A·B QUALITY

Bulletin 2755
Single and Dual-Head Bar Code Decoders
with Pharma-Code Option
(Catalog No. 2755-DS1P, -DS4P, -DD1P, -DD4P)

Product Data

```
---SYMBOLOGY---  ---------LENGTHS---------   ---CHECK CHARACTERS---
  CODE 39: No   . . . . . . . .   No    INCLUDE: No
   I 2/5: No    . . . . . . . .   No    INCLUDE: No       GUARD BARS: No
 CODABAR: No    . . . . . . . .   No    INCLUDE: No
CODE 128: No    . . . . . . .          FNC1 CHAR: None    0

   UPC-A: No    SUPPLEMENTS: None
   UPC-E: No    SUPPLEMENTS: None    EXPAND:  No
   EAN-8: No    SUPPLEMENTS: None
  EAN-13: No    SUPPLEMENTS: None

        ENABLE PHARMA-CODE: Yes
           QUIET ZONE RATIO: Default    CODE VERIFICATION LIST
            SPACE TOLERANCE: 15         ----------------------
              BAR TOLERANCE: 15      1)      5)      9)     13)
      WIDE TO NARROW BAR RATIO: 2    2)      6)     10)     14)
       MINIMUM NUMBER OF BARS: 5     3)      7)     11)     15)
   SCANNER A DECODE DIRECTION: Forward  4)   8)     12)     16)
   SCANNER B DECODE DIRECTION: Forward

_____
      Commands:ESC    Change:SPACE    Cursor Control:ARROWS
_____
```

Overview. The Single and Dual-Head family of bar code decoders now support the Pharma-Code symbology as an option increasing their decoding capabilities in pharmaceutical product verification applications. The Pharma-Code enhancement is available by ordering Catalog No. 2755-DS1P, -DS4P, -DD1P, or -DD4P. The P in each catalog number denotes the additional capability to decode Pharma-Code symbols.

This document describes the Pharma-Code enhancement only. For more details on other features and functions of the Single and Dual-Head family of bar code decoders, see publication 2755-2.43.

Pharma-Code Configuration Screen

The decoder validates each Pharma-Code symbol against a predefined set of configuration parameters which are user adjustable. The parameters for Pharma-Code are shown below with the factory default settings.

```
--SYMBOLOGY--    --------LENGTHS--------    --CHECK CHARACTERS--
 CODE 39: No    . . . . . . . .    No    INCLUDE: No
   I 2/5: No    . . . . . . . .    No    INCLUDE: No        GUARD BARS: No
 CODABAR: No    . . . . . . . .    No    INCLUDE: No
CODE 128: No    . . . . . . . .          FNC1 CHAR: None    0

   UPC-A: No    SUPPLEMENTS: None
   UPC-E: No    SUPPLEMENTS: None    EXPAND:  No
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        ENABLE PHARMA-CODE: Yes
           QUIET ZONE RATIO: Default    CODE VERIFICATION LIST
              SPACE TOLERANCE: 15        ------------------------
                BAR TOLERANCE: 15        1)      5)      9)      13)
         WIDE TO NARROW BAR RATIO: 2     2)      6)      10)     14)
            MINIMUM NUMBER OF BARS: 5    3)      7)      11)     15)
   SCANNER A DECODE DIRECTION: Forward   4)      8)      12)     16)
   SCANNER B DECODE DIRECTION: Forward

_____
     Commands:ESC    Change:SPACE    Cursor Control:ARROWS
_____
```

Pharma-Code Configuration Parameters

This section gives a brief overview of the Pharma-Code configuration parameters and their settings.

Enable Pharma-Code Symbology
Enables or disables decoding of Pharma-Code symbols.

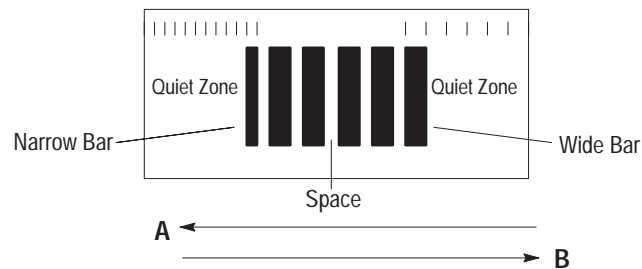Other symbologies supported by the single and dual-head decoders are enabled individually.

The parameters used to compensate for variations in your applications appear on the following pages.

Quiet Zone Ratio

Specifies the ratio of the width of the clear space before the first bar to the width of the first bar, or the width of the clear space after the last bar to the width of the last bar; whichever is smaller. Valid quiet zone ratio values range from 1 to 10.

For this example:

If scan direction is **A**

$$\frac{\text{Clear Space Width}}{\text{1st Bar Width (Wide Bar)}} = 5$$

If scan direction is **B**

$$\frac{\text{Clear Space Width}}{\text{1st Bar Width (Narrow Bar)}} = 10$$

Space Tolerance

Defines the percent difference (in width) between the narrowest and widest space elements of the symbol. Valid values range from 5 to 40.

Bar Tolerance

Defines the percent difference (in width) between 2 bars of a symbol that have the same nominal width but the largest width difference. Valid values range from 5 to 40.

Wide to Narrow Bar Ratio

Specifies the minimum ratio of the widest bar to the narrowest bar within a symbol. Valid settings range from 2 to 4.

Minimum Number of Bars

Specifies the least number of bars that must be present in a symbol for the decoder to perform a decode. Valid values range from 3 to 12.
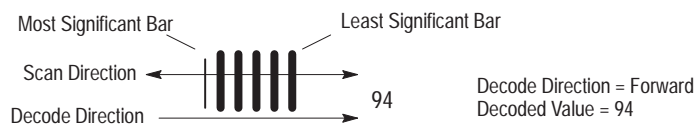
Decode Direction (Scanner A or B)

Sets the direction the decoder uses to decode a scanned label. Direction values are either Forward or Reverse.

The decoder assigns numerical weights to the bars of a symbol using the width of the bar (narrow or wide) and its position in the symbol. The decoder uses the decode direction to determine the least significant bar of a symbol. The examples on the next page show how a Pharma-Code label is decoded depending on the direction.
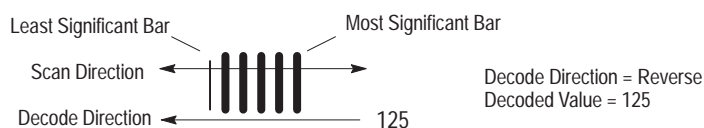
Example 1: The decode direction is set to forward. The decode direction fixes the position of the least significant bar (regardless of scan direction). The decoded value is 94.

Most Significant Bar   Least Significant Bar

Scan Direction

Decode Direction   94   Decode Direction = Forward
                                                  Decoded Value = 94

Example 2: The decode direction is set to reverse. The decode direction fixes the position of the least significant bar. The decoded value is 125.

Least Significant Bar   Most Significant Bar

Scan Direction

Decode Direction   125   Decode Direction = Reverse
                                                  Decoded Value = 125

Code Verification List
Defines a list of numeric values used to validate decoded symbols.

Match String Symbology

Pharma-Code is an option in the list of symbologies that can be assigned to a string in the match code table. The option appears in the list as PHARMA.

Host Commands

The decoders support new ASCII commands and PCCC addresses to enable and configure Pharma-Code symbology parameters from a host.