Decoder Signature

Version 0.2

1. Introduction

Decoder Signature is a type of 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. The pattern is placed on either side of the area to capture and extends the full height of that area.

2. Code Structure

2.1 Decoder Signature Capture Area

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

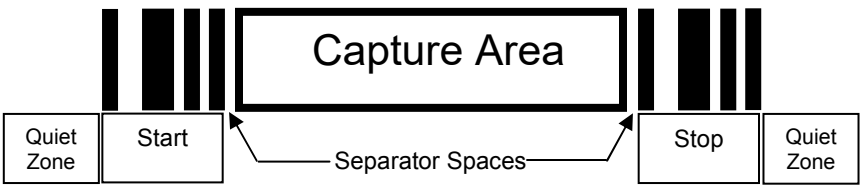
The box is optional. For example, one can omit the box completely, replace it with a single baseline, or print a baseline with an X on top of it towards the left. However, if an X or other markings are added in the signature box area, such as a printed word “signature”, these would be captured together with the signature.

Figure 1 – CapCode

2.2 Decoder Signature Pattern Structure

A Decoder Signature pattern structure consists of a start symbol pattern followed by a separator space, a capture area, a second separator space, and then a stop symbol pattern. Assuming that X is the dimension of the thinnest element in the pattern, the start and stop patterns each contain 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 – CapCode Structure



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

3. Start / Stop Patterns

The several allowed start / stop patterns are illustrated in Table 1. The pattern used on either side of a capture area must be the same.

Table 1 – Start / Stop Pattern Definitions

Bar/Space Patterns							Pattern ID
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 scanner. 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 (16 levels)
	8 (256 levels)

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

4. Dimensions

The size of the capture area is controlled by the height of the start and stop patterns and by their separation. The line width of the capture area is not important.

The thinnest element width, referred to as X in this document, 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 capture area is scanned, the captured data is 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 Decoder Signature capturing capability can be disabled in a scanner.