



Lockbox

Remittance Document Specifications Guide





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I. Coupon Specifications

For the *BankFinancial* Lockbox system, there are three ways to format your documents, with pluses and minuses for each. Below is a list of those three ways in order of best to worst.

RECOGNITION TYPE	CONDITION	EXAMPLE
<p>OCR A or B</p> <p>These are read by the scanner as coupons are being scanned</p> <p>Adding a check digit improves readability</p>	<p>Best</p>	<p>OCRA 1234567890 ABCDEF</p> <p>OCRB 1234567890 ABCDEF</p>
<p>Barcode (2of5, 3of9, Code128,etc)</p> <p>These are read by the scanner as coupons are being scanned.</p> <p>Adding a check digit improves readability</p> <p>some barcodes like 3of9 have builtin check digits</p> <p>+ support for up to 22 barcode types</p> <p>barcodes must be printed bigger than normal to be read properly</p> <p>The barcode is not human readable so the numbers have to be printed under them as well</p> <p>Requires additional cost in barcode software</p>	<p>Good</p>	 <p>1234567890 1</p>  <p>0011382401</p>

<p>Field Reading (FormXtra)</p> <p>Used to read fields off of coupons either hand written or machine printed Not all hand writing is readable If skewed while scanning throws off read rates Requires additional software cost</p>	Acceptable	
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II. Coupon Configuration

For coupons to work effectively, two basic fields within the scanline need to be present for the system to read:

- **Account Number** or **Customer Number**
- **Amount Due**

Many coupons have an additional field called a **Check Digit** which helps in the verification of the data contained in the scanline of a coupon. The check digit is normally used to validate either the whole scanline or portions of the scanline, such as the account number. Check Digits are usually placed at the end of the scanline but can be placed anywhere within the scanline.

The picture below is that of a typical coupon with an Account Number, Amount Due, and Check Digit.

MAKE CHECKS PAYABLE TO:		NAME: HIGINBOTHAM CORPORATION SERVICE ADDRESS: 6417 ANDERSON AVE ACCOUNT # 43356009-1025303							
DEMO ELECTRIC COOPERATIVE 3022 AVENUE B DALLAS, TX 75287		<table border="1" style="margin: auto;"> <thead> <tr> <th>PREVIOUS BALANCE</th> <th>CURRENT CHARGES</th> <th>TOTAL DUE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">\$0.00</td> <td style="text-align: center;">\$247.95</td> <td style="text-align: center;">\$247.95</td> </tr> </tbody> </table>		PREVIOUS BALANCE	CURRENT CHARGES	TOTAL DUE	\$0.00	\$247.95	\$247.95
PREVIOUS BALANCE	CURRENT CHARGES	TOTAL DUE							
\$0.00	\$247.95	\$247.95							
Account Number	Amount Due	Check Digit							
433560091025303	00247958								
ADDRESSEE:		REMIT TO:							
HIGINBOTHAM CORPORATION 6417 ANDERSON AVE DALLAS, TX 75287		DEMO ELECTRIC COOPERATIVE 3022 AVENUE B DALLAS, TX 75287							
PLEASE RETURN THIS PORTION WITH PAYMENT TO D.W.D. REMEMBER TO SIGN YOUR CHECK AND INCLUDE YOUR ACCOUNT #		PLEASE SEE REVERSE SIDE FOR ADDITIONAL INFORMATION							

Other fields commonly used in remittance processing may include, but are not limited to, the following examples:

- Due Date or Stop Date
- Billing Date
- Late Due



- Coop ID
- Premise ID
- Donor ID

If an OCR A, OCR B, or Barcode font is used on the coupon, the information contained in this font is called the scanline. All scanlines read by the system need to be Fixed-Length, meaning that the scanline length on every coupon will be the exact same length per project or coupon type. For instance, the scanline length of the above coupon is 23 characters and this will be the same for every coupon.

If you have a variable field like the Amount Due where a customer can pay \$1.00 up to \$100,000.00, the scanline can be zero-filled to the maximum amount of digits expected. For example, \$1.00 would look like 000000100 and \$200.00 would look like 000020000.

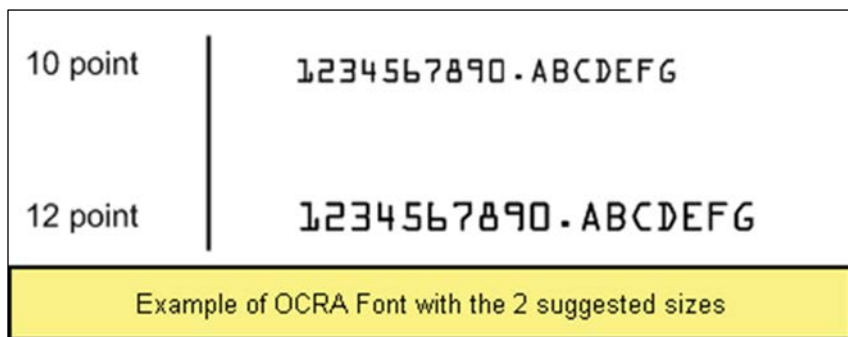
These adjustments can greatly improve the software's ability to read the information properly, increase validity, and reduce the overall amount of keying that operators have to perform.

III. OCR A & B

The OCR A and OCR B fonts are the method of choice for the system. OCR stands for Optical Character Recognition. All of the scanners used with the system have either a built-in functionality to read OCR A or OCR B fonts or through a firmware upgrade.

If given the choice between the two fonts, OCR A provides the better read because the numbers and letters are more distinct. The OCR B font has more rounded characters, which leaves more room for misreads and can increase the number of coupons which will have to be keyed manually.

OCR A Font (10 point font size or higher is recommended). Below is an example of the OCR A Font in different sizes:



OCR B Font (10 point font size or higher is recommended). Below is an example of the OCR B Font in different sizes:

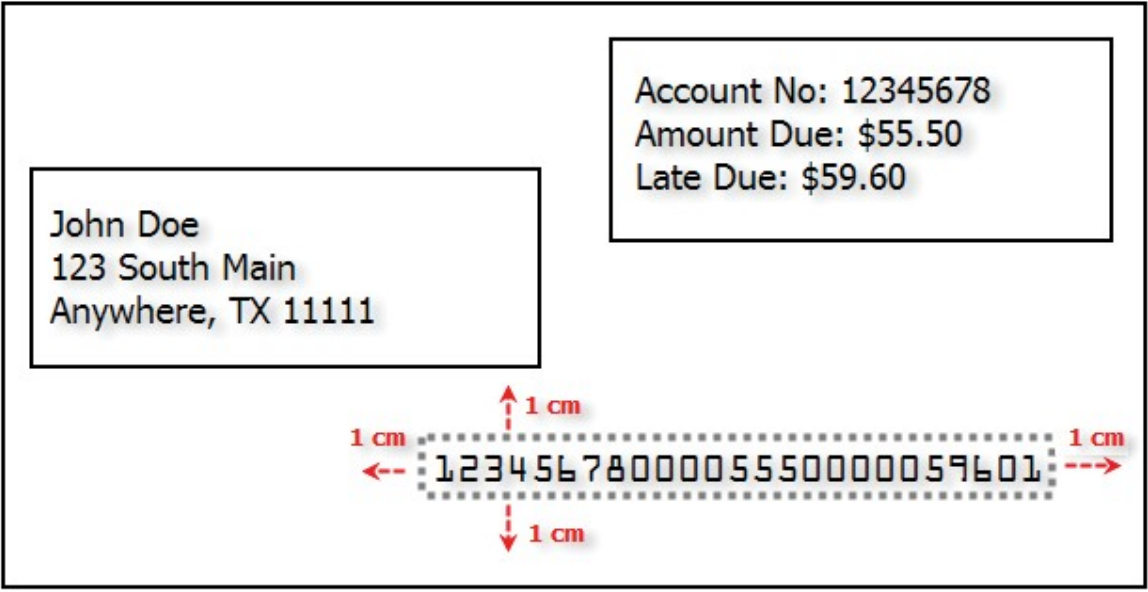
10 point	1234567890.ABCDEFG
12 point	1234567890.ABCDEFG
Example of OCRB font with the suggested sizes	

IV. Document Placement

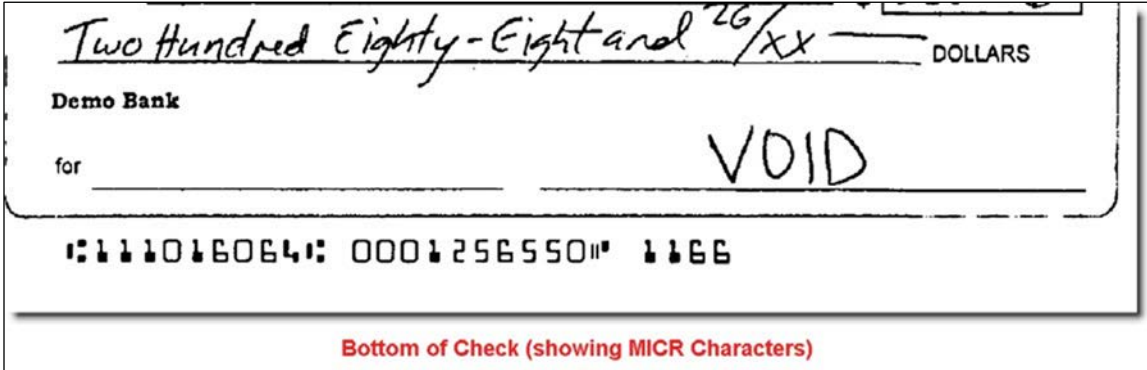
Adding an OCR scanline to the document will greatly improve readability in Lockbox. It is important to also note the amount of white space around the scanline and where the scanline is in relation to the rest of the document.

Always place plenty of white space around the scanline. The minimum specification is 1 centimeter of white space around each side of the scanline. Lockbox maps the coordinates of the scanline location for the scanner. Misreads and/or manual adjustments may be necessary due to an address box or hand-writing in the scanline location.

Below is a diagram to illustrate:



The scanline should not be placed too close to the bottom or sides of the coupon. If the scanline is placed too close to the bottom of the coupon, the scanner may interpret the coupon to be a check and miss-pocket the coupon into the check pocket (for customers who use a two pocket scanner like the Canon CR-180). Checks have numbers on the bottom of the check called the MICR Line. To improve readability, position the OCR scanline above the MICR line on a check.

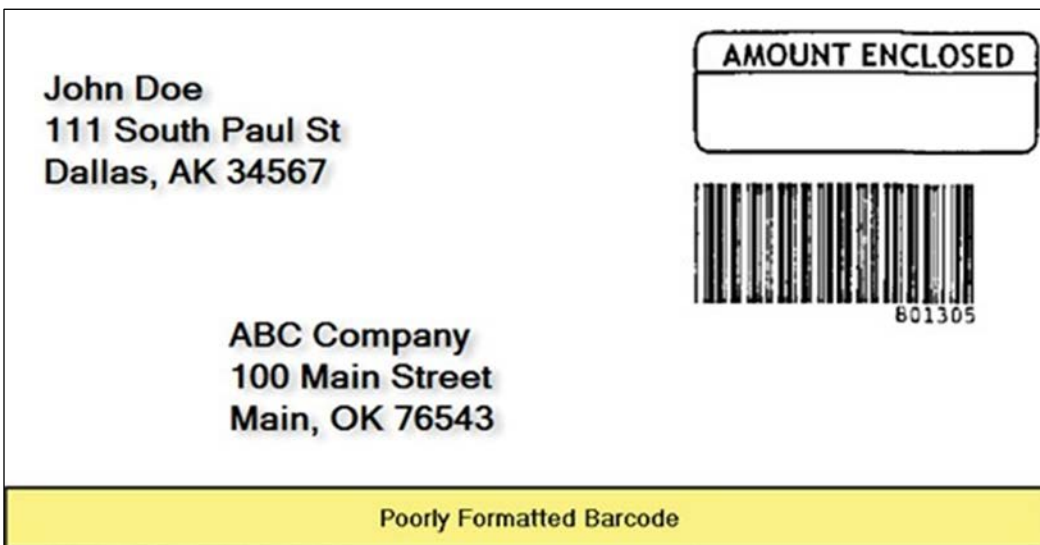



When scanlines are placed too close to the sides of the coupon, the edge of the coupons may be interpreted as characters by the scanner and usually places a "1" at the end or the beginning of the scanline depending if the scanline is placed too close to the left or right. This will cause manual keying and adjustment.

V. Barcodes

Barcodes are the second type of document recognition tool used in the software. The software first takes a picture of the document, then reads the barcode from that image.

When a document is scanned into the computer, artifacts can be added to the image which can impede the barcode's read rate. Below is an example of a document with correctly formatted barcodes and one without:

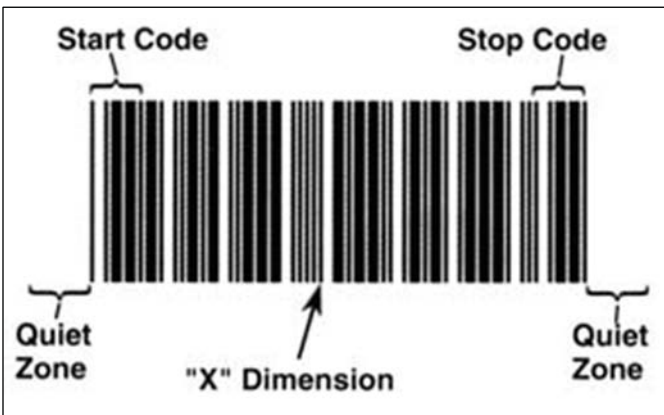


		Account Number: 27-72-04040-05 Customer Name: Service Address: Mailing Address:	Current Amount will become Past Due Previous Balance will become Past Due Total Due
			Visa/Mastercard - - - Credit Card Number 88220-6022 046
Correctly Formatted Barcode			

The poorly formatted barcode has uneven breaks between the lines which throw off recognition. The properly formatted barcode has more defined lines.

VI. Barcode Quiet Zone and Fonts

A **quiet zone** in a barcode is the area without markings in front of the start character and following the stop character. Because there is no printing in this area, a scanning signal is not produced, thus termed "quiet." The quiet zone helps the scanner find the leading edge of the bar code so reading can begin. As a rule, the quiet zone should be ten times the "X" dimension or 1/4", whichever is greater.



There are 22 barcode fonts that are currently recognizable by the software. Below is the list of these fonts:

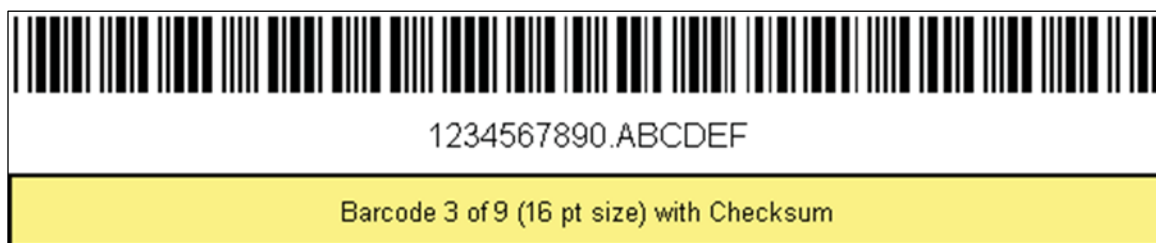
Barcodes with no checksum	Barcodes with checksum required	Barcodes with optional checksum	Barcodes with error correction
Add2	PostNet	Code 32	PDF417
Add5	Code 128	Code 39	DataMatrix
Codabar	Code 93	Industrial 2 of 5	
DataLogic 2 of 5	IATA 2 of 5	Interleaved 2 of 5	
Patch Code	EAN-128	Inverted 2 of 5	

	EAN-13	BCD Matrix	
	EAN-8	Matrix 2 of 5	
	UPC-A		
	UPC-E		

The top three most successful and popular barcode fonts for Lockbox are:

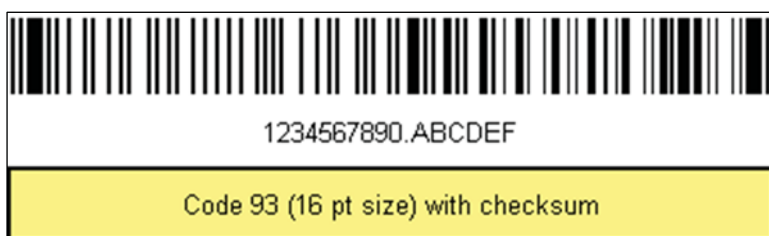
1. Code 39 (sometimes called 3 of 9)
2. Code 128
3. Code

93 Code 39



Code 39 is the most common barcode scheme outside the retail area and is read by most scanners, although it is not as compact as Code 93 or Code 128. The Normal Code 39 scheme encodes both numbers and upper case letters. The Extended Code 39 scheme also includes lower case letters and most punctuation.

Code 128



Code 128 provides excellent density for all-numeric data and good density for alphanumeric data. The symbol can be as long as necessary to store the encoded data. It is often selected over Code 39 in new applications because of its density and it offers a much larger selection of characters. Code 128 is designed to encode all 128 ASCII characters.

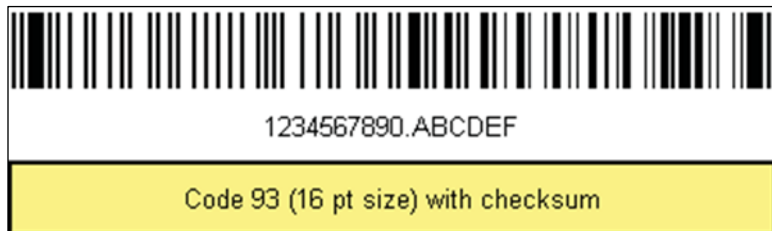
A Code 128 can be divided into three subsets: A, B, and C. There are three separate start codes to indicate which subset is being used. In addition, each subset includes control characters to switch to another subset in the middle of a barcode.

A – Digits, uppercase characters, standard ASCII symbols, and control codes.

B – Digits, upper and lower case characters, standard ASCII symbols, and control codes.

C – Numeric only. Compresses two numeric digits into each character, providing excellent density

Code 93



Code 93 is a barcode symbology which encodes 43 data characters (0-9, A-Z, 6 symbols, and Space), four shift characters, and a unique start/stop character. Code 93 derives its name from every character being constructed from 9 modules arranged into 3 bars with their adjacent spaces.

The Code 93 character set includes the digits 0-9, the letters A-Z (uppercase only), and the following symbols: space, minus "-", plus "+", period ".", dollar sign "\$", slash "/", and percent "%". Code 93 requires a quiet zone, which should be at least the width of 10 narrow bars.