

ASC X9 TR 100–2007

**Organization of Standards for Paper-based
and Image-based Check Payments**

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 100-2007.

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 100-2006, *Organization of Standards for Paper-based and Image-based 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, 1212 West Street, Suite 200, 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., 1212 West Street, Suite 200, Annapolis, MD 21401.

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Introduction

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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, 1212 West Street, Suite 200, 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.

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Organization of Standards for Paper-based and Image-based Check Payments

Part 1: Organization of Standards (As of 10/1/07)

1 Scope & Purpose

1.1 Scope

Part 1 of this technical report provides the numbering scheme for all standards associated with paper-based and image-based check 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 paper-based and image-based check payment standards.

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

1.2 Purpose

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.

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
X9.100-10 to X9.100-99	Core Standards
X9.100-110 to X9.100-xxx	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
X9.100-10 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
X9.100-110 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-xxx	Future Applications

Table 3 - Application Standards Numbering

2.3 Standards Renumbered

2.3.1 Under Review Standards

The following standards should be renumbered and updated at the time they go out for ballot.

Standard Number	Title	Future Standard Number
X9.7-1999 (R2006)	<i>Bank Check Background & Convenience Amount Field Specification</i>	X9.100-110 & X9.100-30
X9.81-1995	<i>Specifications for Bulk Data and Image Delivery</i>	X9.100-182

Table 4 - Under Review Standards Renumbering Scheme

2.3.2 Converted Standards

The following standards were renumbered and updated at the time they went out for ballot.

New Standard Number	Title	Old Standard Number
X9.100-10-2006	<i>Paper Specifications for MICR Documents</i>	X9.18-1998
X9.100-20-2006	<i>Print & Test Specifications for Magnetic Ink Printing (MICR)</i>	X9.27-2000
X9.100-111-2004	<i>Specifications for Check Endorsements</i>	X9.53-1996
X9.100-120-2004	<i>Specifications for Bank Deposit Tickets</i>	X9.33-1998
X9.100-130-2006	<i>Universal Interbank Batch/Bundle Tickets</i>	X9.64-2001
X9.100-140-2004	<i>Specifications for an Image Replacement Document – IRD</i>	DSTU X9.90-2003
X9.100-151-2004	<i>Check Correction Strip Specification</i>	X9.40-1998
X9.100-160-1-2004	<i>Part 1: Placement and Location of Magnetic Ink Printing (MICR)</i>	X9.13-1999
X9.100-160-2-2004	<i>Placement and Location of Magnetic Ink Printing (MICR) Part 2: EPC Field Use</i>	X9.13-1999
X9.100-161-2004	<i>Creating MICR Document Specification Forms</i>	X9.47-1998
X9.100-170-2004	<i>Specifications for the Padlock Icon</i>	X9.51-1999
X9.100-180-2006	<i>Specifications for Electronic Exchange of Check and Image Data</i>	DSTU X9.37-2003
DSTU X9.100-183-2005	<i>Specifications for Electronic Check Adjustments</i>	X9.83-2003

Table 5 – Renumbered Standards

2.3.3 Current Standards Numbering Scheme

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

Table 6 - Numbering Scheme

Core Standards								
Requirements								
Paper	MICR	Optical	Image	Subject				
X9.100-10				Paper Specifications for MICR Documents				
	X9.100-20			Print and Test Specifications for Magnetic Ink Printing (MICR)				
		X9.100-30		(Optical part of) Bank Check Background and Convenience Amount Field				
			X9.100-40	Specifications for Check Image Tests				
Application Standards								
Applications								
Check Document	Deposit Ticket	Internal Document	Image Replacement Document	Other Document	MICR	Security	Elect. & Image	Subject
X9.100-110								Bank Check Background and Convenience Amount Field
X9.100-111								Check Endorsements
	X9.100-120							Bank Deposit Tickets
		X9.100-130						Universal Interbank
			X9.100-140					Image Replacement Document - IRD
				X9.100-150				
				X9.100-151				Check Correction Strip
					X9.100-160			Placement and Location of Magnetic Ink Printing (MICR)
					X9.100-161			Creating MICR Document Specification Forms
						X9.100-170		Padlock Icon
							X9.100-172	Verification of Interoperable Image-Survivable Check Security Features
							X9.100-180	Electronic Exchange of Check and Image Data
							X9.100-181	TIFF Image Format
							X9.100-182	Bulk Data and Image Delivery
							X9.100-183	Electronic Check Adjustments

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
DSTU X9.37-2003	<i>Specifications for Electronic Exchange of Check and Image Data</i>	11/13/2006

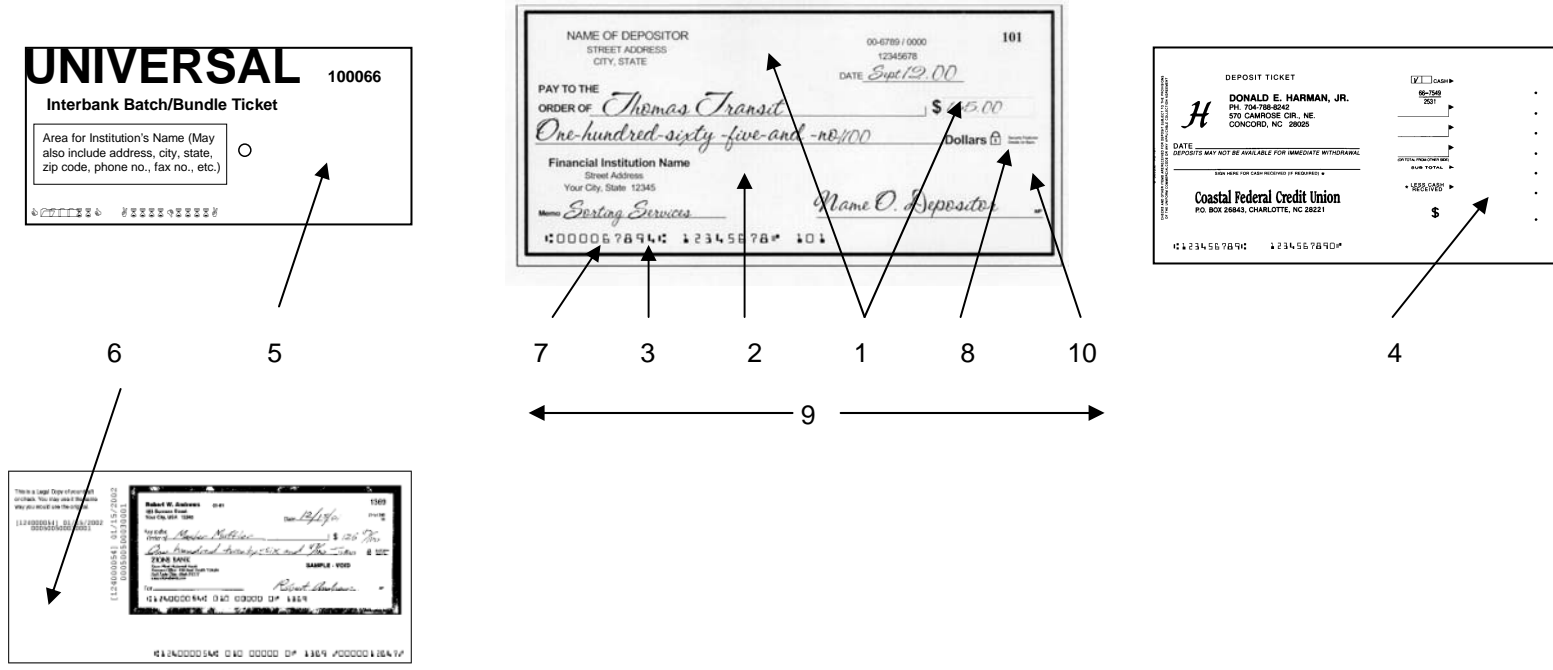
Table 7 - Retired Standards

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	<i>Check Carrier Envelope Specifications</i>	12/20/2004
X9.46-1997	<i>Financial Image Interchange: Architecture, Overview, and System Design Specification</i>	12/1/2004
X9.100-171-2005	<i>Specifications for Automated Identification of Security Features</i>	2/2/2007

Table 8 - Withdrawn Standards



Key	ANS Number	ANS Title	Key	ANS Number	ANS Title
1	X9.7 (X9.100-110/30)	Bank Check Background and Convenience Amount Field Specification	6	X9.100-140 (X9.90)	Specifications for an Image Replacement Document (IRD)
2	X9.100-10 (X9.18)	Paper Specifications for MICR Documents	7	X9.100-160-1 (X9.13)	Part 1: Placement and Location of Magnetic Ink Printing (MICR)
3	X9.100-20 (X9.27)	Print and Test Specifications for Magnetic Ink Printing (MICR)	8	X9.100-170 (X9.51)	Specifications for the Padlock Icon
4	X9.100-120 (X9.33)	Specifications for Bank Deposit Tickets	9	X9 TR 2 (X9/TG-2)	Understanding, Designing and Producing Checks
5	X9.100-130 (X9.64)	Universal Interbank Batch/Bundle Tickets	10	X9/TG-8 (X9 TR 8)	Check Security Guideline

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 Specifications 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 version).

X Normative References

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

ANS X9.7-1999 (X9.100-110), *Bank Check Background and Convenience Amount Field Specification*

ANS X9.100-111-2004 (X9.53), *Specifications for Check Endorsements*

ANS X9.100-160-1 (X9.13), *Part 1: Placement and Location of Magnetic Ink Printing (MICR)*

ANS X9.100-160-2 (X9.13), *Placement and Location of Magnetic Ink Printing (MICR)
Part 2: EPC Field Use*

DSTU X9.100-183-2005 (X9.83), *Specifications for Electronic Check Adjustments*

ASC X9 TR 2 (X9/TG-2), *Understanding, Designing and Producing Checks*

ASC X9 TR 100-2005 (X9/TG-100), *Organization of Standards for Paper-based and Image-based Payments*

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 differs from that of the referenced defining standard definition.

X.1 average edge (ANS X9.100-20/X9.27)

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 (ANS X9.7/X9.100-110)

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

X.3 capture (ASC X9/TG-6/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) (ANS X9.100-160-1/X9.13)

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

X.5 clear band (MICR) (ANS X9.100-20/X9.27)

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 Standards for Paper-based and Image-based Check Payments

Part 2: Definitions used in Standards (As of 10/1/07)

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/guidelines, along with the standard that defines them and the documents that use them.

1.2 Purpose

To provide a single place where definitions as used in paper-based and image-based check standards and technical reports/guidelines 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 10/1/07	Defining Standard	Date Revised	Other Publication Usage
1	account directory: Data maintained by a verification authority that contains detailed information relating to the interoperable check security features for a particular account.	X9.100-172-1	8/10/07	None
2	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.	X9.100-180	7/11/06	X9.100-183
3	Accredited Standards Committee X9: The group accredited by ANSI to be responsible for the creation of financial standards used throughout the financial community.	NA	NA	NA
4	A/D converter (Analog-to-Digital): Hardware or software for converting analog data into digital data.	TR 33	8/28/06	None
5	adjustment: An accounting entry to correct errors on cash letters or checks.	X9.100-180	7/11/06	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
6	adjustment message: Any group of records as specified in this standard, constituting an Electronic Check Adjustment (ECA), exchanged between two parties.	X9.100-183	4/18/05	None
7	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	4/18/05	None
8	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	4/18/05	None
9	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.	X9.100-180	7/11/06	None
10	aligning edge: The bottom edge of a document when its face is viewed.	X9.100-160-1	10/15/04	X9.7, X9.100-20, X9.100-111, X9.100-120, X9.100-140, X9.100-151, X9.100-161, X9.100-170, X9.100-172-1 & TR 6
11	alteration: Changing an original document to a different amount or payee for fraudulent purposes.	X9.100-170	8/17/04	None
12	amount field: Positions 1-12 of the MICR line on a document, within which the dollar amount is encoded.	X9.100-160-1	10/15/04	X9.100-180, X9.100-183 & TR 6
13	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	10/15/04	None
14	analysis: The process of extracting quantitative measurements from a check image.	TR 33	8/28/06	None
15	ANS: American National Standard	NA	NA	NA
16	ANSI: American National Standards Institute	NA	NA	NA
17	AOI: See area of interest	NA	NA	NA
18	applicant: An applicant represents the role played by an organization which is applying to register an IISCSF and/or to be included in the registry as offering services that fulfil any or all of the roles of feature vendor, validator, or verification authority.	X9.100-172-1	8/10/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
19	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 four essential data elements: date, signature, amount in words and payee.	X9.7	7/11/07	None
20	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
21	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	3/8/04	None
22	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
23	ASC: See Accredited Standards Committee X9	NA	NA	NA
24	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	10/1/04	None
25	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
26	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
27	authenticate: Examining a document in an attempt to conclude if it is genuine.	X9.100-170	8/17/04	None
28	auxiliary On-Ups 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	10/15/04	X9.100-180, X9.100-183 & TR 6
29	average area reflectance: A calculation of reflectance applicable to the four Areas of Interest.	X9.7	7/11/07	None
30	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	7/13/06	TR 6
31	background: The basic colors and patterns that appear on a document, apart from lines and information printed on it.	X9.100-120	1/16/04	X9.100-161 & TR 6
32	background clutter: The remnants of background in a binary image that interferes with legibility of written or printed data.	X9.7	7/11/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
33	background reflectance: A calculation of the reflectance of the check background in the Convenience Amount and Optical MICR Clear Band.	X9.7	7/11/07	None
34	bank: Any depository financial institution, which includes a national bank, state bank, federal or state savings bank, credit union, mutual funds, brokerage house and/or a savings association.	X9.100-172-1	8/10/07	None
35	Bank of First Deposit (BOFD): Same as “Depository Bank”	X9.100-111	3/8/04	X9.100-180 & X9.100-183
36	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	1/11/06	None
37	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
38	bilevel: A bilevel image contains two colors – black and white. Also known and referenced as a bitonal image.	X9.100-181	9/12/07	None
39	binarization: The process of converting a greyscale or color image into a black and white image representation.	TR 33	8/28/06	None
40	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.	X9.7	7/11/07	None
41	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 bitonal or binary images.	TR 33	8/28/06	None
42	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	3/8/04	None
43	BOFD: See Bank of First Deposit (BOFD)	NA	NA	NA
44	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.	X9.100-180	7/11/06	X9.100-183
45	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, image area or pixel.	TR 33	8/28/06	None
46	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.	X9.100-180	7/11/06	X9.100-183

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
47	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
48	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
49	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
50	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	1/31/07	None
51	CAR: See convenience amount recognition (CAR)	NA	NA	NA
52	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	3/8/04	None
53	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.	X9.100-180	7/11/06	X9.100-183
54	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
55	cash/currency count boxes: Dedicated entry areas on the deposit ticket where itemized entries of denominations of currency and coins are totalled.	X9.100-120	1/16/04	None
56	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." International Telephone and Telegraph consultative Committee (CCITT, Geneva: 1988). ITU-T supersedes CCITT.	X9.100-181	9/12/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
57	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
58	character (MICR): Any of the ten numerals or four special symbols comprising the MICR type font known as E-13B.	X9.100-160-1	10/15/04	X9.100-160-2
59	character space (MICR): A 0.125 inch space in the MICR print band within which one MICR character may appear.	X9.100-160-1	10/15/04	X9.100-160-2 & TR 6
60	check acceptor (A): Check acceptor (A) decides whether to validate an interoperable check security feature that is present or determines that an interoperable check security feature should not be present. The check acceptor (A) role is part of an entity where security is ensured and the role can therefore receive detailed information about any field in an interoperable check security feature that failed validation.	X9.100-172-1	8/10/07	None
61	check acceptor (B): Check acceptor (B) decides whether to validate an interoperable check security feature or determines that a security feature should not be present. Check acceptor (B) is part of an entity where security is not ensured and therefore cannot receive detailed information about any field in a check security feature that failed to validate.	X9.100-172-1	8/10/07	None
62	check fraud: The false representation of a check with the intent to deceive. Check fraud may be performed using a variety of techniques such as counterfeiting, alteration, and forgery.	X9.100-172-1	8/10/07	None
63	check image: An electronic or digital image of an original check that is created by a depositor, a financial institution, or other participant in the check collection process. Check images can be exchanged electronically by financial institutions, printed for customer statement purposes, displayed on internet banking websites, and used to create substitute checks.	X9.100-172-1	8/10/07	None
64	check imager: The role that makes an image of the check.	X9.100-172-1	8/10/07	None
65	check issuer (A): The role that prints any interoperable check security feature or multiple interoperable check security features on each check as it is "written" or endorsed.	X9.100-172-1	8/10/07	None
66	check issuer (B): The role that uses printed checks containing pre-printed interoperable check security features.	X9.100-172-1	8/10/07	None
67	check printer: The role that prints one or more security features on checks when personalizing base check stock.	X9.100-172-1	8/10/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
68	check processing system (check payment system): The series of processing steps performed on a check from initial deposit through 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	1/31/07	None
69	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.	X9.100-180	7/11/06	None
70	check security feature: A check security feature is a security feature applied to a check. This includes any security feature.	X9.100-172-1	8/10/07	None
71	clear area: See interoperable image-survivable check security feature clear area (IISCSF)	X9.100-172-1	8/10/07	None
72	clear band (MICR): 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	7/13/06	X9.7, X9.100-111, X9.100-120, X9.100-140, X9.100-151, X9.100-160-1 X9.100-161 & TR 6
73	clear band (optical): 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	7/13/06	X9.7, X9.100-120, X9.100-160-1 X9.100-161 & TR 6
74	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	10/1/04	None
75	collecting bank: The bank through which a check is captured and/or processed for funds movement.	X9.100-180	7/11/06	None
76	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
77	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.	X9.7	7/11/07	None
78	common field: See fixed format	NA	NA	NA

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
79	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
80	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	10/15/04	None
81	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.	X9.7	7/11/07	None
82	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
83	convenience amount: The value of the check expressed in numbers.	X9.7	7/11/07	X9.100-161, TR 6 & TR 33
84	convenience amount clear area: The area surrounding the convenience amount rectangle that is clear of any printing that would interfere with the convenience amount.	X9.7	7/11/07	X9.100-170
85	convenience amount recognition (CAR): The application of Intelligent Character Recognition to the function of locating and recognizing the characters in the convenience amount area.	X9.7	7/11/07	None
86	convenience amount rectangle: An area within the convenience amount scan area that restricts the location of the convenience amount.	X9.7	7/11/07	None
87	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.	X9.7	7/11/07	X9.100-161 & X9.100-170
88	copying: The duplication of an original document by using copying equipment or scanners/printers.	X9.100-170	8/17/04	None
89	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	12/1/04	None
90	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	8/17/04	None
91	covert feature: Security feature(s) not visibly detectable or described on the document.	X9.100-170	8/17/04	None
92	creation institution: The institution that creates an IRD. The IRD can be an Original IRD or a Subsequent IRD.	X9.100-140	10/1/04	None
93	customer enroller: The role that provides check issuers with the capability to put an interoperable check security feature on the check at the time the check is created, or instructs check printers to put interoperable check security features on base check stock.	X9.100-172-1	8/10/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
94	cycle: A number or letter that can be translated to a processing day of the week.	X9.100-180	7/11/06	None
95	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.	X9.7	7/11/07	None
96	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	10/1/04	None
97	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	7/13/06	TR 6
98	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	1/16/04	X9.100-40-1&2
99	depository 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: 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 depository bank).	X9.100-111	3/8/04	X9.100-180 & X9.100-183
100	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	7/13/06	None
101	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	None
102	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	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
103	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	None
104	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	None
105	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	7/13/06	None
106	document (MICR): Any printed item, including but not limited to checks, which conforms to all applicable MICR standards.	X9.100-160-1	10/15/04	None
107	dropout element: An element which is human readable but not intended to be captured by automated recognition systems.	X9.100-120	1/16/04	None
108	dry ink: Toner used in non-impact printing technologies.	TR 6	1/31/07	None
109	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.	X9.7	7/11/07	None
110	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.	X9.7	7/11/07	X9.100-120
111	E-13B: A special type font consisting of ten numerals and four special symbols, developed for magnetic ink character recognition.	X9.100-20	7/13/06	X9.100-160-1&2 & TR 6
112	ECE: See electronic check exchange (ECE)	NA	NA	NA
113	ECE institution: The institution that creates and sends the electronic cash letter information.	X9.100-180	7/11/06	X9.100-183
114	electronic check: A generic term designating an end-to-end negotiable instrument that has only existed in an electronic form.	X9.100-180	7/11/06	None
115	electronic check adjustment (ECA): The exchange of check and check-related adjustment information electronically, in lieu of the exchange of paper requests and documentation.	X9.100-183	4/18/05	None
116	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).	X9.100-180	7/11/06	X9.100-183

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
117	embossment: A physical build-up of dry ink on paper causing the characters to sit above the surrounding paper surface.	X9.100-20	7/13/06	TR 6
118	encoding strip: See MICR encoding strip	TR 6	1/31/07	None
119	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	3/8/04	X9.7 & TR 33
120	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	3/8/04	None
121	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
122	EPC: See external processing code (EPC)	NA	NA	NA
123	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
124	exchange file: A file containing items and associated data and images organized in a structure suitable for exchange of value between Depository Financial Institutions. (Examples are DSTU X9.37-2003 (Retired) and ANS X9.100-180-2006 exchange file standards).	X9.100-181	9/12/07	None
125	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.	X9.100-151	12/1/04	X9.100-160-1
126	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	10/15/04	X9.100-160-2
127	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	10/15/04	X9.100-160-2 X9.100-161, X9.100-180, X9.100-183 & TR 6
128	extraneous ink: Magnetic ink or other ink not intentionally printed.	X9.100-20	7/13/06	TR 6
129	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	12/1/04	None
130	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	None
131	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 10/1/07	Defining Standard	Date Revised	Other Publication Usage
132	feature vendor: A role that develops the technology and systems to support security features that follow the standard for interoperable image-survivable security feature interoperability.	X9.100-172-1	8/10/07	None
133	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	1/16/04	None
134	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
135	field value: The data of a particular field that is relevant to a specific security mark. The field may either be a commonly used field or it may be a defined field with proprietary interpretation.	X9.100-172-1	8/10/07	None
136	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
137	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
138	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	10/15/04	X9.100-20, X9.100-140, X9.100-160-2 & X9.100-180
139	fixed format field: A predetermined description or specification of information content, for example, the routing number field.	X9.100-20	7/13/06	None
140	forgery: Fraudulent signatures or endorsements	X9.100-170	8/17/04	None
141	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	3/8/04	None
142	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
143	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	None
144	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	1/16/04	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
145	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
146	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.	X9.7	7/11/07	TR 33
147	group adjustment: An adjustment that involves more than one bundle within a cash letter or more than one item within a bundle.	X9.100-183	4/18/05	None
148	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
149	height: The vertical dimension of the check, or strip, when its face is viewed.	X9.100-151	12/1/04	None
150	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
151	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.	X9.7	7/11/07	X9.100-120
152	icon area: The location on the face of a check where the padlock icon must be printed.	X9.100-170	8/17/04	None
153	icon clear area: Open space surrounding the padlock icon to be clear of other information.	X9.100-170	8/17/04	None
154	ICR: See intelligent character recognition (ICR)	NA	NA	NA
155	ICSF registration authority : A role that creates and maintains a registry of information needed to enable interoperable validation of image-survivable check security features.	X9.100-172-1	8/10/07	None
156	ICSF registration management group (ICSF RMG) : An elected group sanctioned by ASC X9, governed by X9 rules and policies, and empowered to act on X9's behalf in governing the registration process, establishing and modifying policies and criteria for registration and supervision of the ICSF RA during the DSTU period.	X9.100-172-1	8/10/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
157	ICSF registry : Information maintained by the ICSF registration authority that contains information about all compliant interoperable check security features and companies that implement Feature Vendor, Validator, and Verification Authority roles, and/or the RT Feature List distribution function.	X9.100-172-1	8/10/07	None
158	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.	X9.100-161	3/8/04	X9.100-172-1 & TR 33
159	image anchor point : Represents the starting X and Y point of origin for printing a digital image.	X9.100-140	10/1/04	None
160	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	10/1/04	None
161	image compatible : Generally speaking, an imaging system will pick up and transfer this feature.	X9.100-170	8/17/04	None
162	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
163	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
164	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
165	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 the Image Data Field in the Type 52 Record in an DSTU X9.37-2003 (Retired) or ANS X9.100-180-2006 exchange file).	X9.100-181	9/12/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
166	image file directory (IFD): An image file directory contains 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	9/12/07	None
167	image friendly: The feature or presence of the feature and location does not negatively impact the legibility of the data elements and does not add significant storage to the compressed image.	X9.100-170	8/17/04	None
168	image quality: The characteristic defined as a faithful digital representation of the source document. TR 33: As used in this report, the totality of image characteristics that bear on an image's ability to satisfy stated or implied needs.	X9.100-140	10/1/04	TR 33
169	image quality assurance (IQA): A process for validating image quality.	TR 33	8/28/06	None
170	image quality suspect: An image that fails one or more automated image defect or usability analyses.	TR 33	8/28/06	None
171	image rendition: A term describing whether the check image is black and white, greyscale or color.	TR 33	8/28/06	None
172	image replacement document (IRD): An IRD is a substitute image copy of a check or a replacement for a previous IRD that includes a machine readable MICR line. An IRD may under certain legal arrangements be the practical and legal equivalent of the original paper check or a previous IRD. An IRD conforming to X9.100-140-2004 may be used as a Substitute Check in conformance with the Check Clearing for the 21 st Century Act (Check 21 Act or Act).	X9.100-140	10/1/04	X9.100-180 & TR 33
173	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
174	image-survivable security feature (ISSF): An image-survivable security feature is a type of security feature that operates effectively from an image of a check without recourse to the original check.	X9.100-172-1	8/10/07	None
175	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
176	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
177	image usability: The characteristic defined by the degree of legibility and readability necessary to perform a specific function.	X9.100-140	10/1/04	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
178	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
179	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.	X9.7	7/11/07	X9.100-120 & X9.100-161
180	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	1/16/04	None
181	intelligent character recognition (ICR): Algorithms used to provide character or symbol recognition from the captured or stored image data.	X9.7	7/11/07	X9.100-120
182	interchange wrapper: File formats for exchanging images.	TR 33	8/28/06	None
183	interoperability: The ability of products and services to work together using the same set of published specifications or standards.	X9.100-172-1	8/10/07	None
184	interoperable check security feature (ICSF): ICSF is an umbrella term referring both to all the security features, and to the processes and roles covered by this standard. It is a broader term than interoperable image-survivable check security feature in that it encompasses all roles and other aspects of this standard.	X9.100-172-1	8/10/07	None
185	interoperable image-survivable check security feature (IISCSF): A security feature that meets all of the following requirements: a) is an image-survivable security feature, b) uses a security mark, c) uses cryptographic techniques to protect the check and/or the security mark, d) can be validated using the interoperable check security features standard, e) can be validated by the request of any handler of the check or checkimage, f) is registered in the ICSF registry, and g) its implementation is supported by one or more validation authorities.	X9.100-172-1	8/10/07	None
186	interoperable image-survivable check security feature area of interest (IISCSF area of interest): The IISCSF area of interest is the entire area onto which an IISCSF is printed (the area covered by the mark).	X9.100-172-1	8/10/07	None
187	interoperable image-survivable check security feature clear area (IISCSF clear area): An IISCSF clear area is from 0.025 inch (0.635 mm) wide to 0.0625 inch (1.588 mm) wide and entirely surrounds an IISCSF area of interest and an IISCSF when the security mark is printed.	X9.100-172-1	8/10/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
188	interoperable image-survivable check security feature scan area (IISCSF scan area): The IISCSF scan area is an area in the upper portion of a check in which an IISCSF, its area of interest, and its clear area shall be wholly contained.	X9.100-172-1	8/10/07	None
189	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	4/18/05	None
190	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.	X9.100-180	7/11/06	None
191	item entry area: The designated space where amounts of cash and individual checks being deposited are written onto the deposit ticket.	X9.100-120	1/16/04	None
192	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
193	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
194	leading edge: The right edge of a document when its face is viewed.	X9.100-160-1	10/15/04	X9.7, X9.100-20, X9.100-111, X9.100-120, X9.100-140, X9.100-151, X9.100-161, X9.100-170, X9.100-172-1 & TR 6
195	legend: Printed text that is defined by this standard and applicable law.	X9.100-140	10/1/04	None
196	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. TR 33: As used in this report, distinctness that makes perception easy.	X9.100-111	3/8/04	X9.100-140 & TR 33
197	Lempel-Ziv-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

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
198	length: The dimension across the face of the check, or strip, parallel to the aligning edge.	X9.100-151	12/1/04	None
199	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	3/8/04	None
200	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	1/16/04	None
201	lossless algorithm: A lossless encoding algorithm is one which has the following properties: Let I_o be the original image, C be the compression algorithm, I_c be the compressed image, D be the decompression algorithm and I_d be the decoded image. In other words, $I_c = C(I_o)$, $I_d = D(I_o)$, and $I_d = D(C(I_o))$. The algorithm is lossless if $I_d = I_o$.	X9.100-181	9/12/07	None
202	lossless data compression: A data compression algorithm that achieves data compression by removing redundancies in the original data set using an 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
203	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
204	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	7/13/06	X9.100-160-1 & TR 6
205	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	7/13/06	X9.7, X9.100-10, X9.100-111, X9.100-120, X9.100-130, X9.100-151, X9.100-160-1 X9.100-180, X9.100-183, TR 6 & TR 33
206	mark: A visible symbol or seal placed on a check.	X9.100-172-1	8/10/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
207	mark preamble: A mark preamble is a small set of data that precedes the actual interoperable check security feature information in a security mark. After being decoded with the rest of the security mark, the preamble identifies the specific interoperable check security feature by pointing to a single record in the ICSF registry. The mark preamble may also list the check layout and/or common fields on a check whose data are required in order to validate this particular IISCSF. The mark preamble must be used only for information purposes and to avoid a round-trip in obtaining information necessary to submit a validate mark request. The mark preamble is not to be used for security purposes.	X9.100-172-1	8/10/07	None
208	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	1/31/07	None
209	message set: Data in a specified format that describes a request and a response between programs.	X9.100-172-1	8/10/07	None
210	MICR: Magnetic ink character recognition	NA	NA	NA
211	MICR clear band: See clear band (MICR)	NA	NA	NA
212	MICR encoder: Any equipment that applies MICR E-13B font characters to a check after the check has been written by the maker.	X9.100-111	3/8/04	None
213	MICR encoding strip: See print band (MICR)	NA	NA	NA
214	MICR line: E-13B font characters printed in magnetic ink near the bottom of the front of the check to facilitate automated processing. These numbers identify the financial institution on which the check is drawn, the account at that financial institution, the check's sequential number, the amount of the check, and other information.	X9.100-172-1	8/10/07	None
215	MICR print band: See print band (MICR)	NA	NA	NA
216	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	1/31/07	None
217	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
218	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	1/31/07	None
219	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	1/16/04	X9.100-161

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
220	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	7/13/06	None
221	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
222	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	7/13/06	None
223	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	7/13/06	None
224	OCR: See optical character recognition (OCR)	NA	NA	NA
225	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	10/15/04	X9.100-180, X9.100-183 & TR 6
226	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	10/15/04	None
227	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	1/11/06	X9.100-120
228	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.	X9.7	7/11/07	X9.100-10, X9.100-120, TR 6 & TR 33
229	optical clear band: See clear band (optical)	NA	NA	NA
230	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
231	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	9/12/07	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
232	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	10/1/04	X9.100-180
233	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	8/17/04	None
234	overt feature: Security feature(s) that are intended to be easily discernible and visually detectable by the public.	X9.100-170	8/17/04	None
235	padlock icon: The registered fraud deterrent icon of the CPSA that indicates the presence of security features.	X9.100-170	8/17/04	None
236	paper: Refers to a physical document.	X9.100-180	7/11/06	None
237	paper check: A payment document normally printed on 24 lb. MICR bond. (Refer to ANS X9.18)	X9.100-160-1	10/15/04	None
238	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
239	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.	X9.7	7/11/07	X9.100-172-1
240	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.	X9.7	7/11/07	X9.100-172-1
241	payee area: The line on a check that provides for the entry of the name of the party to whom the check is paid.	X9.100-161	3/8/04	None
242	payee line restraint: A vertical mark at the right end of the payee line showing the point where writing should end.	X9.7	7/11/07	None
243	payload: The set of security information and optional control data that are encoded in a security mark.	X9.100-172-1	8/10/07	None
244	payment document: Any paper document that is used to transfer funds from one party to another.	TR 6	1/31/07	None
245	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.	X9.100-180	7/11/06	X9.100-183
246	payor bank: The institution by or through which a check is payable. The payor bank is also referred to as paying bank.	X9.100-180	7/11/06	X9.100-183
247	PCS: See print contrast signal (PCS)	NA	NA	NA
248	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	7/13/06	TR 6

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
249	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	9/12/07	None
250	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
251	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	12/1/04	TR 33
252	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	1/31/07	None
253	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.	X9.7	7/11/07	TR 33
254	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
255	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
256	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
257	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	10/15/04	None
258	posting data: All data required by the payor bank to post the item from the exchanged file.	X9.100-180	7/11/06	None
259	pre-printed MICR data: Information encoded on a check before delivery to the purchaser, normally consisting of the routing and On-Ups fields.	X9.100-160-1	10/15/04	None
260	presentment: The operational process of moving checks and check related data from a collecting bank to a paying bank.	X9.100-180	7/11/06	None
261	print band (MICR): 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	7/13/06	X9.7, X9.100-140, X9.100-160-1 & TR 6

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
262	print contrast: The difference between the reflectance of a printed point and the reflectance of the background on which it is printed.	X9.7	7/11/07	X9.100-20 & X9.100-120
263	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.	X9.7	7/11/07	X9.100-20, X9.100-111, X9.100-120, X9.100-161, X9.100-170, X9.100-172-1 & TR 33
264	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.	X9.7	7/11/07	None
265	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	1/16/04	TR 6
266	process control code: See transaction code	X9.100-160-1	10/15/04	None
267	protection profile: Part of the mark preamble which consists of a bitmapped set of flags used for processing optimization and to identify the fields of data which should be provided to a validator in order for an IISCSF to be validated.	X9.100-172-1	8/10/07	None
268	purchaser: The role that determines which type of security feature(s) will be used on a class of accounts and/or checks.	X9.100-172-1	8/10/07	None
269	QRC: See qualified return check (QRC)	NA	NA	NA
270	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	10/1/04	None
271	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 depository 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.	X9.100-180	7/11/06	X9.100-140 & X9.100-183
272	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

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
273	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	1/16/04	X9.100-161
274	reader/sorter: An automated MICR document-processing machine that reads E-13B printed characters magnetically in order to sort the documents.	X9.100-10	1/11/06	X9.100-111, X9.100-160-1 & TR 6
275	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	7/13/06	None
276	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.	X9.7	7/11/07	X9.100-111, X9.100-120, X9.100-161 & X9.100-172-1
277	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 21 st 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.	X9.100-180	7/11/06	X9.100-183
278	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
279	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.	X9.100-180	7/11/06	X9.100-183
280	return reason code: For return items, the particular reason that the paying bank refuses payment.	X9.100-140	10/1/04	X9.100-172-1
281	role: A function or position that is an essential or necessary part of the overall ICSF process. Roles may be performed by a variety of entities. Entities may perform multiple roles simultaneously.	X9.100-172-1	8/10/07	None
282	routing field: Positions 33 through 43 of the MICR line that contain the routing number.	X9.100-160-1	10/15/04	X9.100-130, X9.100-180, X9.100-183 & TR 6

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
283	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	10/15/04	X9.7, X9.100-111, X9.100-120, X9.100-130, X9.100-180, X9.100-183 & TR 6
284	RT feature list: Information published by a verification authority containing a list of routing numbers and IISCSF's for which it has information needed to support validation.	X9.100-172-1	8/10/07	None
285	rules maker: The role that provides a centralized set of agreements under which Interoperable Check Security Feature (ICSF) validation takes place so that participating entities do not need to enter into individual or multiparty agreements in order to validate features on checks drawn on other entities.	X9.100-172-1	8/10/07	None
286	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.	X9.100-180	7/11/06	X9.100-183
287	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	7/13/06	None
288	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
289	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
290	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
291	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	1/16/04	X9.7

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
292	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	7/13/06	None
293	security feature ID: The security feature ID is the identification number assigned by the ICSF Registration Authority.	X9.100-172-1	8/10/07	None
294	security feature/technique: An addition to a document that will add complexity in its ability to be reproduced or changed.	X9.100-170	8/17/04	X9.100-172-1 & TR 33
295	security mark: A security mark is a mark printed and discernable on a check whose structure encodes information that can be used to enable some type of security validation. Interoperable image-survivable check security features use security marks.	X9.100-172-1	8/10/07	None
296	settlement: Settlement of check activity occurs at the time the sending financial institution gains possession of funds from the receiving bank.	X9.100-183	4/18/05	None
297	short name: The abbreviated name assigned to a bank, typically by the Federal Reserve Bank.	X9.100-180	7/11/06	X9.100-183
298	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	7/13/06	TR 6
299	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-U's symbol. For convenience, we call the units of signal measure when appropriately scaled, Signal Units (SU).	X9.100-20	7/13/06	None
300	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	7/13/06	TR 6 & TR 33
301	slot reader or single slot reader: See waveform reader (single slot reader)	TR 6	1/31/07	None
302	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

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
303	snippet: An image of a portion of the check. The use of the term snippet may be qualified by the type of information it contains, i.e. a mark snippet would contain an image of a security mark while a field snippet would contain an image of a field value.	X9.100-172-1	8/10/07	None
304	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	1/16/04	X9.7
305	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
306	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
307	standard check layout: Check designs where standard positions for areas of interest (e.g. convenience amount, payee name, signature, etc.) on the checks conform to a known predefined area of interest position template. Most traditional personal size checks conform to a standard check layout.	X9.100-172-1	8/10/07	None
308	standards provider: The role that defines, publishes, and maintains the standards that when used by other roles will ensure implementations that permit interoperable validation of interoperable check security features.	X9.100-172-1	8/10/07	None
309	strip: A paper or composite appendage to provide an alternate MICR clear band to the check.	X9.100-151	12/1/04	None
310	stroke: The vertical or horizontal lines of a printed MICR character.	TR 6	1/31/07	None
311	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	7/13/06	X9.7, X9.100-120 & TR 6
312	SU: See signal units (SU)	NA	NA	NA
313	substitute check: A paper reproduction of an original check as defined by the Check 21 Act and Regulation CC.	X9.100-140	10/1/04	X9.100-40-1&2, X9.100-172-1 X9.100-180 & TR 33
314	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	7/13/06	None
315	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	3/8/04	None

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
316	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	10/15/04	X9.100-20
317	symbolology: A protocol for the arranging of patterns that are used in a security mark. For bar codes it is the arrangement of the bars and spaces that make up a particular kind of bar code.	X9.100-172-1	8/10/07	None
318	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
319	TAPPI: See Technical Association of the Pulp and Paper Industry (TAPPI)	NA	NA	NA
320	Technical Association of the Pulp and Paper Industry (TAPPI): The organization that develops standardized test procedures for various properties of paper.	X9.100-10	1/11/06	None
321	text overlay: Text placed over image regions on an IRD.	X9.100-140	10/1/04	None
322	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
323	TIFF (Tagged Image File Format): A tag-based file format for storing and exchanging raster images.	X9.100-181	9/12/07	None
324	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	9/12/07	None
325	toner: See dry ink	TR 6	1/31/07	None
326	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	1/16/04	None
327	trailing edge: The left edge of the document when its face is viewed.	X9.100-160-1	10/15/04	X9.7, X9.100-20, X9.100-111, X9.100-120, X9.100-140, X9.100-151, X9.100-161, X9.100-172-1 & TR 6
328	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
329	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	10/15/04	X9.100-180 & X9.100-183

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
330	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	1/16/04	None
331	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	3/8/04	None
332	transit field: See routing field	NA	NA	NA
333	transit symbol: The symbol in the E-13B font that identifies the routing number field.	X9.100-160-1	10/15/04	None
334	truncation: The conversion of the original item into electronic form.	X9.100-180	7/11/06	X9.100-183
335	twenty pound paper (20# paper): Bond paper with a nominal basis weight of 20 pounds $\pm 5\%$ ($75.0 \text{ g/m}^2 \pm 5\%$), 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	1/11/06	None
336	twenty-four pound paper (24# paper): Bond paper with a nominal basis weight of 24 pounds $\pm 5\%$ ($90.0 \text{ g/m}^2 \pm 5\%$), 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	1/11/06	None
337	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	1/11/06	None
338	validation: The process by which the contents of an interoperable check security feature are compared to data on the check or other data supplied with the request.	X9.100-172-1	8/10/07	None
339	validator: The role that performs interoperable check security feature validation services for check acceptors and other validators.	X9.100-172-1	8/10/07	None
340	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	10/15/04	X9.100-20 & X9.100-140
341	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.	X9.100-181	9/12/07	None
342	verification authority: The role that responds to requests from validators for information or keys needed to validate an interoperable check security feature or determines if a particular check should have an interoperable check security feature.	X9.100-172-1	8/10/07	None
343	void(s): The absence of ink within the specified outline of the printed MICR character.	X9.100-20	7/13/06	TR 6

No.	Definition As Of 10/1/07	Defining Standard	Date Revised	Other Publication Usage
344	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	1/31/07	None
345	warning box: An informative summary found on a check that identifies security features and contains the required padlock icon information.	X9.100-170	8/17/04	None
346	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	1/11/06	None
347	waveform: A voltage representation of signals with respect to time that corresponds to a particular character.	X9.100-20	7/13/06	None
348	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	1/31/07	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 2-2005, *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 6-2006, *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/TG-8-2001, *Check Security Guideline*

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 33-2006, *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 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*, Withdrawn 12/22/2004.