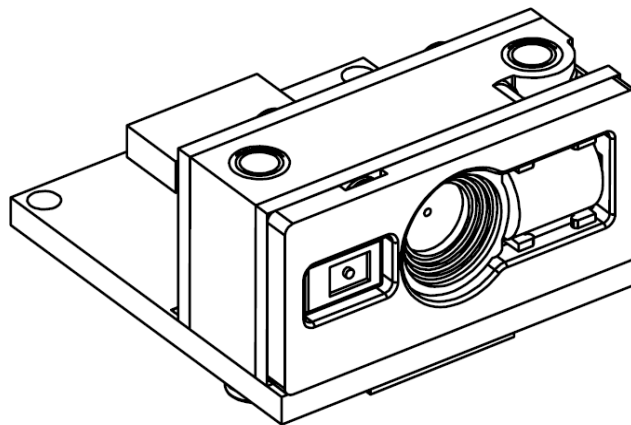




M2 Series

Embedded 2D Barcode

User Guide

Disclaimer

©2013 All rights reserved.

Please read through the manual carefully before using the product and operate it according to the manual. It is advised that you should keep this manual for future reference.

Do not disassemble the device or remove the seal label from the device. Otherwise, does not assume responsibility for the warranty or replacement.

All pictures in this manual are for reference only and actual product may differ. Regarding to the product modification and update, reserves the right to make changes to any software or product to improve reliability, function, or design at any time without notice. Besides, the information contained herein is subject to change without prior notice.

The products depicted in this manual may include software copyrighted by or a third party. The user, corporation or individual, shall not duplicate, in whole or in part, distribute, modify, decompile, disassemble, decode, reverse engineer, rent, transfer or sublicense such software without prior written consent from the copyright holders.

This manual is copyrighted. No part of this publication may be reproduced or used in any form without written permission from . reserves the right to make final interpretation of the statement above.

Revision History

Version	Description	Date
V1.0.0	Initial release.	January 13, 2014

Chapter 1 Getting Started

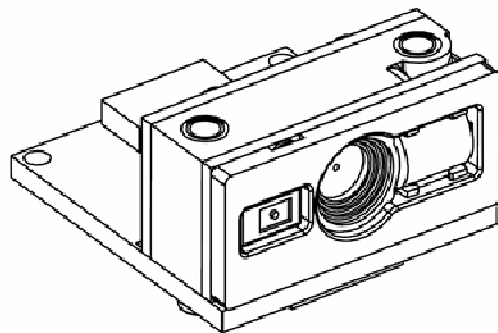
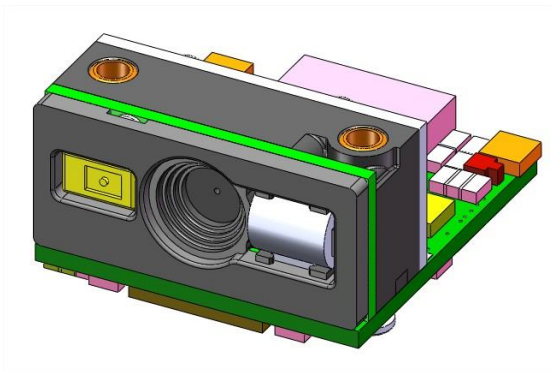
Introduction

M2 series embedded 2D barcode scan engines, armed with the “Hercules” technology, the unique Image Processing Algorithm and optical system.

The M2 2D barcode decoder chip uses advanced chip design & manufacturing, which significantly simplifies application design and delivers superior performance and solid reliability with low power consumption.

The M2 support all mainstream 1D and standard 2D barcode symbologies (e.g., PDF417, QR Code M1/M2/Micro and Data Matrix) as well as GS1-DataBar™(RSS) (Limited/Stacked/Expanded versions). It can read barcodes on virtually any medium - paper, plastic card, mobile phones and LCD displays.

This compact, lightweight engine fits easily into even the most space-constrained equipments such as data collectors, meter readers, ticket validators and PDAs.



About This Guide

This guide provides programming instructions for the M2. Users can configure the M2 by scanning the programming barcodes included in this manual.

Barcode Scanning

Powered by area-imaging technology and M2 patented “Hercules” technology, the M2 features fast scanning and decoding accuracy. Barcodes rotated at any angle can still be read with ease. When scanning a barcode, simply center the aiming beam or pattern projected by the M2 over the barcode.

Barcode Programming

Factory Defaults

Scanning the following barcode can restore the engine to the factory defaults. See **Appendix 1: Factory Defaults Table** for more information.

Note: Use this feature with discretion.



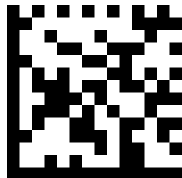
Restore All Factory Defaults

Chapter 2 Communication Interfaces

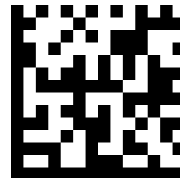
The M2 provides a TTL-232 interface and a USB interface to communicate with the host device. The host device can receive scanned data and send commands to control the engine or to access/alter the configuration information of the engine via the TTL-232 or USB interface.

TTL-232 Cable Select

Before using Serial Communication interface, scanner must be set as TTL-232 cable. Please reset the scanner after set 232 cable



232 Cable



reset

TTL-232 Interface

Serial communication interface is usually used when connecting the engine to a host device (like PC, POS). However, to ensure smooth communication and accuracy of data, you need to set communication parameters (including baud rate, parity check, data bit and stop bit) to match the host device.

The serial communication interface provided by the engine is based on TTL-level signals. TTL-232 can be used for most application architectures. For those requiring RS-232, an external conversion circuit is needed. The conversion circuit is available only to some models.



Serial Communication

Default serial communication parameters are listed below. Make sure all parameters match the host requirements.

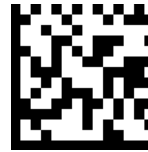
Parameter	Factory Default
Serial Communication	Standard TTL-232
Baud Rate	115200
Parity Check	None
Data Bits	8
Stop Bits	1
Hardware Flow Control	None

Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the baud rate to match the Host requirements.



2400



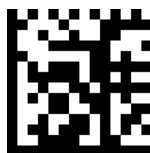
4800



9600



19200



38400



57600



115200

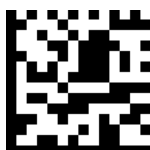
Data Bit & Parity Check& Stop Bit



None Parity /8 Data Bits/1 Stop Bit



None Parity /7 Data Bits/1 Stop Bit



None Parity /7 Data Bits/2 Stop Bits



Even Parity /8 Data Bits/1 Stop Bit



Even Parity /7 Data Bits/1 Stop Bit



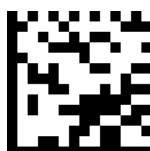
Even Parity /7 Data Bits/2 Stop Bits



Odd Parity /8 Data Bits/1 Stop Bit



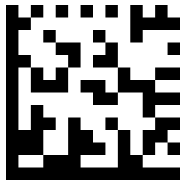
Odd Parity /7 Data Bits/1 Stop Bit



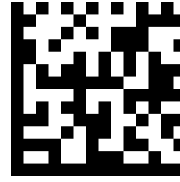
Odd Parity /7 Data Bits/2 Stop Bit

USB Interface

Before using USB Communication interface, scanner must be set as USB cable. Please reset the scanner after set USB cable.



USB Cable



Reset

USB HID-KBW

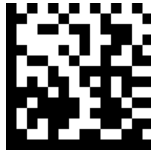
When you connect the engine to the Host via a USB connection, you can enable the **USB HID-KBW** feature by scanning the barcode below. Then engine's transmission will be simulated as USB keyboard input. The Host receives keystrokes on the virtual keyboard. It works on a Plug and Play basis and no driver is required.



USB HID-KBW

USB Country Keyboard Types

Keyboard layouts vary from country to country. The default setting is 1-U.S. keyboard.



1 - U.S.



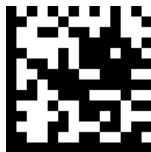
2 - UK



3 - Denmark



4 - France



5 - Finland



6 - Turkey_F



7 - Italy



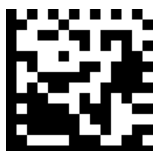
8 - Norway



9 - Albania



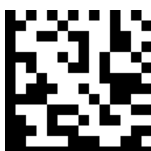
10 - Belgium



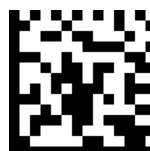
11 – Bosnia



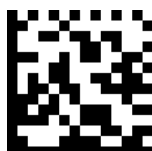
12 – Brazil



13 – Croatia



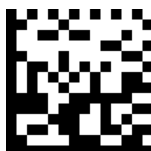
14 – Czech



15 –Dutch



16 – Estonia



17 – Germany



18 – Greek



19 – Hungary



20 – Irish



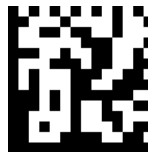
21 – Latvia



22-Lithuania



23 – Macedonia



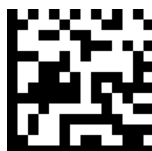
24 – Spain



25 – Poland



26 –Portugal



27 –Romania



28 –Russia

Convert Case

Scan the appropriate barcode below to convert barcode data to your desired case.



No Case Conversion



Convert All to Upper Case



Convert All to Lower Case

Example: When the **Convert All to Lower Case** feature is enabled, barcode data “AbC” is transmitted as “abc”.

USB COM Port Emulation

If you connect the engine to the Host via a USB connection, the **USB COM Port Emulation** feature allows the Host to receive data in the way as a serial port does. A driver is required for this feature.

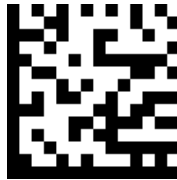


USB COM Port Emulation

Chapter 3 General Configuration

Trigger Mode

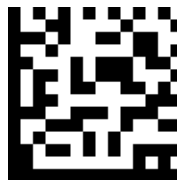
If the Trigger Mode is enabled, you could activate the scanner by providing an external hardware trigger, or using a serial trigger command. When in manual trigger mode, the scanner scans until a barcode is read, or until the hardware trigger is released. When in serial mode, the scanner scans until a barcode has been read or until the deactivate command is sent.



Trigger Mode

Continue Mode

This sets the scanner to work in Continue mode.

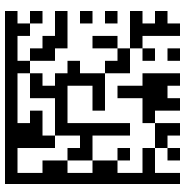


Continue Mode

Cellphone Mode 1

If the Cellphone Mode is enabled, the engine activates a special capturing image and illumination session. Every 3 frame open one illumination.

When the backlight of cellphone is weak and the reflection is strong ,please scan mode 1



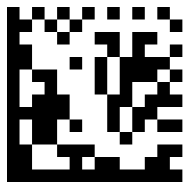
Cellphone Mode 1

When the backlight of cellphone is not weak and the reflection is strong ,please scan mode 2

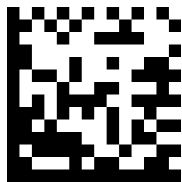


Cellphone Mode 2

Video Reverse

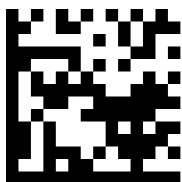


On

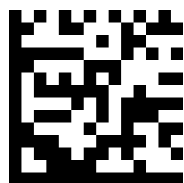


Off

Illumination



On

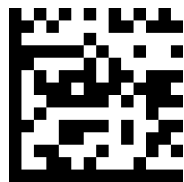


Off

Beeper - Good Read

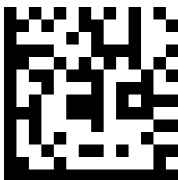


On

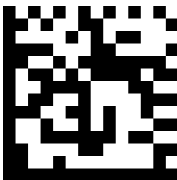


Off

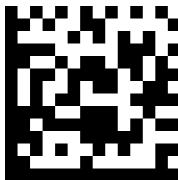
Beeper Tone - Good Read



Low

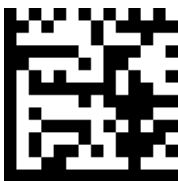


Middle

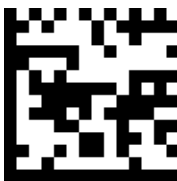


High

Beeper During-Good Read

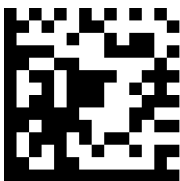


Normal

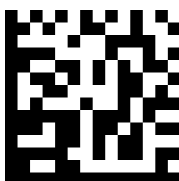


Short

Beeper Number-Good Read



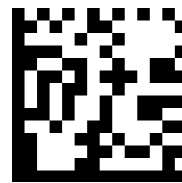
1



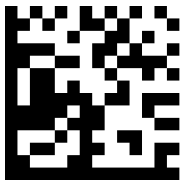
2



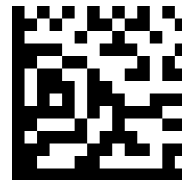
3



4

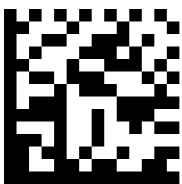


5

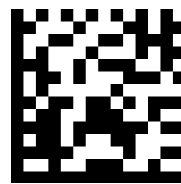


6

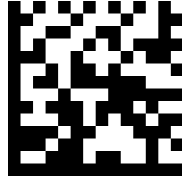
Barcode Scanning Delay



No Delay

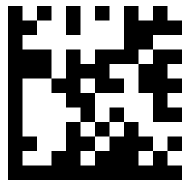


Delay 500MS



Delay 2000ms

Ship Image



Ship Image

Chapter 4 Data Formatting

General Configuration



Add CR



Add LF

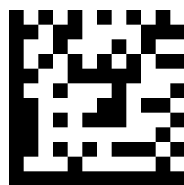


Add CRLF

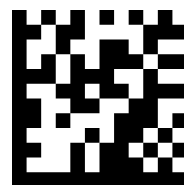


Add TAB

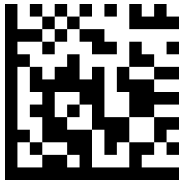
Add Prefix



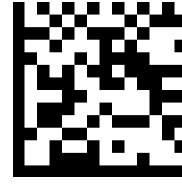
Add Prefix



Clear Prefix



Save



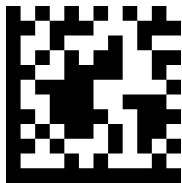
Not Save

To set a custom prefix, scan the Set Custom Prefix barcode and the numeric barcodes representing the hexadecimal values of a desired Prefix and then scan the Save barcode. Refer to Appendix 4: ASCII Table for hexadecimal values of characters.

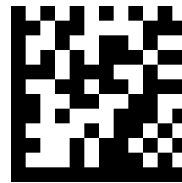
Example: Set the custom Prefix to “ODE”

1. Check the hex values of “ODE” in the ASCII Table. (“ODE”: 4F, 44, 45)
2. Scan the **Set Custom Prefix** barcode.
3. Scan the numeric barcodes “9”, “9”, “4”, “F”, “4”, “4”, “4” and “5” in Appendix 5 .
4. Scan the **Save** barcode.

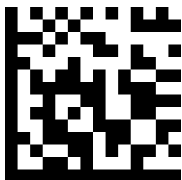
Add Suffix



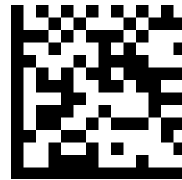
Add Suffix



Clear Suffix



Save



Not Save

To set a custom prefix, scan the Set Custom Prefix barcode and the numeric barcodes representing the hexadecimal values of a desired Prefix and then scan the Save barcode. Refer to Appendix 4: ASCII Table for hexadecimal values of characters.

Example: Set the custom Prefix to “ODE”

1. Check the hex values of “ODE” in the ASCII Table. (“ODE”: 4F, 44, 45)
2. Scan the **Set Custom Prefix** barcode.
3. Scan the numeric barcodes”9”,”9”, “4”, “F”, “4”, “4”, “4” and “5”in Appendix 5 .
4. Scan the **Save** barcode.

Chapter 5 Symbologies

General Settings

Enable/Disable All Symbologies

If the **Disable All Symbologies** feature is enabled, the engine will not be able to read any non-programming barcodes except the programming barcodes.



Enable All Symbologies



Disable All Symbologies

1D Symbologies

Code 128

Restore Factory Defaults

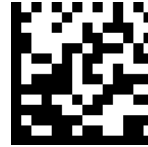


Restore the Factory Defaults of Code 128

Enable/Disable Code 128



Enable Code 128



Disable Code 128

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command:
Max: 020A0325.
Min: 020A0210.

EAN-8

Restore Factory Defaults



Restore the Factory Defaults of EAN-8

Enable/Disable EAN-8



Enable EAN-8



Disable EAN-8

Transmit Check Digit

EAN-8 is 8 digits in length with the last one as its check digit used to verify the accuracy of the data.



Transmit EAN-8 Check Digit



Don't Transmit EAN-8 Check Digit

Add-On Code

An EAN-8 barcode can be augmented with a two-digit or five-digit add-on code on code on code to form a new one. In the examples below, the part surrounded by blue dotted line is an EAN-8 barcode while the part circled by red dotted line is add-on code.



Enable 2-Digit Add-On Code



Disable 2-Digit Add-On Code



Enable 5-Digit Add-On Code



Disable 5-Digit Add-On Code

Add-On Code Required



EAN-8 Add-On Code Required



EAN-8 Add-On Code Not Required

ENA/JAN-8 Addenda Separator

When this feature is enabled, there is a space between the data from the barcode and the Data from the addenda. When this feature is disabled, there is no space.



Enable ENA/JAN-8 Addenda Separator



Disable ENA/JAN-8 Addenda Separator

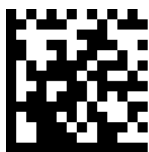
EAN-13

Restore Factory Defaults



Restore the Factory Defaults of EAN-13

Enable/Disable EAN-13

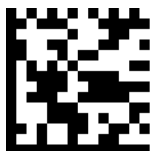


Enable EAN-13



Disable EAN-13

Transmit Check Digit



Transmit EAN-13 Check Digit

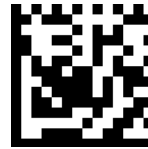


Do Not Transmit EAN-13 Check Digit

Add-On Code



Enable 2-Digit Add-On Code



Disable 2-Digit Add-On Code



Enable 5-Digit Add-On Code



Disable 5-Digit Add-On Code

Add-On Code Required



EAN-8 Add-On Code Required



EAN-8 Add-On Code Not Required

ENA/JAN-8 Addenda Separator

When this feature is enabled, there is a space between the data from the barcode and the Data from the addenda. When this feature is disabled, there is no space.



Enable ENA/JAN-8 Addenda Separator



Disable ENA/JAN-8 Addenda Separator

ISBN

Restore Factory Default



Restore the Factory Defaults of ISBN

021300

Enable/Disable ISBN



Enable ISBN

0213011



Disable ISBN

0213010

上面的配置码存在吗？？？ 没有这样的配置

ISBN Translate

When enable this feature and is scanned,ENA13 Bookland symbols are translated into their equivalent ISBN number format.



Enable ISBN Translate



Disable ISBN Translate

UPC-E

Restore Factory Defaults



Restore the Factory Defaults of UPC-E

Enable/Disable UPC-E0/E1



Enable UPC-E0



Disable UPC-E0



Enable UPC-E1

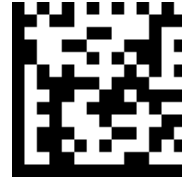


Disable UPC-E1

UPCE0 Check Digit



Enable UPC-E0 Check Digit



Disable UPC-E0 Check Digit

UPCE0 Expand

UPCE0 expand expands the UPCE code to the 12 digit,UPC-A format.



Enable UPC-E0 Expand



Disable UPC-E0 Expand

UPCE0 Addenda Required

When required is scanned, the scanner will only read UPC-E barcodes that have addenda.



Enable UPC-E0 Required



Disable UPC-E0 Required

UPCE0 Addenda Separator



Enable UPC-E0 Separator



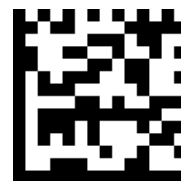
Disable UPC-E0 Separator

UPCE0 Number System

The number system digit of upc. Symbol is normally transmitted at the beginning of the scanned data, but the unit can be programmed so it will not transmit it.

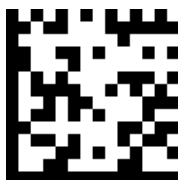


Enable UPC-E0 Number System



Disable UPC-E0 Number System

UPCE0 Addenda



Enable 2 Digit Addenda



Disable 2 Digit Addenda



Enable 5 Digit Addenda



Disable 5 Digit Addenda

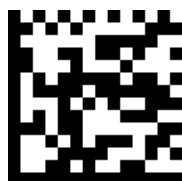
UPC-A

Restore Factory Defaults



Restore the Factory Defaults of UPC-A

Enable/Disable UPC-A



Enable UPC-A



Disable UPC-A

UPC-A Check Digit



Enable UPC-A Check Digit



Disable UPC-A Check Digit

UPC-A Addenda Required

When required is scanned, the scanner will only read UPC-E barcodes that have addenda.



Enable UPC-A Required



Disable UPC-A Required

UPC-A Addenda Separator



Enable UPC-A Separator



Disable UPC-A Separator

UPC-A Number System

The number system digit of upc. Symbol is normally transmitted at the beginning of the scanned data ,but the unit can be programmed so it will not transmit it.

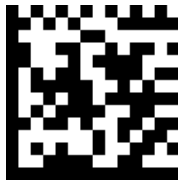


Enable UPC-A Number System

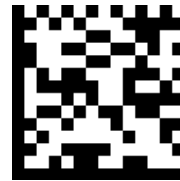


Disable UPC-A Number System

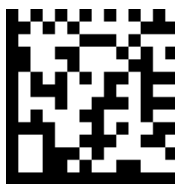
UPC-A Addenda



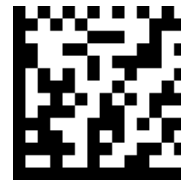
Enable 2 Digit Addenda



Disable 2 Digit Addenda



Enable 5 Digit Addenda



Disable 5 Digit Addenda

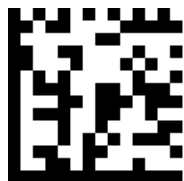
Interleaved 2 of 5

Restore Factory Defaults



Restore the Factory Defaults of Interleaved 2 of 5

Enable/Disable Interleaved 2 of 5



Enable Interleaved 2 of 5



Disable Interleaved 2 of 5

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command

Max: 02040425.

Min: 02040310.

Interleaved 2 of 5 Check Digit



No check Char



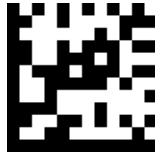
Validate not Transmit



Validate and Transmit

Matrix 2 of 5

Restore Factory Defaults



Restore the Factory Defaults of Matrix 2 of 5

Enable/Disable Matrix 2 of 5



Enable Matrix 2 of 5



Disable Matrix 2 of 5

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.
The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command
Max: 02080310.
Min: 0208025.

Industrial 2 of 5

Restore Factory Defaults



Restore the Factory Defaults of Industrial 2 of 5

Enable/Disable Industrial 2 of 5



Enable Industrial 2 of 5



Disable Industrial 2 of 5

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .

Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command

Max: 02040425.

Min: 02040310.

Code 39

Restore Factory Defaults



Restore the Factory Defaults of Code 39

Enable/Disable Code 39



Enable Code 39



Disable Code 39

Transmit Start/Stop Character



Transmit Start/Stop Character



Do not Transmit Start/Stop Character

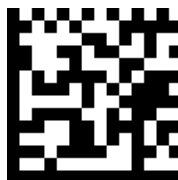
Code 39 Check Character



No Check Char



Validate and Transmit



Validate no Transmit

Code 39 Append



Enable Append

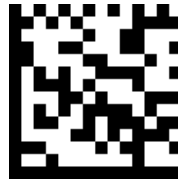


Disable Append

Code 39 Full ASCII



Enable Code 39 Full ASCII



Disable Code 39 Full ASCII



Code 39 Code page

Codabar

Restore Factory Defaults



Restore the Factory Defaults of Codabar

Enable/Disable Codabar



Enable Codabar



Disable Codabar

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command

Max: 02020625.

Min: 02020510.

Transmit Start/Stop Character



Transmit Start/Stop Character



Do not Transmit Start/Stop Character

Codabar check Character



No Check Char



Validate and Transmit



Validate no Transmit

Code 93

Restore Factory Defaults



Restore the Factory Defaults of Code 93

Enable/Disable Code 93



Enable Code 93



Disable Code 93

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.
The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command
Max: 020D0325.
Min: 020D0210.

Code 93 Append



Enable Code 93 Append



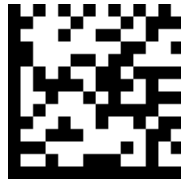
Disable Code 93 Append



Code93 Code page

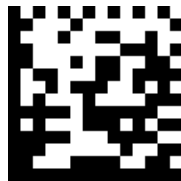
GS1-Databar (RSS)

Restore Factory Defaults



Restore the Factory Defaults of GS1-Databar

Enable/Disable GS1 Databar



Enable GS1-Databar



Disable GS1-Databar

Code 11

Restore Factory Defaults

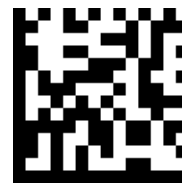


Restore the Factory Defaults of Code 11

Enable/Disable Code 11



Enable Code 11



Disable Code 11

Message Length

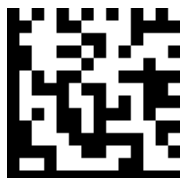
Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command
Max: 02090325.
Min: 02090210.

Code 11 Check Digit Required



1 Check Digit



2 Check Digit

Code 32 Pharmaceutical



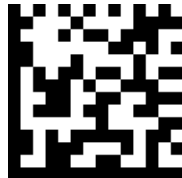
Enable Code 32



Disable Code 32

MSI

Restore Factory Defaults

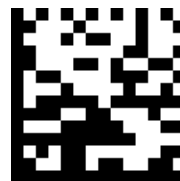


Restore the Factory Defaults of MSI

Enable/Disable MSI



Enable MSI



Disable MSI

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command
Max: 020E0410.
Min: 020E035.

MSI Check Character



ValidateType10Transmit



ValidateType10ThenType11CharTransmit



ValidateType10ThenType11CharNoTransmit



ValidateType10NoTransmit



Validate2Type10NoTransmit



Validate2Type10CharTransmit



Validate2Type10CharNoTransmit



DisableMSICheck

2D Symbologies

PDF 417

Restore Factory Defaults



Restore the Factory Defaults of PDF 417

Enable/Disable PDF 417



Enable PDF 417

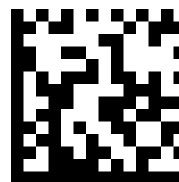


Disable PDF 417

Enable/Disable MacroPDF 417



Enable **MacroPDF 417**



Disable **MacroPDF 417**

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.
The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command
Max: 021F0610.
Min: 021F055.

QR Code

Restore Factory Defaults



Restore the Factory Defaults of QR Code

Enable/Disable QR Code



Enable QR Code



Disable QR Code

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command
Max: 02370310.
Min: 0237025.

QR Code Append



Enable QR code Append



Disable QR code Append

QR Code Page



QR Code Page

Data Matrix

Restore Factory Defaults



Restore the Factory Defaults of Data Matrix

Enable/Disable Data Matrix



Enable Data Matrix



Disable Data Matrix

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command

Max: 02360310.

Min: 0236025.



QR Code Page

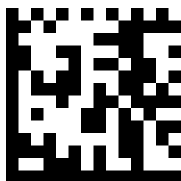
Maxicode

Restore Factory Defaults



Restore the Factory Defaults of Maxicode

Enable/Disable Maxicode



Enable Maxicode



Disable Maxicode

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command

Max: 02340310.

Min: 0234025.

Aztec

Restore Factory Defaults



Restore the Factory Defaults of Aztec

Enable/Disable Aztec



Enable Aztec



Disable AZtec

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .
Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command

Max: 02330610.

Min: 0233055.

Aztec Append



Enable Aztec Append



Disable Aztec Append

Hanxin

Restore Factory Defaults



Restore the Factory Defaults of Hanxin

Enable/Disable Hanxin



Enable Hanxin



Disable Hanxin

Message Length

Message length can be set to the maximum value, minimum value. The data between the maximum and the minimum is valid.

The maximum value and minimum value can be set using Programming command .

Please check the programming command guide for the detail.

Example: Set the Barcode Message length of the minimum value is 10, the maximum value is 25,

Programming command

Max: 02380310.

Min: 0238025.

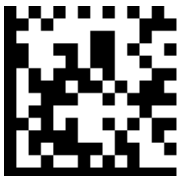
Postal Symbologies

China Postal Code Restore Factory Defaults

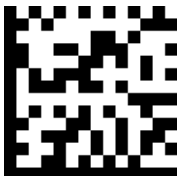


Restore the Factory Defaults of China Postal Code

Enable/Disable China Postal Code



Enable China Postal Code



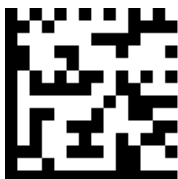
Disable China Postal Code

Telepen Restore Factory Defaults



Restore the Factory Defaults of Telepen

Enable/Disable Telepen



Enable China Telepen



Disable China Telepen

Appendix

Appendix 1: Factory Defaults Table

Parameter		Factory Default	Remark
Programming Barcode			
Barcode Programming		Enable	
Programming Barcode Data		Enable	
Communication Settings			
Interface		USB HID-KBW	Options: TTL-232, USB HID-KBW , USB COM Port Emulation
TTL-232	Baud Rate	115200	
	Parity Check	None	
	Data Bit	8	
	Stop Bit	1	
	Hardware Flow Control	No flow control	
HID-KBW	USB Country Keyboard Type	U.S.	
	Convert Case	No conversion	
Scan Mode			
Scan Mode		Trigger mode	Options: Trigger mode, Sense mode, Continuous mode.
Trigger Mode	Decode Session Timeout	3000ms	Applicable to all three scan modes.
	Trigger Condition	Electric level	
	Auto Sleep	Enabled	
	Time Period from Idle to Sleep	500ms	
Sense Mode	Decode Session Timeout	3000ms	Applicable to all three scan modes.
	Image Stabilization Timeout	500ms	
	Operation after Good Decode	Pause after good decode	
	Timeout between Decodes (Same Barcode)	Disabled 1500ms	
	Threshold Value of Illumination Change	2	

Parameter		Factory Default	Remark
Illumination & Aiming			
Illumination		Normal	
Aiming		Normal	
Beep & LED Indications			
Startup Beep		Enabled	
Beep after Good Decode (Non-Programming Barcode)	Notification	Enabled	
	Beep Tone	B 3	
	Beep Volume	Loud	
Beep after Good Decode (Programming Barcode)		Enabled	
LED Notification for Good Decode		Enabled	
NGR (Not Good Read) Message		Do not transmit	
		None	
Data Formatting			
Prefix Sequence		Custom Prefix+Code ID+AIM ID	
Custom Prefix		Disabled	
		None	
AIM ID Prefix		Disabled	
Code ID Prefix		Disabled	
Custom Suffix		Disabled	
		None	
Terminating Character Suffix		Enabled	
		0x0D, 0x0A	Carriage Return /Line Feed

Parameter	Factory Default	Remark
Symbologies		
Video Reverse	Disabled	Applicable to all symbologies.
Code 128		
Code 128	Enabled	
Maximum Length	127	
Minimum Length	1	
GS1-128 (UCC/EAN-128)		
GS1-128	Enabled	
Maximum Length	127	
Minimum Length	1	
AIM-128		
AIM-128	Enabled	
Maximum Length	127	
Minimum Length	1	
EAN-8		
EAN-8	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Extend to EAN-13	Disabled	
EAN-13		
EAN-13	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
ISSN		
ISSN	Disabled	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	

Parameter	Factory Default	Remark
ISBN		
ISBN	Enabled	
ISBN Format	ISBN-13	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
UPC-E		
UPC-E	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Extend to UPC-A	Disabled	
System Character "0"	Do not transmit	
UPC-A		
UPC-A	Enabled	
Check Digit	Transmit	
2-Digit Add-On Code	Disabled	
5-Digit Add-On Code	Disabled	
Add-On Code	Not required	
Preamble Character "0"	Do not transmit	
Interleaved 2 of 5		
Interleaved 2 of 5	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Maximum Length	100	
Minimum Length	6	
ITF-6		
ITF-6	Disabled	
Check Digit	Do not transmit	

Parameter	Factory Default	Remark
ITF-14		
ITF-14	Enabled	
Check Digit	Do not transmit	
Matrix 2 of 5		
Matrix 2 of 5	Disabled	
Parity Check	Enabled	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	6	
Industrial 2 of 5		
Industrial 2 of 5	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	6	
Standard 2 of 5		
Standard 2 of 5	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	6	
Code 39		
Code 39	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Start/Stop Character	Transmit	
Code 39 Full ASCII	Enabled	
Maximum Length	127	
Minimum Length	4	

Parameter	Factory Default	Remark
Codabar		
Codabar	Enabled	
Parity Check	None	
Check Digit	Do not transmit	
Start/Stop Character	Do not transmit	
Start/Stop Character Format	ABCD/ABCD	
Maximum Length	127	
Minimum Length	1	
Code 93		
Code 93	Enabled	
Parity Check	Enabled	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	3	
GS1 Databar		
GS1 Databar	Enabled	
Application Identifier "01"	Transmit	
Code 11		
Code 11	Enabled	
Parity Check	One check digit, MOD11	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	2	
Plessey		
Plessey	Enabled	
Parity Check	Enabled	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	1	

Parameter	Factory Default	Remark
MSI-Plessey		
MSI-Plessey	Enabled	
Parity Check	One check digit, MOD10	
Check Digit	Do not transmit	
Maximum Length	127	
Minimum Length	2	
PDF 417		
PDF 417	Enabled	
Maximum Length	2710	
Minimum Length	1	
QR Code		
QR Code	Enabled	
Micro QR	Enabled	
Maximum Length	7089	
Minimum Length	1	
Data Matrix		
Data Matrix	Enabled	
Rectangular Barcode	Enabled	
Mirror Image	Decode	
Maximum Length	3116	
Minimum Length	1	

Appendix 2: AIM ID Table

Symbology	AIM ID	Remark
EAN-13	JE0	Standard EAN-13
	JE3	EAN-13 + 2/5-Digit Add-On Code
EAN-8	JE4	Standard EAN-8
	JE4...JE1...	EAN-8 + 2-Digit Add-On Code
	JE4...JE2...	EAN-8 + 5-Digit Add-On Code
UPC-E	JE0	Standard UPC-E
	JE3	UPC-E + 2/5-Digit Add-On Code
UPC-A	JE0	Standard UPC-A
	JE3	UPC-A + 2/5-Digit Add-On Code
Code 128	JC0	Standard Code 128
GS1-128 (UCC/EAN-128)	JC1	FNC1 is the character right after the start character
AIM-128	JC2	FNC1 is the 2nd character after the start character
ISBT-128	JC4	
Interleaved 2 of 5	Jl0	No parity check
	Jl1	Transmit check digit after parity check
	Jl3	Do not transmit check digit after parity check
ITF-6	Jl1	Transmit check digit
	Jl3	Do not transmit check digit
ITF-14	Jl1	Transmit check digit
	Jl3	Do not transmit check digit
Industrial 2 of 5	JS0	Not specified
Standard 2 of 5	JR0	No parity check
	JR8	One check digit, MOD10; do not transmit check digit
	JR9	One check digit, MOD10; transmit check digit
Code 39	JA0	Transmit barcodes as is; Full ASCII disabled; no parity check
	JA1	One check digit, MOD43; transmit check digit
	JA3	One check digit, MOD43; do not transmit check digit
	JA4	Full ASCII enabled; no parity check
	JA5	Full ASCII enabled; transmit check digit
	JA7	Full ASCII enabled; do not transmit check digit
Codabar	JF0	Standard Codabar
	JF2	Transmit check digit after parity check
	JF4	Do not transmit check digit after parity check

Symbology	AIM ID	Remark
Code 93	JG0	Standard Code 93
Code 11	JH0	One check digit MOD11; transmit check digit
	JH1	Two check digits, MOD11/MOD11; transmit check digit
	JH3	Do not transmit check digit after parity check
	JH9	No parity check
GS1-DataBar (RSS)	Je0	Standard GS1-DataBar
Plessey	JP0	Standard Plessey
MSI-Plessey	JM0	One check digit, MOD10; transmit check digit
	JM1	One check digit, MOD10; do not transmit check digit
	JM8	Two check digits
	JM9	No parity check
Matrix 2 of 5	JX0	Specified by the manufacturer
	JX1	No parity check
	JX2	One check digit, MOD10; transmit check digit
	JX3	One check digit, MOD11; do not transmit check digit
ISBN	JX4	Standard ISBN
ISSN	JX5	Standard ISSN
PDF417	JL0	Comply with 1994 PDF417 specifications
Data Matrix	Jd0	ECC000 - ECC140
	Jd1	ECC200
	Jd2	ECC200, FNC1 is the 1st or 5th character after the start character
	Jd3	ECC200, FNC1 is the 2nd or 6th character after the start character
	Jd4	ECC200, ECI included
	Jd5	ECC200, FNC1 is the 1st or 5th character after the start character, ECI included
	Jd6	ECC200, FNC1 is the 2nd or 6th character after the start character, ECI included
QR Code	JQ0	QR1
	JQ1	2005 version, ECI excluded
	JQ2	2005 version, ECI included
	JQ3	QR Code 2005, ECI excluded, FNC1 is the 1st character after the start character
	JQ4	QR Code 2005, ECI included, FNC1 is the 1st character after the start character
	JQ5	QR Code 2005, ECI excluded, FNC1 is the 2nd character after the start character
	JQ6	QR Code 2005, ECI included, FNC1 is the 2nd character after the start character

Reference: ISO/IEC 15424:2008 Information technology – Automatic identification and data capture techniques – Data Carrier

Identifiers (including Symbology Identifiers).

Appendix 3: Code ID Table

Symbology	Code ID
Code 128	j
GS1-128(UCC/EAN-128)	j
AIM-128	f
EAN-8	d
EAN-13	d
ISSN	n
ISBN	B
UPC-E	c
UPC-A	c
Interleaved 2 of 5	e
ITF-6	e
ITF-14	e
Matrix 2 of 5	v
Industrial 2 of 5	D
Standard 2 of 5	s
Code 39	b
Codabar	a
Code 93	i
Code 11	H
Plessey	p
MSI-Plessey	m
GS1 Databar	R
PDF417	r
QR Code	Q
Data Matrix	u

Appendix 4: ASCII Table

Hex	Dec	Char
00	0	NUL (Null char.)
01	1	SOH (Start of Header)
02	2	STX (Start of Text)
03	3	ETX (End of Text)
04	4	EOT (End of Transmission)
05	5	ENQ (Enquiry)
06	6	ACK (Acknowledgment)
07	7	BEL (Bell)
08	8	BS (Backspace)
09	9	HT (Horizontal Tab)
0a	10	LF (Line Feed)
0b	11	VT (Vertical Tab)
0c	12	FF (Form Feed)
0d	13	CR (Carriage Return)
0e	14	SO (Shift Out)
0f	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3)
14	20	DC4 (Device Control 4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1a	26	SUB (Substitute)
1b	27	ESC (Escape)
1c	28	FS (File Separator)
1d	29	GS (Group Separator)

Hex	Dec	Char
1e	30	RS (Request to Send)
1f	31	US (Unit Separator)
20	32	SP (Space)
21	33	! (Exclamation Mark)
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	\$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	((Right / Closing Parenthesis)
29	41	) (Right / Closing Parenthesis)
2a	42	* (Asterisk)
2b	43	+ (Plus)
2c	44	, (Comma)
2d	45	- (Minus / Dash)
2e	46	. (Dot)
2f	47	/ (Forward Slash)
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3a	58	: (Colon)
3b	59	; (Semi-colon)
3c	60	< (Less Than)
3d	61	= (Equal Sign)

Hex	Dec	Char
3e	62	> (Greater Than)
3f	63	? (Question Mark)
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I
4a	74	J
4b	75	K
4c	76	L
4d	77	M
4e	78	N
4f	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X
59	89	Y
5a	90	Z
5b	91	[(Left / Opening Bracket)
5c	92	\ (Back Slash)
5d	93	] (Right / Closing Bracket)

Hex	Dec	Char
5e	94	^ (Caret / Circumflex)
5f	95	_ (Underscore)
60	96	' (Grave Accent)
61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	g
68	104	h
69	105	i
6a	106	j
6b	107	k
6c	108	l
6d	109	m
6e	110	n
6f	111	o
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v
77	119	w
78	120	x
79	121	y
7a	122	z
7b	123	{ (Left/ Opening Brace)
7c	124	(Vertical Bar)
7d	125	} (Right/Closing Brace)
7e	126	~ (Tilde)
7f	127	DEL (Delete)

Appendix 5: Digit Barcodes

0	1	2	3
 Y0Y	 Y1Y	 Y2Y	 Y3Y
4	5	6	7
 Y4Y	 Y5Y	 Y6Y	 Y7Y
8	9	A	B
 Y8Y	 Y9Y	 YAY	 YBY
C	D	E	F
 YCY	 YDY	 YEY	 YFY