

2D Imager DPM Scanner

- MS852 DPM ESD -



User Manual

Version 1.0

Revision History

Date	Change Description	Version
20250416	Initial Version	1.0

Preface

About This Manual

Thank you for purchasing the Unitech product.

This manual explains how to install, operate and maintain our product.

No part of this publication may be reproduced or used in any form, or by any electrical or mechanical means, such as photocopying, recording, or information storage and retrieval systems, without permission in writing from the manufacturer. The material in this manual is subject to change without notice.

Regulatory Compliance Statements

FCC Warning Statement

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

1. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

2. This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure requirements, avoid direct contact to the transmitting antenna during transmitting.
3. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

FCC Label Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

European Conformity Statement

Unitech Electronics co., Ltd herewith declares that the Unitech product is in compliance with the essential requirements and all other provisions of the RED 2014/53/EU directive. The declaration of conformity is available for download at:

<https://portal.Unitech.eu/public/Safetyregulatorystatement>

RoHS Statement



This device conforms to RoHS (Restriction Of Hazardous Substances) European Union regulations that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

Waste electrical and electronic equipment (WEEE)



Unitech has set up a policy and process to meet the 2012/19/EU concerning electronic waste disposal.

For more detailed information of the electronic waste disposal of the products you have purchased from Unitech directly or via Unitech's resellers, you shall either contact your local supplier or visit us at: <https://portal.Unitech.eu/public/WEEE>

Laser Information

The Unitech product is certified in the U.S. to conform to the requirements of DHHS/CDRH 21CFR Subchapter J and to the requirements of IEC 60825-1. Class I and Class 1 products are not considered to be hazardous. The Unitech product contains internally a Visible Laser Diode (VLD) whose emissions do not exceed the maximum limits as set forth in the above regulations. The scanner is designed so that there is no human access to harmful laser light during normal operation, user maintenance or prescribed service operations.

The laser safety warning label required by the DHHS/IEC for the Unitech product's optional laser scanner module is located on the memory compartment cover, on the back of the unit.

* Laser information only applies to the products with laser components.

CAUTION! Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Use of optical instruments with the scanner, including binoculars, microscopes, and magnifying glasses, with will increase eye damage. This does not include eyeglasses worn by the user.

LED Information

The Unitech product contains LED indicator(s) or LED ring whose luminance is not harmful to human eyes during normal operation, user maintenance or prescribed service operations.

*LED information only applies to the products with LED component

Hearing Damage Warning

To prevent possible hearing damage, do not listen at high volume levels for long periods.



Figure 1 – Warning label (IEC 60417-6044)

Worldwide Support

Unitech's professional support team is available to quickly answer questions or assist with technical-related issues. Should an equipment problem occur, please contact the nearest Unitech regional service representative.

For complete contact information please visit the Web sites listed below:

Taipei, Taiwan – Headquarters Tel: +886-2-89121122 E-mail: info@hq.ute.com Address: 5F, No. 136, Lane 235, Baoqiao Road, Xindian District, New Taipei City 231, Taiwan (R.O.C.) Website: http://www.ute.com	Europe Tel: +31-13-4609292 E-mail: info@eu.ute.com Address: Kapitein Hatterasstraat 19, 5015 BB, Tilburg, the Netherlands Website: http://eu.ute.com
China Tel: +86-59-2310-9966 E-mail: info@cn.ute.com Address: Room401C, 4F, RIHUA International Mansion, Xinfeng 3rd Road, Huoju Hi-tech District, Xiamen, Fujian, China Website: http://cn.ute.com	Japan Tel: +81-3-62310896 E-mail: info@jp.ute.com Address: Tosei Building 3F.,18-10 Nihonbashi-Hakozakicho, Cyuouku, Tokyo, 103-0015, Japan Website: http://jp.ute.com
Asia & Pacific / Middle East Tel: +886-2-27911556 E-mail: info@apac.ute.com info@india.ute.com info@mideast.ute.com Address: 4F., No. 236, ShinHu 2nd Rd., NeiHu Chiu, 114, Taipei,Taiwan Website: http://apac.ute.com / http://mideast.ute.com	Latin America Tel: +52-55-5171-0528 E-mail: info@latin.ute.com Address: 17171 Park Row, Suite 210 Houston, TX 77084USA (Rep.) Website: http://latin.ute.com
North America Tel: +1-714-8916400 E-mail: info@us.ute.com / info@can.ute.com Address: 6182 Katella Ave, Cypress, CA 90630, USA Website: http://us.ute.com	Please scan QRCode to visit us: 

Warranty Policy

The following items covered under the Unitech Limited Warranty are free from defects during normal use:

The warranty period is varied from each country. Please consult with your supplier or Unitech local office for actual length of warranty period to your purchased product.

Warranty becomes void if equipment is modified, improperly installed or used, damaged by accident or neglect, or if any parts are improperly installed or replaced by the user.

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Chapter 1 - Overview

1.1 Package

Please make sure the following contents are in the MS852DPM ESD gift box. If something is missing or damaged, please contact your Unitech representative.

The Package Contents

- MS852 DPM ESD Scanner
- USB Cable
- Quick Start Guide

Optional Accessories

- Standard Hands Free Stand
- Protective Case

1.2 Product Detail

1.2.1 Product View



1.3 Specifications

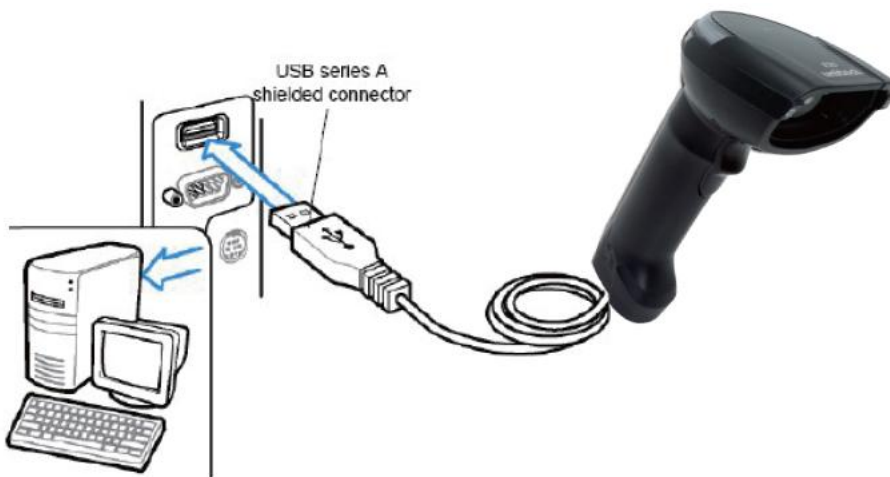
Optical & Performance	
Sensor	1280 X 800 resolution
Aiming Element	Red cross laser aiming
Scan Rate	60FPS
Skew Angle	±60°
Pitch Angle Sensor	±60°
Roll Angle	±360°
Depth of Field	Code39 (5 mil): 50~140 mm Code39 (20 mil): 160~320 mm EAN -13 (13 mil): 50~200 mm Data Matrix (10 mil): 40~140 mm QR Code (20 mil): 40~200 mm
Communication	
Host Interface Supported	USB (HID; CDC)
Mechanical	
Dimensions	87.8mm x 71.6mm x 177.7mm (L x W x H)
Weight	165g without cable
Trigger Switch Life	10 million times
Regulatory Approvals	
CE, FCC, BSMI, VCCI	
Symbolologies	
1D	Codabar, Code 11, Code 39, Code 32, Interleaved 2 of 5, Industrial 2 of 5, Matrix 2 of 5, Code 93, Code 128, GS1-128, UPC-A, UPC-E, EAN 8, EAN 13, GS1 DataBar (RSS14), GS1 DataBar Limited, GS1 DataBar Expanded
2D	PDF417, Micro PDF417, QR Code, Micro QR, Data Matrix, Aztec Code
Electrical	
Operation Voltage	4 VDC to 5.5 VDC
Current Consumption	Operating: 252mA Standby: 77mA
Indicator	Buzzer, LED

Environmental	
ESD Protection	Functional after 8K Contact and 15K Air
Mechanical Shock	2.1M onto concrete (scanner only)
Operating Temperature	-10°C to 50°C (14°F to 122°F)
Storage Temperature	-40°C to +70°C (-40°F to +158°F)
Relative Humidity	95% non-condensing
IP Rating	IP42
Accessories	
<ul style="list-style-type: none"> • Standard Hands Free Stand (Optional) • USB Cable 	

1.4 Getting Started

1.4.1 Connecting the scanner

Connect USB cable to the USB port of a host computer.



1.4.2 Warning Beep Notification

When a data transmission error occurs, the scanner will emit four consecutive alert beeps. If this happens, please check the connection cables to ensure they are properly connected.

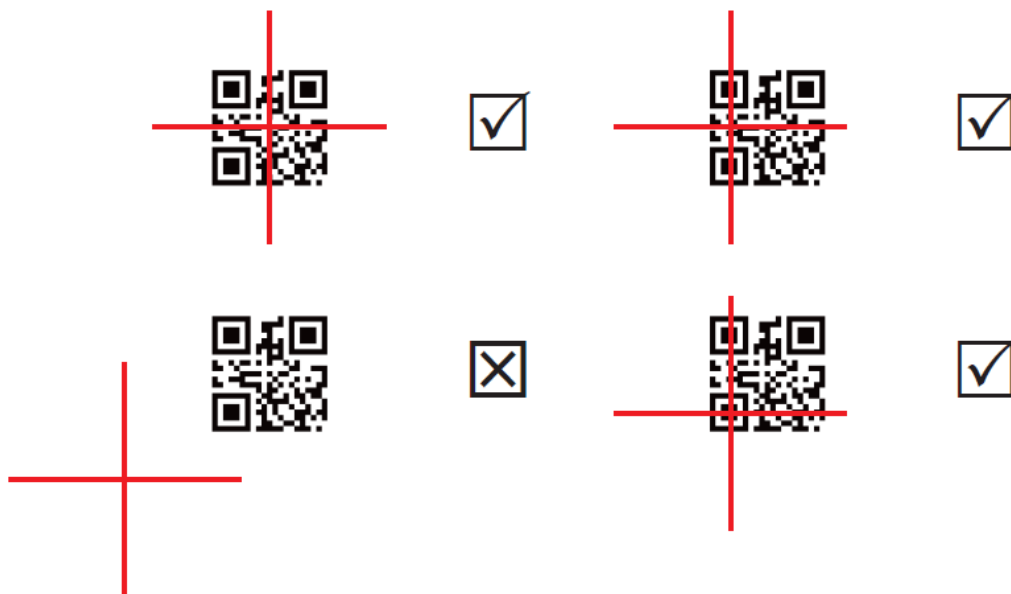
1.4.3 Test & Finish

Open a word processing program such as Microsoft Word or Notepad, and scan the following barcode:



If the word “Unitech” appears on the screen, you have successfully installed your scanner.

Note: To scan a barcode, make sure the laser aimer is pointed directly at the barcode.



1.5 LED / Beeper Indicator

Definition	Green LED Light	BEEP / Sound
Power On		Three short beeps (Tone: low-mid-high)
Standby Mode		
Good Read	Green light ON	One short beep
Enter Setting Mode		Two long beeps
Good Read (During Setting Mode)		One long beep
Exit Setting Mode (Setting Successful)		Three short beeps (tone: low-mid-high)
Exit Setting Mode (Setting Failed)		Three short beeps (tone: high-high-high)

Chapter 2 – Command Settings

2.1 Enable / Disable Configuration

With Configuration enabled, the scanner can read all setup barcodes to configure the scanner. When disabled, setup barcodes cannot be scanned until Configuration is re-enabled.

Enable*



Disable



2.2 Firmware Version

Firmware Version



2.3 General Setting

2.3.1 Default Configuration

Scan the barcode below to restore the scanner to its factory default settings.

Restore Factory Defaults



2.3.2 User Configuration

Scan the barcode below to save the current parameters as the User Configuration.

Save User Configuration



Scan the barcode below to restore the scanner to the saved User Configuration.

Restore User Configuration



2.4 Interface Setting

This device supports USB Keyboard, USB Virtual COM Port, and RS-232 Serial Port interface modes.

USB Keyboard*



USB Virtual COM Port



RS-232



Note: USB Virtual COM Port mode requires driver installation on the host device.

2.5 USB Keyboard Configuration

2.5.1 Control Character Escape

Enable Control Character Escape Mode 1



Enable Control Character Escape Mode 2



Enable Special Function Keys



Disable Control Character Escape*



2.5.2 Other Character Escape

Enable Other Character Escape



Disable Other Character Escape



2.5.3 CR/LF Handling

Configure how carriage return (CR) and line feed (LF) characters are handled in USB Keyboard mode.

Line Feed (LF, 0A) Only



Carriage Return (CR, 0D) Only*



Both Carriage Return (CR) and Line Feed (LF)



2.5.4 Output Speed

Configure the output speed for USB Keyboard mode.

Low Output Speed*



Medium Output Speed



High Output Speed



Custom Output Speed (2ms-50 ms)



Note: If your PC has lower performance, selecting “**Low Output Speed**” is recommended to ensure accurate data transmission.

2.5.5 Case Conversion

Configure the letter case used for output data.

Normal Output*



Invert Case



All Uppercase



All Lowercase



2.5.6 Keyboard Layouts

Scan the appropriate barcode below to select your keyboard layout.

English (United States)*



English (UK)



Swedish (Sweden)



French (France)



French (Belgium)



Italian (Italy)



Italian 142 (Italy)



German (Germany)



Spanish (Spain)



Spanish (Latin America)



Finnish



Japanese



Russian (MS)



Russian (typewriter)



Arabic (101)



Irish



Polish (214)



Polish (Programmers)



Portuguese (Portugal)



Portuguese (Brazil)



Dutch (Netherlands)



Czech (QWERTY)



Turkish Q



Turkish F



Greek (MS)



Hungarian (Hungary)



Hungarian 101-KEY (Hungary)



Slovak



Vietnamese



2.6 Virtual Keyboard Configuration

2.6.1 Virtual Keyboard Mode

Mode 1:

Characters (0x20-0xFF) unsupported by the current keyboard layout are output using the virtual keyboard method. Characters (0x00-0x1F) are output according to the control character mapping. ([See Appendix](#))

Mode 2:

All characters (0x20-0xFF) are output using the virtual keyboard method. Characters (0x00-0x1F) are output according to the control character mapping. ([See Appendix](#))

Mode 3:

All characters (0x00-0xFF) are output using the virtual keyboard method.

Disable Virtual Keyboard*



Enable Virtual Keyboard (Mode 1)



Enable Virtual Keyboard (Mode 2)



Enable Virtual Keyboard (Mode 3)



2.6.2 Host Operating System (Virtual Keyboard Mode)

Windows*



macOS



Linux



2.7 Barcode Encoding Configuration

Generally, barcode encoding is automatically detected. If the barcode contains special characters (e.g., Chinese-encoded characters), manually selecting the correct encoding ensures accurate data output.

Auto Detection*



KOI8-R Encoding



Shift-JIS Encoding (Japanese)



2.7.1 Output Encoding Format

To ensure correct character display in target applications, select the appropriate output encoding format.

Latin-1 Encoding (English)*



GBK Encoding (Notepad/Excel)



UNICODE Encoding (Word)



Shift-JIS Encoding (Japanese- Notepad/Excel)



UTF-8 Encoding



Note: With Latin-1, USB Keyboard output behavior depends on the Virtual Keyboard setting. With GBK or UNICODE, USB Keyboard output is required to use Virtual Keyboard mode.

2.8 Invoice Mode

2.8.1 Enable / Disable Invoice Mode

Disable*



Enable



Note:

When Invoice Mode is enabled, set the encoding to GBK (Notepad/Excel), and disable features that may modify the original barcode data, such as Code ID, custom prefix/suffix, and start/stop characters.

2.8.2 Invoice Type Selection

Special Invoice*



Regular Invoice



2.9 Serial Port Configuration

2.9.1 Baud Rate Configuration

Baud Rate: 4800



Baud Rate: 9600*



Baud Rate: 19200



Baud Rate: 38400



Baud Rate: 57600



Baud Rate: 115200



2.9.2 Serial Communication Format

Configure the serial data format by selecting the number of data bits, stop bits, and the parity mode.

7 Data Bits, 1 Stop Bit, No Parity



7 Data Bits, 1 Stop Bit, Even Parity



7 Data Bits, 1 Stop Bit, Odd Parity



7 Data Bits, 2 Stop Bits, No Parity



7 Data Bits, 2 Stop Bits, Even Parity



7 Data Bits, 2 Stop Bits, Odd Parity



8 Data Bits, 1 Stop Bit, No Parity*



8 Data Bits, 1 Stop Bit, Even Parity



8 Data Bits, 1 Stop Bit, Odd Parity



8 Data Bits, 2 Stop Bits, No Parity



8 Data Bits, 2 Stop Bits, Even Parity



8 Data Bits, 2 Stop Bits, Odd Parity



2.10 GS Character Output Options

No Replacement*



Replace with “Ç”



Replace with “|”



Replace with “^”



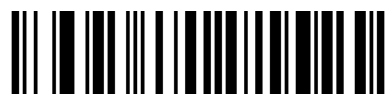
Replace with “]”



Replace with “<GS>”



Replace with “[GS]”



Custom GS Character Mapping



Note:

To output the character “Ç”, Virtual Keyboard Mode (Mode 1, 2, or 3) must be enabled first.

2.11 Control Character Output

Enable or disable the output of control characters (e.g., CR, LF, ESC) embedded in barcode data.

Disable



Enable



2.12 Presentation Mode

The scanner supports presentation mode. Scan the following barcodes to enable or disable this function.

Disable*



Enable



2.13 Duplicate Barcode Detection

Configures the time interval for decoding identical barcodes. If the same barcode is scanned repeatedly within this interval, only the first scan will be processed.

Interval: 500 ms



Interval: 750 ms



Interval: 1 s



Interval: 2 s



2.14 LED Indicator Settings

2.14.1 LED Indicator

Good Read LED: Disable



Good Read LED: Enable*



2.14.2 DPM Illumination Control

Direct Illumination



Indirect Illumination



Cycling Illumination



2.15 Beeper Control

2.15.1 Volume Setting

Low Volume



High Volume*



2.15.2 Startup Beep Setting

Disable



Enable*



2.15.3 Good Read Beep Setting

Disable



Enable*



2.15.4 Good Read Beep Frequency

Good Read Beep Frequency 1*



Good Read Beep Frequency 2



Good Read Beep Frequency 3



Custom Good Read Beep Frequency



2.15.5 Good Read Beep Duration

Long*



Short



2.15.6 Error Beep Frequency (Tone)

Low*



Medium



High



Note:

When transmission fails, the scanner plays four consecutive error beeps. If an invalid configuration barcode is scanned, a single error beep will play.

2.16 Prefix / Suffix Settings

2.16.1 Start Character

No Start Character*



Start Character: STX



2.16.2 Terminator

No Terminator



Terminator: Carriage Return (CR)



Terminator: Line Feed (LF)



Terminator: CR + LF*



Terminator: Tab



Terminator: ETX



2.16.3 Custom Prefix

2.16.3.1 Output Options

Enable



Disable*



2.16.3.2 Edit

Clear All Custom Prefixes



Custom Prefix



Note:

After scanning the "**Custom Prefix**", use the [Appendix B](#) to select the symbology ID and apply editing barcodes.

2.16.4 Custom Suffix

2.16.4.1 Output Options

Enable



Disable*



2.16.4.2 Edit

Clear All Custom Suffixes



Custom Suffix



Note:

After scanning the "Custom Suffix", use the Appendix to select the symbology ID and apply editing barcodes.

2.16.5 Code ID

2.16.5.1 Output Options

Disable*



Code ID Prefix



Code ID Suffix



2.16.5.2 Edit

Clear All Custom Code IDs



Custom Code ID



Note:

After scanning the "Custom Code ID", use the Appendix to select the symbology ID and apply editing barcodes.

2.16.6 AIM ID

Disable*



AIM ID Prefix



AIM ID Suffix



2.16.7 Barcode Data Order

2.16.7.1 Prefix

Start Character + Code ID + AIM ID + Custom Prefix*



Start Character + Custom Prefix + Code ID + AIM ID



2.16.7.2 Suffix

Custom Suffix + Code ID + AIM ID + Terminator*



Code ID + AIM ID + Custom Suffix + Terminator



2.17 Data Editing

The Data Editing function divides the full data field into Start, Center, and End segments by setting Start and End field lengths. Configure these lengths and transmission options as needed.

Note: The Data Editing function only applies to the barcode data itself. Custom prefixes/suffixes, Start Character, Terminator, Code ID, and AIM ID remain unchanged.

2.17.1 Scan Data Transmission Format

Transmit Entire Data*



Transmit Start Portion Only



Transmit Center Portion Only



Transmit End Portion Only



2.18 Data Field Length Configuration

Set Start Field Length



Set End Field Length



2.19 Inverted Barcode Options

This setting applies to 1D, DataMatrix, and Aztec barcodes.

Normal Barcodes Only*



Inverted Barcodes Only



Enable Normal & Inverted Barcodes



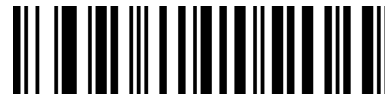
2.20 Non-Standard Barcode Options

When enabled, the scanner can better decode poorly printed or non-standard barcodes, but may also have a higher risk of misreads.

Disable*



Enable



Chapter 3 – Symbology

3.1 Symbology Overview

3.1.1 Enable / Disable All Symbologies

Enabling all barcode symbologies may reduce decoding performance. It is recommended to enable only the required symbologies based on your application.

Enable*



Disable



3.1.2 Enable / Disable All 1D Symbologies

Enable*



Disable



3.1.3 Enable / Disable All 2D Symbolologies

Enable*



Disable



3.2 Codabar

Enable



Disable*



3.2.1 Codabar Start / Stop Characters

Start / Stop- Not Transmitted*



Start / Stop-Transmitted



3.2.2 Codabar Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.3 Code 39

Enable*



Disable



3.3.1 Code 39 Check Digit

Disable*



Enable – Not Transmitted



Enable – Transmitted



3.3.2 Code 39 Full ASCII

Disable*



Enable



3.3.3 Code 39 Start / Stop Characters

Start / Stop- Not Transmitted*



Start / Stop-Transmitted



3.3.4 Code 39 Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.4 Code 32

Note: Make sure Code 39 is enabled before using Code 32.

Enable

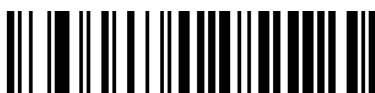


Disable*



3.4.1 Code 32 Prefix

Disable*



Enable



3.5 Interleaved 2 of 5 (ITF25)

Enable*



Disable



3.5.1 ITF25 Check Digit

Disable*



Enable – Not Transmitted



Enable – Transmitted



3.5.2 ITF25 Fixed Length Settings

Variable Length (6–50)*



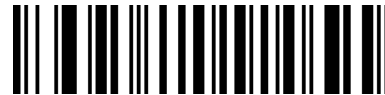
Fixed Length – 6 Digits



Fixed Length – 8 Digits



Fixed Length – 10 Digits



Fixed Length – 12 Digits



Fixed Length – 14 Digits



Fixed Length – 16 Digits



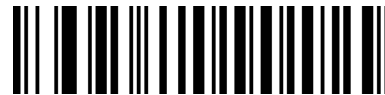
Fixed Length – 18 Digits



Fixed Length – 20 Digits



Fixed Length – 22 Digits



Fixed Length – 24 Digits



3.5.3 ITF25 Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.6 Industrial 2 of 5

Enable



Disable*



3.6.1 Industrial 2 of 5 Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.6 Matrix 2 of 5 (Variable Length: 4–24 Digits)

Enable



Disable*



3.6.1 Matrix 2 of 5 Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.7 Code 93

Enable*



Disable



3.7.1 Code 93 Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.8 Code 11

Enable

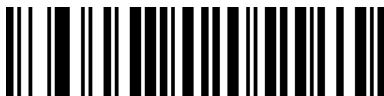


Disable*



3.8.1 Code 11 Check Digit Transmission

Transmit

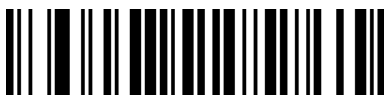


Do Not Transmit*



3.8.2 Code 11 Check Digit Options

Disable*



1-Digit Check Digit



2-Digit Check Digit



3.8.3 Code 11 Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.9 Code 128

Enable*



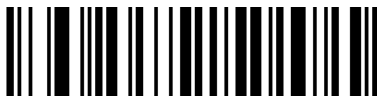
Disable



3.9.1 Code 128 Removal

Remove the leading zero if Code 128 data starts with "0".

Enable



Disable



3.9.2 GS1 128

Enable*



Disable



3.9.3 ISBT

Enable*



Disable



3.9.4 Code 128 Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.10 UPC-A

Enable*



Disable



3.10.1 UPC-A Check Digit Transmission

Transmit*



Do Not Transmit



3.10.2 UPC-A Preamble

The UPC-A preamble includes the Country Code and System Character. Transmitting both enables EAN-13 emulation.

Country and System Characters (EAN-13 Format)



System Character Only



No Preamble



3.11 UPC-E

Enable*



Disable



3.11.1 UPC-E Check Digit Transmission

Transmit*

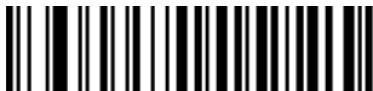


Do Not Transmit



3.11.2 Expand UPC-E to UPC-A

Enable



Disable*



3.11.3 UPC-E Preamble

The UPC-E preamble includes the Country Code and System Character. Transmitting both enables EAN-13 emulation.

Country and System Characters (EAN-13 Format)



System Character Only



No Preamble



3.12 EAN-8

Enable



Disable*



3.12.1 Convert EAN-8 to EAN-13

Enable



Disable*

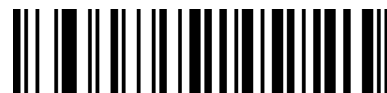


3.12.2 EAN-8 Check Digit Transmission

Transmit*



Do Not Transmit



3.13 EAN / JAN-13

Enable*



Disable



3.13.1 EAN-13 Check Digit Transmission

Transmit*



Do Not Transmit



3.13.2 UPC / EAN / JAN Add-On Settings

Ignore Add-On*



Decode Add-On



Auto-Detect Add-On



3.13.3 ISBN EAN

Enable



Disable*



3.13.4 ISSN EAN

Enable



Disable*



3.14 GS1 DataBar (RSS14)

Enable



Disable*



3.14.1 GS1 DataBar Limited

Enable



Disable*



3.14.2 GS1 DataBar Limited

Enable



Disable*



3.15 MSI (MSI Plessey)

Enable



Disable*



3.15.1 MSI Length Settings

Set Min. Length (0–50)



Set Max. Length (0–50)



3.15.2 MSI Check Digit Transmission

Transmit



Do Not Transmit*



3.15.3 MSI Check Digit Options

1-Digit Check Digit*



2-Digit Check Digit



3.15.3 MSI 2-Digit Check Digit Options

MOD10 / MOD10*



MOD10 / MOD11



3.16 PDF417

Enable



Disable*



3.16.1 PDF417 Length Settings

Set Min. Length

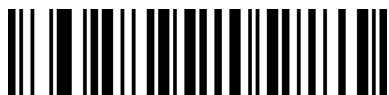


Set Max. Length

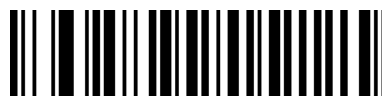


3.17 Micro PDF417

Enable



Disable*



3.17.1 Micro PDF417 Length Settings

Set Min. Length



Set Max. Length



3.18 QR Code

Enable*



Disable



3.18.1 QR Code URL Link

Enable*



Disable



3.18.2 QR Code Length Settings

Set Min. Length



Set Max. Length



3.19 Micro QR Code

Enable



Disable*



3.17.1 Micro QR Code Length Settings

Set Min. Length



Set Max. Length



3.20 Data Matrix

Enable*



Disable



3.20.1 Data Matrix Length Settings

Set Min. Length



Set Max. Length



3.21 Aztec Code

Enable



Disable*



3.21.1 Aztec Code Length Settings

Set Min. Length



Set Max. Length



3.22 Maxicode

Enable



Disable*



3.22.1 Maxicode Length Settings

Set Min. Length



Set Max. Length



3.23 AIM ID

AIM (Automatic Identification Manufacturers) ID defines symbology identifier (For the details, see the “[AIM ID Table](#)” section in Appendix). If AIM ID prefix is enabled, the scanner will add the symbology identifier before the scanned data after decoding.

Disable AIM ID*



Enable AIM ID

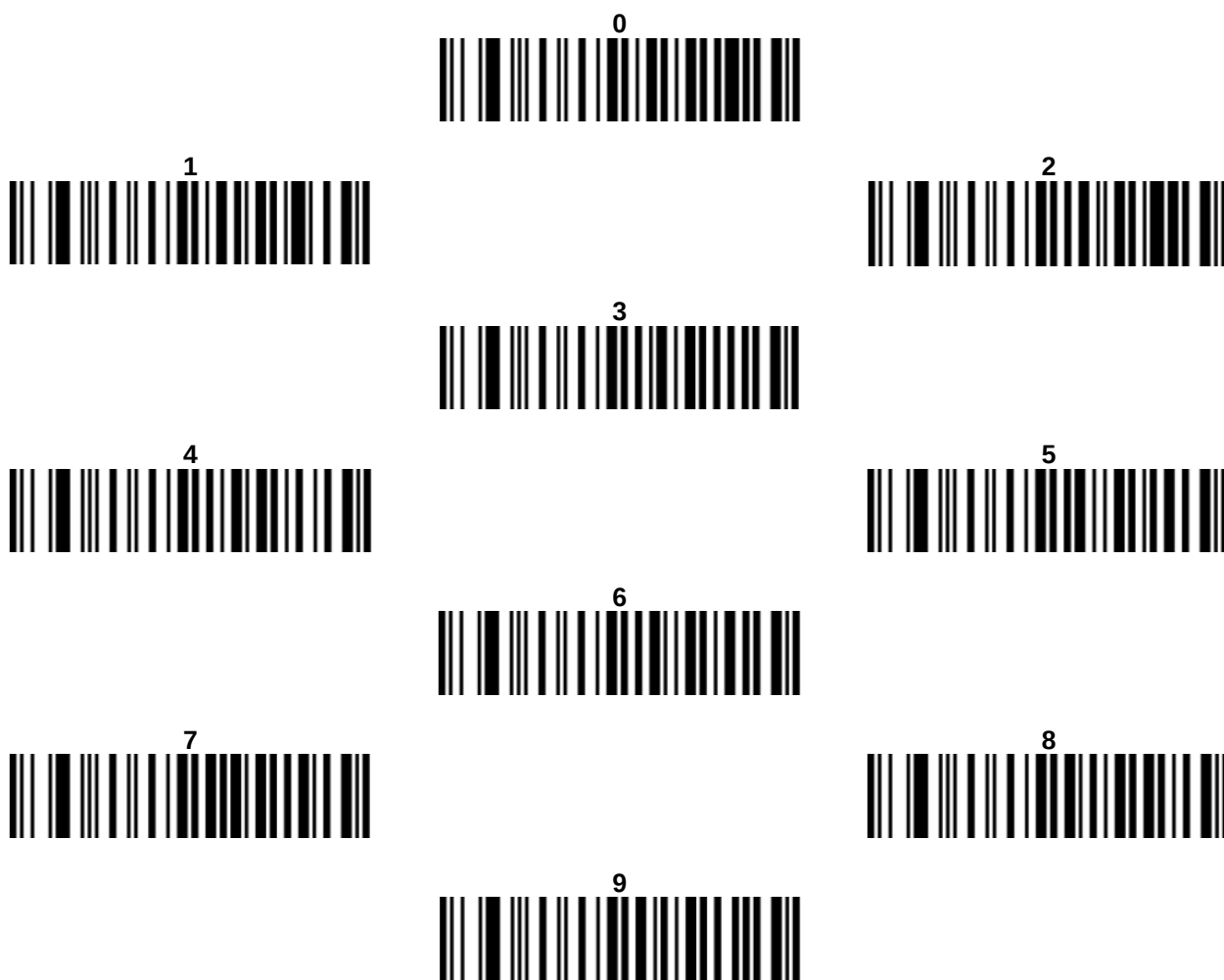


Enable OEM ID



Appendix A – Digit Barcodes

A.1 Numbers 0-9



A.2 Alphabets

A



B



C



D



E



F



A.3 Data Formatting Commands

Cancel Current Setting



Cancel Entire Input



Cancel Last Input



Save



Appendix B – Barcode Symbology

ID Table

Symbology Type	HEX	CODE ID (Default)
All Symbologies	99	
Codabar	61	a
Code128	6A	j
Code32	3C	<
Code93	69	i
Code39	62	b
Code11	48	H
EAN-13	64	d
EAN-8	64	d
GS1 DataBar	52	R
GS1-128 (EAN-128)	6A	j
2 of 5		
Interleaved 2 of 5	65	e
Matrix 2 of 5	76	v
Industry 2 of 5/IATA	44	D
UPC-A	63	c
UPC-E	63	c
ISBN	42	B
ISSN	6E	n
MSI	6D	m
Aztec Code	7A	z
DataMatrix	75	u
PDF417	72	r
Micro PDF417	53	S
QR Code	51	Q
Micro QR Code	51	Q
Han Xin Code	68	h

Appendix C – AIM Table

Symbology Type	AIM ID	说明
Codabar	]Fm	m: 0~1
Code128	]C0	m: 0, 1, 2, 4
Code32	]A0	
Code93	]G0	
Code39	]Am	m: 0, 1, 3, 4, 5, 7
Code11	]Hm	m: 0, 1, 3, 8, 9
EAN-13 / EAN-8	]Em	m: 0, 1, 3, 4
GS1 DataBar	]e0	
GS1-128 (EAN-128)	]C1	
Interleaved 2 of 5	]Im	m: 0, 1, 3
Matrix 2 of 5	]X0	
Industry 2 of 5	]S0	
UPC-A/ UPC-E	]Em	m: 0, 3
ISBN	]X0	
ISSN	]X0	
Aztec Code	]z0	
DataMatrix	]dm	m: 0~6
PDF417 / Micro PDF417	]Lm	m: 0~5
QR Code / Micro QR Code	]Qm	m: 0~6
Han Xin Code	]X0	

Appendix D – ASCII Table

DEC	HEX	CHAR	DEC	HEX	CHAR	DEC	HEX	CHAR
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	_			

Appendix E – Control Character Set (USB Keyboard Mode)

DEC	HEX	Key Mapping (Escape Off)	Key Mapping (Escape Mode 1)	Key Mapping (Escape Mode 2)	Key Mapping (Special Function Keys)
0	00	Reserved	Ctrl+@	Ctrl+@	Reserved
1	01	Insert	Ctrl+A	Ctrl+A	Numpad Enter
2	02	Home	Ctrl+B	Ctrl+B	Caps Lock
3	03	End	Ctrl+C	Ctrl+C	ALT Make
4	04	Delete	Ctrl+D	Ctrl+D	ALT Break
5	05	PageUp	Ctrl+E	Ctrl+E	CTRL Make
6	06	PageDown	Ctrl+F	Ctrl+F	CTRL Break
7	07	ESC	Ctrl+G	Ctrl+G	Enter
8	08	Backspace	Ctrl+H	Backspace	Arrow Keys ←
9	09	Tab	Ctrl+I	Tab	Tab
10	0A	Enter (Depends on CR / LF setting)	Ctrl+J	Enter	Arrow Keys ↓
11	0B	Caps Lock	Ctrl+K	Ctrl+K	Tab
12	0C	Print Screen	Ctrl+L	Ctrl+L	Delete
13	0D	Enter (Depends on CR / LF setting)	Ctrl+M	Enter	Enter
14	0E	Scroll Lock	Ctrl+N	Ctrl+N	Insert
15	0F	Pause/Break	Ctrl+O	Ctrl+O	ESC
16	10	F11	Ctrl+P	Ctrl+P	F11
17	11	Arrow Keys ↑	Ctrl+Q	Ctrl+Q	Home
18	12	Arrow Keys ↓	Ctrl+R	Ctrl+R	PrtScn
19	13	Arrow Keys ←	Ctrl+S	Ctrl+S	Backspace
20	14	Arrow Keys →	Ctrl+T	Ctrl+T	Back Tab
21	15	F12	Ctrl+U	Ctrl+U	F12
22	16	F1	Ctrl+V	Ctrl+V	F1
23	17	F2	Ctrl+W	Ctrl+W	F2
24	18	F3	Ctrl+X	Ctrl+X	F3

25	19	F4	Ctrl+Y	Ctrl+Y	F4
26	1A	F5	Ctrl+Z	Ctrl+Z	F5
27	1B	F6	Ctrl+[	Ctrl+[	F6
28	1C	F7	Ctrl+\	Ctrl+\	F7
29	1D	F8	Ctrl+]	Ctrl+]	F8
30	1E	F9	Ctrl+^	Ctrl+^	F9
31	1F	F10	Ctrl+_	Ctrl+_	F10

Appendix F – Control Character Set (RS-232 & USB Virtual COM Port)

DEC	HEX	Key Mapping
0	00	NUL
1	01	SOH
2	02	STX
3	03	ETX
4	04	EOT
5	05	ENQ
6	06	ACK
7	07	BEL
8	08	BS
9	09	HT
10	0A	LF
11	0B	VT
12	0C	FF
13	0D	CR
14	0E	SO
15	0F	SI
16	10	DLE
17	11	DC1
18	12	DC2
19	13	DC3
20	14	DC4
21	15	NAK
22	16	SYN
23	17	ETB
24	18	CAN
25	19	EM
26	1A	SUB

27	1B	ESC
28	1C	FS
29	1D	GS
30	1E	RS
31	1F	US

Appendix G – Other Character Escape (USB Keyboard Mode)

DEC	HEX	Key Mapping
129	81	F13
130	82	F14
131	83	F15
132	84	F16
133	85	F17
134	86	F18
135	87	F19
136	88	F20
137	89	F21
138	8A	F22
139	8B	F23
140	8C	F24

Appendix H – MS852 DPM ESD Common Feature Settings and Examples

H.1 Custom Prefix / Suffix Configuration Examples

Custom prefixes and suffixes can be configured by scanning designated barcodes, with up to 10 characters supported for each. Ensure the custom prefix/suffix output option is enabled for the settings to take effect. The following examples are provided for reference.

H.1.1 Example A: Add a Custom Prefix “X” “Y” “Z” to All Barcode Types

- Step 1** Refer to the **Barcode Symbology ID Table** in [Appendix B](#). The HEX value for “**All Symbologies**” is 99.
- Step 2** Refer to the **ASCII Table** in [Appendix D](#). The HEX values for “**X**”, “**Y**”, and “**Z**” are 58, 59, and 5A, respectively.
- Step 3** Scan the **Custom Prefix** barcode in [2.17.3 Custom Prefix](#). The scanner will emit two beeps.
- Step 4** Scan the following values in sequence using [Appendix A](#) data and editing barcodes: 9, 9, 5, 8, 5, 9, 5, A
- Step 5** Scan the **Save** barcode in [A.3 Data Formatting Commands](#) to complete the configuration.

Optional:

To modify scanned data before saving, scan **Cancel Last Input** or **Cancel Entire** barcode in [A.3 Data Formatting Commands](#), then re-enter the values.

To cancel the configuration process, scan **Cancel Current Setting** barcode in [A.3 Data Formatting Commands](#).

H.1.2 Example B: Add a Custom Prefix “R” to QR Code Only

- Step 1** Refer to the **Barcode Symbology ID Table** in [Appendix B](#). The HEX value for **QR Code** is 51.
- Step 2** Refer to the **ASCII Table** in [Appendix D](#). The HEX values for “R” is 52.
- Step 3** Scan the **Custom Prefix** barcode in [2.17.3 Custom Prefix](#).
- Step 4** Scan the following values in sequence using [Appendix A](#) data and editing barcodes: 9, 9, 5, 8, 5, 9, 5, A
- Step 5** Scan the **Save** barcode in [A.3 Data Formatting Commands](#) to complete the configuration.

H.1.3 Example C: Remove the Custom Prefix from QR Code

To remove a custom prefix or suffix for a specific barcode type, scan only its symbology ID (refer to [Appendix B](#)) without any additional characters, then scan the **Save** barcode in [Appendix A](#).

- Step 1** Scan the **Custom Prefix** barcode in [2.17.3 Custom Prefix](#).
- Step 2** Using the data and editing barcodes in [Appendix A](#), scan the following values in sequence: 5, 1 (QR Code ID only).
- Step 3** Scan the **Save** barcode in [A.3 Data Formatting Commands](#) to complete the configuration.

Note:

1. If a global prefix was previously configured for all barcode types, the QR Code will revert to that global prefix after this setting.
2. To remove all custom prefixes and suffixes across all barcode types, scan the **Clear All Custom Prefixes** barcode in [2.17.3 Custom Prefix](#) and the **Clear All Custom Suffixes** barcode in [2.17.4 Custom Suffix](#).

H.2 Barcode Length Settings Example

The minimum length must not exceed the current maximum length setting; otherwise, an error will occur. Similarly, the maximum length must not be less than the current minimum length.

H.2.1 Example: Set Code 128 Barcode Length to 4-12 Characters

- Step 1** Scan the **Code 128 Min. Length** barcode in [3.9.4 Code 128 Length Settings](#).
- Step 2** Using the **Digit Barcodes** in [Appendix A](#), scan the value: 4.
- Step 3** Scan the **Save** barcode in [A.3 Data Formatting Commands](#) to apply the minimum length setting.
- Step 4** Scan the **Code 128 Max. Length** barcode in [3.9.4 Code 128 Length Settings](#).
- Step 5** Using the **Digit Barcodes** in [Appendix A](#), scan the value: 1, 2.
- Step 6** Scan the **Save** barcode in [A.3 Data Formatting Commands](#) to apply the minimum length setting.

H.3 USB Keyboard Output Speed Settings

Example

To prevent transmission errors on low-performance PCs, it is recommended to set the USB keyboard output speed to 50 ms. Follow the steps below to complete the configuration:

- Step 1** Scan the **Custom Output Speed** barcode in [2.5.4 USB Keyboard Output Speed](#).
- Step 2** Using the **Digit Barcodes** in [Appendix A](#), scan the values: 5, 0.
- Step 3** Scan the **Save** barcode in [A.3 Data Formatting Commands](#) to complete the configuration.