**DK-5800**

**Programming GUIDE**

Revision.10

12.2015

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# ABOUT THIS GUIDE

## Introduction

The DK-5800 Decoder Integration Guide provides general instructions for mounting, setting up and programming the DK-5800 decoder.

Notational Conventions  
The following conventions are used in this document:

* *Italics* are used to highlight the following:
  + Chapters and sections in this and related documents
  + Dialog box, window and screen names
  + Drop-down list and list box names
  + Check box and radio button names
* **Bold** text is used to highlight the following:
  + Key names on a keypad
  + Button names on a screen
* Bullets (•) indicate:
  + Action items
  + Lists of alternatives
  + Lists of required steps that are not necessarily sequential
  + Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.
  + Throughout the programming bar code menus, asterisks (\*) are used to denote default parameter settings.



Service Information

If you have a problem with your equipment, contact I Lab support for your region.  
When contacting I Lab support, please have the following information available:

* Serial number of the DK-5800
* Model number or product name
* Software type and version number

I Lab responds to calls by e-mail, telephone or fax within the time limits set forth in service agreements.  
If your problem cannot be solved by I Lab support, you may need to return your equipment for servicing and will be given specific directions. I Lab is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.  
If you purchased your business product from an I Lab business partner, please contact that business partner for support.

# CHAPTER 1 GETTING STARTED

## Introduction

The DK-5800 is a companion decoder module, which controls the imager, acquires images, and decodes 1D and 2D symbologies.

The DK-5800 is a multi-chip processing system, composed of an ARM core and related subsystems. The DK-5800 includes a variety of USB and single RS-232 interfaces.

DK-5800 architecture includes:

* Atmel AT91SAM9 processor core, 400 MHz
* 32 MB LPSDRAM
* 8 MB SPI flash
* Image Sensor Interface (ISI) port
* Host communication port.

System peripherals include:

* One UART (RS-232) channel
* I2C bus used for camera control
* USB 1.1 High Speed port for image and bar code data transfers.

This integration guide describes the decoder theory of operation, installation, specifications, and configuration.

## Theory of Operation

During image capture:

1. The image sensor array in the camera board captures an image of the bar code through the engine’s optical lens. If necessary, the DK-5800 automatically adjusts illumination, exposure, and other parameters to obtain the best quality image.
2. The camera board sends the image to the DK-5800 decoder board.
3. The DK-5800 processes the image to identify the target bar code(s), decodes them, and transmits the decoded data to the host.

Set various parameters provided in this guide to adjust the performance of the camera board and DK-5800 to match the application or desired usage profile.

## DK-5800 Decoder

**Figure 1-1** provides a block diagram for the decoder.



**Figure 1-1** DK-5800 Decoder Block Diagram

## Power Management

**USB**

The DK-5800 does not exceed the USB limit of 500mA when drawing power from the USB bus.

**RS232**

When using RS232 host interface, DK-5800 works in one of the following power mode:

* **Normal mode**：The DK-5800 is fully awake and running, even when not in a decode session.
* **Power down mode**: The DK-5800 can enter into power down mode.

Method of waking up the DK-5800:

* Set the pin nTRIGGER\_UP to low.

## Interfaces

The DK-5800's host interface can be configured by scanning specific bar code or sending serial commands.

**Table 1-1** Host Interface Configuration

|  |  |  |
| --- | --- | --- |
|  | **Interfaces** | **Configuration Options** |
| **Bar Code** | USB Keyboard(Default) | See section of **USB Keyboard(PC)** |
| RS232 | See section of **USB Serial** |
| USB Serial | See section of **RS232 Interface** |
| **Serial Command** | USB Keyboard(Default) | See section of **DK-5800 Menu Commands** |
| RS232 |
| USB Serial |

## Indicators

The pin BEEPER\_PWM and LED output lines provide user feedback but do not provide enough current for the actual beeper and led device. Additional buffering is required.

## Supported Symbologies

The following symbologies are supported and can be individually enabled or disabled:

### 1D Symbologies

|  |  |
| --- | --- |
| EAN-8 | EAN-13 |
| UPC-A | UPC-A with Coupon Code |
| UPC-E0 | UPC-E1 |
| Code 39 | Code 93 |
| Codabar | Code 128 |
| GS1-128 | Code 32 |
| Interleaved 2 of 5 | Matrix 2 of 5 |
| Straight 2 of 5 IATA(two-bar start/stop) | Straight 2 of 5 Industrial (three-bar start/stop) |
| Codablock A | Codablock F |
| GS1 DataBar Expanded | GS1 DataBar Limited |
| GS1 DataBar Omnidirectional | MSI |
| Telepen | Code 11 |

### 2 D Symbologies

|  |  |
| --- | --- |
| QR Code | PDF417 |
| MicroPDF417 | Data Matrix |
| Aztec Code | Han Xin Code |
| Maxicode | TCIF Linked Code 39 (TLC39) |

### Postal Code Symbologies

|  |  |
| --- | --- |
| Korea Post | China Post(Hong Kong 2 of 5) |
| Australia Post | British Post |
| Canadian Post | Intelligent Mail/USPS 4-State |
| Japanese Post | KIX Post |
| Planet | Postnet |
| InfoMail |  |

# CHAPTER 2 INSTALLATION AND SPECIFICATION

## Introduction

This chapter provides information for connecting and mounting the DK-5800 decoder.

## General Information

### Grounding

The mounting holes for the DK-5800 include exposed copper that may, if necessary, be used to electrically ground the decoder to the host using metal screws. If installing the DK-5800 in a host where there is a potential to inject ground noise, use nylon or other non-conductive hardware. In this case the DK-5800 ground is provided through the host connector.

### Electrical Isolation

Both sides of the DK-5800 decoder board include components and electrical conductors that must be isolated from contact with components on the host device.

### Electrostatic Discharge (ESD)

The DK-5800 decoder is protected from ESD events that can occur in an uncontrolled environment, however, use care when handling the module and apply standard ESD precautions such as using grounding wrist straps and handling only in a properly grounded work area.

### Environment

Enclose the DK-5800 decoder sufficiently to prevent dust from gathering on the printed circuit board and components. Dust and other contaminants can eventually degrade performance. IA does not guarantee performance of the decoder when used in an exposed application.

### Power Supply Noise

For reliable operation a low-noise power supply is required. Pay close attention to power supply quality and testing to ensure the best performance from the DK-5800 and imager engine components.

**VCC\_5V:** For a host that supplies 5 VDC to the decoder, the decoder maintains proper regulation and supply quality.

### Thermal Considerations

The DK-5800 decoder module includes several high-power components that dissipate heat during operation. These components can exhibit high temperatures when the DK-5800 /imager engine pair is running at 30 frames per second with full illumination. Use care when integrating the DK-5800 /imager engine pair into the target application.

Protective measures that reduce power consumption and/or facilitate heat removal within a target system include but are not limited to:

* Reducing illumination intensity on the camera board
* Mounting the DK-5800 to a solid metallic surface using metal screws
* Selecting a housing design that allows for natural or forced convection.

Note that running the DK-5800 /imager engine pair in continuous 30 fps with both aiming and illumination enabled full time is highly uncommon. Typical decoding and image capture applications are low duty cycle operations and internal temperature rise due to the DK-5800 /imager engine pair should be minimal.

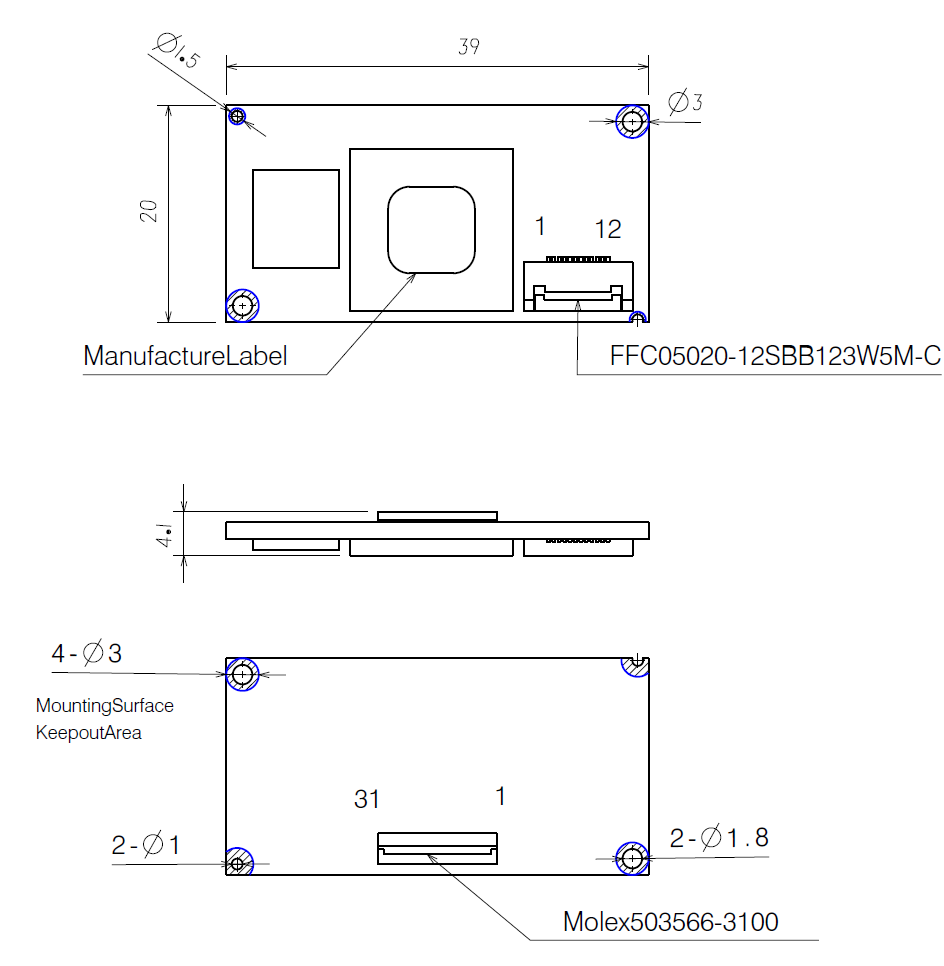
### DK-5800 Decoder Board

There are two mounting holes (1.8 mm) on the decoder board.

provides an outline

The following figure provides an outline drawing for the DK-5800 decoder board. Position the board in the host equipment so that the connecting interface cable reaches the engine.

The DK-5800 boards contain components and circuitry on both sides.



**Figure 2-1** DK-5800 Decoder Board Drawing

***Notes:*** Unless otherwise specified:

* This is a reference drawing and is not intended to specify or guarantee all possible integration requirements for this decoder.
* Dimensions are in mm.
* Tolerance for dimensions is ± 0.25 mm.

## DK-5800 Electrical Information

### Power Supply Requirements

The DK-5800 decoder board can be powered from Host 5 VDC. The DK-5800 uses an intelligent hardware multiplexer to configure the most efficient power supply arrangement for the combined DK-5800 /imager engine system

**Table 2-1** DK-5800 Electrical Characteristics-Power

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Symbol** | **Parameter** | **Condition** | **Minimum** | **Typical** | **Maximum** | **Units** |
| VCC\_5V | Supply | Voltage | 4.5 | 5 | 5.5 | V |

### DC Characteristics

**Table 2-2** DK-5800 Electrical Characteristics-DC characteristics

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Signals** | **Min** | **Nominal** | **Max** | **Unit** |
| nRESET\_IN | 4.5 | 5 | 5.5 | V |
| BEEPER\_PWM | 2.7 | 3.3 | 3.6 | V |
| LED | 2.7 | 3.3 | 3.6 | V |
| nTRIG\_UP | 2.7 | 3.3 | 3.6 | V |

### Electrical Interface

**Table 2-3** and **Table 2-4** list the pin functions of the imager engine and DK-5800 interfaces, and illustrate typical input and output circuitry.

***NOTE:*** Signal directions are listed relative to DK-5800 decoder module.

**Table 2-3** Imager Engine Signal Descriptions

|  |  |  |  |
| --- | --- | --- | --- |
| **Signal Name** | **Description** | **Dir** | **Engine Interface** |
| PWR\_DN | Module enter deep sleep mode | Input | 1 |
| LDO\_EN | Power on/off sensor | Input | 2 |
| VSS | Ground | Ground power | 3 |
| PCLK | Pixel data synchronizing clock output | Output | 4 |
| VSS | Ground | Ground power | 5 |
| VSYNC | Vertical synchronizing signal output | Output | 6 |
| HSYNC | Horizontal synchronizing output | Output | 7 |
| D7 | Data output 7 | Output | 8 |
| D6 | Data output 6 | Output | 9 |
| D5 | Data output 5 | Output | 10 |
| D4 | Data output 4 | Output | 11 |
| D3 | Data output 3 | Output | 12 |
| D2 | Data output 2 | Output | 13 |
| D1 | Data output 1 | Output | 14 |
| D0 | Data output 0 | Output | 15 |
| VSS | Ground | Ground power | 16 |
| MCLK | Main clock input | Input | 17 |
| VSS | Ground | Ground power | 18 |
| I2C\_SCL | I2C serial bus clock | Input | 19 |
| I2C\_SDA | I2C serial bus data | Bi-directional | 20 |
| LED\_PWR\_EN1 | Flash LED control 1 | Input | 21 |
| LED\_PWR\_EN0 | Flash LED control 0 | Input | 22 |
| AIM\_PWR\_EN | Aimer LED control | Input | 23 |
| NC | NC | NC | 24 |
| VCC\_SENSOR\_IO | Sensor IO power | 1.8V or 2.8V | 25 |
| VCC\_SENSOR | Sensor analog power | 2.8V or 3.3V | 26 |
| VCC\_SENSOR | Sensor analog power | 2.8V or 3.3V | 27 |
| VSS | Ground | Ground power | 28 |
| VSS | Ground | Ground power | 29 |
| VCC\_ILLUM | Flash & Aimer LED power | 3.3V | 30 |
| VCC\_ILLUM | Flash & Aimer LED power | 3.3V | 31 |

**Table 2-4** DK-5800 Signal Descriptions

|  |  |  |  |
| --- | --- | --- | --- |
| **Signal Name** | **Description** | **Dir** | **Engine Interface** |
| VCC\_5V | Module Power Supply 5V | Input | 1 |
| VCC\_5V | Module Power Supply 5V | Input | 2 |
| GND | Ground | Ground power | 3 |
| UART\_RXD | TTL signal | Input | 4 |
| UART\_TXD | TTL signal | Output | 5 |
| USB\_DM | USB Negative Differential Data Signal | Input /Output | 6 |
| USB\_DP | USB Positive Differential Data Signal | Input /Output | 7 |
| GND | Ground | Ground power | 8 |
| BEEPER\_PWM | PWM Output to Control | Output | 9 |
| LED | External Indication LED Signal | Output | 10 |
| nRESET\_IN | Reset System Signal | Input | 11 |
| uTRIGGER\_UP | Uesd to start a decode session or wake up system from power down mode. | Input | 12 |

## Technical Specifications

**Table 2-5** provides the technical specifications for the DK-5800 decoder. Note that current draw figures are valid for a DK-5800 with an attached IA200 imager engine.

**Table 2-5** DK-5800 Decoder Technical Specifications at 23°C

|  |  |
| --- | --- |
| **Item** | **Description** |
| Power Requirements: | Supply currents listed below are typical values in mA, RMS, at  nominal supply voltage unless otherwise specified. |
| Host Supply 5V: |  |
| Supply Voltage | 5 V +/- 0.5 V |
| Idle Current | 25.6 mA |
| Operating Current | 80.0 mA |
| Peak Current | 190.0 mA |
| Maximum Power Supply Noise | 100 mVp-p - bar code and image capture applications, |
| Start Up Time |  |
| From Power On | RS232: 1052 ms  USB : Host dependent |
| Baud Rate | 300,600,1200,2400,4800,9600, 19200, 38400, 57600, 115200 |
| Dimensions | 39.0 mm x 20.0 mm x 4.1 mm |

# CHAPTER 3 ACCESSORIES

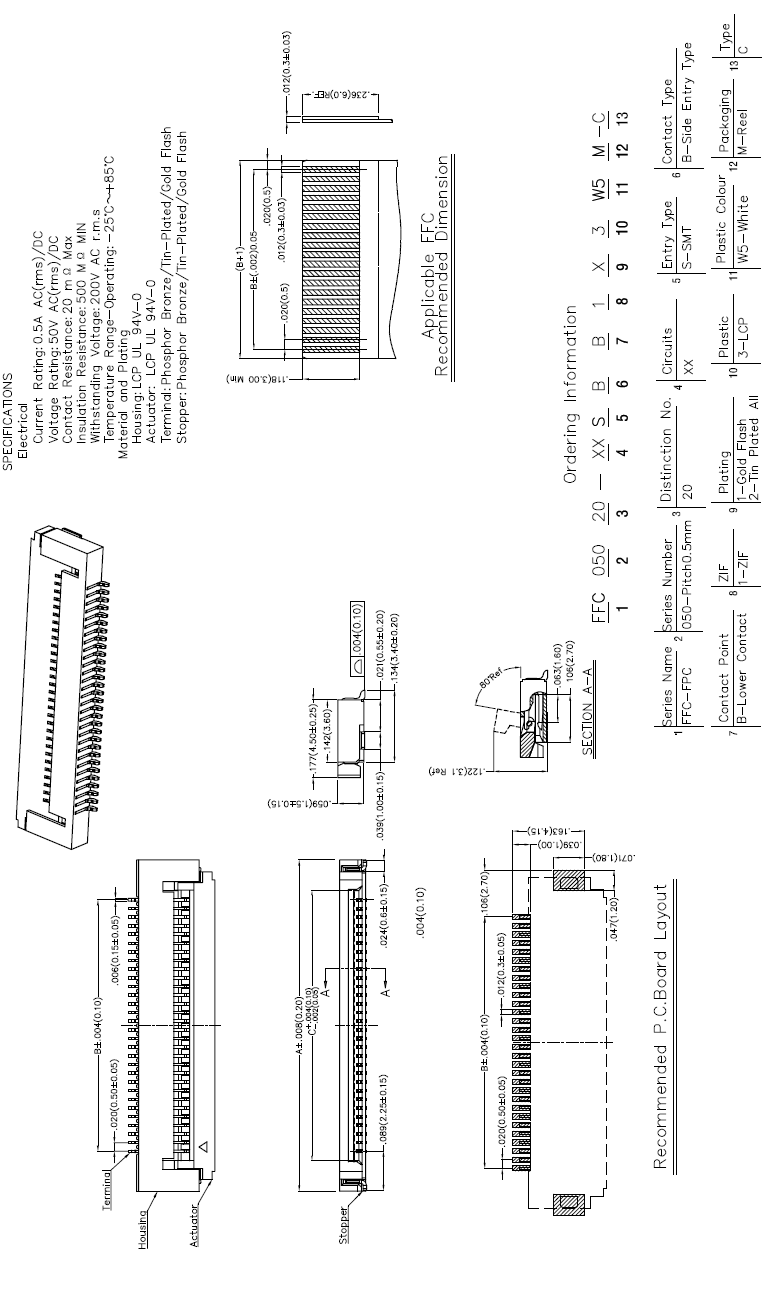
The accessories of DK-5800 are listed below:

1. 12 Pin Connector for connecting DK-5800 to a host,

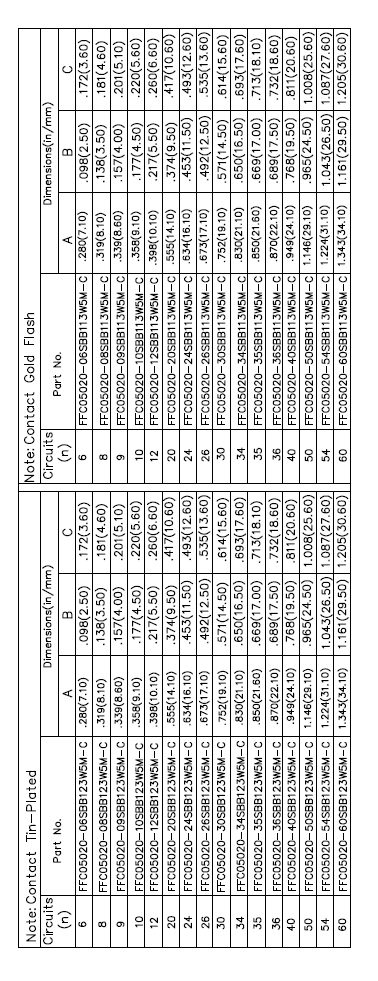
2. 31 Pin Connector for connecting DK-5800 to imager engine(e.g. IA200).

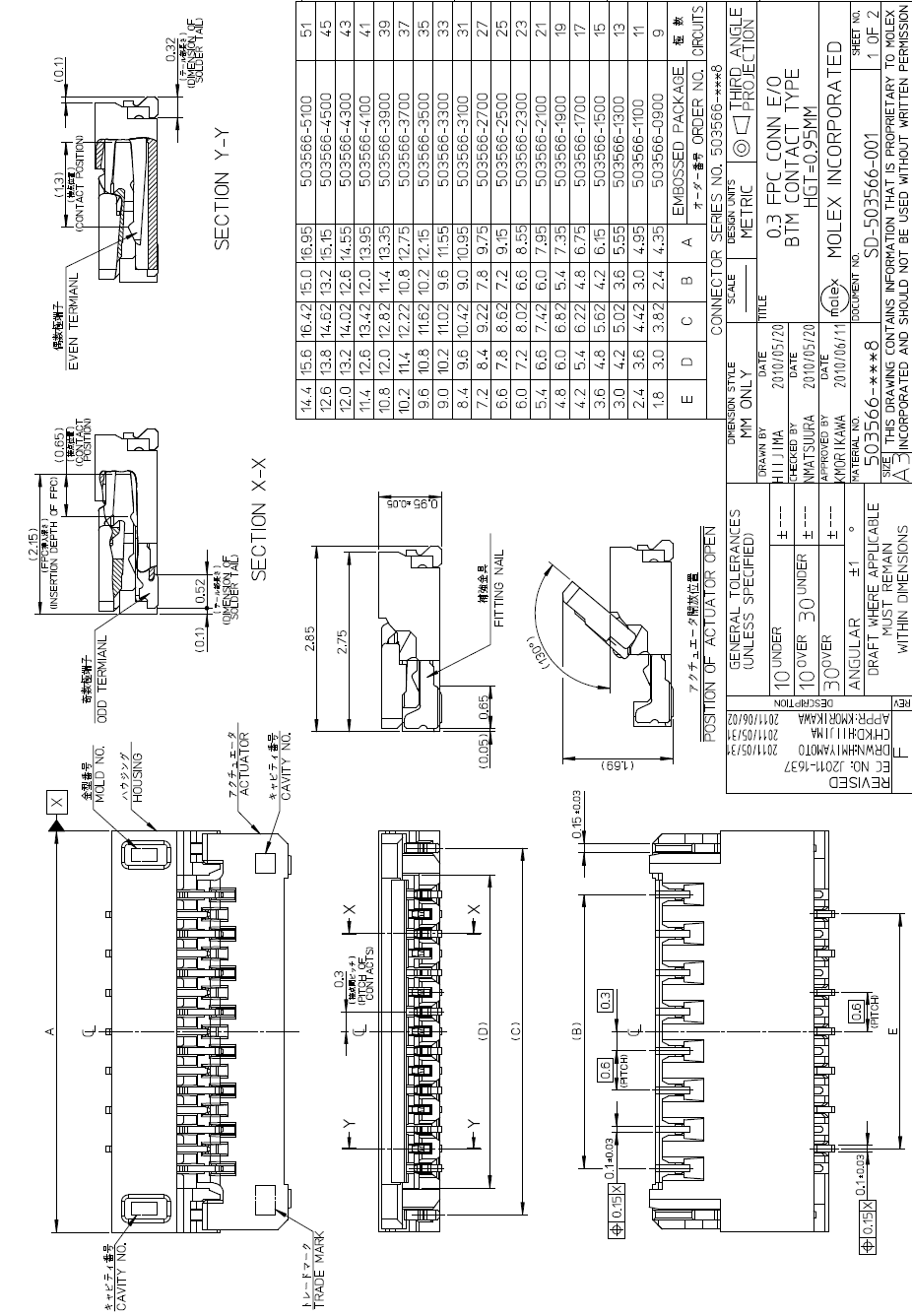
The drawings of the two connectors is shown by the following figures: **Figure 3-1**, **Figure 3-2**, **Figure 3-3** and **Figure 3-4**.

**Figure 3-1** 12-Pin connector(TXGA)

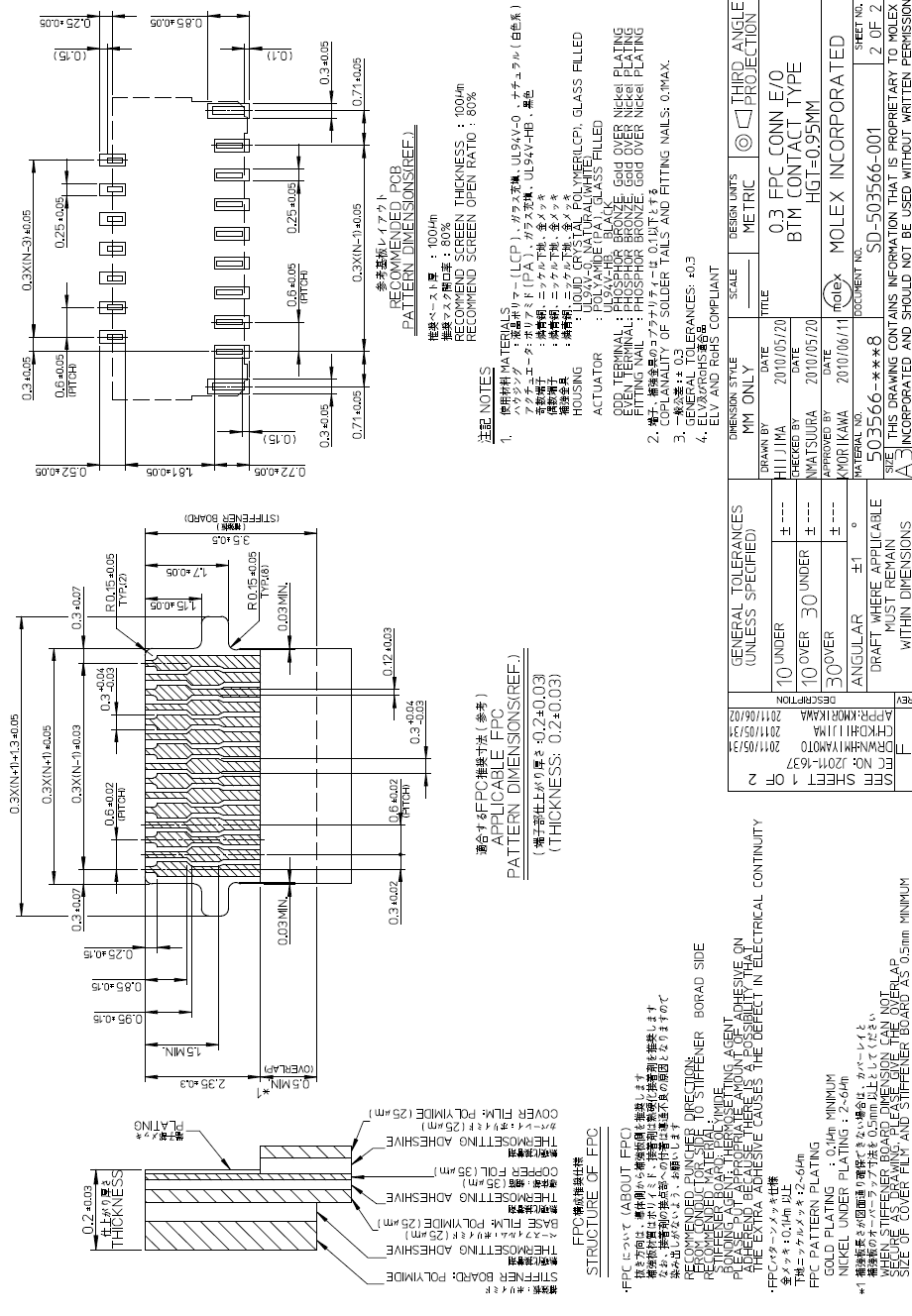


**Figure 3-2** 12-Pin connector(TXGA),Continued

**Figure 3.3** 31-Pin connector(Molex)



**Figure 3-4** 31-Pin connector(Molex),continued



# CHAPTER 4 USER PREFERENCES & MISCELLANEOUS OPTIONS

## Introduction

This chapter describes each user preference feature and provides the programming bar codes necessary for selecting these features.

## Resetting the Custom Defaults

To default all settings restored in your scanner, you can scan the **Activate Custom Defaults** bar code below.

|  |
| --- |
|  |
| Activate Custom Defaults |

## Suppress Power-up Beeps

To select whether or not to suppress the decoder’s power-up beeps, you can scan a bar code below.

*Default =Power Up Beeper On Scanner.*

|  |  |
| --- | --- |
|  |  |
| Power Up Beeper Off |  |
|  | \*Power Up Beeper On |

## Beep on <BEL>

When this function is enabled, the decoder issues a beep when it detects a <BEL> character on the serial line. <BEL> gains a user's attention to an illegal entry or other important event.

*Default=Beep On BEL Off*

|  |  |
| --- | --- |
|  |  |
| \*Beep on BEL Off |  |
|  | Beep on BEL On |

## Trigger Click

To hear an audible click every time you press the scanner button, you can scan the **Trigger Click On** bar code below. If you don’t wish to hear the click, you can scan the **Trigger Click Off** code below.

*Default = Trigger Click Off.*

|  |  |
| --- | --- |
|  |  |
| \*Trigger Click Off |  |
|  | Trigger Click On |

***NOTE:*** This feature has no effect on serial or automatic triggering.

## Good Read and Error Indicators

### Beeper – Good Read

The beeper may be programmed **On** or **Off** in response to a good read. Turning this option off, only turns off the beeper response to a good read indication. All error and menu beeps are still audible.

*Default = Beeper -Good Read On.*

|  |  |
| --- | --- |
|  |  |
| Beeper-Good Read Off |  |
|  | \*Beeper-Good Read On |

### Beeper Tone-Good Read

To select a decode beep frequency (tone), you can scan the **Low Frequency**, **Medium Frequency**, or **High Frequency** bar code below.

*Default =Low Frequency (800 Hz).*

|  |  |
| --- | --- |
|  |  |
| \*Low Frequency(800 Hz) |  |
|  | Medium Frequency(1600 Hz) |
| High Frequency(3200 Hz) |  |

Beeper Tone-User Specified Setting  
If you want to set your specified beep frequency (tone), scan the bar code below, then set the frequency (from 400-9,000 Hz) by scanning digits from the **[APPENDIX B Programming Number](#Number)**, then scanning **Save**.

|  |
| --- |
|  |
| Beeper Tone- User Specified Setting |

### Beeper Volume-Good Read

To select a beeper volume, you can scan the **Low Volume**, **Medium Volume**, or **High Volume** bar code below.

*Default =High Volume.*

|  |  |
| --- | --- |
|  |  |
| Off |  |
|  | Low Volume |
| Medium Volume |  |
|  | \*High Volume |

### Beeper Duration-Good Read

To select the duration for the beeper, you can scan one of the following bar codes.

*Default =Normal Beep.*

|  |  |
| --- | --- |
|  |  |
| \* Normal Beep |  |
|  | Short Beep |

### Number of Good Decode Beeps- Good Read

The number of beeps in response to a good decode can be programmed from bar codes as below .The same number of beeps will be applied to both the beeper and LED in response to a good decode.

For example: if you select 2 beeps, there will be 2 beeps and 2 LED flashes in response to a good decode. The beeps and LED flashes are in sync with each other.

|  |  |
| --- | --- |
|  |  |
| \*1 Good Read Beep/LED Flash |  |
|  | 2 Good Read Beeps/LED Flashes |
| 3 Good Read Beeps/LED Flashes |  |

## LED – Good Read

To select whether or not to program the LED indicator in response to a good decode, you can select a bar code below.

*Default = Program LED Indicator After Good Decode.*

|  |  |
| --- | --- |
|  |  |
| Don’t Program LED Indicator After Good Decode |  |
|  | \*Program LED Indicator After Good Decode |

Good Read Delay  
This sets the minimum amount of time before the scanner can read another bar code.

*Default = 0 ms (No Delay).*

|  |  |
| --- | --- |
|  |  |
| \*No Delay |  |
|  | Short Delay(500 ms) |
| Medium Delay(1000 ms) |  |
|  | Long Delay(1500 ms) |

## Manual Trigger Mode

When in manual trigger mode, the scanner scans until a bar code is read, or until the button is released.

*Default = Manual Trigger-Normal.*

|  |
| --- |
|  |
| \*Manual Trigger - Normal |

LED Illumination - Manual Trigger  
If you wish to set the illumination LED brightness, scan one of the barcodes below. This sets the LED illumination for the scanner when the trigger is pressed.

*Default = High.*  
***Note:*** The LEDs are like a flash on a camera. The lower the ambient light in the room, the brighter the LEDs need to be so the scanner can “see” the bar codes.

|  |  |
| --- | --- |
|  |  |
| Low |  |
|  | \*High |

## Aim Mode

It sets the aim illumination for the scanner when the trigger is pressed.

*Default = Aim Mode On.*

|  |  |
| --- | --- |
|  |  |
| Aim Mode Off |  |
|  | \*Aim Mode On |

## Presentation Mode

Presentation Mode uses ambient light to detect bar codes. When no bar code is presented to the scanner, the LED dims. When a bar code is presented to the scanner, the LED brightens to read the code.

***NOTE:*** If the light level in the room is not high enough, Presentation Mode may not work properly.

|  |
| --- |
|  |
| Presentation Mode |

Idle Illumination - Presentation Mode  
Scan one of the bar codes below to set the LED illumination for the scanner when it is in an idle state in Presentation Mode.

*Default = Low.*

***Note:*** If you use one of the lower Idle Illumination settings, and there is not enough ambient light, the scanner may have difficulty detecting when a bar code is presented to it. If the scanner has difficulty “waking up” to read bar codes, you may need to set the Idle Illumination to a brighter setting.

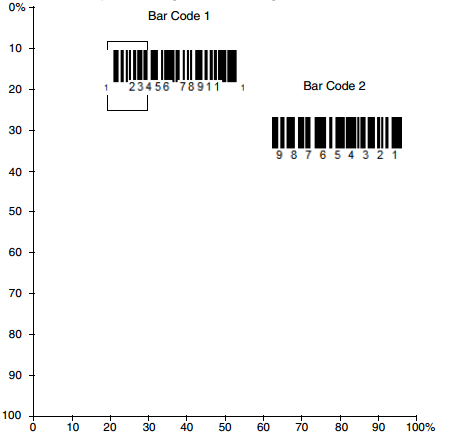
|  |  |
| --- | --- |
|  |  |
| \*Low |  |
|  |  |
|  | High |

Presentation Sensitivity  
Presentation Sensitivity is a numeric range that increases or decreases the scanner's reaction time to bar code presentation. To set the sensitivity, scan the **Sensitivity** bar code, then scan the degree of sensitivity (from 0-20) from the inside back cover, and **Save**. 0 is the most sensitive setting, and 20 is the least sensitive.

*Default = 4.*

|  |
| --- |
|  |
| Sensitivity |

Presentation Centering  
Use Presentation Centering to narrow the scanner’s field of view when it is in the stand to make sure the scanner reads only those bar codes intended by the user. For instance, if multiple codes are placed closely together, Presentation Centering will insure that only the desired codes are read.  
***Note:*** To adjust centering when the scanner is hand-held, see Manual Trigger Centering . If a bar code is not touched by a predefined window, it will not be decoded or output by the scanner. If Presentation Centering is turned on by scanning Presentation Centering On, the scanner only reads codes that pass through the centering window you specify using the Top of Presentation Centering Window, Bottom of Presentation Centering Window, Left, and Right of Presentation Centering Window bar codes.  
In the example below, the white box is the centering window. The centering window has been set to 20% left, 30% right, 8% top, and 25% bottom. Since Bar Code 1 passes through the centering window, it will be read. Bar Code 2 does not pass through the centering window, so it will not be read.

******

***Note:*** A bar code needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.  
Scan **Presentation Centering On**, then scan one of the following bar codes to change the **top, bottom, left, or right of the centering window**. Then scan the percent you want to shift the centering window using digits on the inside back cover of this manual. Scan **Save**.

*Default Presentation* *Centering = 40% for Top and Left, 60% for Bottom and Right.*

|  |  |
| --- | --- |
|  |  |
| \*Presentation Centering Off |  |
|  | Presentation Centering On |
| Top of Presentation Centering Window |  |
|  | Bottom of Presentation Centering Window |
| Left of Presentation Centering Window |  |
|  | Right of Presentation Centering Window |

## Mobile Phone/Display Mode

This mode improves bar code reading performance with target bar codes displayed on mobile phones and electronic displays.

|  |  |
| --- | --- |
|  |  |
| Hand Held Scanning - Mobile Phone |  |
|  | Presentation Scanning - Mobile Phone |

***Note****:* To turn off Mobil Phone Read Mode, scan the Manual Trigger Mode bar Code.

Hands Free Time-Out  
The Scan Stand and Presentation Modes are referred to as “hands free” modes. If the scanner’s button is pressed when using a hands free mode, the scanner changes to manual trigger mode. You can set the time the scanner should remain in manual trigger mode by setting the Hands Free Time-Out. Once the time-out value is reached, (if there have been no further button presses) the scanner reverts to the original hands free mode. Scan the **Hands Free Time-Out** bar code, then scan the time-out duration (from 0-300,000 milliseconds) from the inside back cover, and **Save**.

*Default =5,000 ms.*

|  |
| --- |
|  |
| Hands Free Time-Out |

## Reread Delay

Use this option in Presentation Mode to prevent multiple reads of a symbol left in the decoder’s field of view.

The timeout begins when you remove the symbol from the field of view.

*Default = Medium(1000 ms).*

|  |  |
| --- | --- |
|  |  |
| No Delay |  |
|  | Short (500 ms) |
| \* Medium (1000 ms) |  |
|  | Extra Long(2000 ms) |

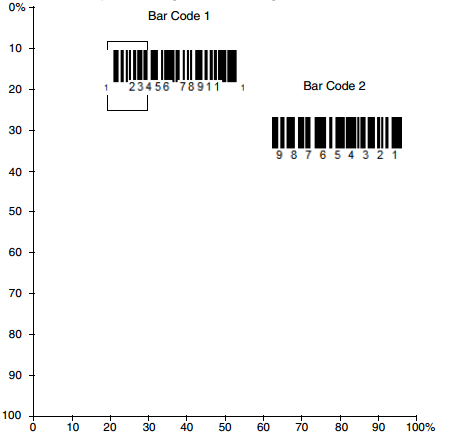
User-Specified Reread Delay  
If you want to set your own length for the reread delay, scan the bar code below, then set the delay (from 0-30,000 milliseconds) by scanning digits from the inside back cover, then scanning **Save**.

|  |
| --- |
|  |
| User-Specified Reread Delay |

## Manual Trigger Centering

Use Centering to narrow the scanner’s field of view to make sure that when the scanner is hand-held, it reads only those bar codes intended by the user. For instance, if multiple codes are placed closely together, centering will insure that only the desired codes are read.  
***Note:*** To adjust centering when the scanner is in the stand, see Presentation Centering .If a bar code is not touched by a predefined window, it will not be decoded or output by the scanner. If centering is turned on by scanning Centering On, the scanner only reads codes that pass through the centering window you specify using the **Top of Centering Window**, **Bottom of Centering Window**, **Left**, and **Right of Centering Window** bar codes.

In the example below, the white box is the centering window. The centering window has been set to 20% left, 30% right, 8% top, and 25% bottom. Since Bar Code 1 passes through the centering window, it will be read. Bar Code 2 does not pass through the centering window, so it will not be read.



**Note:** A bar code needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.

Scan **Centering On**, then scan one of the following bar codes to change the top, bottom, left, or right of the centering window. Then scan the percent you want to shift the centering window using digits on the inside back cover of this manual. Scan **Save**.

*Default Centering = 40% for Top and Left, 60% for Bottom and Right.*

|  |  |
| --- | --- |
|  |  |
| \* Manual Trigger Centering Off |  |
|  | Manual Trigger Centering On |
| Top of Manual Trigger Centering Window |  |
|  | Bottom of Manual Trigger Centering Window |
| Left of Manual Trigger Centering Window |  |
|  | Right of Manual Trigger Centering Window |

## Video Reverse

**Video Reverse Off** :Disable Video Reverse.

**Video Reverse Only:** Read only inverted bar codes.

**Video Reverse and Standard Bar Codes :**Read both types of codes.

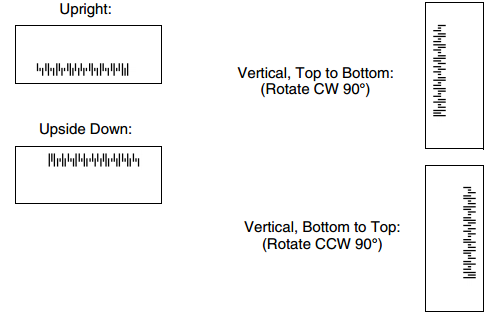
***Note:*** After scanning **Video Reverse Only**, menu bar codes cannot be read. You must scan **Video Reverse Off** or **Video Reverse and Standard Bar Codes** in order to read menu bar codes.

***Note:*** Images downloaded from the unit are not reversed. This is a setting for decoding only.

|  |  |
| --- | --- |
| C:\Users\Patgao\AppData\Roaming\Foxmail7\Temp-3416-20151207143952\image001(12-08-09-46-02).jpg |  |
| \* Video Reverse Off |  |
|  | Video Reverse and Standard Bar Codes |
| Video Reverse Only |  |

Working Orientation  
Some bar codes are direction-sensitive. For example, KIX codes and OCR can misread when scanned sideways or upside down. Use the working orientation settings if your direction-sensitive codes will not usually be presented upright to the scanner.

*Default = Upright.*



|  |  |
| --- | --- |
|  |  |
| \*Upright |  |
|  | Vertical, Bottom to Top |
| Upside Down |  |
|  | Vertical, Top to Bottom |

Show Software Revision  
Scan the bar code below to output the current software revision, serial number, and other product information.

|  |
| --- |
|  |
| Show Revision |

Resetting the Factory Defaults  
If you aren’t sure what programming options are in your scanner, or you’ve changed some options and want to restore the scanner to factory default settings, first scan the **Remove Custom Defaults** bar code, then scan **Activate** **Defaults**. This resets the scanner to the factory default settings.

***NOTE:*** This selection erases all your settings and resets to the original factory defaults and disables all plugins.

|  |  |
| --- | --- |
|  |  |
| Remove Custom Defaults |  |
|  | Activate Defaults |

# CHAPTER 5 USB INTERFACE

USB Serial  
Scan the following code to program the scanner to emulate a regular RS232-based COM Port. If you are using a Microsoft® Windows® PC, you will need to a driver from the I Lab. The driver will use the next available COM Port number.

|  |
| --- |
|  |
| USB Serial |

***Note:*** No extra configuration (e.g., baud rate) is necessary.

### ACK/NAK Mode

|  |  |
| --- | --- |
|  |  |
| \*ACK/NAK Mode Off |  |
|  | ACK/NAK Mode On |

USB PC or Macintosh Keyboard  
Scan one of the following codes to program the scanner for USB PC Keyboard or USB Macintosh Keyboard. Scanning these codes also adds a CR and LF.

|  |  |
| --- | --- |
|  |  |
| USB Keyboard(PC) |  |
|  | USB Keyboard(Mac) |
| USB Japanese Keyboard(PC) |  |

Keyboard Country Layout  
Scan the appropriate country code below to program the keyboard layout for your country or language. As a general rule, the following characters are supported, but need special care for countries other than the United States: @ | $ # { } [ ] = / ‘ \ < > ~

|  |  |
| --- | --- |
|  |  |
| \*United States |  |
|  | United States(Dvorak) |
| United States(Dvorak left) |  |
|  | United States(Dvorak right) |
| United States(International) |  |
|  | Albania |
|  |  |
| Azeri(Cyrillic) |  |
|  | Azeri (Latin) |
|  |  |
| Belarus |  |
|  | Belgium |
| Bosnia |  |
|  | Brazil |
| Brazil (MS) |  |
|  | Bulgaria (Cyrillic) |
| Bulgaria (Latin) |  |
|  | Canada (French legacy) |
| Canada (French) |  |
|  | Canada (Multilingual) |
|  |  |
| Croatia |  |
|  | Czech |
| Czech (Programmers) |  |
|  | Czech (QWERTY) |
| Czech (QWERTZ) |  |
|  | Denmark |
| Dutch (Netherlands) |  |
|  | Estonia |
| Faeroese |  |
|  | Finland |
|  |  |
| France |  |
|  | Gaelic |
| Germany |  |
|  | Greek |
| Greek (220 Latin) |  |
|  | Greek (220) |
| Greek (319 Latin) |  |
|  | Greek (319) |
| Greek (Latin) |  |
|  | Greek (MS) |
|  |  |
| Greek (Polytonic) |  |
|  | Hebrew |
| Hungarian (101 key) |  |
|  | Hungary |
| Iceland |  |
|  | Irish |
| Italian (142) |  |
|  | Italy |
| Japan ASCII |  |
|  | Kazakh |
|  |  |
| Kyrgyz (Cyrillic) |  |
|  | Latin America |
| Latvia |  |
|  | Latvia (QWERTY) |
| Lithuania |  |
|  | Lithuania (IBM) |
| Macedonia |  |
|  | Malta |
| Mongolian (Cyrillic) |  |
|  | Norway |
|  |  |
| Poland |  |
|  | Polish (214) |
| Polish (Programmers) |  |
|  | Portugal |
| Romania |  |
|  | Russia |
| Russian (MS) |  |
|  | Russian (Typewriter) |
| SCS |  |
|  | Serbia (Cyrillic) |
|  |  |
| Serbia (Latin) |  |
|  | Slovakia |
| Slovakia (QWERTY) |  |
|  | Slovakia (QWERTZ) |
| Slovenia |  |
|  | Spain |
| Spanish variation |  |
|  | Sweden |
| Switzerland (French) |  |
|  | Switzerland (German) |
|  |  |
| Tatar |  |
|  | Turkey F |
| Turkey Q |  |
|  | Ukrainian |
| United Kingdom |  |
|  | Uzbek (Cyrillic) |

Keyboard Style  
This programs keyboard styles, such as Caps Lock and Shift Lock. If you have used Keyboard Conversion settings, they will override any of the following Keyboard Style settings.

*Default = Regular.*

**Regular** is used when you normally have the Caps Lock key off.

|  |
| --- |
|  |
| \* Regular |

**Caps Lock** is used when you normally have the Caps Lock key on.

|  |
| --- |
|  |
| Caps Lock |

**Shift Lock** is used when you normally have the Shift Lock key on (not common to U.S. keyboards).

|  |
| --- |
|  |
| Shift Lock |
|  |

**Automatic Caps Lock** is used if you change the Caps Lock key on and off. The software tracks and reflects if you have Caps Lock on or off . This selection can only be used with systems that have an LED that notes the Caps Lock status .

|  |
| --- |
|  |
| Automatic Caps Lock |

**Autocaps via NumLock** bar code should be scanned in countries (e.g., Germany, France) where the Caps Lock key cannot be used to toggle Caps Lock.The NumLock option works similarly to the regular Autocaps, but uses the NumLock key to retrieve the current state of the Caps Lock.

|  |
| --- |
|  |
| Autocaps via NumLock |

**Emulate External Keyboard** should be scanned if you do not have an external keyboard (IBM AT or equivalent).

|  |
| --- |
|  |
| Emulate External Keyboard |

***Note:*** After scanning the Emulate External Keyboard bar code, you must power cycle your computer.

Keyboard Conversion  
Alphabetic keyboard characters can be forced to be all upper case or all lowercase. So if you have the following bar code: “1a2B3c4D5e,” you can make the output “1A2B3C4D5E” by scanning Convert All Characters to Upper Case, or to “1a2b3c4d5e” by scanning Convert All Characters to Lower Case.  
These settings override Keyboard Style selections.  
***Note:*** If your interface is a keyboard wedge, first scan the menu code for Automatic Caps Lock . Otherwise, your output may not be as expected.  
*Default = Keyboard Conversion Off.*

|  |  |
| --- | --- |
|  |  |
| \* Keyboard Conversion Off |  |
|  | Convert All Characters to Upper Case |
| Convert All Characters to Lower Case |  |

Control Character Output  
This selection sends a text string instead of a control character. For example,when the control character for a carriage return is expected, the output would display [CR] instead of the ASCII code of 0D. Refer to [**APPENDIX D ASCII Conversion Chart**](#ASCII). Only codes 00 through 1F are converted (the first column of the chart).  
***Note:*** Control + ASCII Mode overrides this mode.

*Default = Off.*

|  |  |
| --- | --- |
|  |  |
| \* Control Character Output Off |  |
|  | Control Character Output On |

Keyboard Modifiers  
This modifies special keyboard features, such as CTRL+ ASCII codes and Turbo Mode.  
**Control + ASCII Mode On**: The scanner sends key combinations for ASCII control characters for values 00-1F. Windows is the preferred mode. All keyboard country codes are supported.

**DOS mode** is a legacy mode, and it does not support all keyboard country codes. New users should use the Windows mode. Refer to [APPENDIX A Interface Keys](#Interface) for CTRL+ ASCII Values.  
**Windows Mode Prefix/Suffix Off**: The scanner sends key combinations for ASCII control characters for values 00-1F, but it does not translate any prefix or suffix information.  
*Default = Control + ASCII Mode Off.*

|  |  |
| --- | --- |
|  |  |
| \* Control + ASCII Mode Off |  |
|  | DOS Mode Control + ASCII Mode On |
| Windows Mode Control + ASCII Mode On |  |
|  | Windows Mode Prefix/Suffix Off |

# CHAPTER 6 SERIAL INTERFACE

## Introduction

This chapter describes how to set up the decoder with a serial host. The serial interface connects the decoder to point-of-sale devices, host computers, or other devices with an available serial port (e.g., com port).

## RS232 Serial Port

The **RS232 Interface** bar code is used when connecting to the serial port of a PC or terminal. The following **RS232 Interface** bar code also programs a carriage return (CR) and a line feed (LF) suffix, baud rate, and data format as indicated below. It also changes the trigger mode to manual.

|  |  |
| --- | --- |
|  | |
| RS232 Interface | |
| **Parameter** | **Factory Default** |
| Serial Communication | Standard RS232 |
| Baud Rate | 115200 |
| Parity Check | None |
| Data Bits | 8 |
| Stop Bits | 1 |
| Hardware Flow Control | None |

## Baud Rate

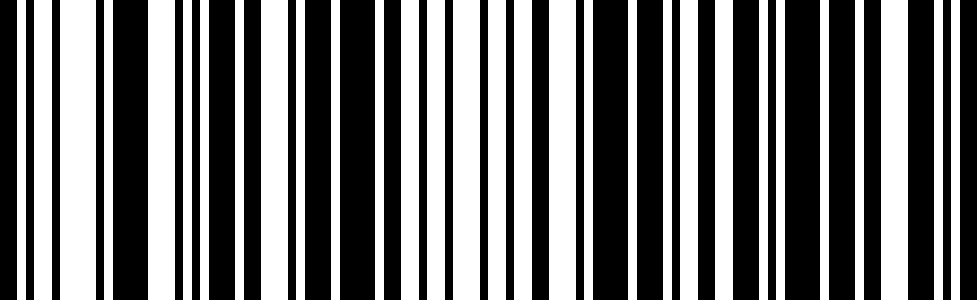
Baud rate is the number of bits of data transmitted per second. Set the decoder's baud rate to match the baud rate setting of the host device. Otherwise, data may not reach the host device or may reach it in distorted form.

*Default=Band Rate 115200*

|  |  |
| --- | --- |
|  |  |
| Band Rate 300 |  |
|  | Band Rate 600 |
| Band Rate 1200 |  |
|  | Band Rate 2400 |
| Band Rate 4800 |  |
|  | Band Rate 9600 |
| Band Rate 19200 |  |
|  | Band Rate 38400 |
| Band Rate 57600 |  |
|  | \*Band Rate 115200 |

## RS232 Receiver Time-Out

The DK-5800 runs normal until the RS232 Receiver Time-Out expires and the DK-5800 will enter in Power Down mode which the DK-5800 power consumption is none . A manual trigger resets the time-out and wake up the DK-5800. The receiver Change the RS232 receiver time-out by scanning the bar code below, then scanning digits from the inside back cover of this manual, then scanning Save. The range is 0 to 300 seconds.  
*Default = 0 seconds (no time-out - always on).*



RS232 Receiver Time-Out

# CHAPTER 7 SYMBOLOGIES

## Introduction

This chapter describes symbology features and provides the programming bar codes for selecting these features. If the default values suit requirements, programming is not necessary.

## All Symbologies

**All Symbologies Off:** To disable all symbologies, scan the **All Symbologies Off** bar code. This is useful when enabling only a few code types.

**All Symbologies On:** To enable all symbologies, scan the **All Symbologies On** bar code.

|  |  |
| --- | --- |
|  |  |
| All Symbologies Off |  |
|  | All Symbologies On |

## UPC/EAN

### Default All UPC-A Settings

To default all UPC-A Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All UPC-A Settings |

### 

### Enable/Disable UPC-A

To enable or disable UPC-A, scan the appropriate bar code below.

*Default =UPC-A On.*

|  |  |
| --- | --- |
|  |  |
| UPC-A Off |  |
|  | \*UPC-A On |

***Note:***When **UPC-A Off** is scanned, UPC-A bar codes are transmitted as EAN-13.

### UPC-A Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the UPC-A check digit. It is always verified to guarantee the integrity of the data.

*Default= UPC-A check digit On.*

|  |  |
| --- | --- |
|  |  |
| UPC-A check digit Off |  |
|  | \*UPC-A check digit On |

### UPC-A Number System

The numeric system digit of a U.P.C. symbol is normally transmitted at the beginning of the scanned data. To select whether or not to transmit the number system, you can scan one of the bar codes below.

*Default = UPC-A Number System On.*

|  |  |
| --- | --- |
|  |  |
| UPC-A Number System Off |  |
|  | \*UPC-A Number System On |

### UPC-A Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-A data.

*Default = Off for both 2 Digit and 5 Digit Addenda.*

|  |  |
| --- | --- |
|  |  |
| \* 2 Digit Addenda Off |  |
|  | 2 Digit Addenda On |
| \* 5 Digit Addenda Off |  |
|  | 5 Digit Addenda On |

### UPC-A Addenda Required

When **UPC-A Addenda Required** bar code is scanned, the scanner only can read UPC-A bar codes that have addenda.

*Default =* *UPC-A Addenda Not Required.*

|  |  |
| --- | --- |
|  |  |
| \* UPC-A Addenda Not Required |  |
|  | UPC-A Addenda Required |

### UPC-A Addenda Separator

**UPC-A Addenda Separator** **On:** There is a space between the data from the bar code and the data from the addenda.

**UPC-A Addenda Separator** **Off:** There is no space between the data from the bar code and the data from the addenda.

*Default = UPC-A Addenda Separator On.*

|  |  |
| --- | --- |
|  |  |
| UPC-A Addenda Separator Off |  |
|  | \* UPC-A Addenda Separator On |

### UPC-A/EAN-13 with Extended Coupon Code

To enable or disable UPC-A and EAN-13 with Extended Coupon Code, you can scan the bar codes below.

**Off:** Treats Coupon Codes and Extended Coupon Codes as single bar codes.

**Allow Concatenation**: The scanner sees the coupon code and the extended coupon code in a single read, it transmits both as separate symbologies. Otherwise, it transmits the first coupon code it reads.

**Require Concatenation:** The scanner must see and read the coupon code and extended coupon code in a single read to transmit the data. No data is output unless both codes are read.

*Default = Off.*

|  |  |
| --- | --- |
|  |  |
| \* Off |  |
|  | Require Concatenation |
| Allow Concatenation |  |

### Coupon GS1 DataBar Output

If you scan coupons that have both UPC and GS1 DataBar codes, you may wish to scan and output only the data from the GS1 DataBar code.

To scan and output only the GS1 DataBar code data, you can scan the **GS1 Output On** code below.

*Default = GS1 Output Off.*

|  |  |
| --- | --- |
|  |  |
| \*GS1 Output Off |  |
|  | GS1 Output On |

### Default All UPC-E0 Settings

Most U.P.C. bar codes lead with the 0 number system. To read these codes, use the UPC-E0 On selection.

To default all UPC-E0 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default all UPC-E0 Settings |

### Enable/Disable UPC-E0

To enable or disable UPC-E, scan the appropriate bar code below.

*Default =UPC-E0 On.*

|  |  |
| --- | --- |
|  |  |
| UPC-E0 Off |  |
|  | \* UPC-E0 On |

### UPC-E0 Expand

UPC-E Expand expands the UPC-E code to the 12 digit, UPC-A format.

*Default = UPC-E0 Expand Off.*

|  |  |
| --- | --- |
|  |  |
| \*UPC-E0 Expand Off |  |
|  | UPC-E0 Expand On |

### UPC-E0 Number System

The numeric system digit of a U.P.C. symbol is normally transmitted at the beginning of the scanned data. To select whether or not to transmit the number system, you can scan one of the bar codes below.

*Default = UPC-E0 Number System On.*

|  |  |
| --- | --- |
|  |  |
| UPC-E0 Number System Off |  |
|  | \*UPC-E0 Number System On |

### UPC-E0 Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-E data.

*Default = Off for both 2 Digit and 5 Digit Addenda.*

|  |  |
| --- | --- |
|  |  |
| \* 2 Digit Addenda Off |  |
|  | 2 Digit Addenda On |
| \* 5 Digit Addenda Off |  |
|  | 5 Digit Addenda On |

### UPC-E0 Addenda Required

When **UPC-E0 Addenda Required** bar code is scanned, the scanner only can read UPC-E0 bar codes that have addenda.

*Default =UPC-E0 Addenda Not Required.*

|  |  |
| --- | --- |
|  |  |
| \* UPC-E0 Addenda Not Required |  |
|  | UPC-E0 Addenda Required |

### UPC-E0 Addenda Separator

**UPC-E0 Addenda Separator** **On:** There is a space between the data from the bar code and the data from the addenda.

**UPC-E0 Addenda Separator** **Off:** There is no space between the data from the bar code and the data from the addenda.

*Default =UPC-E0 Addenda Separator On.*

|  |  |
| --- | --- |
|  |  |
| UPC-E0 Addenda Separator Off |  |
|  | \*UPC-E0 Addenda Separator On |

### Transmit UPC-E0 Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the UPC-E0 check digit. It is always verified to guarantee the integrity of the data.

*Default= UPC-E0 Check Digit On.*

|  |  |
| --- | --- |
|  |  |
| UPC-E0 Check Digit Off |  |
|  | \*UPC-E0 Check Digit On |

### Enable/Disable UPC-E1

To enable or disable UPC-E1, scan the appropriate bar code below. *Default= UPC-E1 Off.*

***NOTE:*** UPC-E1 is not a UCC (Uniform Code Council) approved symbology.

|  |  |
| --- | --- |
|  |  |
| \* UPC-E1 Off |  |
|  | UPC-E1 On |

### Default All EAN/JAN-8 Settings

To default allEAN/JAN-8 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allEAN/JAN-8 Settings |

### Enable/Disable EAN/JAN-8

To enable or disable EAN-8/JAN-8, scan the appropriate bar code below.

*Default =EAN/JAN-8 On.*

|  |  |
| --- | --- |
|  |  |
| EAN/JAN-8 Off |  |
|  | \*EAN/JAN-8 On |

### EAN/JAN-8 Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data.

Scan the appropriate bar code below to transmit the bar code data with or without the EAN/JAN-8 check digit. It is always verified to guarantee the integrity of the data.

*Default = EAN/JAN-8 Check Digit On.*

|  |  |
| --- | --- |
|  |  |
| EAN/JAN-8 Check Digit Off |  |
|  | \*EAN/JAN-8 Check Digit On |

### EAN/JAN-8 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN/JAN-8 data.

*Default = Off for both 2 Digit and 5 Digit Addenda.*

|  |  |
| --- | --- |
|  |  |
| \* 2 Digit Addenda Off |  |
|  | 2 Digit Addenda On |
| \* 5 Digit Addenda Off |  |
|  | 5 Digit Addenda On |

### EAN/JAN-8 Addenda Required

When **EAN/JAN-8 Addenda Required** bar code is scanned, the scanner only can read EAN/JAN-8 bar codes that have addenda.

*Default =EAN/JAN-8 Addenda Not Required.*

|  |  |
| --- | --- |
|  |  |
| \* EAN/JAN-8 Addenda Not Required |  |
|  | EAN/JAN-8 Addenda Required |

### EAN/JAN-8 Addenda Separator

**EAN/JAN-8 Addenda Separator On**: There is a space between the data from the bar code and the data from the addenda.

**EAN/JAN-8 Addenda Separator Off**: There is no space between the data from the bar code and the data from the addenda.

*Default =EAN/JAN-8 Addenda Separator On.*

|  |  |
| --- | --- |
|  |  |
| EAN/JAN-8 Addenda Separator Off |  |
|  | \* EAN/JAN-8 Addenda Separator On |

### Default All EAN/JAN-13 Settings

To default allEAN/JAN-13 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allEAN/JAN-13 Settings |

### Enable/Disable EAN/JAN-13

To enable or disable EAN-13/JAN-13, scan the appropriate bar code below.

*Default =EAN/JAN-13 Off.*

|  |  |
| --- | --- |
|  |  |
| \*EAN/JAN-13 Off |  |
|  | EAN/JAN-13 On |

***Note****:* If you want to convert UPC-A bar codes to EAN-13 format, scan the **UPC-A Off** bar code.

### EAN/JAN-13 Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the EAN/JAN-13 check digit. It is always verified to guarantee the integrity of the data.

*Default = EAN/JAN-13 Check Digit On.*

|  |  |
| --- | --- |
|  |  |
| EAN/JAN-13 Check Digit Off |  |
|  | \*EAN/JAN-13 Check Digit On |

### EAN/JAN-13 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN/JAN-13 data.

*Default = Off for both 2 Digit and 5 Digit Addenda.*

|  |  |
| --- | --- |
|  |  |
| \* 2 Digit Addenda Off |  |
|  | 2 Digit Addenda On |
| \* 5 Digit Addenda Off |  |
|  | 5 Digit Addenda On |

### EAN/JAN-13 Addenda Required

When **EAN/JAN-13 Addenda Required** bar code is scanned, the scanner only can read EAN/JAN-13 bar codes that have addenda.

*Default =EAN/JAN-13 Addenda Not Required*.

|  |  |
| --- | --- |
|  |  |
| \* EAN/JAN-13 Addenda Not Required |  |
|  | EAN/JAN-13 Addenda Required |

### EAN/JAN-13 Addenda Separator

**EAN/JAN-13 Addenda Separator On**: There is a space between the data from the bar code and the data from the addenda.

**EAN/JAN-13 Addenda Separator Off**: There is no space between the data from the bar code and the data from the addenda.

*Default = EAN/JAN-13 Addenda Separator On.*

|  |  |
| --- | --- |
|  |  |
| EAN/JAN-13 Addenda Separator Off |  |
|  | \* EAN/JAN-13 Addenda Separator On |

***Note****: I*f you want to enable or disable EAN13 with Extended Coupon Code, refer to UPC-A/EAN-13 with Extended Coupon Code.

### ISBN Translate

**ISBN Translate Off:** The decoder reports Bookland data (starting with either 978 or 979) as EAN-13 in 13-digit format to meet the 2007 ISBN-13 protocol.

**ISBN Translate On**: EAN-13 Bookland symbols are translated into their equivalent ISBN number format. *Default=ISBN Translate Off.*

|  |  |
| --- | --- |
|  |  |
| \* ISBN Translate Off |  |
|  | ISBN Translate On |

## Code 128

### Default All Code 128 Settings

To default allCode 128 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allCode 128 Settings |

### Enable/Disable Code 128

To enable or disable Code 128, scan the appropriate bar code below.

*Default =Code 128 On.*

|  |  |
| --- | --- |
|  |  |
| Code 128 Off |  |
|  | \*Code 128 On |

### ISBT 128 Concatenation

**ISBT Concatenation Off:** The decoder does not concatenate pairs of ISBT codes it encounters.

**ISBT Concatenation On**: There must be two ISBT codes in order for the decoder to decode and perform concatenation. The decoder does not decode single ISBT symbols.

The use of ISBT formats requires a paid license. The ISBT 128 Application Specification describes 1) the critical data elements for labeling blood products, 2) the current recommendation to use Code 128 due to its high degree of security and its space-efficient design, 3) a variation of Code 128 that supports concatenation of neighboring symbols, and 4) the standard layout for bar codes on a blood product label. Use the bar codes below to turn concatenation on or off.

*Default =ISBT 128 Off.*

|  |  |
| --- | --- |
|  |  |
| \* ISBT 128 Off |  |
|  | ISBT 128 On |

### Code 128 Message Length

To change the message length of Code 128, you can scan the bar codes below.

Minimum and Maximum lengths = 0-80.

*Minimum Default = 0, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

### Code 128 Append

This function allows the scanner to append the data from several Code 128 bar codes together before transmitting them to the host computer. When the scanner encounters a Code 128 bar code with the append trigger character(s), it buffers Code 128 bar codes until it reads a Code 128 bar code that does not have the append trigger. The data is then transmitted in the order in which the bar codes were read (FIFO).

*Default =Code 128 Append Off.*

|  |  |
| --- | --- |
|  |  |
| \* Code 128 Append Off |  |
|  | Code 128 Append On |

### Code 128 Code Page32

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created, and scan the value and the **Save** bar code from the [**APPENDIX B** **Programming Number**](#Number) on the inside the back cover of this manual. The data characters should then appear properly.

|  |
| --- |
|  |
| Code 128 Code Page |

### Default All GS1-128 Settings

To default allGS1-128 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allGS1-128 Settings |

### Enable/Disable GS1-128

To enable or disable GS1-128, scan the appropriate bar code below.

*Default =GS1-128 On.*

|  |  |
| --- | --- |
|  |  |
| GS1-128 Off |  |
|  | \*GS1-128 On |

### GS1-128 Message Length

To change the message length of GS1-128, you can scan the bar codes below. Minimum and Maximum lengths = 1-80.

*Minimum Default = 1, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Telepen

### Default All Telepen Settings

To default allTelepen Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Telepen Settings |

### Enable/Disable Telepen

To enable or disable Telepen, scan the appropriate bar code below.

*Default =Telepen Off.*

|  |  |
| --- | --- |
|  |  |
| \*Telepen Off |  |
|  | Telepen On |

### Telepen Output

**AIM Telepen Output**: The scanner reads symbols with start/stop pattern 1 and decodes them as standard full ASCII.

**Original Telepen Output**: The scanner reads symbols with start/stop pattern 1 and decodes them as compressed numeric with optional full ASCII.

*Default = AIM Telepen Output.*

|  |  |
| --- | --- |
|  |  |
| \* AIM Telepen Output |  |
|  | Original Telepen Output |

### Telepen Message Length

To change the message length of Telepen, you can scan the bar codes below. Minimum and Maximum lengths = 1-60.

*Minimum Default = 1, Maximum Default = 60.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Code 39

### Default All Code 39 Settings

To default allCode 39 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allCode 39 Settings |

### Enable/Disable Code 39

To enable or disable Code 39, scan the appropriate bar code below.

*Default =Code 39 On.*

|  |  |
| --- | --- |
|  |  |
| Code 39 Off |  |
|  | \*Code 39 On |

### Code 39 Start/Stop Characters

Start/Stop characters identify the leading and trailing ends of the bar code. You may either transmit, or not transmit Start/Stop characters.

*Default = Don’t Transmit Start/Stop Characters.*

|  |  |
| --- | --- |
|  |  |
| \* Don’t Transmit Start/Stop Characters |  |
|  | Transmit Start/Stop Characters |

### Code 39 Check Character

**No Check Character**: The scanner reads and transmits bar code data with or without a check character.

**Validate, but Don’t Transmit**: The unit only reads Code 39 bar codes printed with a check character, but will not transmit the check character with the scanned data.

**Validate and Transmit**: The scanner only reads Code 39 bar codes printed with a check character, and will transmit this character at the end of the scanned data.

*Default = No Check Character.*

|  |  |
| --- | --- |
|  |  |
| \* No Check Character |  |
|  | Validate and Transmit |
| Validate, but Don’t Transmit |  |

### Code 39 Message Length

To change the message length of Code 39, you can scan the bar codes below.

Minimum and Maximum lengths = 0-48.

*Minimum Default = 0, Maximum Default = 48.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

### Code 39 Append

This function allows the scanner to append the data from several Code 39 bar codes together before transmitting them to the host computer. When the scanner encounters a Code 39 bar code with the append trigger character(s), it buffers Code 39 bar codes until it reads a Code 39 bar code that does not have the append trigger. The data is then transmitted in the order in which the bar codes were read (FIFO).

*Default = Code 39 Append Off.*

|  |  |
| --- | --- |
|  |  |
| \* Code 39 Append Off |  |
|  | Code 39 Append On |

### Convert Code 39 to Code 32

Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry. Scan the appropriate bar code below to enable or disable converting Code 39 to Code 32.

***NOTE:*** Code 39 must be enabled for this parameter to function.

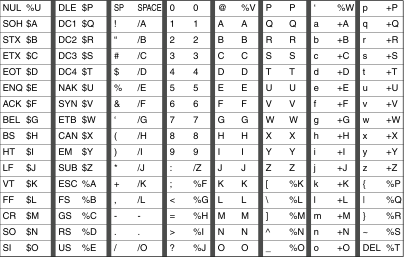
*Default =Convert Code 39 to Code 32 Off.*

|  |  |
| --- | --- |
|  |  |
| \* Convert Code 39 to Code 32 Off |  |
|  | Convert Code 39 to Code 32 On |

### Full ASCII

Code 39 Full ASCII is a variant of Code 39 which pairs characters to encode the full ASCII character set. To enable or disable Code 39 Full ASCII, scan the appropriate bar code below.

*Default=Full ASCII Off.*



|  |  |
| --- | --- |
|  |  |
| \* Full ASCII Off |  |
|  | Full ASCII On |

### Code 39 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created, and scan the value and the **Save** bar code from the [**APPENDIX B Programming Number**](#Number) on the inside the back cover of this manual. The data characters should then appear properly.

|  |
| --- |
|  |
| Code 39 Code Page |

## Code 93

### Default All Code 93 Settings

To default allCode 93 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allCode 93 Settings |

### Enable/Disable Code 93

To enable or disable Code 93, scan the appropriate bar code below.

*Default =Code 93 On.*

|  |  |
| --- | --- |
|  |  |
| Code 93 Off |  |
|  | \*Code 93 On |

### Code 93 Message Length

To change the message length of Code 93, you can scan the bar codes below. Minimum and Maximum lengths = 0-80.

*Minimum Default = 0, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

### Code 93 Append

This function allows the scanner to append the data from several Code 93 bar codes together before transmitting them to the host computer. When this function is enabled, the scanner stores those Code 93 bar codes that start with a space (excluding the start and stop symbols), and does not immediately transmit the data. The scanner stores the data in the order in which the bar codes are read, deleting the first space from each. The scanner transmits the appended data when it reads a Code 93 bar code that starts with a character other than a space.

*Default = Code 39 Append Off.*

|  |  |
| --- | --- |
|  |  |
| \* Code 93 Append Off |  |
|  | Code 39 Append On |

### Code 93 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created, and scan the value and the **Save** bar code from the [**APPENDIX B Programming Number**](#Number) on the inside the back cover of this manual. The data characters should then appear properly.

|  |
| --- |
|  |
| Code 93 Code Page |

## Code 11

### Default All Code 11 Settings

To default allCode 11 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allCode 11 Settings |

### Enable/Disable Code 11

To enable or disable Code 11, scan the appropriate bar code below.

*Default =Code 11 Off*

|  |  |
| --- | --- |
|  |  |
| \*Code 11 Off |  |
|  | Code 11 On |

### Code 11 Check Digits Required

This option sets whether 1 or 2 check digits are required with Code 11 bar codes.

*Default = Two Check Digits.*

|  |  |
| --- | --- |
|  |  |
| One Check Digit |  |
|  | \* Two Check Digits |

### Code 11 Message Length

To change the message length of Code 11, you can scan the bar codes below. Mini-mum and Maximum lengths = 1-80.

*Minimum Default = 4, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Interleaved 2 of 5 (ITF)

### Default All Interleaved 2 of 5 Settings

To default allInterleaved2 of 5 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allInterleaved2 of 5 Settings |

### Enable/Disable Interleaved 2 of 5

To enable or disable Interleaved 2 of 5, scan the appropriate bar code below, and select an Interleaved 2 of 5 length from the following pages.

*Default =Interleaved 2 of 5 On.*

|  |  |
| --- | --- |
|  |  |
| Interleaved 2 of 5 Off |  |
|  | \*Interleaved 2 of 5 On |

### Interleaved 2 of 5Check Digit

**No Check Digit**:The scanner reads and transmits bar code data with or without a check digit.

**Validate, but Don’t Transmit:** The unit only reads Interleaved 2 of 5 bar codes printed with a check digit, but will not transmit the check digit with the scanned data.

**Validate and Transmit**: The scanner only reads Interleaved 2 of 5 bar codes printed with a check digit, and will transmit this digit at the end of the scanned data.

*Default = No Check Digit.*

|  |  |
| --- | --- |
|  |  |
| \* No Check Digit |  |
|  | Validate and Transmit |
| Validate, but Don’t Transmit |  |

### Interleaved 2 of 5 Message Length

To change the message length of Interleaved 2 of 5, you can scan the bar codes below. Mini-mum and Maximum lengths = 2-80.

*Minimum Default = 4, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## NEC 2 of 5

### Default All NEC 2 of 5 Settings

To default all NEC 2 of 5 Settings, scan the bar code.

|  |
| --- |
|  |
| Default all NEC 2 of 5 Settings |

### Enable/Disable NEC 2 of 5

To enable or disable NEC 2 of 5, scan the appropriate bar code below.

*Default =NEC 2 of 5 On.*

|  |  |
| --- | --- |
|  |  |
| NEC 2 of 5 Off |  |
|  | \*NEC 2 of 5 On |

### Check Digit

**No Check Digit**: The scanner reads and transmits bar code data with or without a check digit.

**Validate, but Don’t Transmit**: The unit only reads NEC 2 of 5 bar codes printed with a check digit, but will not transmit the check digit with the scanned data.

**Validate and Transmit**: The scanner only reads NEC 2 of 5 bar codes printed with a check digit, and will transmit this digit at the end of the scanned data.

*Default = No Check Digit.*

|  |  |
| --- | --- |
|  |  |
| \* No Check Digit |  |
|  | Validate and Transmit |
| Validate, but Don’t Transmit |  |

### NEC 2 of 5 Message Length

To change the message length of NEC 2 of 5, you can scan the bar codes below. Minimum and Maximum lengths = 2-80.

*Minimum Default = 4, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Straight 2 of 5 Industrial (three-bar start/stop)

### Default All Straight 2 of 5 Industrial Settings

To default all Straight 2 of 5 Industrial Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Straight 2 of 5 Industrial Settings |

### Enable/Disable Straight 2 of 5 Industrial

To enable or disable Straight 2 of 5 Industrial, scan the appropriate bar code below.

*Default =Straight 2 of 5 Industrial Off.*

|  |  |
| --- | --- |
|  |  |
| \*Straight 2 of 5 Industrial Off |  |
|  | Straight 2 of 5 Industrial On |

### Straight 2 of 5 Industrial Message Length

To change the message length of Straight 2 of 5 Industrial, you can scan the bar codes below. Minimum and Maximum lengths = 1-48.

*Minimum Default = 4, Maximum Default = 48.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Straight 2 of 5 IATA (two-bar start/stop)

### Default All Straight 2 of 5 IATA Settings

To default all Straight 2 of 5 IATA Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Straight 2 of 5 IATA Settings |

### Enable/Disable Straight 2 of 5 IATA

To enable or disable Straight 2 of 5 IATA, scan the appropriate bar code below.

*Default =Straight 2 of 5 IATA Off.*

|  |  |
| --- | --- |
|  |  |
| \*Straight 2 of 5 IATA Off |  |
|  | Straight 2 of 5 IATA On |

### Straight 2 of 5 IATA Message Length

To change the message length of Straight 2 of 5 IATA, you can scan the bar codes below. Minimum and Maximum lengths = 1-48.

*Minimum Default = 4, Maximum Default = 48.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Codablock A

### Default All Codablock A Settings

To default all Codablock A Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Codablock A Settings |

### Enable/Disable Codablock A

To enable or disable Codablock A, scan the appropriate bar code below.

*Default =Codablock A Off*

|  |  |
| --- | --- |
|  |  |
| \*Codablock A Off |  |
|  | Codablock A On |

### Codablock A Message Length

To change the message length of Codablock A, you can scan the bar codes below. Minimum and Maximum lengths = 1-600.

*Minimum Default = 1, Maximum Default = 600.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Codablock F

### Default All Codablock F Settings

To default all Codablock F Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Codablock F Settings |

### Enable/Disable Codablock F

To enable or disable Codablock F, scan the appropriate bar code below.

*Default =Codablock F Off.*

|  |  |
| --- | --- |
|  |  |
| \*Codablock F Off |  |
|  | Codablock F On |

### Codablock F Message Length

To change the message length of Codablock F, you can scan the bar codes below. Minimum and Maximum lengths = 1-2048.

*Minimum Default = 1, Maximum Default = 2048.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Codabar (NW - 7)

### Default All Codabar Settings

To default allCodabar Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allCodabar Settings |

### Enable/Disable Codabar

To enable or disable Codabar, scan the appropriate bar code below.

*Default= Codabar On.*

|  |  |
| --- | --- |
|  |  |
| Codabar Off |  |
|  | \*Codabar On |

### Codabar Start/Stop Characters

Start/Stop characters identify the leading and trailing ends of the bar code. To choose whether or not to transmit Start/Stop characters, you can scan the bar codes below.

*Default = Don’t Transmit Codabar Start/Stop Characters.*

|  |  |
| --- | --- |
|  |  |
| \* Don’t Transmit Codabar Start/Stop Characters |  |
|  | Transmit Codabar Start/Stop Characters |

### Codabar Check Character

Codabar check characters are created using different “modulos.” You can program the scanner to read only Codabar bar codes with Modulo 16 check characters. *Default = No Check Character.*

**No Check Character**: The scanner reads and transmits bar code data with or without a check character.

**Validate and Transmit**: The scanner will only read Codabar bar codes printed with a check character, and will transmit this character at the end of the scanned data.

**Validate, but Don’t Transmit**: The unit will only read Codabar bar codes printed with a check character, but will not transmit the check character with the scanned data.

|  |  |
| --- | --- |
|  |  |
| \* No Check Character |  |
|  | Validate Modulo 16 and Transmit |
| Validate Modulo 16, but Don’t Transmit |  |

### Codabar Concatenation

**Codabar Concatenation On**: The scanner looks for a Codabar symbol having a “D” start character, adjacent to a symbol having a “D” stop character. In this case the two messages are concatenated into one with the “D” characters omitted.

|  |
| --- |
| C:\Users\dell\AppData\Roaming\Tencent\Users\179457672\QQ\WinTemp\RichOle\VF6(42JM]ILV8~B)GYA_NL6.png |

**Require**: Prevent the scanner from decoding a single “D” Codabar symbol without its companion. This selection has no effect on Codabar symbols without Stop/Start D characters.

|  |  |
| --- | --- |
|  |  |
| \*Codabar Concatenation Off |  |
|  | Codabar Concatenation On |
| Require |  |

### Codabar Message Length

To change the message length of Codabar, you can scan the bar codes below. Minimum and Maximum lengths = 2-60.

*Minimum Default = 4, Maximum Default = 60.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## MSI

### Default All MSI Settings

To default allMSI Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allMSI Settings |

### Enable/Disable MSI

To enable or disable MSI, scan the appropriate bar code below.

*Default =MSI Off.*

|  |  |
| --- | --- |
|  |  |
| \* MSI Off |  |
|  | MSI On |

### MSI Check Character

Different types of check characters are used with MSI bar codes. *Default = Validate Type 10, but Don’t Transmit.*

**Validate Type 10/11 and Transmit**: The scanner will only read MSI bar codes printed with the specified type check character(s), and will transmit the character(s) at the end of the scanned data.

**Validate Type 10/11, but Don’t Transmit**: The unit will only read MSI bar codes printed with the specified type check character(s), but will not transmit the check character(s) with the scanned data.

|  |  |
| --- | --- |
|  |  |
| \* Validate Type 10, but Don’t Transmit |  |
|  | Validate Type 10 and Transmit |
| Validate 2 Type 10 Characters, but Don’t Transmit |  |
|  | Validate 2 Type 10 Characters  and Transmit |
| Validate Type 11 then Type 10 Character, but Don’t Transmit |  |
|  |  |
|  | Validate Type 11 then Type 10 Character and Transmit |
| Disable MSI Check Characters |  |

### MSI Message Length

To change the message length of MSI, you can scan the bar codes below. Minimum and Maximum lengths = 4-48.

*Minimum Default = 4, Maximum Default = 48.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Matrix 2 of 5

### Default All Matrix 2 of 5 Settings

To default allMatrix 2 of 5 Settings, scan the Bar code.

|  |
| --- |
|  |
| Default allMatrix 2 of 5 Settings |

### Enable/Disable Matrix 2 of 5

To enable or disable Matrix 2 of 5, scan the appropriate bar code below.

*Default =Matrix 2 of 5 Off.*

|  |  |
| --- | --- |
|  |  |
| \*Matrix 2 of 5 Off |  |
|  | Matrix 2 of 5 On |

### Matrix 2 of 5 Message Length

To change the message length of Matrix 2 of 5, you can scan the bar codes below. Minimum and Maximum lengths = 1-80.

*Minimum Default = 4, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## GS1 DataBar

### GS1 DataBar Omnidirectional

#### Default All GS1 DataBar Omnidirectional Settings

To default allGS1 DataBar Omnidirectional Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allGS1 DataBar Omnidirectional Settings |

#### Enable/Disable GS1 DataBar Omnidirectional

To enable or disable GS1 DataBar Omnidirectional, scan the appropriate bar code below.

*Default =GS1 DataBar Omnidirectional On.*

|  |  |
| --- | --- |
|  |  |
| GS1 DataBar Omnidirectional Off |  |
|  | \*GS1 DataBar Omnidirectional On |

### GS1 DataBar Limited

#### Default All GS1 DataBar Limited Settings

To default all GS1 DataBar Limited Settings, scan the bar code below.

|  |
| --- |
|  |
| Default all GS1 DataBar Limited Settings |

#### Enable/Disable GS1 DataBar Limited

To enable or disable GS1 DataBar Limited, scan the appropriate bar code below.

*Default =GS1 DataBar Limited On.*

|  |  |
| --- | --- |
|  |  |
| GS1 DataBar Limited Off |  |
|  | \*GS1 DataBar Limited On |

### GS1 DataBar Expanded

#### Default All GS1 DataBar Expanded Settings

To default all GS1 DataBar Expanded Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All GS1 DataBar Expanded Settings |

#### Enable/Disable GS1 DataBar Expanded

To enable or disable GS1 DataBar Expanded, scan the appropriate bar code below.

*Default =GS1 DataBar Expanded On.*

|  |  |
| --- | --- |
|  |  |
| GS1 DataBar Expanded Off |  |
|  | \*GS1 DataBar Expanded On |

#### GS1 DataBar Expanded Message Length

To change the message length of GS1 DataBar Expanded, you can scan the bar codes below. Minimum and Maximum lengths = 4-74.

*Minimum Default = 4, Maximum Default = 74.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## GS1 Composite Codes

**GS1 Composite symbology**: A new class combined linear codes with a unique 2D composite component. GS1 Composite symbologies allow for the co-existence of symbologies already in use.

*Default = GS1 Composite Codes Off.*

|  |  |
| --- | --- |
|  |  |
| \* GS1 Composite Codes Off |  |
|  | GS1 Composite Codes On |

### UPC/EAN Version

**UPC/EAN Version On**: Decode GS1 Composite symbols that have a U.P.C. or an EAN linear component. (This does not affect GS1 Composite symbols with a GS1-128 or GS1 linear component.)

*Default = UPC/EAN Version Off.*

|  |  |
| --- | --- |
|  |  |
| \* UPC/EAN Version Off |  |
|  | UPC/EAN Version On |

***Note****:* If you scan coupons that have both UPC and GS1 DataBar codes, you may wish to scan and output only the data from the GS1 DataBar code. See Coupon GS1 DataBar Output for further information.

#### GS1 Composite Code Message Length

To change the message length of GS1 Composite Code, you can scan the bar codes below. Mini-mum and Maximum lengths = 1-2435.

*Minimum Default = 1, Maximum Default = 2435.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## GS1 Emulation

The scanner can automatically format the output from any GS1 data carrier to emulate what would be encoded in an equivalent GS1-128 or GS1 DataBar symbol. GS1 data carriers include UPC-A and UPC-E, EAN-13 and EAN-8, ITF-14, GS1-128, and GS1-128 DataBar and GS1 Composites. (Any application that accepts GS1 data can be simplified since it only needs to recognize one data carrier type.)

**GS1-128 Emulation**: All retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-128 AIM ID, ] C1 .

**GS1 DataBar Emulation**: All retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-DataBar AIM ID, ] em .

**GS1 Code Expansion Off**: Retail code expansion is disabled, and UPC-E expansion is controlled by the UPC-E0 Expand setting. If the AIM ID is enabled, the value will be the GS1-128 AIM ID, ] C1.

**EAN8 to EAN13 Conversion**: All EAN8 bar codes are converted to EAN13 format.

*Default = GS1 Emulation Off.*

|  |  |
| --- | --- |
|  |  |
| \* GS1 Emulation Off |  |
|  | GS1 DataBar Emulation |
| GS1-128 Emulation |  |
|  |  |
|  | EAN8 to EAN13 Conversion |
| GS1 Code Expansion Off |  |

## TCIF Linked Code 39 (TLC39)

To enable or disable Composite bar codes of TLC39, you can scan the bar codes below.

*Default =TCIF Linked Code 39 Off.*

***NOTE:*** The MicroPDF417 component can only be decoded if TLC39 is on. The linear component may be decoded as Code 39 even if TLC39 is off.

|  |  |
| --- | --- |
|  |  |
| \* TCIF Linked Code 39 Off |  |
|  | TCIF Linked Code 39 On |

## PDF417

### Default All PDF417 Settings

To default all PDF417 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default all PDF417 Settings |

### Enable/Disable PDF417

To enable or disable PDF417, scan the appropriate bar code below.

*Default =PDF417 On.*

|  |  |
| --- | --- |
|  |  |
| PDF417 Off |  |
|  | \* PDF417 On |

### PDF417 Message Length

To change the message length of PDF417, you can scan the bar codes below. Mini-mum and Maximum lengths = 1-2750.

*Minimum Default = 1, Maximum Default = 2750.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

### Enable/Disable MacroPDF417

MacroPDF417 is an implementation of PDF417 capable of encoding very large amounts of data into multiple PDF417 bar codes.

**MacroPDF417 On**: These multiple bar codes are assembled into a single data string.

*Default = MacroPDF417 On.*

To enable or disable MacroPDF417, scan the appropriate bar code below.

|  |  |
| --- | --- |
|  |  |
| MacroPDF417 Off |  |
|  | \* MacroPDF417 On |

### Default All MicroPDF417 Settings

To default all MicroPDF417 Settings, scan the bar code below.

|  |
| --- |
|  |
| Default all MicroPDF417 Settings |

### Enable/Disable MicroPDF417

To enable or disable MicroPDF417, scan the appropriate bar code below.

*Default =MicroPDF417 Off.*

|  |  |
| --- | --- |
|  |  |
| \* MicroPDF417 Off |  |
|  | MicroPDF417 On |

### MicroPDF417 Message Length

To change the message length of MicroPDF417, you can scan the bar codes below. Minimum and Maximum lengths = 1-366.

*Minimum Default = 1, Maximum Default = 366.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Data Matrix

### Default All Data Matrix Settings

To default all Data Matrix Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Data Matrix Settings |

### Enable/Disable Data Matrix

To enable or disable Data Matrix, scan the appropriate bar code below.

*Default =Data Matrix On.*

|  |  |
| --- | --- |
|  |  |
| Data Matrix Off |  |
|  | \*Data Matrix On |

### Data Matrix Message Length

To change the message length of Data Matrix, you can scan the bar codes below. Minimum and Maximum lengths = 1-3116.

*Minimum Default = 1, Maximum Default = 3116.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Maxicode

### Default All MaxiCode Settings

To default all Maxicode Settings, scan the bar code below.

|  |
| --- |
|  |
| Default all Maxicode Settings |

### Enable/Disable MaxiCode

To enable or disable Maxicode, scan the appropriate bar code below.

*Default =MaxiCode Off.*

|  |  |
| --- | --- |
|  |  |
| \* MaxiCode Off |  |
|  | MaxiCode On |

### MaxiCode Message Length

To change the message length of MaxiCode, you can scan the bar codes below. Minimum and Maximum lengths = 1-150.

*Minimum Default = 1, Maximum Default = 150.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## QR Code

### Default All QR Code Settings

To default all QR Code Settings, scan the bar code below.

|  |
| --- |
|  |
| Default all QR Code Settings |

### Enable/Disable QR Code

To enable or disable QR Code, scan the appropriate bar code below.

***Notes***: This selection below applies to both QR Code and Micro QR Code.

Default =QR Code On.

|  |  |
| --- | --- |
|  |  |
| QR Code Off |  |
|  | \*QR Code On |

### QR Code Message Length

To change the message length of QR Code, you can scan the bar codes below. Minimum and Maximum lengths = 1-7089.

*Minimum Default = 1, Maximum Default = 7089.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Aztec Code

### Default All Aztec Settings

To default all Aztec Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Aztec Settings |

### Enable/Disable Aztec

To enable or disable Aztec, scan the appropriate bar code below.

*Default =Aztec On.*

|  |  |
| --- | --- |
|  |  |
| Aztec Off |  |
|  | \*Aztec On |

### Aztec Code Message Length

To change the message length of Aztec Code, you can scan the bar codes below. Minimum and Maximum lengths = 1-3832.

*Minimum Default = 1, Maximum Default = 3832.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

### Aztec Append

This function allows the scanner to append the data from several Aztec bar codes together before transmitting them to the host computer. When the scanner encounters an Aztec bar code with the append trigger character(s), it buffers the number of Aztec bar codes determined by information encoded in those bar codes. Once the proper number of codes is reached, the data is output in the order specified in the bar codes.

*Default =Aztec Append Off.*

|  |  |
| --- | --- |
|  |  |
| \*Aztec Append Off |  |
|  | Aztec Append On |

### Aztec Code Page

Aztec Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the host program is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created, and scan the value and the **Save** bar code from the [**APPENDIX B Programming Number**](#Number). The data characters should then appear properly.

|  |
| --- |
|  |
| Aztec Code Page |

## Chinese Sensible (Han Xin) Code

### Default All Chinese Sensible (Han Xin) Code Settings

To default allChinese Sensible (Han Xin) Code Settings, scan the bar code below.

|  |
| --- |
|  |
| Default allChinese Sensible (Han Xin) Code Settings |

### Enable/Disable Chinese Sensible (Han Xin) Code

To enable or disable Chinese Sensible (Han Xin) Code, scan the appropriate bar code below.

*Default =Chinese Sensible (Han Xin) Code Off.*

|  |  |
| --- | --- |
|  |  |
| \*Chinese Sensible (Han Xin) Code Off |  |
|  | Chinese Sensible (Han Xin) Code On |

### Han Xin Code Message Length

To change the message length of Han Xin Code, you can scan the bar codes below. Minimum and Maximum lengths = 1-7833.

*Minimum Default = 1, Maximum Default = 7833.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

## Postal Codes – Linear

The following lists linear postal codes. Any combination of linear postal code selections can be active at a time.

### China Post (Hong Kong 2 of 5)

#### Default All China Post Settings

To default all China Post Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All China Post Settings |

#### Enable/Disable China Post

To enable or disable China Post, scan the appropriate bar code below.

*Default =China Post Off.*

|  |  |
| --- | --- |
|  |  |
| \*China Post Off |  |
|  | China Post On |

#### China Post (Hong Kong 2 of 5) Message Length

To change the message length of China Post (Hong Kong 2 of 5), you can scan the bar codes below. Minimum and Maximum lengths = 2-80.

*Minimum Default = 4, Maximum Default = 80.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

### Korea Post

#### Default All Korea Post Settings

To default all Korea Post Settings, scan the bar code below.

|  |
| --- |
|  |
| Default All Korea Post Settings |

#### Enable/Disable Korea Post

To enable or disable Korea Post, scan the appropriate bar code below.

*Default =Korea Post Off.*

|  |  |
| --- | --- |
|  |  |
| \*Korea Post Off |  |
|  | Korea Post On |

#### Korea Post Message Length

To change the message length of Korea Post, you can scan the bar codes below. Minimum and Maximum lengths = 2-80.

*Minimum Default = 4, Maximum Default = 48.*

|  |  |
| --- | --- |
|  |  |
| Minimum Message Length |  |
|  | Maximum Message Length |

#### Korea Post Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the Korea Post check digit. It is always verified to guarantee the integrity of the data.

*Default = Don’t Transmit Check Digit.*

|  |  |
| --- | --- |
|  |  |
| \* Don’t Transmit Check Digit |  |
|  | Transmit Check Digit |

## Postal Codes - 2D

The following lists the possible 2D postal codes, and 2D postal code combinations that are allowed. Only one 2D postal code selection can be active at a time. If you scan a second 2D postal code selection, the first selection is overwritten.

*Default = 2D Postal Codes Off.*

|  |
| --- |
|  |
| \* 2D Postal Codes Off |

### Single 2D Postal Codes

|  |  |
| --- | --- |
|  |  |
| Australian Post On |  |
|  | British Post On |
| Canadian Post On |  |
|  |  |
|  | Intelligent Mail Bar Code On |
| Japanese Post On |  |
|  | KIX Post On |
| Planet Code On |  |
|  | Postnet On |
| Postal-4i On |  |
|  | Postnet with B and B’ Fields On |
| InfoMail On |  |

### 

### Combination 2D Postal Codes

|  |  |
| --- | --- |
|  |  |
| InfoMail and British Post On |  |
|  | Intelligent Mail Bar Code and Postnet with B and B’ Fields On |
| Postnet and Postal-4i On |  |
|  | Postnet and Intelligent Mail Bar Code On |
| Postal-4i and Intelligent Mail Bar Code On |  |
|  | Postal-4i and Postnet with B and B’ Fields On |
| Planet Code and Postnet On |  |
|  | Planet Code and Postnet with B and B’ Fields On |
| Planet Code and Postal-4i On |  |
|  |  |
|  | Planet Code and Intelligent Mail Bar Code On |
| Planet Code, Postnet, and Postal-4i On |  |
|  | Planet Code, Postnet, and Intelligent Mail Bar Code On |
| Planet Code, Postal-4i, and Intelligent Mail Bar Code On |  |
|  | Postnet, Postal-4i, and Intelligent Mail Bar Code On |
| Planet Code, Postal-4i, and Postnet with B and B’ Fields On |  |
|  | Planet Code, Intelligent Mail Bar Code, and Postnet with B and B’ Fields On |
| Postal-4i, Intelligent Mail Bar Code, and Postnet with B and B’ Fields On |  |
|  | Planet Code, Postal-4i, Intelligent Mail Bar Code, and Postnet On |
|  |  |
|  |  |
| Planet Code, Postal-4i, Intelligent Mail Bar Code, and Postnet with B and B’ Fields On |  |

### Planet Code Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the Planet Code check digit. It is always verified to guarantee the integrity of the data.

*Default = Don’t Transmit Check Digit .*

|  |  |
| --- | --- |
|  |  |
| \* Don’t Transmit Check Digit |  |
|  | Transmit Check Digit |

### Postnet Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the Postnet check digit. It is always verified to guarantee the integrity of the data.

*Default = Don’t Transmit Check Digit.*

|  |  |
| --- | --- |
|  |  |
| \* Don’t Transmit Check Digit |  |
|  | Transmit Check Digit |

### Australian Post Interpretation

This option controls what interpretation is applied to customer fields in Australian 4-State symbols.

**Bar Output**: It lists the bar patterns in “0123” format.

**Numeric N Table**: Itcauses that field to be interpreted as numeric data using the N Table.

**Alphanumeric C Table**: It causes the field to be interpreted as alphanumeric data using the C Table. Refer to the Australian Post Specification Tables.

**Combination C and N Tables**: It causes the field to be interpreted using either the C or N Tables.

*Default =Bar Output.*

|  |  |
| --- | --- |
|  |  |
| \* Bar Output |  |
|  | Numeric N Table |
| Alphanumeric C Table |  |
|  | Combination C and N Tables |

# CHAPTER 8 PREFIX AND SUFFIX

When a bar code is scanned, additional information is sent to the host computer along with the bar code data. This group of bar code data and additional, user-defined data is called a “message string.” The selections in this section are used to build the user-defined data into the message string. Prefix and Suffix characters are data characters that can be sent before and after scanned data. You can specify if they should be sent with all symbologies, or only with specific symbologies. The following illustration shows the breakdown of a message string:

|  |  |  |
| --- | --- | --- |
| Prefix | Scanned Data | Suffix |

• The selections in this chapter are only used if you wish to alter the default settings.

*Default* *prefix = None. Default suffix = None*.  
• A prefix or suffix may be added or cleared from one symbology or all symbologies.  
• You can add any prefix or suffix from the [**APPENDIX D ASCII Conversion Chart**](#ASCII).  
• You can string together several entries for several symbologies at one time.  
• Enter prefixes and suffixes in the order in which you want them to appear on the output.  
• When setting up for specific symbologies (as opposed to all symbologies), the specific symbology ID value counts as an added prefix or suffix character.  
• The maximum size of a prefix or suffix configuration is 200 characters, which includes header information.

Add a Prefix or Suffix:

1. Scan the **Add Prefix** or **Add Suffix** symbol .
2. Determine the 2 digit Hex value from the Symbology Chart (included in the [**APPENDIX C Symbology Charts - AIM ID**](#Symbology)) for the symbology to which you want to apply the prefix or suffix. For example, for Code 128, Hex ID is “6A”.
3. Scan the 2 hex digits from the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual or scan **9**, **9** for all symbologies.
4. Determine the hex value from the [**APPENDIX D ASCII Conversion Chart**](#ASCII), for the prefix or suffix you wish to enter.
5. Scan the 2 digit hex value from the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual.
6. Repeat Steps 4 and 5 for every prefix or suffix character.
7. To add AIM I.D., scan **5**, **C**, **8**, **1**.

To add a backslash (\), scan **5**, **C**, **5**, **C**.

***Note:*** To add a backslash (\) as in Step 7, you must scan 5C twice – once to create the leading backslash and then to create the backslash itself.

1. Scan **Save** to exit and save, or scan **Discard** to exit without saving. Repeat Steps 1-6 to add a prefix or suffix for another symbology.

**Example: Add a Suffix to a specific symbology**  
To send a CR (carriage return)Suffix for U.P.C. only:

1. Scan **Add Suffix**.
2. Determine the 2 digit hex value from the Symbology Chart (included in the [**APPENDIX C Symbology Charts - AIM ID**](#Symbology))for U.P.C..
3. Scan **6**, **3** from the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual.
4. Determine the hex value from the [**APPENDIX D ASCII Conversion Chart**](#ASCII), for the CR (carriage return).
5. Scan **0**, **D** from the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual.
6. Scan **Save**, or scan **Discard** to exit without saving.

Clear One or All Prefixes or Suffixes  
You can clear a single prefix or suffix, or clear all prefixes/suffixes for a symbology. If you have been entering prefixes and suffixes for single symbologies, you can use **Clear One Prefix (Suffix)** to delete a specific character from a symbology. When you **Clear All Prefixes (Suffixes)**, all the prefixes or suffixes for a symbology are deleted.

1. Scan the **Clear One Prefix** or **Clear One Suffix** symbol.
2. Determine the 2 digit Hex value from the Symbology Chart (included in the [**APPENDIX C Symbology Charts - AIM ID**](#Symbology)) for the symbology from which you want to clear the prefix or suffix.
3. Scan the 2 digit hex value from the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual or scan **9**, **9** for all symbologies. Your change is automatically saved.

Add a Carriage Return Suffix to All Symbologies  
Scan the following bar code if you wish to add a carriage return suffix to all symbologies at once. This action first clears all current suffixes, then programs a carriage return suffix for all symbologies.

|  |
| --- |
|  |
| Add CR Suffix All Symbologies |

## Prefix Selections

|  |  |
| --- | --- |
|  |  |
| Add Prefix |  |
|  | Clear One Prefix |
| Clear All Prefixes |  |

## Suffix Selections

|  |  |
| --- | --- |
|  |  |
| Add Suffix |  |
|  | Clear One Suffix |
| Clear All Suffixes |  |

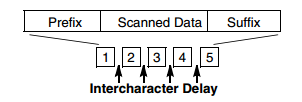
Function Code Transmit  
When this selection is enabled and function codes are contained within the scanned data, the scanner transmits the function code to the terminal. Charts of these function codes are provided in Supported Interface Keys starting on [**APPENDIX A Interface Keys**](#Interface). When the scanner is in keyboard wedge mode, the scan code is converted to a key code before it is transmitted.

*Default = Enable.*

|  |  |
| --- | --- |
|  |  |
| \*Enable Function Code Transmit |  |
|  | Disable Function Code Transmit |

Intercharacter, Interfunction, and Intermessage Delays  
Some terminals drop information (characters) if data comes through too quickly. Intercharacter, interfunction, and intermessage delays slow the transmission of data, increasing data integrity.

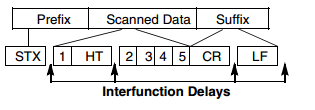
Intercharacter Delay  
An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each character of scanned data. Scan the **Intercharacter Delay** bar code below, then scan the number of 5ms delays, and the **Save** bar code using the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual.

****

|  |
| --- |
|  |
| Intercharacter Delay |

To remove this delay, scan the **Intercharacter Delay** bar code, then set the number of delays to 0. Scan the **Save** bar code using the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual.  
***Note:*** Intercharacter delays are not supported in USB serial emulation.

Interfunction Delay  
An interfunction delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each segment of the message string. Scan the Interfunction Delay bar code below, then scan the number of 5ms delays, and the Save bar code using the Programming Chart inside the back cover of this manual.

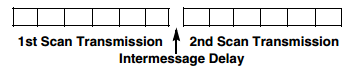


|  |
| --- |
|  |
| Interfunction Delay |

To remove this delay, scan the **Interfunction Delay** bar code, then set the number of delays to 0. Scan the **Save** bar code using the [**APPENDIX B Programming Number**](#Number) inside the back cover of this manual.

Intermessage Delay

An intermessage delay of up to 5000 milliseconds (in 5ms increments) may be placed between each scan transmission. Scan the Intermessage Delay bar code below, then scan the number of 5ms delays, and the Save bar code using the [**APPENDIX B Programming Number**](#Number)inside the back cover of this manual.

****

|  |
| --- |
|  |
| Intermessage Delay |

To remove this delay, scan the **Intermessage Delay** bar code, then set thenumber of delays to 0. Scan the **Save** bar code using the [**APPENDIX B Programming Number**](#Number)inside the back cover of this manual.

# CHAPTER 9 SERIAL PROGRAMMING COMMANDS

The serial programming commands can be used in place of the programming bar codes. Both the serial commands and the programming bar codes will program the scanner. For complete descriptions and examples of each serial programming command, refer to the corresponding programming bar code in this manual.  
The device must be set to an RS232 interface . The following commands can be sent via a PC COM port using terminal emulation software.

## Function Commands

The serial function commands have the following formation:

STX + CMD(see table 11-1) + EXT

**Table 9-1** Function Commands

|  |  |  |
| --- | --- | --- |
| Function | Command | Formation |
| Beeper Bell | \x07 | \x02\x07\x03 |
| Trigger | T | \x02T\x03 |
| Untrigger | U | \x02U\x03 |

## Menu Commands

The menu commands have the following syntax:

Header + Group + Item + .

Header consists of three characters. The details refer to **Table 9-2** .

**Table 9-2** Header

|  |  |  |
| --- | --- | --- |
|  | Command | Function |
| First Character(Menu type) | M | Normal type menu |
| Second Character(Storage type) | R | Store in RAM |
| N | Store in ROM |
| C | Store in customer setting place |
| Third Character(Action) | S | Setting |
| Q | Query the current setting |
| R | Return the valid setting range |

***Note:*** As the default action is setting and default storage is in ROM, the 'MNS' can be simplified to be 'M'.

The serial menu commands which sets the DK-5800 have the following formation:

STX + @ + MENU(see table 11-2) + EXT

For example:

* Set the DK-5800 default: \x02@M0401.\x03
* Query the current interface: \x02@MRQ0201.\x03
* Query the range value of reread delay : \x02@MRR1102.\x03

## Resetting the Custom Defaults

If you want the custom default settings restored to your scanner, scan the **Activate Custom Defaults** bar code below. This resets the scanner to the custom default settings. If there are no custom defaults, it will reset the scanner to the factory default settings. Any settings that have not been specified through the custom defaults will be defaulted to the factory default settings.

|  |
| --- |
|  |
| Activate Custom Defaults |

The charts on the following pages list the factory default settings for each of the commands (indicated by an asterisk (\*) on the programming pages).

## DK-5800 Menu Commands

|  |  |  |
| --- | --- | --- |
| **Resetting the Factory Defaults** | Activate Defaults | M0401. |
| **Interfaces** | RS232 Serial Port | M0501. |
| USB Keyboard (PC) | M0502. |
| USB Keyboard (Mac) | M0503. |
| USB Japanese Keyboard (PC) | M0201\_134. |
| USB Serial | M0201\_130. |
| **USB** | CTS/RTS Emulation Off | M0701\_0. |
| CTS/RTS Emulation On | M0701\_1. |
| ACK/NAK Mode Off | M0702\_0. |
| ACK/NAK Mode On | M0702\_1. |
| **Keyboard Country** | U.S.A. | M0801\_0. |
| Albania | M0801\_35. |
| Azeri (Cyrillic) | M0801\_81. |
| Azeri (Latin) | M0801\_80. |
| Belarus | M0801\_82. |
| Belgium | M0801\_1. |
| Bosnia | M0801\_33. |
| Brazil | M0801\_16. |
| Brazil (MS) | M0801\_59. |
| Bulgaria (Cyrillic) | M0801\_52. |
| Bulgaria (Latin) | M0801\_53. |
| Canada (French legacy) | M0801\_54. |
| Canada (French) | M0801\_18. |
| Canada (Multilingual) | M0801\_55. |
| Croatia | M0801\_32. |
| Czech | M0801\_15. |
| Czech (Programmers) | M0801\_40 |
| Czech (QWERTY) | M0801\_39. |
| Czech (QWERTZ) | M0801\_38. |
| Denmark | M0801\_8. |
| Dutch (Netherlands) | M0801\_11. |
| Estonia | M0801\_41. |
| Faeroese | M0801\_83. |
| Finland | M0801\_2. |
| France | M0801\_3. |
| Gaelic | M0801\_84. |
| Germany | M0801\_4. |
| Greek | M0801\_17. |
| Greek (220 Latin) | M0801\_64. |
| Greek (220) | M0801\_61. |
| Greek (319 Latin) | M0801\_65. |
| Greek (319) | M0801\_62. |
| Greek (Latin) | M0801\_63. |
| Greek (MS) | M0801\_66. |
| Greek (Polytonic) | M0801\_60. |
| Hebrew | M0801\_12. |
| Hungarian (101 key) | M0801\_50. |
| Hungary | M0801\_19. |
| Iceland | M0801\_75. |
| Irish | M0801\_73. |
| Italian (142) | M0801\_56. |
| Italy | M0801\_5. |
| Japan ASCII | M0801\_28. |
| Kazakh | M0801\_78. |
| Kyrgyz (Cyrillic) | M0801\_79. |
| Latin America | M0801\_14. |
| Latvia | M0801\_42. |
| Latvia (QWERTY) | M0801\_43. |
| Lithuania | M0801\_44. |
| Lithuania (IBM) | M0801\_45. |
| Macedonia | M0801\_34. |
| Malta | M0801\_74. |
| Mongolian (Cyrillic) | M0801\_86. |
| Norway | M0801\_9. |
| Poland | M0801\_20. |
| Polish (214) | M0801\_57. |
| Polish (Programmers) | M0801\_58. |
| Portugal | M0801\_13. |
| Romania | M0801\_25. |
| Russia | M0801\_26. |
| Russian (MS) | M0801\_67. |
| Russian (Typewriter) | M0801\_68. |
| SCS | M0801\_21. |
| Serbia (Cyrillic) | M0801\_37. |
| Serbia (Latin) | M0801\_36. |
| Slovakia | M0801\_22. |
| Slovakia (QWERTY) | M0801\_49. |
| Slovakia (QWERTZ) | M0801\_48. |
| Slovenia | M0801\_31. |
| Spain | M0801\_10. |
| Spanish variation | M0801\_51. |
| Sweden | M0801\_23. |
| Switzerland (French) | M0801\_29. |
| Switzerland (German) | M0801\_6. |
| Tatar | M0801\_85. |
| Turkey F | M0801\_27. |
| Turkey Q | M0801\_24. |
| Ukrainian | M0801\_76. |
| United Kingdom | M0801\_7. |
| United States (Dvorak right) | M0801\_89. |
| United States (Dvorak left) | M0801\_88 |
| United States (Dvorak) | M0801\_87. |
| United States (International) | M0801\_30. |
| Uzbek (Cyrillic) | M0801\_77. |
| **Keyboard Style** | Regular | M0802\_0. |
| Caps Lock | M0802\_1. |
| Shift Lock | M0802\_2. |
| Automatic Caps Lock | M0802\_6. |
| Emulate External Keyboard | M0802\_5. |
| Autocaps via NumLock | M0802\_7. |
| **Keyboard Conversion** | Keyboard Conversion Off | M0803\_0. |
| Convert all Characters to Upper Case | M0803\_1. |
| Convert all Characters to Lower Case | M0803\_3. |
| **Keyboard Control Character Output** | Control Character Output Off | M0804\_0. |
| Control Character Output On | M0804\_1. |
| **Keyboard Modifiers** | Control + ASCII Off | M0805\_0. |
| DOS Mode Control+ ASCII | M0805\_1. |
| Windows Mode Control + ASCII | M0805\_2. |
| Windows Mode Prefix/Suffix Off | M0805\_3. |
| Turbo Mode Off | M0806\_0. |
| Turbo Mode On | M0806\_1. |
| Numeric Keypad Off | M0807\_0. |
| Numeric Keypad On | M0807\_1. |
| **RS232 Baud Rate** | 300 BPS | M0901\_0. |
| 600 BPS | M0901\_1. |
| 1200 BPS | M0901\_2. |
| 2400 BPS | M0901\_3. |
| 4800 BPS | M0901\_4. |
| 9600 BPS | M0901\_5. |
| 19200 BPS | M0901\_6. |
| 38400 BPS | M0901\_7. |
| 57600 BPS | M0901\_8. |
| 115200 BPS | M0901\_9. |
| **RS232 Receiver TimeOut** | RS232 receiver time-out | M0903. |
| **Suppress Power-up Beeps** | Power Up Beeper Off | M1001\_0. |
| Power Up Beeper On | M1001\_1. |
| **Beeper on BEL** | Beep on BEL Off | M1002\_0. |
| Beep on BEL On | M1002\_1. |
| **Trigger Click** | Trigger Click Off | M1003\_0. |
| Trigger Click On | M1003\_1. |
| **Beeper – Good Read** | Beeper-Good Read Off | M1004\_0. |
| Beeper-Good Read On | M1004\_1. |
| **Beeper Volume-Good Read** | Off | M1005\_0. |
| Low Volume | M1005\_1. |
| Medium Volume | M1005\_2. |
| High Volume | M1005\_3. |
| **Beeper Tone-Good Read** | Low Frequency(800 Hz) | M1006\_800. |
| Medium Frequency (1600 Hz) | M1006\_1600. |
| High Frequency (3200 Hz) | M1006\_3200. |
| **Beeper Tone- User Specified Setting** | User specified setting of beeper tone | M1006. |
| **Beeper Pitch – Error** | Razz(250 Hz) | M1007\_250. |
| Medium(3250 Hz) | M1007\_3250. |
| High(4200 Hz) | M1007\_4200. |
| **Beeper Duration-Good Read** | Normal Beep | M1008\_0. |
| Short Beep | M1008\_1. |
| **LED – Good Read** | LED-Good Read Off | M1009\_0. |
| LED-Good Read On | M1009\_1. |
| **Number of Good Decode Beeps- Good Read** | 1 Good Read Beep/LED Flash | M1010\_1. |
| 2 Good Read Beeps/LED Flashes | M1010\_2. |
| 3 Good Read Beeps/LED Flashes | M1010\_3. |
| **Number of Beeps – Error** | Number of Error Beeps/LED Flashes | M1011. |
| **Good Read Delay** | No Delay | M1101\_0. |
| Short Delay(500 ms) | M1101\_500. |
| Medium Delay(1000 ms) | M1101\_1000. |
| Long Delay(1500 ms) | M1101\_1500. |
| **Reread Delay** | No Delay | M1102\_0. |
| Short (500 ms) | M1102\_500. |
| Medium (1000 ms) | M1102\_1000. |
| Extra Long (2000 ms) | M1102\_2000. |
| **User-Specified Reread Delay** | User-Specified Reread Delay | M1102. |
| **Intercharacter Delay** | Intercharacter Delay | M1103. |
| **User Specified Intercharacter Delay** | Delay Length | M1104. |
| Character to Trigger Delay | M1105. |
| **Interfunction Delay** | Interfunction Delay | M1106. |
| **Intermessage Delay** | Intermessage Delay | M1107. |
| **LED Illumination - Manual Trigger** | Low | M1201\_50. |
| High | M1201\_80. |
| **Idle Illumination - Presentation Mode** | Low | M1202\_50. |
| High | M1202\_80. |
| **Manual Trigger Mode** | Manual Trigger - Normal | M1301. |
| **Presentation Mode** | Presentation Mode | M1302. |
| **Mobile Phone/Display Mode** | Hand Held Scanning - Mobile Phone | M1303. |
| Presentation Scanning - Mobile Phone | M1304. |
| **Presentation Sensitivity** | High Sensitivity | M1402. |
| **Hands Free Time-Out** | Hands Free Time-Out | M1403. |
| **Presentation Centering** | Presentation Centering Off | M1501\_0. |
| Presentation Centering On | M1501\_1. |
| Top of Presentation Centering Window | M1502. |
| Bottom of Presentation Centering Window | M1503. |
| Left of Presentation Centering Window | M1504. |
| Right of Presentation Centering Window | M1505. |
| **Manual Trigger Centering** | Manual Trigger Centering Off | M1701\_0. |
| Manual Trigger Centering On | M1701\_1. |
| Top of Manual Trigger Centering Window | M1702. |
| Bottom of Manual Trigger Centering Window | M1703. |
| Left of Manual Trigger Centering Window | M1704. |
| Right of Manual Trigger Centering Window | M1705. |
| **Video Reverse** | Video Reverse Off | M1603\_0. |
| Video Reverse Only | M1603\_1. |
| Video Reverse and Standard Bar Codes | M1603\_2. |
| **Working Orientation** | Upright | M1604\_0. |
| Vertical, Bottom to Top | M1604\_1. |
| Upside Down | M1604\_2. |
| Vertical, Top to Bottom | M1604\_3. |
| **Function Code Transmit** | Enable | M1605\_0. |
| Disable | M1605\_1. |
| **To Add a Carriage Return Suffix to All Symbologies** | Add CR Suffix All Symbologies | M1801. |
| **Prefix** | Add Prefix | M1802. |
| Clear One Prefix | M1803. |
| Clear All Prefixes | M1804. |
| **Suffix** | Add Suffix | M1805. |
| Clear One Suffix | M1806. |
| Clear All Suffixes | M1807. |
| **Data Format Editor** | Default Data Format | M1901. |
| Enter Data Format | M1903. |
| Clear One Data Format | M1904. |
| Clear All Data Formats | M1905. |
| **Data Formatter** | Data Formatter Off | M1902\_0. |
| Data Formatter On, Not Required, Keep Prefix/Suffix | M1902\_1. |
| Data Format Required, Keep Prefix/Suffix | M1902\_2. |
| **Primary/Alternate Data Formats** | Primary Data Format | M1906\_0. |
| Data Format 1 | M1906\_1. |
| Data Format 2 | M1906\_2. |
| Data Format 3 | M1906\_3. |
| **Show Software Revision** | Show Revision | M2003. |
| **Aim Mode** | Aim Mode Off | M2101\_0. |
| Aim Mode On | M2101\_3. |
| **All Symbologies** | All Symbologies Off | M3001\_0. |
| All Symbologies On | M3001\_1. |
| **Codabar** | Default All Codabar  Settings | M3101. |
| Off | M3102\_0. |
| On | M3102\_1. |
| **Codabar Start/Stop Char** | Don’t Transmit | M3103\_0. |
| Transmit | M3103\_1. |
| **Codabar Check Char** | No Check Char. | M3104\_0. |
| Validate, But Don’t Transmit | M3104\_1. |
| Validate, and Transmit | M3104\_2. |
| **Codabar Concatenation** | Off | M3105\_0. |
| On | M3105\_1. |
| Require | M3105\_2. |
| **Codabar Message**  **Length** | Minimum (2 - 60) | M3106. |
| Maximum (2 - 60) | M3107. |
| **Code 39** | Default All Code 39 Settings | M3201. |
| Off | M3202\_0. |
| On | M3202\_1. |
| **Code 39 Start/Stop**  **Char** | Don’t Transmit | M3203\_0. |
| Transmit | M3203\_1. |
| **Code 39 Check Char** | No Check Char. | M3204\_0. |
| Validate, But Don’t Transmit | M3204\_1. |
| Validate,and Transmit | M3204\_2. |
| **Code 39 Message**  **Length** | Minimum (0 - 48) | M3205. |
| Maximum (0 - 48) | M3206. |
| **Code 39 Append** | Off | M3207\_0. |
| On | M3207\_1. |
| **Code 32 Pharmaceutical** | Off | M3208\_0. |
| On | M3208\_1. |
| **Code 39 Full ASCII** | Off | M3209\_0. |
| On | M3209\_1. |
| Code 39 Code Page | M3210. |
| **Interleaved 2 of 5** | Default All Interleaved 2 of 5 Settings | M3301. |
| Off | M3302\_0. |
| On | M3302\_1. |
| **Interleaved 2 of 5**  **Check Digit** | No Check Char. | M3303\_0. |
| Validate, But Don’t Transmit | M3303\_1. |
| Validate, and  Transmit | M3303\_2. |
| **Interleaved 2 of 5**  **Message Length** | Minimum (2 - 80) | M3304. |
| Maximum (2 - 80) | M3305. |
| **NEC 2 of 5** | Default All NEC 2 of 5 Settings | M3401. |
| Off | M3402\_0. |
| On | M3402\_1. |
| **NEC 2 of 5 Check**  **Digit** | No Check Char. | M3403\_0. |
| Validate, But Don’t Transmit | M3403\_1. |
| Validate, and  Transmit | M3403\_2. |
| **NEC 2 of 5 Message Length** | Minimum (2 - 80) | M3404. |
| Maximum (2 - 80) | M3405. |
| **Code 93** | Default All Code 93 Settings | M3501. |
| Off | M3502\_0. |
| On | M3502\_1. |
| **Code 93 Message Length** | Minimum (0 - 80) | M3503. |
| Maximum (0 - 80) | M3504. |
| **Code 93 Append** | Off | M3505\_0. |
| On | M3505\_1. |
| **Code 93 Code Page** | Code 93 Code Page | M3506. |
| **Straight 2 of 5 Industrial** | Default All Straight 2 of 5 Industrial Settings | M3601. |
| Off | M3602\_0. |
| On | M3602\_1. |
| **Straight 2 of 5 Industrial Message Length** | Minimum (1 - 48) | M3603. |
| Maximum (1 - 48) | M3604. |
| **Straight 2 of 5 IATA** | Default All Straight 2  of 5 IATA  Settings | M3701. |
| Off | M3702\_0. |
| On | M3702\_1. |
| **Straight 2 of 5 IATA Message Length** | Minimum (1 - 48) | M3703. |
| Maximum (1 - 48) | M3704. |
| **Matrix 2 of 5** | Default All Matrix 2 of 5 Settings | M3801. |
| Off | M3802\_0. |
| On | M3802\_1. |
| **Matrix 2 of 5**  **Message Length** | Minimum (1 - 80) | M3803. |
| Maximum (1 - 80) | M3804. |
| **Code 11** | Default All Code 11 Settings | M3901. |
| Off | M3902\_0. |
| On | M3902\_1. |
| **Code 128** | Default All Code 128 Settings | M4001. |
| Off | M4002\_0. |
| On | M4002\_1. |
| **ISBT Concatenation** | Off | M4003\_0. |
| On | M4003\_1. |
| **Code 128 Message Length** | Minimum (0 - 80) | M4004. |
| Maximum (0 - 80) | M4005. |
| **Code 128 Append** | Off | M4006\_0. |
| On | M4006\_1. |
| **Code 128 Code Page** | Code 128 Code  Page | M4007. |
| **GS1-128** | Default All GS1-128  Settings | M4101. |
| Off | M4102\_0. |
| On | M4102\_1. |
| **GS1-128 Message Length** | Minimum (1 - 80) | M4103. |
| Maximum (0 - 80) | M4104. |
| **Telepen** | Default All Telepen Settings | M4201. |
| Off | M4202\_0. |
| On | M4202\_1. |
| **Telepen Output** | AIM Telepen Output | M4203\_0. |
| Original Telepen Output | M4203\_1. |
| **UPC-A** | Default All UPC-A Settings | M4301. |
| Off | M4302\_0. |
| On | M4302\_1. |
| **UPC-A Check Digit** | Off | M4303\_0. |
| On | M4303\_1. |
| **UPC-A Number System** | Off | M4304\_0. |
| On | M4304\_1. |
| **UPC-A 2 Digit Addenda** | Off | M4305\_0. |
| On | M4305\_1. |
| **UPC-A 5 Digit Addenda** | Off | M4306\_0. |
| On | M4306\_1. |
| **UPC-A Addenda Required** | Not Required | M4307\_0. |
| Required | M4307\_1. |
| **UPC-A Addenda Separator** | Off | M4308\_0. |
| On | M4308\_1. |
| **UPC-A/EAN-13 with Extended Coupon Code** | Off | M4401\_0. |
| Allow Concatenation | M4401\_1. |
| Require Concatenation | M4401\_2. |
| **Coupon GS1 DataBar Output** | GS1 Output Off | M4402\_0. |
| GS1 Output On | M4402\_1. |
| **UPC-E0** | Default All UPC-E Settings | M4501. |
| Off | M4502\_0. |
| On | M4502\_1. |
| **UPC-E0 Expand** | Off | M4503\_0. |
| On | M4503\_1. |
| **UPC-E0 Addenda**  **Required** | Not Required | M4504\_0. |
| Required | M4504\_1. |
| **UPC-E0 Addenda**  **Separator** | Off | M4505\_0. |
| On | M4505\_1. |
| **UPC-E0 Check Digit** | Off | M4506\_0. |
| On | M4506\_1. |
| **UPC-E0 Number System** | Off | M4507\_0. |
| On | M4507\_1. |
| **UPC-E0 Addenda** | 2 Digit Addenda Off | M4508\_0. |
| 2 Digit Addenda On | M4508\_1. |
| 5 Digit Addenda Off | M4509\_0. |
| 5 Digit Addenda On | M4509\_1. |
| **UPC-E1** | Off | M4510\_0. |
| On | M4510\_1. |
| **EAN/JAN-13** | Default All EAN/JAN Settings | M4601. |
| Off | M4602\_0. |
| On | M4602\_1. |
| **EAN/JAN-13 Check Digit** | Off | M4603\_0. |
| On | M4603\_1. |
| **EAN/JAN-13 2 Digit Addenda** | 2 Digit Addenda Off | M4604\_0. |
| 2 Digit Addenda On | M4604\_1. |
| 5 Digit Addenda Off | M4605\_0. |
| 5 Digit Addenda On | M4605\_1. |
| **EAN/JAN-13 Addenda Required** | Not Required | M4606\_0. |
| Required | M4606\_1. |
| **EAN/JAN-13**  **Addenda Separator** | Off | M4607\_0. |
| On | M4607\_1. |
| **ISBN Translate** | Off | M4608\_0. |
| On | M4608\_1. |
| **EAN/JAN-8** | Default All EAN/JAN 8 Settings | M4701. |
| Off | M4702\_0. |
| On | M4702\_1. |
| **EAN/JAN-8 Check Digit** | Off | M4703\_0. |
| On | M4703\_1. |
| **EAN/JAN-8 Addenda** | 2 Digit Addenda Off | M4704\_0. |
| 2 Digit Addenda On | M4704\_1. |
| 5 Digit Addenda Off | M4705\_0. |
| 5 Digit Addenda On | M4705\_1. |
| **EAN/JAN-8 Addenda Required** | Not Required | M4706\_0. |
| Required | M4706\_1. |
| **EAN/JAN-8 Addenda Separator** | Off | M4707\_0. |
| On | M4707\_1. |
| **MSI** | Default All MSI Settings | M4801. |
| Off | M4802\_0. |
| On | M4802\_1. |
| **MSI Check Character** | Validate Type 10, but Don’t Transmit | M4803\_0. |
| Validate Type 10 and Transmit | M4803\_1. |
| Validate 2 Type 10 Chars, but Don’t  Transmit | M4803\_2. |
| Validate 2 Type 10 Chars and Transmit | M4803\_3. |
| Validate Type 10 then Type 11 Char, but Don’t Transmit | M4803\_4. |
| Validate Type 10 then Type 11 Char and Transmit | M4803\_5. |
| Disable MSI Check Characters | M4803\_6. |
| **MSI Message Length** | Minimum (4 - 48) | M4804. |
| Maximum (4 - 48) | M4805. |
| **GS1 DataBar Omnidirectional** | Default All GS1 DataBar Omnidirectionl Settings | M4901. |
| Off | M4902\_0. |
| On | M4902\_1. |
| **GS1 DataBar Limited** | Default All GS1 DataBarLimited Settings | M5001. |
| Off | M5002\_0. |
| On | M5002\_1. |
| **GS1 DataBar Expanded** | Default All GS1 DataBar Expanded Settings | M5101. |
| Off | M5102\_0. |
| On | M5102\_1. |
| **GS1 DataBar Expanded Msg. Length** | Minimum (4 - 74) | M5103. |
| Maximum (4 - 74) | M5104. |
| **Codablock A** | Default All Codablock A Settings | M5001. |
| Off | M5002\_0. |
| On | M5002\_1. |
| **Codablock A Message Length** | Minimum (1 - 600) | M5003. |
| Maximum (1 - 600) | M5004. |
| **Codablock F** | Default All Codablock F Settings | M5301. |
| Off | M5302\_0. |
| On | M5302\_1. |
| **Codablock F Msg. Length** | Minimum (1 - 2048) | M5303. |
| Maximum (1 - 2048) | M5304. |
| **PDF417** | Default All PDF417 Settings | M5401. |
| Off | M5402\_0. |
| On | M5402\_1. |
| **PDF417 Msg. Length** | Minimum (1-2750) | M5403. |
| Maximum (1-2750) | M5404. |
| **MacroPDF417** | Off | M5405\_0. |
| On | M5405\_1. |
| **MicroPDF417** | Default All MicroPDF417 Settings | M5501. |
| Off | M5502\_0. |
| On | M5502\_1. |
| **MicroPDF417 Msg. Length** | Minimum (1-366) | M5503. |
| Maximum (1-366) | M5504. |
| **GS1 Composite Codes** | Off | M5601\_0. |
| On | M5601\_1. |
| **UPC/EAN Version** | Off | M5602\_0. |
| On | M5602\_1. |
| **GS1 Composite Codes Msg.Length** | Minimum (1-2435) | M5603. |
| Maximum (1-2435) | M5604. |
| **GS1 Emulation** | GS1-128 Emulation | M5701\_1. |
| GS1 DataBar Emulation | M5701\_2. |
| GS1 Code Expansion Off | M5701\_3. |
| EAN8 to EAN13 Conversion | M5701\_4. |
| GS1Emulation Off | M5701\_0. |
| **TCIF Linked Code 39** | Off | M5801\_0. |
| On | M5801\_1. |
| **QR Code** | Default All QR Code Settings | M5901. |
| Off | M5902\_0. |
| On | M5902\_1. |
| **QR Code Msg.**  **Length** | Minimum (1-7089) | M5903. |
| Maximum (1-7089) | M5904. |
| **QR Code Append** | Off | M5905\_0. |
| On | M5905\_1. |
| **QR Code Page** | QR Code Page | M5906. |
| **Data Matrix** | Default All Data  Matrix Settings | M6001. |
| Off | M6002\_0. |
| On | M6002\_1. |
| **Data Matrix Msg. Length** | Minimum (1-3116) | M6003. |
| Maximum (1-3116) | M6004. |
| **Data Matrix Append** | Off | M6005\_0. |
| On | M6005\_1. |
| **Data Matrix Code Page** | Data Matrix Code Page | M6006. |
| **MaxiCode** | Default All MaxiCode Settings | M6101. |
| Off | M6102\_0. |
| On | M6102\_1. |
| **MaxiCode Msg. Length** | Minimum (1-150) | M6103. |
| Maximum (1-150) | M6104. |
| **Aztec Code** | Default All Aztec Code Settings | M6201. |
| Off | M6202\_0. |
| On | M6202\_1. |
| **Aztec Code Msg. Length** | Minimum (1-3832) | M6203. |
| Maximum (1-3832) | M6204. |
| **Aztec Append** | Off | M6205\_0. |
| On | M6205\_1. |
| **Aztec Code Page** | Aztec Code Page | M6206. |
| **Chinese Sensible (Han Xin) Code** | Default All Han Xin Code Settings | M6301. |
| Off | M6302\_0. |
| On | M6302\_1. |
| **Chinese Sensible (Han Xin) Code Msg. Length** | Minimum (1-7833) | M6303. |
| Maximum (1-7833) | M6304. |
| **China Post (Hong Kong 2 of 5)** | Default All China Post (Hong Kong 2  of 5) Settings | M6401. |
| Off | M6402\_0. |
| On | M6402\_1. |
| **China Post (Hong Kong 2 of 5) Msg. Length** | Minimum (2 - 80) | M6403. |
| Maximum (2 - 80) | M6404. |
| **Korea Post** | Default All Korea Post Settings | M6501. |
| Off | M6502\_0. |
| On | M6502\_1. |
| **Korea Post Msg. Length** | Minimum (2 - 80) | M6503. |
| Maximum (2 - 80) | M6504. |
| **Korea Post Check Digit** | Transmit Check Digit | M6505\_0. |
| Don’t Transmit Check Digit | M6505\_1. |
| **2D Postal Codes** | Off | M6601\_0. |
| **Single 2D Postal Codes** | Australian Post On | M6601\_1. |
| British Post On | M6601\_7. |
| Canadian Post On | M6601\_30. |
| Intelligent Mail Bar Code On | M6601\_10. |
| Japanese Post On | M6601\_3. |
| KIX Post On | M6601\_4. |
| Planet Code On | M6601\_5. |
| Postal-4i On | M6601\_9. |
| Postnet On | M6601\_6. |
| Postnet with B and B’ Fields On | M6601\_11. |
| InfoMail On | M6601\_2. |
| **Combination 2D Postal Codes** | InfoMail and British Post On | M6601\_8. |
| Intelligent Mail Bar Code and Postnet with B and B’ Fields On | M6601\_20. |
| Postnet and Postal-4i On | M6601\_14. |
| Postnet and  Intelligent Mail Bar Code On | M6601\_16. |
| Postal-4i and Intelligent Mail Bar Code On | M6601\_17. |
| Postal-4i and  Postnet with B and B’ Fields On | M6601\_19. |
| Planet and Postnet On | M6601\_12. |
| Planet and Postnet with B and B’ Fields  On | M6601\_18. |
| Planet and Postal-4i On | M6601\_13. |
| Planet and Intelligent Mail Bar Code On | M6601\_15. |
| Planet, Postnet, and Postal-4i On | M6601\_21. |
| Planet, Postnet, and Intelligent Mail Bar Code On | M6601\_22. |
| Planet,Postal-4i, and Intelligent Mail Bar Code On | M6601\_23. |
| Postnet, Postal-4i, and Intelligent Mail  Bar Code On | M6601\_24. |
| Planet,Postal-4i, and Postnet with B and B’ Fields On | M6601\_25. |
| Planet, Intelligent Mail Bar Code, and Postnet with B and B’ Fields On | M6601\_26. |
| Postal-4i, Intelligent Mail Bar Code, and Postnet with B and B’ Fields On | M6601\_27. |
| Planet, Postal-4i, Intelligent Mail Bar Code, and Postnet On | M6601\_28. |
| Planet, Postal-4i,Intelligent Mail Bar Code, and Postnet with B and B’ Fields On | M6601\_29. |
| **Planet Code Check Digit** | Don’t Transmit | M6602\_0. |
| Transmit | M6602\_1. |
| **Postnet Check Digit** | Don’t Transmit | M6603\_0. |
| Transmit | M6603\_1. |
| **Australian Post Interpretation** | Bar Output | M6604\_0. |
| Numeric N Table | M6604\_1. |
| Alphanumeric C Table | M6604\_2. |
| Combination N and C Tables | M6604\_4. |

# APPENDIX A Interface Keys

## Keyboard Function Relationships

The following Keyboard Function Code, Hex/ASCII Value, and Full ASCII “CTRL”+ relationships apply to all terminals that can be used with the scanner.

|  |  |  |
| --- | --- | --- |
| Function Code | HEX/ASCII Value | Full ASCII “CTRL” + |
| NUL | 00 | @ |
| SOH | 01 | A |
| STX | 02 | B |
| ETX | 03 | C |
| EOT | 04 | D |
| ENQ | 05 | E |
| ACK | 06 | F |
| BEL | 07 | G |
| BS | 08 | H |
| HT | 09 | I |
| LF | 0A | J |
| VT | 0B | K |
| FF | 0C | L |
| CR | 0D | M |
| SO | 0E | N |
| SI | 0F | O |
| DLE | 10 | P |
| DC1 | 11 | Q |
| DC2 | 12 | R |
| DC3 | 13 | S |
| DC4 | 14 | T |
| NAK | 15 | U |
| SYN | 16 | V |
| ETB | 17 | W |
| CAN | 18 | X |
| EM | 19 | Y |
| SUB | 1A | Z |
| ESC | 1B | [ |
| FS | 1C | \ |
| GS | 1D | ] |
| RS | 1E | ^ |
| US | 1F | \_ |

The last five characters in the Full ASCII “CTRL”+ column ( [ \ ] 6 - ), apply to US only. The following chart indicates the equivalents of these five characters for different countries.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Country | | | Codes | | |
| United States | [ | \ | ] | 6 | - |
| Belgium | [ | < | ] | 6 | - |
| Scandinavia | 8 | < | 9 | 6 | - |
| France | ^ | 8 | $ | 6 | = |
| Germany |  | Ã | + | 6 | - |
| Italy |  | \ | + | 6 | - |
| Switzerland |  | < | . . | 6 | - |
| United Kingdom | [ | ¢ | ] | 6 | - |
| Denmark | 8 | \ | 9 | 6 | - |
| Norway | 8 | \ | 9 | 6 | - |
| Spain | [ | \ | ] | 6 | - |

## Supported Interface Keys

|  |  |  |  |
| --- | --- | --- | --- |
| ASCII | HEX | IBM PC/AT and  Compatibles,  USB PC Keyboard | Apple Mac/iMac  Supported Keys |
| NUL | 00 | Reserved | Reserved |
| SOH | 01 | Enter (KP) | Enter/Numpad Enter |
| STX | 02 | Cap Lock | CAPS |
| ETX | 03 | ALT make | ALT make |
| EOT | 04 | ALT break | ALT break |
| ENQ | 05 | CTRL make | CNTRL make |
| ACK | 06 | CTRL break | CNTRL break |
| BEL | 07 | CR/Enter | RETURN |
| BS | 08 | Reserved | APPLE make |
| HT | 09 | Tab | TAB |
| LF | 0A | Reserved | APPLE break |
| VT | 0B | Tab | TAB |
| FF | 0C | Delete | Del |
| CR | 0D | CR/Enter | RETURN |
| SO | 0E | Insert | Ins Help |
| SI | 0F | Escape | ESC |
| DLE | 10 | F11 | F11 |
| DC1 | 11 | Home | Home |
| DC2 | 12 | Print | Prnt Scrn |
| DC3 | 13 | Back Space | BACKSPACE |
| DC4 | 14 | Back Tab | LSHIFT TAB |
| NAK | 15 | F12 | F12 |
| SYN | 16 | F1 | F1 |
| ETB | 17 | F2 | F2 |
| CAN | 18 | F3 | F3 |
| EM | 19 | F4 | F4 |
| SUB | 1A | F5 | F5 |
| ESC | 1B | F6 | F6 |
| FS | 1C | F7 | F7 |
| GS | 1D | F8 | F8 |
| RS | 1E | F9 | F9 |
| US | 1F | F10 | F10 |
| DEL | 7F |  | BACKSPACE |

# APPENDIX B Programming Number

|  |  |
| --- | --- |
|  |  |
| 0 |  |
|  | 1 |
| 2 |  |
|  | 3 |
| 4 |  |
|  | 5 |
| 6 |  |
|  | 7 |
| 8 |  |
|  | 9 |
| A |  |
|  | B |
|  |  |
| C |  |
|  | D |
| E |  |
|  | F |
| Save |  |
|  | Discard |

# APPENDIX C Symbology Charts-AIM ID

## 1D Symbologies

|  |  |  |  |
| --- | --- | --- | --- |
| AIM | | | |
| Symbology | ID | Possible modifiers(m) | Hex |
| **All Symbologies** |  |  | 99 |
| **UPC** |  | 0,1,2,3,8,9,A,B,C |  |
| UPC-A | ]E0 |  | 63 |
| UPC-A with Add-On | ]E3 |  | 63 |
| UPC-A with Extended Coupon Code | ]E3 |  | 63 |
| UPC-E | ]E0 |  | 45 |
| UPC-E with Add-On | ]E3 |  | 45 |
| UPC-E1 | ]X0 |  | 45 |
| **EAN** | ]Em | 0, 1, 3, 4 | 64 |
| EAN-13 (including Bookland EAN) | ]E0 |  | 64 |
| EAN-13 with Add-On | ]E3 |  | 64 |
| EAN-13 with Extended  Coupon Code | ]E3 |  | 64 |
| EAN-8 | ]E4 |  | 44 |
| EAN-8 with Add-On | ]E3 |  | 44 |
| **Code 128** | ]Cm | 0, 1, 2, 4 | 6A |
| **Telepen** | ]Bm |  | 74 |
| **Code 39 (supports Full ASCII**  **mode)** | ]Am | 0, 1, 3, 4, 5, 7 | 62 |
| TCIF Linked Code 39  (TLC39) | ]L2 |  | 54 |
| Code 32 Pharmaceutical  (PARAF) | ]X0 |  | 3C |
| **Code 93 and 93i** | ]Gm | 0-9, A-Z, a-m | 69 |
| **Code 11** | ]H3 |  | 68 |
| **2 of 5** |  |  |  |
| China Post (Hong Kong 2 of 5) | ]X0 |  | 51 |
| Interleaved 2 of 5 | ]Im | 0, 1, 3 | 65 |
| Matrix 2 of 5 | ]X0 |  | 6D |
| NEC 2 of 5 | ]X0 |  | 59 |
| Straight 2 of 5 IATA | ]Rm | 0, 1, 3 | 66 |
| Straight 2 of 5 Industrial | ]S0 |  | 66 |
| **Codabar** | ]Fm | 0-1 | 61 |
| **MSI** | ]Mm | 0,1 | 67 |
| **GS1** |  |  |  |
| GS1 DataBar | ]em | 0 | 79 |
| GS1 DataBar Limited | ]em |  | 7B |
| GS1 DataBar Expanded | ]em |  | 7D |
| GS1-128 | ]C1 |  | 49 |
|  |  |  |  |
| Add AIM Code ID |  |  | 5C81 |
| Add Backslash |  |  | 5C5C |
| Batch mode quantity |  |  | 35 |

## 2D Symbologies

|  |  |  |  |
| --- | --- | --- | --- |
| AIM | | | |
| Symbology | ID | Possible modifiers (m) | Hex |
| All Symbologies |  |  | 99 |
| **Aztec Code** | ]zm | 0-9, A-C | 7A |
| **Chinese Sensible Code (Han**  **Xin Code)** | ]X0 |  | 48 |
| **Codablock A** | ]O6 | 0, 1, 4, 5, 6 | 56 |
| **Codablock F** | ]Om | 0, 1, 4, 5, 6 | 71 |
| **Code 49** | ]Tm | 0, 1, 2, 4 | 6C |
| **GS1** | ]em | 0-3 | 79 |
| GS1 Composite | ]em | 0-3 | 79 |
| GS1 DataBar Omnidirectional | ]em | 0-3 | 79 |
| **PDF417** | ]Lm | 0-2 | 72 |
| MicroPDF417 | ]Lm | 0-5 | 52 |
| **MaxiCode** | ]Um | 0-3 | 78 |
| **Data Matrix** | ]dm | 0-6 | 77 |
| **QR Code** | ]Qm | 0-6 | 73 |
| Micro QR Code | ]Qm |  | 73 |

## Postal Symbologies

|  |  |  |  |
| --- | --- | --- | --- |
| AIM | | | |
| Symbology | ID | Possible modifiers (m) | Hex |
| All Symbologies |  |  | 99 |
| **Australian Post** | ]X0 |  | 41 |
| **British Post** | ]X0 |  | 42 |
| **Canadian Post** | ]X0 |  | 43 |
| **China Post** | ]X0 |  | 51 |
| **InfoMail** | ]X0 |  | 2c |
| **Intelligent Mail Bar Code** | ]X0 |  | 4D |
| **Japanese Post** | ]X0 |  | 4A |
| **KIX (Netherlands) Post** | ]X0 |  | 4B |
| **Korea Post** | ]X0 |  | 3F |
| **Planet Code** | ]X0 |  | 4C |
| **Postal-4i** | ]X0 |  | 4E |
| **Postnet** | ]X0 |  | 50 |

# APPENDIX D ASCII Conversion Chart

In keyboard applications, ASCII Control Characters can be represented in 3 different ways, as shown below. The CTRL+X function is OS and application dependent. The following table lists some commonly used Microsoft functionality. This table applies to U.S. style keyboards. Certain characters may differ depending on your Country Code/PC regional settings.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Non-printable  ASCII control characters | | | Keyboard Control + ASCII (CTRL+X) Mode | | |
|  |  |  | Control + X Mode Off  (KBDCAS0) | Windows Mode Control + X Mode On (KBDCAS2) | |
| DEC | HEX | Char | CTRL + X | CTRL + X  function |
| 0 | 00 | NUL | Reserved | CTRL+ @ |  |
| 1 | 01 | SOH | NP Enter | CTRL+ A | Select all |
| 2 | 02 | STX | Caps Lock | CTRL+ B | Bold |
| 3 | 03 | ETX | ALT Make | CTRL+ C | Copy |
| 4 | 04 | EOT | ALT Break | CTRL+ D | Bookmark |
| 5 | 05 | ENQ | CTRL Make | CTRL+ E | Center |
| 6 | 06 | ACK | CTRL Break | CTRL+ F | Find |
| 7 | 07 | BEL | Enter / Ret | CTRL+ G |  |
| 8 | 08 | BS | (Apple Make) | CTRL+ H | History |
| 9 | 09 | HT | Tab | CTRL+ I | Italic |
| 10 | 0A | LF | (Apple Break) | CTRL+ J | Justify |
| 11 | 0B | VT | Tab | CTRL+ K | hyperlink |
| 12 | 0C | FF | Delete | CTRL+ L | list, left align |
| 13 | 0D | CR | Enter / Ret | CTRL+ M |  |
| 14 | 0E | SO | Insert | CTRL+ N | New |
| 15 | 0F | SI | ESC | CTRL+ O | Open |
| 16 | 10 | DLE | F11 | CTRL+ P | Print |
| 17 | 11 | DC1 | Home | CTRL+ Q | Quit |
| 18 | 12 | DC2 | PrtScn | CTRL+ R |  |
| 19 | 13 | DC3 | Backspace | CTRL+ S | Save |
| 20 | 14 | DC4 | Back Tab | CTRL+ T |  |
| 21 | 15 | NAK | F12 | CTRL+ U |  |
| 22 | 16 | SYN | F1 | CTRL+ V | Paste |
| 23 | 17 | ETB | F2 | CTRL+ W |  |
| 24 | 18 | CAN | F3 | CTRL+ X |  |
| 25 | 19 | EM | F4 | CTRL+ Y |  |
| 26 | 1A | SUB | F5 | CTRL+ Z |  |
| 27 | 1B | ESC | F6 | CTRL+ [ |  |
| 28 | 1C | FS | F7 | CTRL+ \ |  |
| 29 | 1D | GS | F8 | CTRL+ ] |  |
| 30 | 1E | RS | F9 | CTRL+ ^ |  |
| 31 | 1F | US | F10 | CTRL+ - |  |
| 127 | 7F | ⌂ | NP Enter |  |  |

**Lower ASCII Reference Table**

***Note:*** Windows Code page 1252 and lower ASCII use the same characters.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Printable Characters | | | | | | | | |
| DEC | HEX | Character | DEC | HEX | Character | DEC | HEX | Character |
| 32 | 20 | <SPACE> | 64 | 40 | @ | 96 | 60 | ` |
| 33 | 21 | ! | 65 | 41 | A | 97 | 61 | a |
| 34 | 22 | ” | 66 | 42 | B | 98 | 62 | b |
| 35 | 23 | # | 67 | 43 | C | 99 | 63 | c |
| 36 | 24 | $ | 68 | 44 | D | 100 | 64 | d |
| 37 | 25 | % | 69 | 45 | E | 101 | 65 | e |
| 38 | 26 | & | 70 | 46 | F | 102 | 66 | f |
| 39 | 27 | ’ | 71 | 47 | G | 103 | 67 | g |
| 40 | 28 | ( | 72 | 48 | H | 104 | 68 | h |
| 41 | 29 | ) | 73 | 49 | I | 105 | 69 | i |
| 42 | 2A | \* | 74 | 4A | J | 106 | 6A | j |
| 43 | 2B | + | 75 | 4B | K | 107 | 6B | k |
| 44 | 2C | , | 76 | 4C | L | 108 | 6C | l |
| 45 | 2D | - | 77 | 4D | M | 109 | 6D | m |
| 46 | 2E | . | 78 | 4E | N | 110 | 6E | n |
| 47 | 2F | / | 79 | 4F | O | 111 | 6F | o |
| 48 | 30 | 0 | 80 | 50 | P | 112 | 70 | p |
| 49 | 31 | 1 | 81 | 51 | Q | 113 | 71 | q |
| 50 | 32 | 2 | 82 | 52 | R | 114 | 72 | r |
| 51 | 33 | 3 | 83 | 53 | S | 115 | 73 | s |
| 52 | 34 | 4 | 84 | 54 | T | 116 | 74 | t |
| 53 | 35 | 5 | 85 | 55 | U | 117 | 75 | u |
| 54 | 36 | 6 | 86 | 56 | V | 118 | 76 | v |
| 55 | 37 | 7 | 87 | 57 | W | 119 | 77 | w |
| 56 | 38 | 8 | 88 | 58 | X | 120 | 78 | x |
| 57 | 39 | 9 | 89 | 59 | Y | 121 | 79 | y |
| 58 | 3A | : | 90 | 5A | Z | 122 | 7A | z |
| 59 | 3B | ; | 91 | 5B | [ | 123 | 7B | { |
| 60 | 3C | < | 92 | 5C | \ | 124 | 7C | | |
| 61 | 3D | = | 93 | 5D | ] | 125 | 7D | } |
| 62 | 3E | > | 94 | 5E | ^ | 126 | 7E | ~ |
| 63 | 3F | ? | 95 | 5F | \_ | 127 | 7F | ⌂ |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Extended ASCII Characters | | | | | |
| DEC | HEX | CP 1252 | ASCII | Alternate Extended | PS2 Scan  Code |
| 128 | 80 | € | Ç | up arrow ↑ | 0x48 |
| 129 | 81 |  | ü | down arrow ↓ | 0x50 |
| 130 | 82 | ‚ | é | right arrow → | 0x4B |
| 131 | 83 | ƒ | â | left arrow ← | 0x4D |
| 132 | 84 | „ | ä | Insert | 0x52 |
| 133 | 85 | … | à | Delete | 0x53 |
| 134 | 86 | † | å | Home | 0x47 |
| 135 | 87 | ‡ | ç | End | 0x4F |
| 136 | 88 | ˆ | ê | Page Up | 0x49 |
| 137 | 89 | ‰ | ë | Page Down | 0x51 |
| 138 | 8A | Š | è | Right ALT | 0x38 |
| 139 | 8B | ‹ | ï | Right CTRL | 0x1D |
| 140 | 8C | Œ | î | Reserved | n/a |
| 141 | 8D |  | ì | Reserved | n/a |
| 142 | 8E | Ž | Ä | Numeric Keypad Enter | 0x1C |
| 143 | 8F |  | Å | Numeric Keypad / | 0x35 |
| 144 | 90 |  | É | F1 | 0x3B |
| 145 | 91 | ‘ | æ | F2 | 0x3C |
| 146 | 92 | ’ | Æ | F3 | 0x3D |
| 147 | 93 | “ | ô | F4 | 0x3E |
| 148 | 94 | ” | ö | F5 | 0x3F |
| 149 | 95 | • | ò | F6 | 0x40 |
| 150 | 96 | – | û | F7 | 0x41 |
| 151 | 97 | — | ù | F8 | 0x42 |
| 152 | 98 | ˜ | ÿ | F9 | 0x43 |
| 153 | 99 | ™ | Ö | F10 | 0x44 |
| 154 | 9A | š | Ü | F11 | 0x57 |
| 155 | 9B | › | ¢ | F12 | 0x58 |
| 156 | 9C | œ | £ | Numeric Keypad + | 0x4E |
| 157 | 9D |  | ¥ | Numeric Keypad - | 0x4A |
| 158 | 9E | ž | ₧ | Numeric Keypad \* | 0x37 |
| 159 | 9F | Ÿ | ƒ | Caps Lock | 0x3A |
| 160 | A0 |  | á | Num Lock | 0x45 |
| 161 | A1 | ¡ | í | Left Alt | 0x38 |
| 162 | A2 | ¢ | ó | Left Ctrl | 0x1D |
| 163 | A3 | £ | ú | Left Shift | 0x2A |
| 164 | A4 | ¤ | ñ | Right Shift | 0x36 |
| 165 | A5 | ¥ | Ñ | Print Screen | n/a |
| 166 | A6 | ¦ | ª | Tab | 0x0F |
| 167 | A7 | § | º | Shift Tab | 0x8F |
| 168 | A8 | ¨ | ¿ | Enter | 0x1C |
| 169 | A9 | © | ⌐ | Esc | 0x01 |
| 170 | AA | ª | ¬ | Alt Make | 0x36 |
| 171 | AB | « | ½ | Alt Break | 0xB6 |
| 172 | AC | ¬ | ¼ | Control Make | 0x1D |
| 173 | AD |  | ¡ | Control Break | 0x9D |
| 174 | AE | ® | « | Alt Sequence with 1 Character | 0x36 |
| 175 | AF | ¯ | » | Ctrl Sequence with 1 Character | 0x1D |
| 176 | B0 | ° | ░ |  |  |
| 177 | B1 | ± | ▒ |  |  |
| 178 | B2 | ² | ▓ |  |  |
| 179 | B3 | ³ | │ |  |  |
| 180 | B4 | ´ | ┤ |  |  |
| 181 | B5 | µ | ╡ |  |  |
| 182 | B6 | ¶ | ╢ |  |  |
| 183 | B7 | · | ╖ |  |  |
| 184 | B8 | ¸ | ╕ |  |  |
| 185 | B9 | ¹ | ╣ |  |  |
| 186 | BA | º | ║ |  |  |
| 187 | BB | » | ╗ |  |  |
| 188 | BC | ¼ | ╝ |  |  |
| 189 | BD | ½ | ╜ |  |  |
| 190 | BE | ¾ | ╛ |  |  |
| 191 | BF | ¿ | ┐ |  |  |
| 192 | C0 | À | └ |  |  |
| 193 | C1 | Á | ┴ |  |  |
| 194 | C2 | Â | ┬ |  |  |
| 195 | C3 | Ã | ├ |  |  |
| 196 | C4 | Ä | ─ |  |  |
| 197 | C5 | Å | í |  |  |
| 198 | C6 | Æ | ╞ |  |  |
| 199 | C7 | Ç | ╟ |  |  |
| 200 | C8 | È | ╚ |  |  |
| 201 | C9 | É | ╔ |  |  |
| 202 | CA | Ê | ╩ |  |  |
| 203 | CB | Ë | ╦ |  |  |
| 204 | CC | Ì | ╠ |  |  |
| 205 | CD | Í | ═ |  |  |
| 206 | CE | Î | ╬ |  |  |
| 207 | CF | Ï | ╧ |  |  |
| 208 | D0 | Ð | ╨ |  |  |
| 209 | D1 | Ñ | ╤ |  |  |
| 210 | D2 | Ò | ╥ |  |  |
| 211 | D3 | Ó | ╙ |  |  |
| 212 | D4 | Ô | ╘ |  |  |
| 213 | D5 | Õ | ╒ |  |  |
| 214 | D6 | Ö | ╓ |  |  |
| 215 | D7 | × | ╫ |  |  |
| 216 | D8 | Ø | ╪ |  |  |
| 217 | D9 | Ù | ┘ |  |  |
| 218 | DA | Ú | ┌ |  |  |
| 219 | DB | Û | █ |  |  |
| 220 | DC | Ü | ▄ |  |  |
| 221 | DD | Ý | ▌ |  |  |
| 222 | DE | Þ | ▐ |  |  |
| 223 | DF | ß | ▀ |  |  |
| 224 | E0 | à | α |  |  |
| 225 | E1 | á | ß |  |  |
| 226 | E2 | â | Γ |  |  |
| 227 | E3 | ã | π |  |  |
| 228 | E4 | ä | Σ |  |  |
| 229 | E5 | å | σ |  |  |
| 230 | E6 | æ | µ |  |  |
| 231 | E7 | ç | τ |  |  |
| 232 | E8 | è | Φ |  |  |
| 233 | E9 | é | Θ |  |  |
| 234 | EA | ê | Ω |  |  |
| 235 | EB | ë | δ |  |  |
| 236 | EC | ì | ∞ |  |  |
| 237 | ED | í | φ |  |  |
| 238 | EE | î | ε |  |  |
| 239 | EF | ï | ∩ |  |  |
| 240 | F0 | ð | ≡ |  |  |
| 241 | F1 | ñ | ± |  |  |
| 242 | F2 | ò | ≥ |  |  |
| 243 | F3 | ó | ≤ |  |  |
| 244 | F4 | ô | ⌠ |  |  |
| 245 | F5 | õ | ⌡ |  |  |
| 246 | F6 | ö | ÷ |  |  |
| 247 | F7 | ÷ | ≈ |  |  |
| 248 | F8 | ø | ° |  |  |
| 249 | F9 | ù | · |  |  |
| 250 | FA | ú | · |  |  |
| 251 | FB | û | √ |  |  |
| 252 | FC | ü | ⁿ |  |  |
| 253 | FD | ý | ² |  |  |
| 254 | FE | þ | ■ |  |  |
| 255 | FF | ÿ |  |  |  |