Magnetic Ink Character Recognition E13B Fonts

ConnectCode MICR E13B

http://www.barcoderesource.com/micrfont.shtml

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1. Magnetic Ink Character Recognition (MICR)

1.1 Magnetic Ink Character Recognition (MICR)

Magnetic Ink Character Recognition (MICR) is a character recognition system widely used in the banking industry for clearing and processing checks. The process involves the use of a stylized font and magnetic ink to print characters such as a check number, sort number, and account number commonly found at the bottom of a check. When the check needs to be scanned, it passes through a special machine, which magnetizes the ink and translates the magnetic information into digital characters. This scanning process is highly secure and more accurate than conventional Optical Character Recognition (OCR).

1.2 ConnectCode MICR E13B Fonts package

ConnectCode MICR E13B is a Magnetic Ink Character Recognition fonts package based on the MICR E13-B industry standard. The font adheres strictly to ISO 1004:1995 specification, a widely accepted standard in the US, Canada, Australia, and many other countries. The character set comprises of ten numbers (0..9) and four special symbols (Amount, Domestic, BSB, and Dash).

1.2.1 <u>Font Information</u>

ConnectCode MICR E13B is a comprehensive package that contains over 60 MICR E13B fonts to meet all the requirements required by the industry. This includes the following:

- **TrueType fonts**

  For use in Microsoft Windows, macOS, and Linux environments. This is available in the main installed folder.

- **Calibration fonts**

  For overcoming printer misalignment or toner problems. This is available in the CalibrationFonts folder.

- **PostScript fonts**

  For supporting high-end imagesetters. This is available in the PostScript folder.

- **OpenType fonts**

  For universal support across different machines, platforms, and locales. This is available in the OpenType folder.

All the MICR E13B fonts can be **Embedded into PDF** (Portable Document Format) files without any limitations.

1.2.2   Ease of Use

ConnectCode MICR E13B is easy to use and is one of the most comprehensive packages that provides many fonts for different use cases. You can use the default MICR E13B font to get started quickly.

ConnectCode has distributed MICR fonts for many years and has helped many financial institutions and banks with the deployment of their MICR solution. This default MICR font is tuned, optimized, and run on MICR hardware in leading institutions and companies around the world.

Font File Name (True Type)	ConnectCodeMICR.ttf
Font Name	CCodeMICR
Font Size	12 Points (Fixed)

Note:

The fonts in the trial are named CCodeMICRT instead of CCodeMICR, and the characters 2 and 7 have the equal sign (=) added before them.

1.2.3   Font Characters

The following table contains the character mappings of the MICR E13B font. The mappings apply to all the MICR E13B fonts bundled in ConnectCode MICR E13B package.

Font Character	MICR Character
0	⑁
1	⑈
2	=2 (Trial)
3	⑉
4	⑊
5	⑌
6	⑍
7	=7 (Trial)
8	⑏
9	⑐
a	⑑
b	⑒
c	⑓
d	⑔

2.   MICR E13B Fonts Calibration

ConnectCode MICR E13B has been designed and developed according to the industry specification ISO 1004:1995. The fonts have been tested vigorously on many different types of MICR hardware internally and also by many different organizations externally. However, depending on the users' printer, paper or toner used, slight misalignment in the characters may still occur. Some printers can also be prone to alignment inaccuracies. Calibration can be performed to improve misalignment (if any) and ensure optimal scanning of the characters.

2.1   Calibration

1. Print out this document (or this section specifically) on the printer that you intend to print your checks. It is important to use the actual MICR toner and the actual paper for your checks. This is to make sure that the environment for the calibration is similar to what you intend to use for the printing of the checks.

2. Determine the optimal Length.

   Measure the string "0111122223333444400055556666777788889990" in the table below. The measurement should be taken from the **leftmost edge** of the first 0 to the **rightmost edge** of the last 0. Determine which of the string below has a length nearest to 5 inches (25.4cm). Use Length 3 (L3) if the length measurements are all very near to 5 inches.

Length 1 (L1)   0 1 1 1 1 ⊧2⊧2⊧2⊧2 3 3 3 3 4 4 4 4 000 5 5 5 5 6 6 6 6 ⊧7⊧7⊧7⊧7 8 8 8 8 9 9 9 9 0
Length 2 (L2)   0 1 1 1 1 ⊧2⊧2⊧2⊧2 3 3 3 3 4 4 4 4 000 5 5 5 5 6 6 6 6 ⊧7⊧7⊧7⊧7 8 8 8 8 9 9 9 9 0
Length 3 (L3)   0 1 1 1 1 ⊧2⊧2⊧2⊧2 3 3 3 3 4 4 4 4 000 5 5 5 5 6 6 6 6 ⊧7⊧7⊧7⊧7 8 8 8 8 9 9 9 9 0
Length 4 (L4)   0 1 1 1 1 ⊧2⊧2⊧2⊧2 3 3 3 3 4 4 4 4 000 5 5 5 5 6 6 6 6 ⊧7⊧7⊧7⊧7 8 8 8 8 9 9 9 9 0
Length 5 (L5)   0 1 1 1 1 ⊧2⊧2⊧2⊧2 3 3 3 3 4 4 4 4 000 5 5 5 5 6 6 6 6 ⊧7⊧7⊧7⊧7 8 8 8 8 9 9 9 9 0
Length 6 (L6)   0 1 1 1 1 ⊧2⊧2⊧2⊧2 3 3 3 3 4 4 4 4 000 5 5 5 5 6 6 6 6 ⊧7⊧7⊧7⊧7 8 8 8 8 9 9 9 9 0
Length 7 (L7)   0 1 1 1 1 ⊧2⊧2⊧2⊧2 3 3 3 3 4 4 4 4 000 5 5 5 5 6 6 6 6 ⊧7⊧7⊧7⊧7 8 8 8 8 9 9 9 9 0

3. Determine the optimal Darkness.

   Determine which character has a tone/darkness that is nearest to the characters of the checks you will like to print. This could be determined by comparing to a sample provided by the bank. If you are not sure, use the default Darkness 2 (D2).

Darkness 1 (D1)   0 1 2 3 4 5 6 7 8 9
Darkness 2 (D2)   0 1 2 3 4 5 6 7 8 9
Darkness 3 (D3)   0 1 2 3 4 5 6 7 8 9
Darkness 4 (D4)   0 1 2 3 4 5 6 7 8 9

4. Determine the font to use.

   The font to be used can be identified based on the results in steps 2 and 3. The fonts are stored in the CalibrateFonts folder of the installed package. For example, a Darkness 2 and Length 3 font maps to CodeMICR_**D2L3** as shown in the table below.

2.2   Calibration Fonts Table

	Length 1 (L1)	Length 2 (L2)	Length 3 (L3)	Length 4 (L4)	Length 5 (L5)	Length 6 (L6)	Length 7 (L7)
D1	CCodeMICR_D1L1	CCodeMICR_D1L2	CCodeMICR_D1L3	CCodeMICR_D1L4	CCodeMICR_D1L5	CCodeMICR_D1L6	CCodeMICR_D1L7
D2	CCodeMICR_D2L1	CCodeMICR_D2L2	CCodeMICR_D2L3	CCodeMICR_D2L4	CCodeMICR_D2L5	CCodeMICR_D2L6	CCodeMICR_D2L7
D3	CCodeMICR_D3L1	CCodeMICR_D3L2	CCodeMICR_D3L3	CCodeMICR_D3L4	CCodeMICR_D3L5	CCodeMICR_D3L6	CCodeMICR_D3L7
D4	CCodeMICR_D4L1	CCodeMICR_D4L2	CCodeMICR_D4L3	CCodeMICR_D4L4	CCodeMICR_D4L5	CCodeMICR_D4L6	CCodeMICR_D4L7

D – Darkness, L - Length

Note:

The default font CCodeMICR is CCodeMICR_D2L3. This is the recommended font to use without calibration.

3.   Security Fonts

ConnectCode MICR E13B includes 4 professional security fonts, available in the SecurityFonts folder, to print payee names and check amounts securely. The Security Fonts help prevent alteration and forgery.

Standard	With Text
$1,234.00	$1,234.00 DOLLAR ONE , TWO THREE FOUR . ZERO ZERO
1,234.00	1,234.00 ONE , TWO THREE FOUR . ZERO ZERO