Bank of America

1234567890

I: Routing Transit Symbol
II⬛ On-Us and Auxiliary On-Us Symbol

(ACH format is the same as Check Specifications format below)   (Do NOT use ACH or WIRE ABA on Checks)

Account Number	
Account Name and Address	

Account Information

Processing State or Region	**TX-IDS**
New Order or Re-order	

Testing Instructions* - Send a copy of this specification, a minimum of 25 voided checks, and 3-5 deposit tickets per depositing location to:

BANK OF AMERICA
CA5-701-04-07
ATTN: MICR TESTING
1455 Market St. 4th Fl
San Francisco CA 94103
OR
Your BANK REPRESENTATIVE

To Be Completed by Customer

Bank of America Account Representative	
Representative Phone Number	
Printer/Vendor Name	
Printer/Vendor Contact	
Printer/Vendor Order Number	
Printing Technology (*or Software Name*)	

Check Specifications

Routing Number 111000012   **Fractional R/T** 32-1 / 1110 GL

56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

II⬛ : 111000012 I:

Auxiliary On-Us Field* (5)   Routing Transit Number   Account Field   Amount Field

Deposit Ticket Specifications

Routing Number 540900071   **Fractional R/T** 32-1 / 1110 GL

56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

II⬛ : 540900071 I:

Auxiliary On-Us Field* (5)   Routing Transit Number   Account Field   Amount Field

Printing Instructions*   (*For additional testing and printing instructions, please refer to Bank of America Printing Guidelines)

[1] All E-13B characters must be printed in magnetic ink. Laser-printer toner cartridges must be clearly labeled "MICR" toner. (*Please note: Magnetic ink is not available for inkjet printers.*)

[2] No characters or text, other than E-13B MICR code, may be located in the 5/8" band of area as measured from the bottom of a check or deposit ticket. This 5/8" clear band includes printing on both the front and back of checks or deposits, and includes facsimile or computer-generated signatures or signature lines.

[3] The left edge of the document must extend at least 1/4" beyond the last encoded character to the left.

[4] It is recommended to use a top-stub check format when printing a commercial or laser style check to avoid tearing or other mutilation of the MICR encoded fields.

[5] In order to provide normal services to business accounts, the serial number must be MICR-encoded in the Auxiliary On-Us field on checks. No blank spaces are permitted within the Auxiliary On-Us field. *Please contact your central Finance or Control office or your personal Bank of America representative to determine whether serialized deposit tickets are required for this account.*

[6] The check number or serial number printed in the upper right-hand corner of the check must match the check number or serial number printed in the MICR line.

[7] To facilitate research activity at the bank, it is recommended that the account's complete name and address appear on the checks.

[8] The amount field must be left blank when printing checks or deposit tickets.

[9] All documents must conform to the specifications on this sheet as well as to those set forth by theAccredited Standard Committee (X9), and published in their manuals as approved by the American National Standards Institute (ANSI).

[10] Bank of America will not be responsible for errors occurring in printed checks unless a complete, signed specification sheet bearing a current date has been used. Therefore we suggest that you request printing specifications before each re-order made to your printer. Failure to conform to these specifications or to banking industry guidelines for printing checks and deposits may result in misrouted checks or delayed posting of deposits to the owner's account.

Document Size (all measurements start from lower right corner of check or deposit ticket)

Minimum: 7 3/4" x 2 3/4"	Maximum: 8 3/4" x 3 2/3"
Recommended: 8 1/2" x 3 1/4"	
Minimum paper weight:	24 lbs. (long grain recommended)

Specification Requested By: Specification Completed By:

Phone Number: Phone Number: Date:

00-35-3193NSB 10-2008   BANK OF AMERICA - CONFIDENTIAL

Printing Guidelines

General Printing Guidelines

MICR Line: MICR stands for Magnetic Ink Character Recognition. The MICR line consists of encoded numbers and symbols at the bottom of a check. The MICR characters are magnetically charged ink or toner that are read by high speed computer sorters. The MICR line contains all pertinent information for computers to process and route a transaction to an appropriate destination. Strict adherence to ANSI standard specifications in the creation of check documents is a major factor in the success or failure of the transaction to the financial institution as well as to the customer.

MICR Printing: There are two basic printing techniques. One is the Impact Method, and the other is the Laser Method. Most check documents today are produced by the Laser Method. Numerous advantages exist with the Laser method, such as cost, time, and design setup. The use of the Laser Method requires additional awareness of variables such as type of toner, paper matching, printer setup. It is a good idea to make sure a printing company is knowledgeable in the different aspects of Laser Printing before agreeing to have them print your documents. Poor quality documents are inefficient and costly to you, the customer, and the financial institution.

Standards and Technical guidelines for MICR encoded documents are determined and approved by the Accredited Standards Committee (X9) and the American National Standards Institute (ANSI). Some key points are as followed:

Unique MICR LINE Field

Auxiliary On-Us: Area to put serial number. Minimum of 5 digits and a maximum of 10 digits. Auxiliary On-Us symbols need to be in front of and behind any length serial number without any blank space(s).

Check size:

Business checks should be at minimum 7 ¾" by 2 ¾" to maximum 8 ¾" by 3 2/3".
Personal checks should be at minimum 6" by 2 ¾" to maximum 8 ¾" by 3 2/3".

Paper:

Weight: Minimum 24 lb. and a Maximum of 44 lb.
Grain Direction:

Paper grain should run across the document horizontally, in the same direction it will pass through a reader/sorter. Laser short grain should be used for portrait orientation and long grain for landscape orientation.

Duplexing: Printing with MICR Toner or Ink on both sides of a check is not recommended. This may cause rejecting issues for the client as well as the Financial Institution. Printing on the back of a check should always be completed with non MICR ink.The ANSI x9.100-111 which specifies areas for endorsement and image specificationss for background areas.

Secuity Features: Possible features available:

Artificial Watermarks:White on white printing, generally on the back of the check, reveals words or patterns when held at an angle

Laid Lines: Unevenly spaced background lines that make cut and paste alteration difficult.

Void Pantograph: Background printing of the word VOID or COPY which appears when an item is photocopied.
Chemical Void: If an ink eradicator is applied to the document, the word VOID appears.
Numbered Stock: Sequential numbering printed in dye that penetrates to the reverse side of the check. Used to identify authenticity.

Image Specifications

As a general guide, the background pattern or scene should have a reflectance of 60% (70% or greater preferred) (i.e., it should be as light as possible). This recommendation extends to the entire background of the document, not just the MICR clear band and the convenience amount rectangle as specified in ANSI Standard X9.7. As long as the pattern is lighter and the data is dark, it should be possible for check processors (both people and machinery) to separate the data from the background.

The following Pantone Matching System (PMS) colors are non-read inks at 100% and will "drop-out" or not "read" on Image MICR documents when scanned. These colors are acceptable to use as the background screening on the entire form or for the clear areas.

PMS #	Color	133 lines per inch screen	
		.010 box outline	.020 box outline
122	Orange	50%	30%
130	Gold	20	20
143	Mustard	40	30
197	Pink	50	30
251	Purple	40	30
290	Blue/Violet	40	20
319	Blue	20	10
333	Aqua	20	10
353	Green	20	10
375	Yellow/Green	20	10
443	Grey	20	10

Borders:

When printed in non MICR ink with a Print Contrast Signal (PCS) higher than 0.3, borders should not extend more than 0.200 inches in from either the leading or trailing edges of the document or more than 0.150 inches up from the document aligning edge (ANSI Standard X9.7 & X9.100-200. If printed with MAGNETIC ink, the border must not pass through the 5/8" MICR clear band (ANSI Standard X9.100-160). The use of elaborate or fancy borders is discouraged due to the likely possibility of obscuring the MICR band or other data elements of the basic check.

Document Testing Guidelines

The average check will be processed using high speed equipment as many as seven times as it makes its way through the clearing system. Poorly encoded documents or documents which do not meet specifications may lead to items that reject and post incorrectly.

- Checks and deposit tickets may be obtained from a number of sources.
- You may order them directly from Bank of America, which will ensure a high quality document for processing.
- You may also order them from experienced vendors who specialize in creating MICR encoded documents.
- You may choose to print these items yourself or from a vendor who does not specialize in MICR printing.

** All E-13B characters encoding must be done with magnetic ink.

With the advent of compact laser printer and desktop publishing capabilities, many customers opt to produce their own MICR documents. This may be a more cost-effective method provided the documents can be processed efficiently and accurately through the banking system. If you choose to print your documents yourself, we want to help! You may contact Bank of America for assistance in obtaining proper technical information on the creation of MICR documents.

To verify your checks and deposit tickets are within the standards required to process accurately on all Bank of America MICR equipment, please submit the specified number of sample documents for testing. Samples should be included for all printing locations from which you intend to generate documents for the specified account. If possible, samples should be selected at random from a print run. It is important to provide a completed copy of the specification sheet you were provided with your samples. (For additional information concerning document printing and testing, you may reference Resource Document ANSI X9.100-20 and X9.100-160. Additional resource are available from ASC X9, INC , www.X9.org.

Bank of America has evaluation equipment that can determine the quality of your documents before printing begins and the documents go into circulation. Document testing is a free service for our customers. If you need assistance with this service, please contact the designated contact on the specification sheet or your Account Representative.
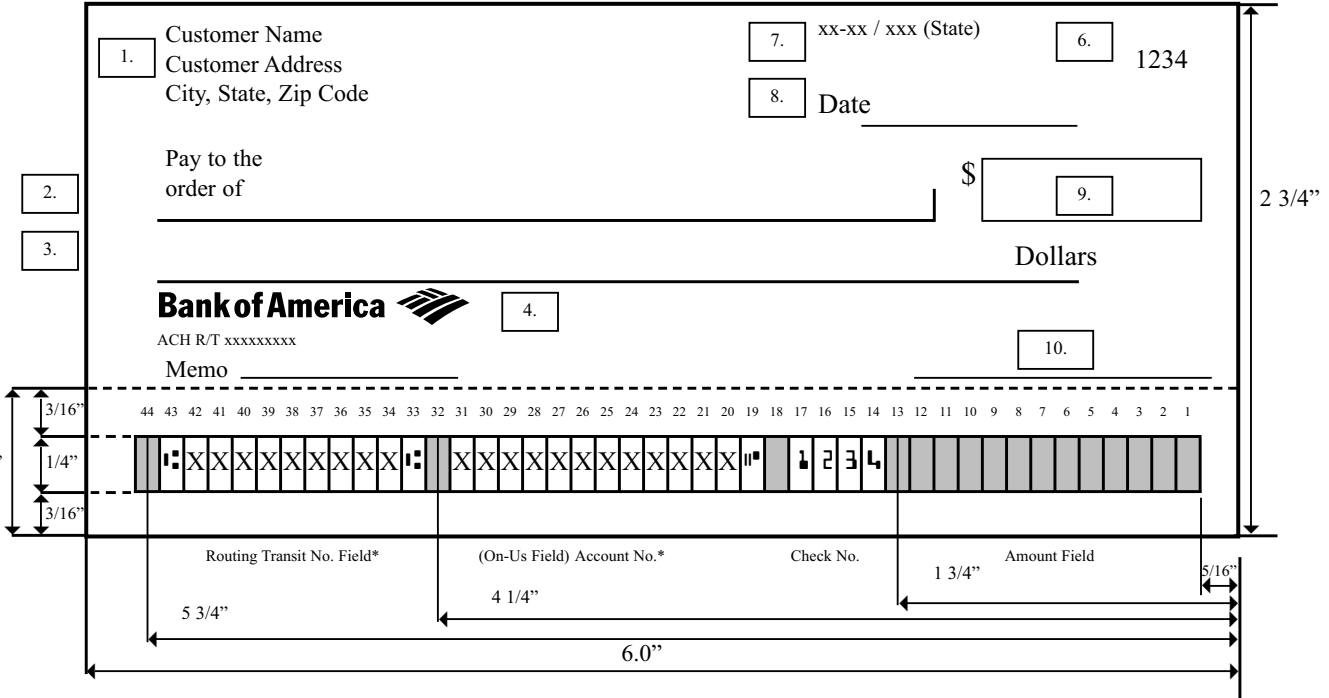
Bank of America

Printing Guidelines - Document Layout

*Please contact your Bank of America representative or banking center to obtain your customized MICR specifications
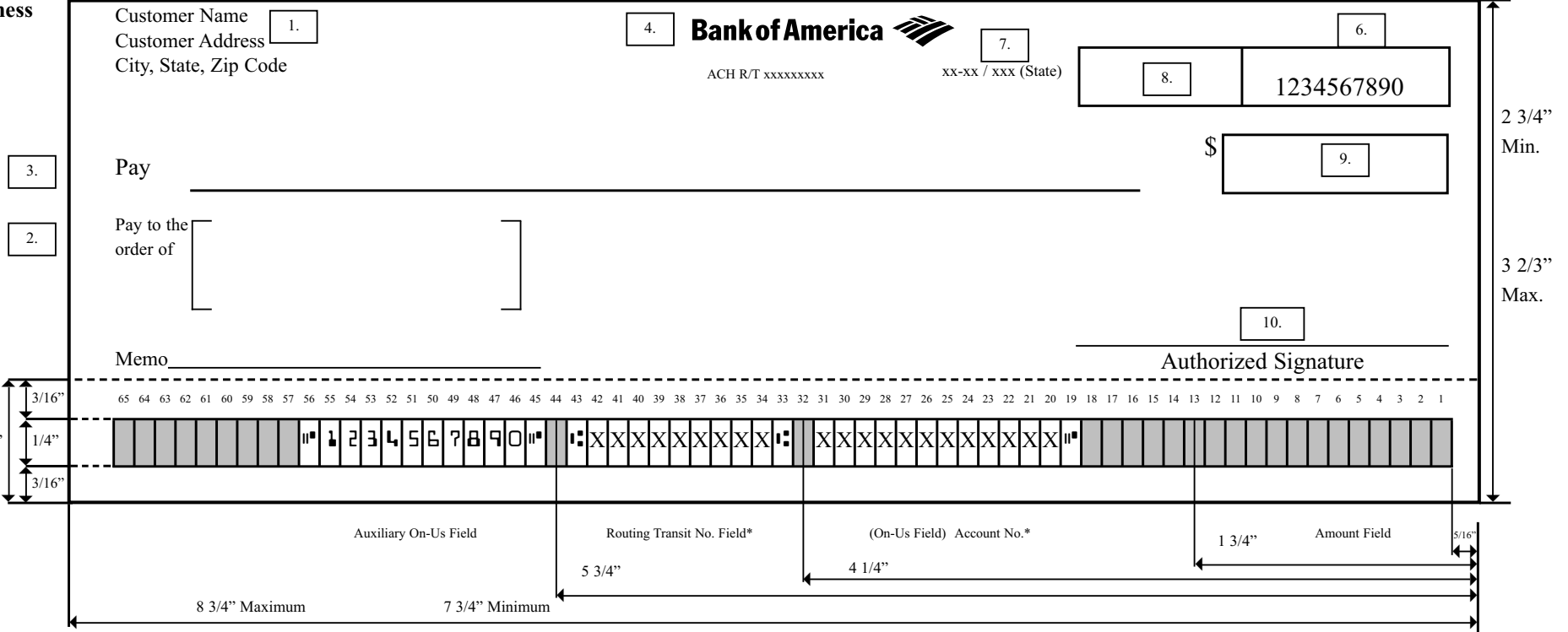
Components of a Check

1. Account Title and Address
2. Payee
3. Legal Amount of Check
4. Drawee Institution
5. 5/8" Clear MICR Band
6. Check or Serial Number
7. Fractional Routing Transit No.
8. Date
9. Convenience Amount of Check
10. Signature(s)

Personal

1. Customer Name
Customer Address
City, State, Zip Code

7. xx-xx / xxx (State)

6. 1234

8. Date

Pay to the order of

$

9.

Dollars

Bank of America
4.

ACH R/T xxxxxxxx

10.

Memo

5. No characters or text, other than E-13B MICR code, may be located in the 5/8" clear band.

3/16"

5/8"   1/4"

3/16"

44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

⑆XXXXXXXXX⑆ XXXXXXXXXXXXX⑈ 1234

Routing Transit No. Field*   (On-Us Field) Account No.*   Check No.   Amount Field

5 3/4"   4 1/4"   1 3/4"   5/16"

6.0"

2 3/4"

Business

Customer Name
Customer Address
City, State, Zip Code

1.

4. **Bank of America**

ACH R/T xxxxxxxx

7. xx-xx / xxx (State)

6.

8. 1234567890

$

9.

Pay

3.

Pay to the order of

2.

10.

Memo

Authorized Signature

5. No characters or text, other than E-13B MICR code, may be located in the 5/8" clear band.

3/16"

5/8"   1/4"

3/16"

65 64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

⑈1234567890⑈ ⑆XXXXXXXXX⑆ XXXXXXXXXXXXX⑈

Auxiliary On-Us Field   Routing Transit No. Field*   (On-Us Field) Account No.*   Amount Field

5 3/4"   4 1/4"   1 3/4"   5/16"

8 3/4" Maximum   7 3/4" Minimum

2 3/4" Min.

3 2/3" Max.