processing system, namely banks, check vendors and merchants, the information they need to educate their employees and customers about fraud, and to identify and implement the fraud prevention programs appropriate for their business.

A.5 ASC X9 TR 33, *Check Image Quality Assurance – Standards and Processes*

The purpose of this *Technical Report* is to provide a framework for assuring and assessing image quality to support the exchange of check images between financial institutions. It provides a detailed understanding of the problems and limitations associated with the image capture process, automated methods and systems that might be used to detect check quality problems (i.e., image defects and usability issues).

It is anticipated that this report will establish common terminology around check image quality so as to facilitate communication among operations and technical managers at financial institutions.

A.6 ASC X9 TR 40, *Bridging the ANSI X9.100-187 to the ANSI X9.100-182 Part 2-1: Transferring Data from an Image Cash Letter File to an XML Check Delivery Document*

Part 1 of ANS X9.100-40 defines the elements and structures for standard check image tests used by the financial industry to assess specific attributes of check images. The specification establishes a framework for defining check image tests, conveying the results from executing a check image test, and conveying any parameters used in executing check image tests.

Part 2 of ANS X9.100-40 describes the application and registration procedures used to register check image tests that conform to this ANS X9.100-40 Part 1 standard.

Although the initial application for this standard is to support check image tests pertaining to image quality, the standard is applicable to any check image test that has a business purpose and is compatible with the structure defined herein.

A.7 ASC X9 TR 100, *Organization of Standards for Check-related Payments, Part 1: Organization of Standards and Part 2: Definitions of Terms*

Part 1 of this technical report provides the numbering scheme for all standards associated with paper-based and image-based check payments that collectively will be referred to as check-related payments. The basic numbering scheme is divided into two sections; core standards and application standards. Core standards cover such items as paper requirements, MICR requirements, optical requirements, and image requirements. Application standards cover such items as check documents, deposit tickets, internal documents, image replacement documents, other documents, MICR, security, and electronic. This technical report is addressing only ANSI X9 standards organization and does not address the organization of ASC X9 technical reports.

Part 2 of this technical report lists the definitions of terms used within X9's check-related payment standards.

The structure covered in this technical report was developed to define and explain the requirements for automated handling of paper-based and image-based check payments. It also offers a repository of definitions useful in referencing terms used in banking, payments, and general financial services that are related to paper checks and check images.

A.8 Withdrawn Technical Reports/Guidelines

Withdrawn technical reports/guidelines are documents that are no longer available for industry use. A document can be withdrawn for cause, old technology, stale data, or other significant reasons. Withdrawing a technical report/guideline is determined by both ANSI and X9 agreement.

ASC X9/TG-15-1997, *To Aid in the Understanding and Implementation of Financial Image Interchange, W*ithdrawn 12/22/2004.