



American National Standard for Financial Services

ANSI X9.100-160-2–2020

Magnetic Ink Printing (MICR) Part 2: EPC Field Use



Developed by
Accredited Standards Committee X9, Incorporated
Financial Industry Standards

Date Approved: January 10, 2020

American National Standards Institute

American National Standards, Technical Reports and Guides developed through the Accredited Standards Committee X9, Inc., are copyrighted. Copying these documents for personal or commercial use outside X9 membership agreements is prohibited without express written permission of the Accredited Standards Committee X9, Inc. For additional information please contact ASC X9, Inc., 275 West Street, Suite 107, Annapolis, MD 21401, USA.

This page left intentionally blank

Contents	Page
Foreword	iv
Introduction	v
1 Scope	2
2 Normative references	2
3 Terms and definitions	2
3.1 character (MICR) (ANSI X9.100-160-1).....	2
3.2 character space (MICR) (ANSI X9.100-160-1)	2
3.3 E-13B (ANSI X9.100-20).....	2
3.4 external processing code (EPC) (ANSI X9.100-160-1)	3
3.5 external processing code field (EPC field) (ANSI X9.100-160-1)	3
3.6 fixed format (ANSI X9.100-160-1).....	3
3.7 image replacement document (IRD) (ANSI X9.100-140)	3
3.8 magnetic ink character recognition (MICR) (ANSI X9.100-20)	3
4 General	3
4.1 EPC code use.....	3
4.2 EPC composition.....	4
4.3 EPC assignment	4
4.3.1 New requests for EPC.....	4
4.3.2 Approval process for new usage requests.....	4
4.4 Withdrawal of EPC.....	4
4.5 Reassignment of EPC	5
5 EPC usage/status	5
5.1 Character 1.....	5
5.2 Character 2.....	5
5.3 Character 3.....	5
5.4 Character 4.....	5
5.5 Character 5.....	5
5.6 Character 6.....	5
5.7 Character 7.....	6
5.8 Character 8.....	6
5.9 Character 9.....	6
5.10 Character 0.....	6

Foreword

Approval of an American National Standard requires verification by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretation should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of approval.

Published by

Accredited Standards Committee X9, Incorporated
Financial Industry Standards
275 West Street, Suite 107
Annapolis, MD 21401 USA
X9 Online <http://www.x9.org>

Copyright © 2020 ASC X9, Inc.

All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher. Published in the United States of America.

Introduction

This publication is a revision of American National Standard Specifications for Placement and Location of MICR Printing, X9.100-160, Part 2: 2015 (originally published as X9.13 - 1999). Material presented in this standard is a result of the combined efforts of financial services organizations.

The purpose of ANSI X9.100-160, Part 2, is to formalize procedures for assignment, approval, usage and management of the External Processing Code (EPC) field and associated values within the defined field of the MICR line. Location and print specifications are not within the scope of Part 2, and are defined in ANSI X9.100-160 Part 1 and ANS X9.100-20 (for MICR font E-13B).

EPCs convey special information regarding the correct handling or routing of check or check data, including images. Institutions use these codes as external communication throughout the payment process. EPCs can be any of the E-13B numeric MICR characters placed within the EPC field of the MICR line that identify unique applications such as return items, forward or return substitute checks (IRDs), or trigger identification and image interchange for that document. Some MICR characters are reserved for future use, with ASC X9 proactively planning for future needs through use of new or different characters or placement.

ASC X9 manages use of EPCs within the MICR document processing and image exchange communities. It is very important to remind users of EPCs that payment system applications for specific codes may be referenced within Federal Reserve Bank regulations and possibly other payment system rules. There are no independent or unilateral uses permitted for EPCs.

ASC X9 is responsible for assignment of EPC digits for specific future applications as well as monitoring their use within the check processing community. It is expected that printers of checks will continue to exercise careful concern for all specifications in this standard in order to ensure maximum performance and continued success. X9 is the only authority for usage of values in the EPC field. Furthermore, it is important to be aware that certain values may also be stipulated for only certain transaction types and with additional governance by Federal Reserve regulations and Operating Circulars. Also, since many digits will have little meaning to anyone that does not specifically interrogate for a particular EPC value, all values that are have no specific meaning or consequence to a particular intermediary are nonetheless part of the MICR code line and should be passed along to the paying bank. This includes newly listed and retired values that should not be interfered with, and instead simply passed along.

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

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

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

Roy C. DeCicco, X9 Chairman
 Corby Dear, X9 Vice Chairman
 Steve Stevens, X9 Executive Director
 Janet Busch, Program Manager
 Ambria Frazier, Program Manager

Organization Represented	Representative
ACI Worldwide	Doug Grote
Amazon	John Britton
American Bankers Association	Diane Poole
Bank of America.....	Daniel Welch
BDO	Tim Crawford
Bloomberg LP	Corby Dear
Capital One	Marie LaQuerre
Citigroup, Inc.....	Karla McKenna
Conexus, Inc.	Gray Taylor
CUSIP Global Services.....	Gerard Faulkner
Delap LLP	Andrea Beatty
Diebold Nixdorf	Bruce Chapa
Digicert.....	Dean Coclin
Federal Reserve Bank	Ainsley Hargest
First Data Corporation	Lisa Curry
FIS	Stephen Gibson-Saxty
Fiserv	Dan Otten
FIX Protocol Ltd - FPL	James Northey
Futurex.....	Ryan Smith
Gilbarco.....	Bruce Welch
Harland Clarke	Jonathan Lee
Hyosung TNS Inc.....	Joe Militello
IBM Corporation.....	Todd Arnold
ISITC.....	Lisa Iagatta
ITS, Inc. (SHAZAM Networks)	Manish Nathwani
J.P. Morgan Chase	Roy DeCicco
MagTek, Inc.	Mimi Hart
MasterCard Europe Sprl	Mark Kamers
NACHA The Electronic Payments Association.....	George Throckmorton
National Security Agency.....	Mike Boyle
NCR Corporation	Kevin Spengler
Office of Financial Research, U.S. Treasury Department	Thomas Brown Jr.
PCI Security Standards Council	Troy Leach
PricewaterhouseCoopers LLP	Michael Versace
RouteOne.....	Chris Irving
SWIFT/Pan Americas	Karin DeRidder
Symcor Inc.	Debbi Fitzpatrick
TECSEC Incorporated	Ed Scheidt

The Clearing House.....	Sharon Jablon
U.S. Bank.....	Michelle Wright
U.S. Commodity Futures Trading Commission (CFTC).....	Robert Stowsky
USDA Food and Nutrition Service.....	Lisa Gifaldi
VeriFone, Inc.	Dave Faoro
Viewpointe	Richard Luchak
VISA.....	Adam Clark
Wayne Fueling Solutions.....	Henry Fieglein
Wells Fargo Bank	Mark Schaffer

At the time this standard was approved, the **X9B subcommittee on Checks and Back Office Operations** had the following members:

Daniel Welch, X9B Chairman
 Jackie Pagán, X9B Vice-Chair
 Michelle Wright, X9B Vice-Chair

Organization Represented	Representative
ACI Worldwide.....	Lisa McKee
All My Papers	Tony Fera
All My Papers	Ray Higgins
All My Papers	Noreen Sila
All My Papers	Jacci Winchester
American Bankers Association.....	Tom Judd
American Bankers Association.....	Steve Kenneally
American Bankers Association.....	Diane Poole
American Express Company.....	Gail Chapman
American Express Company.....	Farid Hatefi
American Express Company.....	Kati Hausman
American Express Company.....	Wayne Powell
American Express Company.....	John Timar
Bank of America	Greg Cates
Bank of America	Andi Coleman
Bank of America	Joel Kazin
Bank of America	Greg Nixon
Bank of America	Craig Palmer
Bank of America	Christy Pothier
Bank of America	Matt Sharp
Bank of America	Daniel Welch
Bank of New York Mellon	Kevin Barnes
BBVA Compass.....	Jan Cole
BBVA Compass.....	Mark Pynes
BlackBerry Limited.....	Daniel Brown
Bloomberg LP.....	Rich Robinson
Bose.....	Rama Bhardwaj
Canon Solutions America, Inc.	Tony Ribeiro
Capital One.....	Matthew Hines
Capital One.....	Valerie Hodge
Capital One.....	Marie LaQuerre

Capital One	Rick Mistr
Capital One	Eric Mull
Capital One	Diana Muse
Capital One	Sue Tyler
Cipherithm.....	Scott Spiker
Citigroup, Inc.	Karla McKenna
Citigroup, Inc.	Luis Meneses
Citigroup, Inc.	Mahantesh Mukartihal
Citigroup, Inc.	Cathrine Reinecke
Citigroup, Inc.	Rene Schuurman
Citigroup, Inc.	La Donna White
Conexus, Inc.	Michael Davis
Conexus, Inc.	Gray Taylor
Deluxe Corporation	Jason Clark
Deluxe Corporation	Matt Cunningham
Deluxe Corporation	Leonard Kaczmarek
Deluxe Corporation	Margiore Romay
Deluxe Corporation	Leo Tintinalli
Deluxe Corporation	Donald Vezina
Deluxe Corporation	Andy Vo
Diebold Nixdorf	Bruce Chapa
Diebold Nixdorf	Thomas VanKirk
Discover Financial Services.....	Cheryl Mish
Discover Financial Services.....	Brenda Tobias
Federal Reserve Bank	Todd Albers
Federal Reserve Bank	Guy Berg
Federal Reserve Bank	Scott Brubaker
Federal Reserve Bank	Amanda Dorphy
Federal Reserve Bank	Ainsley Hargest
Federal Reserve Bank	Brooke Imhoff
Federal Reserve Bank	Raphael Johnson
Federal Reserve Bank	Mark Kielman
Federal Reserve Bank	Patti Ritter
Fifth Third Bank.....	Craig Jones
Fifth Third Bank.....	Rosie Meyer
Fifth Third Bank.....	Juan Munoz
Fifth Third Bank.....	Jerry Poe
Fifth Third Bank.....	Jonathan Taylor
Fifth Third Bank.....	Mark Woodward
FIS	Denise Bender
FIS	Stephen Gibson-Saxty
Fiserv	Joe Altizer
Fiserv	Edward Hanna
Fiserv	Allen Heimerdinger
Fiserv	Karen Jackson
Fiserv	Dan Otten
Harland Clarke	Diana Diaz
Harland Clarke	Todd Herndon
Harland Clarke	Jonathan Lee

ANSI X9.100-160-2-2020

Harland Clarke	John McCleary
Huntington Bank	Patrick Hornyak
IBM Corporation	Todd Arnold
IBM Corporation	Richard Kisley
IBM Corporation	Rod Moon
IBM Corporation	Andrew Sutton
ISITC.....	Steve Goswell
iStream Imaging	Mike McGuire
ITS, Inc. (SHAZAM Networks).....	Janet LaFrence
J.P. Morgan Chase	Roy DeCicco
J.P. Morgan Chase	Clinton Jones
J.P. Morgan Chase	Jackie Pagán
MagTek, Inc.	Jeff Duncan
MasterCard Europe Sprl.....	Leland Englebardt
MasterCard Europe Sprl.....	Kevin Maxham
MasterCard Europe Sprl.....	Iain Young
National Security Agency	Paul Timmel
Navy Federal Credit Union	Keith Arnott
Navy Federal Credit Union	Melissa Ayala
Navy Federal Credit Union	Michael Deegan
Navy Federal Credit Union	April Haynes
Navy Federal Credit Union	Erica Livingston
Navy Federal Credit Union	Athena Louie
Navy Federal Credit Union	Ola Saliu
Navy Federal Credit Union	Erica Willis
Navy Federal Credit Union	Tynika Wilson
NCR Corporation	Richard Clark
NCR Corporation	Stephen Gawne
NCR Corporation	Gregg Simmons
Office of Financial Research, U.S. Treasury Department	Bill Nichols
Paychex Inc.....	Carl Tinch
PCI Security Standards Council	Elizabeth Terry
Rosetta Technologies.....	Jose Cortedano
Rosetta Technologies.....	Rob Hullar
Rosetta Technologies.....	Jim Walling
Solutran	Dan Galinson
Solutran	Cindy Neiderhiser
Solutran	Deb Niles
Solutran	Carmen R. Nordstrand
Solutran	Holly Umhoefer
Source Technologies.....	Wally Burlingham
Source Technologies.....	Chuck Freeman
SWIFT/Pan Americas	Karin DeRidder
Symcor Inc.....	Debbi Fitzpatrick
Symcor Inc.....	Ivan Welsh
Taylor Communications.....	Melissa Kirk
TECSEC Incorporated.....	Ed Scheidt
TECSEC Incorporated.....	Jay Wack
The Clearing House.....	Ellen Heffner

The Clearing House.....	Jenny Johnson
U.S. Bank.....	Michelle Copher
U.S. Bank.....	Gina Hebner
U.S. Bank.....	Scott LaPlante
U.S. Bank.....	Maureen Latendresse
U.S. Bank.....	Renee Myers
U.S. Bank.....	Christopher Stickney
U.S. Bank.....	Michelle Wright
VeriFone, Inc.....	Karl Chrisman
VeriFone, Inc.....	Dave Faoro
Viewpointe.....	Rick Happe
Viewpointe.....	Richard Luchak
VISA.....	Kristina Breen
VISA.....	Glenn Powell
VISA.....	Kim Wagner
VISA.....	Kevin Weller
Wells Fargo Bank.....	Jared Anderson
Wells Fargo Bank.....	Sotos Barkas
Wells Fargo Bank.....	William Davis
Wells Fargo Bank.....	Veronica Flanagan
Wells Fargo Bank.....	Alexandra Greenfield
Wells Fargo Bank.....	Ryan Hegland
Wells Fargo Bank.....	Ann Kirk
Wells Fargo Bank.....	Alan Nguyen
Wells Fargo Bank.....	Steve Puffer
Wells Fargo Bank.....	John Quinn
Wells Fargo Bank.....	Mark Schaffer
Wells Fargo Bank.....	Tom Stacy
Wells Fargo Bank.....	John Walker
Wells Fargo Bank.....	Dawn Ward

ASC X9, Inc. procedures, a working group may be established to address specific segments of work under the ASC X9 Committee or one of its subcommittees. A working group exists only to develop standard(s) or guideline(s) in a specific area and is then disbanded. The individual experts are listed with their affiliated organizations. However, this does not imply that the organization has approved the content of the standard or guideline. (Note: Per X9 policy, company names of non-member participants are listed only if, at the time of publication, the X9 Secretariat received an original signed release permitting such company names to appear in print.)

At the time this standard was approved, the **X9B7 MICR Print & Quality Standards** workgroup had the following active members:

Daniel Welch, X9B7 Co-Chair
 Matt Sharp, X9B7 Co-Chair

Organization Represented

Representative

All My Papers.....	Ray Higgins
Bank of America.....	Matt Sharp

ANSI X9.100-160-2-2020

Bank of America	Daniel Welch
Deluxe Corporation.....	Margiore Romay
Federal Reserve Bank.....	Mark Kielman
FIS	Stephen Gibson-Saxty
Harland Clarke.....	John McCleary
iStream Imaging/Bank of Kenney	Mike McGuire
J.P. Morgan Chase.....	Jackie Pagán
Member Emeritus	Nancy Grant
Member Emeritus	Phyllis Meyerson
Paychex Inc	Carl Tinch
Rosetta Technologies.....	Jim Walling
Source Technologies.....	Wally Burlingham
Taylor Communications.....	Melissa Kirk
The Clearing House.....	Jenny Johnson
U.S. Bank.....	Michelle Wright

This document cancels and replaces X9.100-160-2-2014.

Magnetic Ink Printing (MICR)

Part 2: EPC Field Use

1 Scope

ANSI X9.100-160 Part 1 defines the location of the EPC Field.

Part 2 of this standard establishes external processing code (EPC) assignments and management, and specifies which MICR characters are approved by ASC X9 for use in the U.S. Payments System.

2 Normative references

The following referenced documents are indispensable for the application of this document.

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

ANSI X9.100-20, *Print and Test Specifications for Magnetic Ink Printing (MICR)*

ANSI X9.100-140, *Image Replacement Document – IRD*

ANSI X9.100-151, *Check Correction Strips*

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

Regulation CC (12 CFR part 229), *Availability of Funds and Collection of Checks*

3 Terms and definitions

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

3.1 character (MICR) (ANSI X9.100-160-1)

Any of the ten numerals or four special symbols comprising the MICR type font known as E-13B.

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

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

3.3 E-13B (ANSI X9.100-20)

A special type font consisting of ten numerals and four special symbols, developed for magnetic ink character recognition.