

# **Signature Capture Code**

Version 0.2

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# 1. Introduction

CapCode, a signature capture code, is a type of special pattern that encloses a signature area on a document, and which allows the signature to be captured by a scanner.

## 2. Code Structure

### 2.1 Signature Capture Area

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

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.

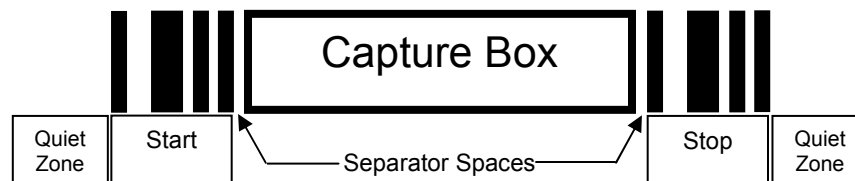
Figure 1 – CapCode



### 2.2 CapCode Pattern Structure

A CapCode pattern structure consists of a start symbol pattern followed by a separator space, a signature capture box, 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 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 CapCode pattern. This structure is shown in Figure 2.

Figure 2 – CapCode Structure



The separator spaces on either side of the signature capture box 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 signature capture box 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 CapCode 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<br>(not applicable to<br>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 controlled by the height of the start and stop patterns and by their separation. The line width of the signature capture box 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 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.