Decoder Signature

Version 0.3

1. Introduction

Decoder Signature is a special pattern that encloses an area in a document, such as a signature, and allows that specific area to be captured as an image by a scanner.

2. Code Structure

2.1   Signature Capture Area

A Decoder Signature is printed as two identical patterns on either side of a signature capture area, as shown in Figure 1. Each pattern extends the full height of the signature capture area.

The box is optional. For example, one can omit the box completely, replace it with a single baseline, or print a baseline with an "X" on top of it towards the left, as is customarily done in the U.S. to indicate a request for signature. However, if an "X" or other marking is added in the signature box area, it is captured together with the signature.
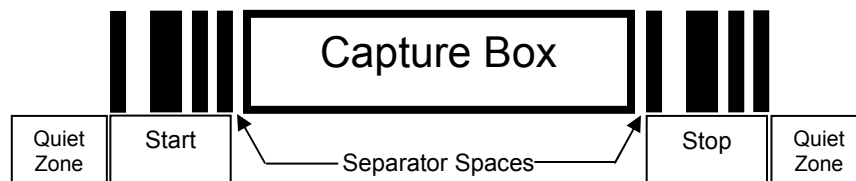
Figure 1 – Decoder Signature Sample

John Doe

2.2   Decoder Signature Pattern Structure

A Decoder Signature pattern structure consists of a start pattern followed by a separator space, a signature capture box, a second separator space, and then a stop pattern. Assuming that X is the dimension of the thinnest element in the pattern, the start and stop patterns each contains 9X total width in 4 bars and 3 spaces. In addition, a 7X quiet zone is required to the left and to the right of the Decoder Signature pattern. This structure is shown in Figure 2.

Figure 2 – Decoder Signature Structure

Capture Box

Quiet Zone | Start | Separator Spaces | Stop | Quiet Zone

The separator spaces on either side of the signature capture box are between 1X and 3X wide.

3. Start / Stop Patterns

The accepted start / stop patterns are illustrated in Table 1. The pattern used on either side of a signature capture box must be the same.

Table 1 – Start / Stop Pattern Definitions

Bar/Space Patterns							Type
B	S	B	S	B	S	B	
1	1	2	2	1	1	1	2
1	2	2	1	1	1	1	5
2	1	1	2	1	1	1	7
2	2	1	1	1	1	1	8
3	1	1	1	1	1	1	9

Table 2 lists parameters users can select in their device. The parameters are used to generate the image of the captured signature.

Table 2 – User Defined Decoder Signature Parameters

Parameter	Defined
Width	Number of pixels
Height	Number of pixels
Format	JPEG, BMP, TIFF
JPEG quality	A value between 1 and 100
Bits Per Pixel (not applicable to JPEG format)	1 (2 levels)
	4 (64 levels)
	8 (256 levels)

BMP format does not use compression, while JPEG and TIFF formats do.

4. Dimensions

The size of the signature capture box is determined by the height and separation of the start and stop patterns. The line width of the signature capture box is insignificant.

The thinnest element width, referred to as X here, is nominally 10 mils. In practice, it should be chosen as an exact multiple of the pixel pitch of the printer used. For example, when using a 203 DPI printer and printing 2 dots per module, the resulting X dimension will be 9.85 mils.

5. Additional Capabilities

No matter which way the signature is scanned, the captured signatures are transmitted in a right side up, and de-skewed format.

A scanner that can capture signatures can automatically determine whether it is scanning a signature or a barcode.

The signature capturing capability can be disabled in a scanner.

6. Sample Signature Boxes

Type 2:

Type 5:

Type 7:

Type 8:

Type 9: