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Wireless 2D Scanner

- MS842P -

User's Manual

Version 1.16

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Preface

About This Manual

Thank you for purchasing the unitech product.
This manual explains how to install, operate and maintain our product.

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.

Operation on the 5.15 - 5.25GHz frequency band is restricted to indoor use only. The FCC requires indoor use for the 5.15-5.25GHz band to reduce the potential for harmful interference to co-channel Mobile Satellite Systems. Therefore, it will only transmit on the 5.25-5.35 GHz, 5.47-5.725 GHz and 5.725 – 5.850 GHz band when associated with an access point (AP).

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.

RF Radiation Exposure Statement

For body contact during operation, this device has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 0.5 cm from the body.
Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Canadian Compliance Statement

This Class B Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

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 EMC 2014/30/EU directive and the Low Voltage 2014/35/EU directive.
The declaration of conformity is available for download at :
https://portal.unitech.eu/public/Safetyregulatorystatement

CE RF Exposure Compliance

This device meets EU requirements (2014/53/EC) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.
For body-worn operation, this device has been tested and meets the ICNIRP guidelines and the European Standard EN 62209-2, for use with dedicated accessories, SAR is measured with this device at a separation of 0.5 cm to the body, while transmitting at the highest certified output power level in all frequency bands of this device. Use of other accessories which contain metals may not ensure compliance with ICNIRP exposure guidelines.

CE Mark Warning

CE

This equipment complies with the requirements of Directive 2014/53/EC of the European Parliament and Commission from 24 May, 2014 governing Radio and Telecommunications Equipment and mutual recognition of conformity. The highest CE SAR values for the device are as follows :

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 EU directive 2002/96/EC and update 2003/108/EC 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

Taiwan NCC Warning Statement

低功率電波輻射性電機管理辦法

第十二條：經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條：低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。
前項合法通信，指依電信法規定作業之無線電通信。
低功率射頻電機需忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

注意事項:

1. 使用過度恐傷害視力。
2. 使用30分鐘請休息10分鐘；2歲以下幼兒不看螢幕，2歲以上每天看螢幕不要超過1小時。
3. 減少電磁波影響，請妥適使用。

SAR 標準值 2.0W/Kg，送測產品實測值為 0.217 W/kg@10g

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 825-1. Class II and Class 2 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 components.

Battery Notice

1. To guarantee optimal performance, it is recommended that rechargeable batteries be replaced every year, or after 500 charging cycles are completed. It is normal for the battery to balloon or expand after one year or 500 cycles. Although it does not cause damage, it cannot be used again and must be disposed of according to the location's safe battery disposal procedures.
2. If a battery performance decreases more than 20%, the battery is at the end of its life cycle. Stop use and ensure the battery is disposed of properly.
3. The length of time that a battery lasts depends on the battery type and how the device is used. Conserve the battery life by doing the following:
   - Avoid fully uncharging the battery because this places additional strain on it. Several partial uncharges with frequent charges are better than a fully uncharged battery. Charging a partially charged battery does not cause harm to the unit.
   - Keep the battery cool. Avoid hot vehicles. For prolonged storage, keep the battery at a 40% charge level.
   - Do not leave the battery uncharged and unused for an extended period of time, the battery will wear out and the longevity of the battery will be at least half of one with frequent charges.
4. Protect battery life by not over or under charging the battery.
5. Please do not leave battery unused for long time without charging it. Despite unitech's safety precautions, the battery pack may begin to change shape. If so, stop using it immediately. Please check to see if you are using a proper power adapter to charge the battery or contact your service provider for service.
6. If you cannot charge the battery after it has been idle for an extended period of time and it begins to heat up, please do not try to charge it. It may not be functional anymore.
7. Please only use the original battery from unitech. Using a third party battery can damage our products. Please note that when such damage occurs, it is not covered by unitech's warranty policy.

CAUTION!

- RISK OF EXPLOSION IF BATTERY IS REPLACED INCORRECTLY.
  DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- 如果更換不正確之電池行事會有爆炸的風險
  請依製造商說明書處理用過之電池
- 如果更换不正确之电池行事会有爆炸的风险
  请依制造商说明书处理用过之电池

Battery charge notice

It is important to consider temperature when the battery pack is charging. Charging is most efficient at normal room temperature or in a slightly cooler environment. It is essential that batteries are charged within the stated range of 0˚C to 40˚C. Charging batteries outside of the specified range could damage the batteries and shorten their life cycle.

CAUTION! Do not charge batteries at a temperature lower than 0˚C. This will make the batteries unstable and dangerous. Please use a battery temperature detecting device for a charger to ensure a safe charging temperature range.

CAUTION! To ensure the unit working properly, please keep all connectors away from the contaminants staying inside of them such as dust, grease, mud, and water. The negligence may cause the unit with no communication, short circuited, overheated and so on.

CAUTION! If the connector is damaged, please ensure the connector is being fully repaired before use the unit to avoid causing short circuited.

Storage and safety notice

Although charged batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens, they will require recharging prior to use. Batteries may be stored at temperatures between -20°C to 60°C, however they may deplete more rapidly at higher temperatures. It is recommended to store batteries at room temperature.

** The message above only applies to the usage of the removable batteries. For the products with non-removable batteries / without batteries, please refer to the specification of each product.*

Product Operation and Storage Notice

The unitech product has applicable operation and storage temperature conditions. Please follow the limitation of suggested temperature conditions to avoid failure, damage or malfunction.

**For applicable temperature conditions, please refer to the specification of each product.*

Adapter Notice

1. Please do not leave the power adapter in the socket when it is not connected to your unitech product for charging.
2. Please remove the power adapter when the battery is fully recharged.
3. The bundled power adapter that comes with your unitech product is not meant to be used outdoors. An adapter exposed to water or rain, or a very humid environment can cause damage to both the adapter and the product.
4. Please only use the bundled power adapter or same specification of adapter to charge your unitech product. Using the wrong power adapter can damage your unitech product.

** The message above only applies to the product connected to the adapter. For the products without using the adapters, please refer to the specification of each product.*

Hearing Damage Warning

Zx.3 Warning

The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following:

- the symbol of Figure 1 with a minimum height of 5 mm; and
- the following wording, or similar :

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

Figure 1 – Warning label (IEC 60417-6044)

Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.

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		Europe	
Tel:	+886-2-89121122	**Tel:**	+31-13-4609292
E-mail:	info@hq.ute.com	**E-mail:**	info@eu.ute.com
Address:	5F, No. 136, Lane 235, Baoqiao Road, Xindian District, New Taipei City 231, Taiwan (R.O.C.)	**Address:**	Kapitein Hatterasstraat 19, 5015 BB, Tilburg, the Netherlands
Website:	http://www.ute.com	**Website:**	http://eu.ute.com
China		**Japan**	
Tel:	+86-59-2310-9966	**Tel:**	+81-3-35232766
E-mail:	info@cn.ute.com	**E-mail:**	info@jp.ute.com
Address:	Room401C, 4F, RIHUA International Mansion, Xinfeng 3nd Road, Huoju Hi-tech District, Xiamen, Fujan , China	**Address:**	Kayabacho Nagaoka Building 8F.,1-5-19 Shinkawa, Chuo-Ku, Tokyo, 104-0033, Japan
Website:	http://cn.ute.com	**Website:**	http://jp.ute.com
Asia & Pacific / Middle East		**Latin America**	
Tel:	+886-2-27911556	**Tel:**	+52-55-5171-0528
E-mail:	info@apac.ute.com info@india.ute.com info@mideast.ute.com	**E-mail:**	info@latin.ute.com
Address:	4F., No. 236, ShinHu 2nd Rd., NeiHu Chiu, 114, Taipei,Taiwan	**Address:**	17171 Park Row, Suite 210 Houston, TX 77084USA (Rep.)
Website:	http://apac.ute.com / http://mideast.ute.com	**Website:**	http://latin.ute.com
North America		**Please scan QR Code to visit us :**	
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		

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

Introducing the MS842P

MS842P not only benefits all the advantages MS842 has (2D wired scanner) but also allows users to move around without being restricted by wireless technology. It offers a 10 meter operation range with its USB dongle as well as data can be stored in a buffer mode if it is out of range of the wireless signal and will upload the data automatically when it gets back in range. This scanner is ideal for various applications in warehousing, retail and healthcare.

MS842P is built in Motorola's high-speed decoder and high performance 2D engine that can support all 1D and 2D barcodes reading. It incorporates rugged design with an IP42 environmental sealing against moisture and dust, also sustains a 1.8M drop to concrete. With a long life trigger of 10 million times guarantees a continuous productivity for best reliability.

MS842P has laser aim is more easier to target barcode to read and it has two engine options for selection DOF: SR (standard range) and HD (high density) for varied applications.

Features

- Build in high performance 2D engine & decoder
- Point-and-shooting scanning. Good aiming line, easy to pick up and use
- Decodes all standard 1D and 2D codes - even wrinkled, damaged or poorly printed - quickly and accurately
- Durable, compact and long life trigger design
- Rugged design by IP42 and 1.8m drops
- Buffer mode for out-of-range reading
- Simple plug-and-play without complicated set-up instructions
- 10M operation range with its USB dongle
- Integrated cradle and USB dongle set results in more flexible data transmission

Applications

- ✓ Personal Identification
- ✓ Captive Images for Damaged Goods
- ✓ Printed Circuit Board / Electronics Component Manufacturing
- ✓ Warehousing and Distribution
- ✓ Clinical / Healthcare Applications
- ✓ Ticket and Gaming Application

LED / Beeper Indication for Scanner

LED Indication for Scanner

The LED lights on the MS842P scanner turn on to indicate the status of the battery, a successful read of a barcode, or the status of the wireless connection.

MS842P Lights: The status LED turns green, blue, or red to indicate the status of the battery and scanning.

LED Light State	What it means
Blue LED blinks per 3 seconds	Trigger is pressed to power on the scanner.
Red LED flashes per 5 seconds	Low battery power
Red LED on	1. Barcode reading when the trigger is pressed 2. Battery charging when the scanner is set on the cradle
Green LED flashes	Successful barcode reading
Blue LED fast blinks and then turns off	Successful pairing/connection/reconnection (Cradle mode)
Blue LED turns off and Green LED blinks	Successful connection
Green LED turns off and Blue LED blinks	Disconnection caused by the radio connection lost
Blue LED slow blinks	Disconnect (out of range)
Green LED blinks	Entering barcode setting mode
Green LED on	1. Exiting barcode setting mode 2. Battery charging completion 3. Successful in-range reading in batch mode 4. Successful data transfer in batch mode 5. Successful in-range reading when the buffer mode is disabled
Green and blue LEDs blink	Pin code setting (waiting to enter a pin code)

Beeper Indication for Scanner

The MS842P uses beeps to give you audio feedback when it performs some functions. For example, you hear a beep each time you scan a valid barcode.

Beep Sequence	What it means
One long beep with a medium tone	Trigger is pressed to power on the scanner.
One short beep with a Hi tone	1. Successful barcode reading 2. Pin code setting (waiting to enter a pin code)
One beep with a Hi tone	Successful pairing/connection/reconnection (Cradle mode)
3 Hi-Low alarms	Disconnect (out of range) with 100ms delay from a high tone to a low tone or from a low tone to a high tone
One long beep with a Hi tone	Successful connection
One short beep with a Hi-Low-Hi tone in setting mode	Entering barcode setting mode
One short beep with a Hi-Medium tone	Exiting barcode setting mode
2 short beeps with a Hi tone	Page calling
One short beep with a medium tone	Successful in-range reading in batch mode
One short beep with a medium tone	Buffer mode is disabled
One short beep with a Low-Hi tone	Data to buffer (out of range) in batch mode and inventory mode
One beep with a medium tone → one long beep with a medium tone	Successful data transfer in batch mode and inventory mode
4 short beeps with a Low-Hi tone	Out of range (buffer mode disabled / inventory mode / buffer mode when the memory buffer is full)

Definition of batch mode

In range: Scanner will transmit each scanned data right after scanning the barcode.

Out range: Scanner is able to continue scanning and all scanned data are stored into the memory buffer.

Out range → in range: Stored scanned data will be transmitted automatically right after the radio link is resumed.

(* You will hear 3 hi-low long beeps indicating the radio connection lost)

Definition of inventory mode

In range/out range: All scanned barcode data will be stored in memory storage.
Transmit stored data: Scan the "Read Buffer" (change to "send data") to transmit all stored data. (* When the radio link is resumed, the scanner will give one long & hi beep after data transmission is completed. When the data can't transmit (radio link is lost), the scanner will give three short low-hi beeps.)
Clear stored data: Scanner is preset to keep all stored data. You can clear all stored data by scan "Buffer Erasable" firstly and then scan "Erase Buffer" Change to "confirm Erase buffer".

Definition of Buffer Disable

In range: Scanner will transmit each scanned data right after scanning the barcode.
Out range: Scanner is unable to scan and you will hear 3 short low-hi beeps.
(* You will hear 3 hi-low long beeps indicating the radio connection lost.)

Memory Buffer Setting

The collected data can be sent back to a host computer one by one via the WPAN connection as the scanner is set to the Batch Mode, or can be stored in the flash memory of the scanner being set to the Inventory Mode.

By default, the Batch Mode is enabled for use when the scanner is out of range. Upon reading a barcode successfully within range, the scanner responds with one short beep (high tone) and its LED indicator becomes solid green and goes off quickly. However, the host computer may not receive the data immediately if getting out of range. With the 2MB transmit buffer, the scanner can ignore the transmission status and keep on reading barcodes until the buffer is full.

When the Batch Mode is enabled and the scanner is out of range, the scanner will respond with two short beeps, high-low tone, upon reading a barcode successfully. When the memory buffer is full, the scanner will respond with one long beep (low tone) and its LED indicator will become solid red and go off quickly. You are advised to get back to range.

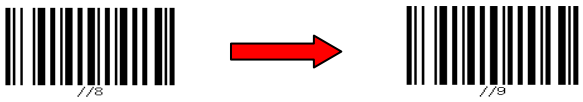
MS842 features 2 memory mode settings: Batch Mode and Inventory Mode
Note: The 2MB of memory buffer in the scanner can hold as approximately many as 1290555 scans based on EAN-13 barcodes. Data will be cleared out once the scanner is not powered!

Batch Mode

Batch Mode is the default setting. In the Batch Mode, once you scan a barcode by using a scanner wirelessly connecting to the cradle (Cradle Mode) or a host PC (Cradle-less Mode) in a specified range, the scanner sends out the data. When the scanner is out of range of the cradle or the host and keeps trying to re-connect, the scanner will keep the data in its memory buffer until the buffer is full; when the scanner is again in range of the cradle or the host, the scanner will sent out the data that it has in the memory buffer. When the buffer is full and the scanner is out of range, the scanner will respond with one long beep (low tone) and its LED indicator will become solid red and go off quickly. You are advised to get back to range.

Batch Mode

If you do not output the barcode data, the barcode data is always kept in the memory buffer. When being outputted, the 1D data is erased from the memory buffer. However, when being outputted, the 2D data is still kept in the memory buffer, and thus if you want to erase the 2D data from the memory buffer, scan the following barcodes in the order.



Enter Batch Buffer Erase **Erase**

When the scanner is out of batch mode, the data will be temporarily stored in the RAM, which has 4K storage capacities; however, in the inventory mode, the data will be stored in the flash, which has 2MB storage capacities.

Note:
If you tend to operate off line for long time, please set the scanner to the inventory mode. Otherwise, the data stored in the RAM will be lost when the scanner runs out of battery power.

Inventory Mode

Inventory Mode is the mode I n which the scanner keeps the scanned data in its memory buffer but not send out the data on the host automatically; you should scan Read Buffer barcode to order the scanner sent out the memorized data to the Host. To set the scanner to the Inventory Mode, scan the following barcodes in the order:

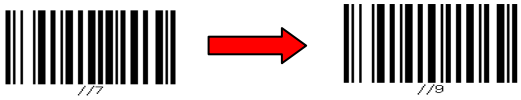
Inventory Mode

Bear in mind the fact that the scanner operating in the inventory mode does not send out the scanned data automatically but keeps the data in its memory buffer. If you want to make the scanner output the data it scanned before, please scan the Read Buffer barcode as shown below:

Read Buffer

Note: After scanning the Read Buffer barcode, the data is sent from the memory buffer.

If you do not output the barcode data, the barcode data is always kept in the memory buffer. When being outputted, the 1D data is erased from the memory buffer. However, when being outputted, the 2D data is still kept in the memory buffer, and thus if you want to erase the 2D data from the memory buffer, scan the following barcodes in the order.



Enter Inventory Buffer Erase **Erase**

If you are out of range of the cradle or the host PC when reading out the scanned

data, the scanner will keep the data in its memory buffer until the buffer is full; only when the scanner is within the specified range of the cradle or the host, and you scan the Read Buffer barcode the data will be sent.

When the buffer is disabled and the scanner is out of range, the scanner will respond with one long beep (low tone) and its LED indicator will become solid red and go off quickly. You are advised to get back to range.

Buffer Mode Disable

To disable the buffer mode, scan the bar code below.

Buffer Mode Disable

USB Host Parameters

USB Transmission Speed Parameters

Use the following parameters to speed USB data transmission:

- *USB Polling Interval* - When using more current USB systems, use this parameter to set a lower interval in order to increase data transmission speed.
- *Quick Keypad Emulation* - When configured as a USB HID keyboard device, use this parameter to increase the data transmission speed of a mix of both printable (7-bit) and full (8-bit) ASCII characters.

USB Polling Interval

This option speeds data transmission for all USB devices except CDC. Scan a bar code below to set the polling interval. The polling interval determines the rate at which data can be sent between the scanner and the host computer. A lower number indicates a faster data rate. The default value is 8 msec.

Changing the polling interval re-initializes the scanner.

CAUTION *Ensure your host machine can handle the selected data rate. Selecting a data rate that is too fast for the host can result in lost data.*

1 msec

2 msec

3msec

4 msec

5 msec

6 msec

7 msec

*8 msec

9 msec

Quick Keypad Emulation

This option applies only to the HID Keyboard Emulation Device and if Emulate Keypad below is enabled. This parameter enables a quicker method of keypad emulation where ASCII sequences are only sent for ASCII characters not found on the keyboard. The default value is Disable.

This option applies only to the HID keyboard emulation device when Emulate Keypad is enabled. This parameter enables a quicker method of emulation utilizing the numeric keypad. The default value is Disable.

NOTE: This feature is not compatible with Fast HID Keyboard mode.

Enable

*Disable

Emulate Keypad

Enable this to send all characters as ASCII sequences over the numeric keypad. For example ASCII A transmits as “ALT make” 0 6 5 “ALT Break”.

*Disable Keypad Emulation

Enable Keypad Emulation

Dongle HID Keyboard Numeric Keypad

Enable

Disable

Emulate Keypad with Leading Zero

Enable this to send character sequences sent over the numeric keypad as ISO characters which have a leading zero. For example ASCII A transmits as “ALT MAKE” 0 0 6 5 “ALT BREAK”.

*Disable Keypad Emulation with Leading Zero

Enable Keypad Emulation with Leading Zero

USB Country Keyboard Types - Country Codes

Scan the bar code corresponding to the keyboard type. This setting applies only to the USB HID Keyboard Emulation device.

Note: *When changing USB country keyboard types the decoder automatically resets and issues the standard startup beep sequences.*

*North American Standard USB Keyboard

German Windows

French Windows

French Canadian Windows 95/98

French Canadian Windows 2000/XP

French Belgian Windows

Spanish Windows

Italian Windows

Swedish Windows

UK English Windows

Japanese Windows (ASCII)

Portuguese-Brazilian Windows

Dongle HID Keyboard Language

US English

UK English

Swiss

Swedish

Spanish

Italian

German

French

Danish

Japanese (OADG109)

Partial ALT

ALT Mode

Simulated Caps Lock

Enable this to invert upper and lower case characters on the bar code as if the Caps Lock state is enabled on the keyboard. This inversion occurs regardless of the keyboard's **Caps Lock** state. Note that this only applies to alpha characters.

*Disable Simulated Caps Lock

Enable Simulated Caps Lock

USB CAPS Lock Override

This option applies only to the HID Keyboard Emulation device. Enable this to preserve the case of the data regardless of the state of the **Caps Lock** key. This setting is always enabled for the Japanese, Windows (ASCII) keyboard type and cannot be disabled.

Override Caps Lock Key
(Enable)

*Do Not Override Caps Lock Key
(Disable)

Note: If both Simulated Caps Lock and Caps Lock Override are enabled, Caps Lock Override takes precedence.

Dongle HID Keyboard Case

Auto Trace

To Lower

To Upper

Function Key Mapping

ASCII values under 32 are normally sent as a control-key sequences. Enable this parameter to send the keys in bold in place of the standard key mapping. Table entries that do not have a bold entry remain the same whether or not you enable this parameter.

*Disable Function Key Mapping

Enable Function Key Mapping

ASCII Character Set for USB

USB Prefix/Suffix Values

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
1000	%U	CTRL 2
1001	$A	CTRL A
1002	$B	CTRL B
1003	$C	CTRL C
1004	$D	CTRL D
1005	$E	CTRL E
1006	$F	CTRL F
1007	$G	CTRL G
1008	$H	CTRL H/**BACKSPACE**[1]
1009	$I	CTRL I/**HORIZONTAL TAB**[1]
1010	$J	CTRL J
1011	$K	CTRL K
1012	$L	CTRL L
1013	$M	CTRL M/**ENTER**[1]
1014	$N	CTRL N
1015	$O	CTRL O
1016	$P	CTRL P
1017	$Q	CTRL Q
1018	$R	CTRL R
1019	$S	CTRL S
1020	$T	CTRL T
1021	$U	CTRL U

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
1022	$V	CTRL V
1023	$W	CTRL W
1024	$X	CTRL X
1025	$Y	CTRL Y
1026	$Z	CTRL Z
1027	%A	CTRL [/**ESC**[1]
1028	%B	CTRL \
1029	%C	CTRL]
1030	%D	CTRL 6
1031	%E	CTRL -
1032	Space	Space
1033	/A	!
1034	/B	“
1035	/C	#
1036	/D	$
1037	/E	%
1038	/F	&
1039	/G	‘
1040	/H	(
1041	/I	)
1042	/J	*
1043	/K	+
1044	/L	,
1045	-	-
1046	.	.
1047	/O	/
1048	0	0
1049	1	1
1050	2	2
1051	3	3
1052	4	4
1053	5	5
1054	6	6
1055	7	7
1056	8	8

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
1057	9	9
1058	/Z	:
1059	%F	;
1060	%G	<
1061	%H	=
1062	%I	>
1063	%J	?
1064	%V	@
1065	A	A
1066	B	B
1067	C	C
1068	D	D
1069	E	E
1070	F	F
1071	G	G
1072	H	H
1073	I	I
1074	J	J
1075	K	K
1076	L	L
1077	M	M
1078	N	N
1079	O	O
1080	P	P
1081	Q	Q
1082	R	R
1083	S	S
1084	T	T
1085	U	U
1086	V	V
1087	W	W
1088	X	X
1089	Y	Y
1090	Z	Z
1091	%K	[

Prefix/ Suffix Value	Full ASCII Code 39 Encode Char.acter	Keystroke
1092	%L	\
1093	%M	]
1094	%N	^
1095	%O	_
1096	%W	`
1097	+A	a
1098	+B	b
1099	+C	c
1100	+D	d
1101	+E	e
1102	+F	f
1103	+G	g
1104	+H	h
1105	+I	i
1106	+J	j
1107	+K	k
1108	+L	l
1109	+M	m
1110	+N	n
1111	+O	o
1112	+P	p
1113	+Q	q
1114	+R	r
1115	+S	s
1116	+T	t
1117	+U	u
1118	+V	v
1119	+W	w
1120	+X	x
1121	+Y	y
1122	+Z	z
1123	%P	{
1124	%Q	|
1125	%R	}
1126	%S	~

Dongle HID Keyboard Character Delay

1 ms

5 ms

10 ms

20 ms

50 ms

100 ms

Dongle HID Keyboard Block Delay

10 ms

50 ms

100 ms

500 ms

1 s

3 s

Chapter 3

Output Data Editing

Transmit Code ID Character

A Code ID character identifies the code type of a scanned bar code. This is useful when decoding more than one code type. In addition to any single character prefix already selected, the Code ID character is inserted between the prefix and the decoded symbol.

Select no Code ID character, a Symbol Code ID character, or an AIM Code ID character.

Note: If you enable Symbol Code ID Character or AIM Code ID Character, and enable Transmit "No Read" Messag, the digital scanner appends the code ID for Code 39 to the NR message.

Symbol Code ID Character

AIM Code ID Character

*** None**

MS842P Generate Setting tool

Please follow the instructions below for MS842P generate setting:
(Please download the generate setting tool via download section from our website :
http://ute.com/products_info.php?pc1=3&pc2=297&rbu=0&pid=1068)

A. Please use the HEX values of the function codes for PC in the setup utility by adding a '\' in front of the byte.

B. Click "**Genarate**" to get the setting barcode

C. Use MS842P to scan the setting code to complete the setting process.

For example the following will add a preamble of "Cursor Down" (0x9D) and "ABC" before each barcode is scanned:

Prefix/Suffix Values

You can append a prefix and/or one or two suffixes to scan data for use in data editing. To set a value for a prefix or suffix, scan a four-digit number (i.e., four bar codes) that corresponds to that value.

When using host commands to set the prefix or suffix, set the key category parameter to 1, then set the 3-digit decimal value.

To correct an error or change a selection, scan *Cancel*.

Cancel

Note: To use Prefix/Suffix values, first set the Scan Data Transmission Format as shown below.

Scan Prefix

Scan Suffix 1

Scan Suffix 2

Data Format Cancel

Scan Data Transmission Format

To change the scan data format, scan one of the following eight bar codes corresponding to the desired format.

Note: If using this parameter, do not use ADF rules to set the prefix/suffix.

To set values for the prefix and/or suffix, see *Prefix/Suffix Values*.

*** Data As Is**

<DATA> <SUFFIX 1>

<DATA> <SUFFIX 2>

<DATA> <SUFFIX 1> <SUFFIX 2>

<PREFIX> <DATA >

<PREFIX> <DATA> <SUFFIX 1>

<PREFIX> <DATA> <SUFFIX 2>

<PREFIX> <DATA> <SUFFIX 1> <SUFFIX 2>

FN1 Substitution Values

The wedge and USB HID keyboard hosts support a FN1 Substitution feature. Enabling this substitutes any FN1 character (0x1b) in an EAN128 bar code with a value. This value defaults to 7013 (Enter key).

When using host commands to set the FN1 substitution value, set the key category parameter to 1, and then set the 3-digit keystroke value. See the ASCII character set table for the current host interface for the desired value.

To select a FN1 substitution value via bar code menus:

1. Scan the bar code below.

Set FN1 Substitution Value

2. Locate the keystroke desired for FN1 substitution in the ASCII character set table in the appropriate host interface chapter. Enter the 4-digit ASCII value by scanning each digit.

To correct an error or change the selection, scan *Cancel*.

Cancel

Chapter 4

Bar code Setup Menu

User Preferences

Set Default Parameter

You can reset the digital scanner to factory defaults. Scan the bar code below to reset the digital scanner to its default settings.

Set Defaults (Factory Default)
Scan this bar code to reset all default parameters.

(**Factory Defaults**)

Parameter Scanning

To disable decoding of parameter bar codes, scan the Scanning bar code below. Note that the parameter bar code can still be decoded. To enable decoding of parameter bar codes, either scan Enable Parameter Scanning or Set All Defaults.

*** Enable Parameter Bar Code Scanning**

Disable Parameter Bar Code Scanning

Beeper Volume& Tone

To select a beeper volume, scan the Low Volume, Medium Volume, or High Volume bar code. To select a beeper frequency (tone), scan the Low Frequency, Medium Frequency, or High Frequency bar code.

Low Volume

Low Frequency

*** High Volume**

* Medium Frequency

Medium Volume

High Frequency

Suppress Power-up Beeps

Select whether or not to suppress the digital scanner's power-up beeps.

*** Do Not Suppress Power-up Beeps**

Suppress Power-up Beeps

Beeper Duration

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

Short

*** Medium**

Long

Trigger Modes

Select one of the following trigger modes for the digital scanner:

- **Standard (Level)** - A trigger pull activates decode processing. Decode processing continues until the bar code decodes, you release the trigger, or the Decode Session Timeout occurs.
- **Presentation (Blink)** - The digital scanner activates decode processing when it detects a bar code in its field of view. After a period of non-use, the digital scanner enters a low power mode, in which the LEDs turn off until the digital scanner senses motion.
- **Host** - A host command issues the triggering signal. The decoder interprets an actual trigger pull as a Level triggering option.
- **Auto Aim** - This trigger mode turns on the LED aiming dot when the scanner is lifted. A trigger pull activates decode processing. After 2 seconds of inactivity the aiming pattern shuts off.
- **Auto Aim with Illumination** - This trigger mode turns on the aiming pattern and internal illumination LEDs when the decoder senses motion. A trigger pull activates decode processing. After 2 seconds of inactivity the aiming pattern and internal illumination LEDs automatically shut off.

***Standard (Level)**

Presentation (Blink)

Host

Auto Aim

Auto Aim with Illumination

Low Power Mode

This parameter determines whether or not the digital scanner enters low power mode after a decode attempt. If disabled, power remains on after each decode attempt.

* Disable Low Power Mode

Enable Low Power Mode

Time Delay to Low Power Mode

This parameter sets the time the decoder remains active after decoding. After a scan session, the decoder waits this amount of time before entering Low Power Mode.

Note: This parameter only applies when **Power Mode** is set to **Low**.

*1 Second

5 Seconds

1 Minute

5 Minutes

15 Minutes

1 Hour

Video Mode

In this mode the decoder behaves as a video camera as long as the trigger is active. Upon trigger release, the decoder returns to Decode Mode. Scan the **Video Mode** bar code to temporarily enter Video Capture Mode.

Snapshot Mode

Video Mode

Image File Format Selector

Select an image format appropriate for the system (BMP, TIFF, or JPEG). The decoder stores captured images in the selected format.

BMP File Format

*JPEG File Format

TIFF File Format

Video View Finder

Select **Enable Video View Finder** to project the video view finder while in Image Mode, or **Disable Video View Finder** to turn the video view finder off.

*Disable Video View Finder

Enable Video View Finder

Mirrored Image

Enable this to scan images in reverse, or mirrored, as if seen through a mirror. This mode is useful in applications requiring scanning through a mirror and using symbologies that do not decode in reverse.
Enabling this mode when using snapshot, video, or video viewfinder mode transmits images as mirrored images.

*Disable Mirrored Image

Enable Mirrored Image

Beep After Good Decode

Scan a bar code below to select whether or not the decoder issues a beep signal after a good decode. If selecting **Do Not Beep After Good Decode**, beeper signals still occur during parameter menu scanning and to indicate error conditions.

*Beep After Good Decode (Enable)

Do Not Beep After Good Decode (Disable)

Picklist Mode

Scan one of the following barcodes to select a enable or disable Picklist Mode. In this mode, you can out and decode a barcode from a group of barcodes that are printed close together by placing the aim pattern on the barcode you want to decode.

Enable Picklist Mode Always

*Disable Picklist Mode Always

Chapter 5

Bar code Symbologies

Introduction

This section allows you to change settings for each symbology. After selecting a symbology from the scanner settings section, you can change the options for that symbology. To change any attribute's setting, double click it in the settings workspace. Below is a list of supported symbologies with configurable settings. For in depth options for each symbology, please refer to the help file.

1D Symbologies	**2D Symbologies**
UPC/EAN	PDF417
Bookland EAN	MicroPDF417
UCC Coupon Code	Data Matrix
ISSN EAN	Data Matrix Inverse
Code 128	Maxicode
GS1-128	QR Code
ISBT 128	MicroQR
Code 39	QR Inverse
Trioptic Code 39	Aztec
Code 32	Aztec Inverse
Code 93	
Code 11	**Postal Codes**
Interleaved 2 of 5	US Postnet
Discrete 2 of 5	US Planet
Codabar	UK Postal
MSI	Japan Postal
Chinese 2 of 5	Australian Postal
Matrix 2 of 5	Netherlands KIX Code
Korean 3 of 5	USPS 4CB/One Code/Intelligent Mail
Inverse 1D	UPU FICS Postal
GS1 DataBar	
Composite Codes	

Symbol Code Identifiers

The Symbol Code Characters are listed below in the table.

Code Character	Code Type
A	UPC-A, UPC-E, UPC-E1, EAN-8, EAN-13
B	Code 39, Code 32
C	Codabar
D	Code 128, ISBT 128, ISBT 128 Concatenated
E	Code 93
F	Interleaved 2 of 5
G	Discrete 2 of 5, or Discrete 2 of 5 IATA
H	Code 11
J	MSI
K	GS1-128
L	Bookland EAN
M	Trioptic Code 39
N	Coupon Code
R	GS1 DataBar Family
S	Matrix 2 of 5
T	UCC Composite, TLC 39
U	Chinese 2 of 5
V	Korean 3 of 5
X	ISSN EAN, PDF417, Macro PDF417, Micro PDF417
z	Aztec, Aztec Rune
P00	Data Matrix
P01	QR Code, MicroQR
P02	Maxicode
P03	US Postnet
P04	US Planet
P05	Japan Postal
P06	UK Postal
P08	Netherlands KIX Code
P09	Australia Post
P0A	USPS 4CB/One Code/Intelligent Mail
P0B	UPU FICS Postal

UPC-A

Enable/Disable UPC-A

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

*Enable UPC-A

Disable UPC-A

Transmit 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.

*Transmit UPC-A Check Digit

Do Not Transmit UPC-A Check Digit

UPC-A Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-A preamble to the host device: transmit System Character only, transmit System Character and Country Code (“0” for USA), and transmit no preamble. Select the appropriate option to match the host system.

No Preamble (<DATA>)

*System Character (<SYSTEM CHARACTER> <DATA>)

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)

UPC-E

Enable/Disable UPC-E

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

*Enable UPC-E

Disable UPC-E

Transmit UPC-E 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-E check digit. It is always verified to guarantee the integrity of the data.

*Transmit UPC-E Check Digit

Do Not Transmit UPC-E Check Digit

UPC-E Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-E preamble to the host device: transmit System Character only, transmit System Character and Country Code (“0” for USA), and transmit no preamble. Select the appropriate option to match the host system.

No Preamble (<DATA>)

*System Character (<SYSTEM CHARACTER> <DATA>)

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)

Code 39

Enable/Disable Code 39

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

*Enable Code 39

Disable Code 39

Code 39 Check Digit Verification

Enable this feature to check the integrity of all Code 39 symbols to verify that the data complies with specified check digit algorithm. Only Code 39 symbols which include a modulo 43 check digit are decoded. Enable this feature if the Code 39 symbols contain a Modulo 43 check digit.

Enable Code 39 Check Digit

*Disable Code 39 Check Digit

Transmit Code 39 Check Digit

Scan a bar code below to transmit Code 39 data with or without the check digit.

Transmit Code 39 Check Digit (Enable)

*Do Not Transmit Code 39 Check Digit (Disable)

Note: ***Code 39 Check Digit Verification must be enabled for this parameter to function.***

Code 39 Full ASCII Conversion

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.

Enable Code 39 Full ASCII

*Disable Code 39 Full ASCII

Note: ***You cannot enable Trioptic Code 39 and Code 39 Full ASCII simultaneously.***

Code 39 Full ASCII to Full ASCII Correlation is host-dependent, and is therefore described in the ASCII Character Set Table for the appropriate interface. See the section -- ASCII Character Set for USB -- or the section -- ASCII Character Set for Serial Hosts.

Set Lengths for Code 39

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 39 to any length, one or two discrete lengths, or lengths within a specific range. If Code 39 Full ASCII is enabled, **Length Within a Range** or **Any Length** are the preferred options.

Note: When setting lengths for different bar code types, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Code 39 symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Code 39 symbols with 14 characters, scan **Code 39 – One Discrete Length**, and then scan **1** followed by **4**. To correct an error or change the selection, scan the *Cancel* bar code.

- **Two Discrete Lengths** - Select this option to decode only Code 39 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Code 39 symbols containing either 2 or 14 characters, select **Code 39 – Two Discrete Lengths**, and then scan **0**, **2**, **1**, and then **4**. To correct an error or change the selection, scan the *Cancel* bar code.
- **Length Within Range** - Select this option to decode a Code 39 symbol with a specific length range. Select lengths using numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode Code 39 symbols containing between 4 and 12 characters, first scan **Code 39 – Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code.
- **Any Length** - Select this option to decode Code 39 symbols containing any number of characters within the decoder's capability.

Code 39 - One Discrete Length

Code 39 - Two Discrete Lengths

*Code 39 - Length Within Range

Code 39 - Any Length

Code 93

Enable/Disable Code 93

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

Enable Code 93

*Disable Code 93

Set Lengths for Code 93

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 93 to any length, one or two discrete lengths, or lengths within a specific range.

- **One Discrete Length** - Select this option to decode only Code 93 symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Code 93 symbols with 14 characters, scan **Code 93 – One Discrete Length**, and then scan **1** followed by **4**. To correct an error or to change the selection, scan the *Cancel* bar code.
- **Two Discrete Lengths** - Select this option to decode only Code 93 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Code 93 symbols containing either 2 or 14 characters, select **Code 93 – Two Discrete Lengths**, and then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan the *Cancel* bar code.

- **Length Within Range** - Select this option to decode a Code 93 symbol with a specific length range. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode Code 93 symbols containing between 4 and 12 characters, first scan **Code 93 – Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code.
- **Any Length** - Scan this option to decode Code 93 symbols containing any number of characters within the decoder's capability.

Code 93 - One Discrete Length

Code 93 - Two Discrete Lengths

*Code 93 - Length Within Range

Code 93 - Any Length

Code 11

Enable/Disable Code 11

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

Enable Code 11

*Disable Code 11

Set Lengths for Code 11

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 11 to any length, one or two discrete lengths, or lengths within a specific range.

- **One Discrete Length** - Select this option to decode only Code 11 symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Code 11 symbols with 14 characters, scan **Code 11 – One Discrete Length**, and then scan **1** followed by **4**. To correct an error or to change the selection, scan the *Cancel* bar code.

- **Two Discrete Lengths** - Select this option to decode only Code 11 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Code 11 symbols containing either 2 or 14 characters, select **Code 11 – Two Discrete Lengths**, and then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan the *Cancel* bar code.
- **Length Within Range** - Select this option to decode a Code 11 symbol with a specific length range. Select lengths using numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode Code 11 symbols containing between 4 and 12 characters, first scan **Code 11 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code.
- **Any Length** - Scan this option to decode Code 11 symbols containing any number of characters within the decoder's capability.

Code 11 - One Discrete Length

Code 11 - Two Discrete Lengths

***Code 11 - Length Within Range**

Code 11 - Any Length

UPC-E1

Enable/Disable UPC-E1

UPC-E1 is disabled by default.

To enable or disable UPC-E1, scan the appropriate bar code below.

Enable UPC-E1

***Disable UPC-E1**

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

Transmit UPC-E1 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-E1 check digit. It is always verified to guarantee the integrity of the data.

*Transmit UPC-E1 Check Digit

Do Not Transmit UPC-E1 Check Digit

UPC-E1 Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. There are three options for transmitting a UPC-E1 preamble to the host device: transmit System Character only, transmit System Character and Country Code (“0” for USA), and transmit no preamble. Select the appropriate option to match the host system.

No Preamble (<DATA>)

*System Character (<SYSTEM CHARACTER> <DATA>)

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)

EAN-13/JAN-13

Enable/Disable EAN-13/JAN-13

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

*Enable EAN-13/JAN-13

Disable EAN-13/JAN-13

Bookland EAN

Enable/Disable Bookland EAN

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

*Enable Bookland EAN

Disable Bookland EAN

Note: *If Bookland EAN is enabled, select a Bookland ISBN Format. Also select either Decode UPC/EAN Supplementals, Autodiscriminate UPC/EAN Supplementals, or Enable 978/979 Supplemental Mode in Decode UPC/EAN/JAN Supplementals.*

Bookland ISBN Format

If Bookland EAN is enabled, select one of the following formats for Bookland data:

- **Bookland ISBN-10** - The decoder reports Bookland data starting with 978 in traditional 10-digit format with the special Bookland check digit for backward-compatibility. Data starting with 979 is not considered Bookland in this mode.
- **Bookland ISBN-13** - 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.

*Bookland ISBN-10

Bookland ISBN-13

Decode UPC/EAN/JAN Supplementals

Decode UPC/EAN/JAN Only With Supplementals

*Ignore Supplementals

Autodiscriminate UPC/EAN/JAN Supplementals

EAN-8/JAN-8

Enable/Disable EAN-8/JAN-8

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

*Enable EAN-8/JAN-8

Disable EAN-8/JAN-8

Code 128

Enable/Disable Code 128

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

*Enable Code 128

Disable Code 128

Set Lengths for Code 128

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 128 to any length, one or two discrete lengths, or lengths within a specific range.
Note: When setting lengths for different bar code types, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Code 128 symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Code 128 symbols with 14 characters, scan **Code 128 - One Discrete Length**, and then scan **1** followed by **4**. To correct an error or change the selection, scan the *Cancel* bar code.
- **Two Discrete Lengths** - Select this option to decode only Code 128 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*.

For example, to decode only Code 128 symbols containing either 2 or 14 characters, select **Code 128 - Two Discrete Lengths**, and then scan **0**, **2**, **1**, and then **4**. To correct an error or change the selection, scan the *Cancel* bar code.

- **Length Within Range** - Select this option to decode a Code 128 symbol with a specific length range. Select lengths using numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode Code 128 symbols containing between 4 and 12 characters, first scan **Code 128 – Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code.
- **Any Length** - Select this option to decode Code 128 symbols containing any number of characters within the decoder's capability.

Code 128 - One Discrete Length

Code 128 - Two Discrete Lengths

Code 128 - Length Within Range

*Code 128 - Any Length

GS1-128 (formerly UCC/EAN-128)

Enable/Disable GS1-128

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

*Enable GS1-128

Disable GS1-128

ISBT 128

Enable/Disable ISBT 128

ISBT 128 is a variant of Code 128 used in the blood bank industry. Scan a bar code below to enable or disable ISBT 128. If necessary, the host must perform concatenation of the ISBT data.

*Enable ISBT 128

Disable ISBT 128

Convert UPC-E to UPC-A

Convert UPC-E to UPC-A (Enable/Disable)

Enable this to convert UPC-E (zero suppressed) decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).
Disable this to transmit UPC-E decoded data as UPC-E data, without conversion.

Convert UPC-E to UPC-A (Enable)

*Do Not Convert UPC-E to UPC-A (Disable)

Convert UPC-E1 to UPC-A

Convert UPC-E1 to UPC-A (Enable/Disable)

Enable this to convert UPC-E1 decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).
Disable this to transmit UPC-E1 decoded data as UPC-E1 data, without conversion.

Convert UPC-E1 to UPC-A (Enable)

*Do Not Convert UPC-E1 to UPC-A (Disable)

Convert Code 39 to Code 32

Convert Code 39 to Code 32 (Enable/Disable)

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.

Enable Convert Code 39 to Code 32

***Disable Convert Code 39 to Code 32**

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

Convert I 2 of 5 to EAN-13

Convert I 2 of 5 to EAN-13 (Enable/Disable)

Enable this parameter to convert 14-character I 2 of 5 codes to EAN-13, and transmit to the host as EAN-13. To accomplish this, the I 2 of 5 code must be enabled, and the code must have a leading zero and a valid EAN-13 check digit.

Convert I 2 of 5 to EAN-13 (Enable)

***Do Not Convert I 2 of 5 to EAN-13 (Disable)**

Trioptic Code 39

Enable/Disable Trioptic Code 39

Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. Trioptic Code 39 symbols always contain six characters. To enable or disable Trioptic Code 39, scan the appropriate bar code below.

Enable Trioptic Code 39

***Disable Trioptic Code 39**

Note: *You cannot enable Trioptic Code 39 and Code 39 Full ASCII simultaneously.*

Discrete 2 of 5

Enable/Disable Discrete 2 of 5

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

Enable Discrete 2 of 5

*Disable Discrete 2 of 5

Set Lengths for Discrete 2 of 5

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for D 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range. The range for Discrete 2 of 5 lengths is 0 - 55.

- **One Discrete Length** - Select this option to decode only D 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only D 2 of 5 symbols with 14 characters, scan **D 2 of 5** - **One Discrete Length**, and then scan **1** followed by **4**. To correct an error or to change the selection, scan the *Cancel* bar code.
- **Two Discrete Lengths** - Select this option to decode only D 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only D 2 of 5 symbols containing either 2 or 14 characters, select **D 2 of 5 - Two Discrete Lengths**, and then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan the *Cancel* bar code.
- **Length Within Range** - Select this option to decode a D 2 of 5 symbol with a specific length range. Select lengths using numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode D 2 of 5 symbols containing between 4 and 12 characters, first scan **D 2 of 5 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code.
- **Any Length** - Scan this option to decode D 2 of 5 symbols containing any number of characters within the decoder's capability.

Note: Due to the construction of the D 2 of 5 symbology, it is possible for a scan line covering only a portion of the code to transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (**D 2 of 5 - One Discrete Length, Two Discrete Lengths**) for D 2 of 5 applications.

*D 2 of 5 - One Discrete Length

D 2 of 5 - Two Discrete Lengths

D 2 of 5 - Length Within Range

D 2 of 5 - Any Length

Interleaved 2 of 5

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.

Enable Interleaved 2 of 5

*Disable Interleaved 2 of 5

Set Lengths for Interleaved 2 of 5

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for I 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range. The range for Interleaved 2 of 5 lengths is 0 - 55.

- **One Discrete Length** - Select this option to decode only I 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix of *Numeric Bar Codes*. For example, to decode only I 2 of 5 symbols with 14 characters, scan **I 2 of 5 – One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan the *Cancel* bar code in Appendix B.
- **Two Discrete Lengths** - Select this option to decode only I 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix of *Numeric Bar Codes*. For example, to decode only I 2 of 5 symbols containing either 2 or 14 characters, select **I 2 of 5 – Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan the *Cancel* bar code in Appendix B.
- **Length Within Range** - Select this option to decode an I 2 of 5 symbol with a specific length range. Select lengths using numeric bar codes in the Appendix of *Numeric Bar Codes*. For example, to decode I 2 of 5 symbols containing between 4 and 12 characters, first scan **I 2 of 5 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code in Appendix B.
- **Any Length** - Scan this option to decode I 2 of 5 symbols containing any number of characters within the decoder's capability.

NOTE *Due to the construction of the I 2 of 5 symbology, it is possible for a scan line covering only a portion of the code to transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (I 2 of 5 - One Discrete Length, Two Discrete Lengths) for I 2 of 5 applications.*

***I 2 of 5 - One Discrete Length**

I 2 of 5 - Two Discrete Lengths

I 2 of 5 - Length Within Range

I 2 of 5 - Any Length

Codabar

Enable/Disable Codabar

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

Enable Codabar

***Disable Codabar**

Set Lengths for Codabar

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Codabar to any length, one or two discrete lengths, or lengths within a specific range.

- **One Discrete Length** - Select this option to decode only Codabar symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar codes*. For example, to decode only Codabar symbols with 14 characters, scan **Codabar - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan *Cancel*.
- **Two Discrete Lengths** - Select this option to decode only Codabar symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar codes*. For example, to decode only Codabar symbols containing either 2 or 14 characters, select **Codabar - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel*.

- **Length Within Range** - Select this option to decode a Codabar symbol with a specific length range. Select lengths using numeric bar codes in the appendix of *Numeric Bar codes*. For example, to decode Codabar symbols containing between 4 and 12 characters, first scan **Codabar - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel*.
- **Any Length** - Scan this option to decode Codabar symbols containing any number of characters within the decoder's capability.

Codabar - One Discrete Length

Codabar - Two Discrete Lengths

***Codabar - Length Within Range**

Codabar - Any Length

MSI

Enable/Disable MSI

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

Enable MSI

***Disable MSI**

Set Lengths for MSI

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for MSI to any length, one or two discrete lengths, or lengths within a specific range.

- **One Discrete Length** - Select this option to decode only MSI symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only MSI symbols with 14 characters, scan **MSI - One Discrete Length**, and then scan **1** followed by **4**. To correct an error or to change the selection, scan the *Cancel* bar code.

- **Two Discrete Lengths** - Select this option to decode only MSI symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only MSI symbols containing either 2 or 14 characters, select **MSI - Two Discrete Lengths**, and then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan the *Cancel* bar code.
- **Length Within Range** - Select this option to decode a MSI symbol with a specific length range. Select lengths using numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode MSI symbols containing between 4 and 12 characters, first scan **MSI - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code.
- **Any Length** - Scan this option to decode MSI symbols containing any number of characters within the decoder's capability.

Note: Due to the construction of the MSI symbology, it is possible for a scan line covering only a portion of the code to transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (**MSI - One Discrete Length, Two Discrete Lengths**) for MSI applications.

MSI - One Discrete Length

MSI - Two Discrete Lengths

***MSI - Length Within Range**

MSI - Any Length

Matrix 2 of 5

Enable/Disable Matrix 2 of 5

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

Enable Matrix 2 of 5
(01h)

***Disable Matrix 2 of 5**
(00h)

Set Lengths for Matrix 2 of 5

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Matrix 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range.

- **One Discrete Length** - Select this option to decode only Matrix 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Matrix 2 of 5 symbols with 14 characters, scan **Matrix 2 of 5 - One Discrete Length**, and then scan **1** followed by **4**. To correct an error or to change the selection, scan the *Cancel* bar code.
- **Two Discrete Lengths** - Select this option to decode only Matrix 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode only Matrix 2 of 5 symbols containing either 2 or 14 characters, select **Matrix 2 of 5 - Two Discrete Lengths**, and then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan the *Cancel* bar code.
- **Length Within Range** - Select this option to decode a Matrix 2 of 5 symbol with a specific length range. Select lengths using the numeric bar codes in the appendix of *Numeric Bar Codes*. For example, to decode Matrix 2 of 5 symbols containing between 4 and 12 characters, first scan **Matrix 2 of 5 - Length Within Range**. Then scan **0**, **4**, **1,** and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan the *Cancel* bar code.
- **Any Length** - Scan this option to decode Matrix 2 of 5 symbols containing any number of characters within the decoder's capability.

***Matrix 2 of 5 - One Discrete Length**

Matrix 2 of 5 - Two Discrete Lengths

Matrix 2 of 5 - Length Within Range

Matrix 2 of 5 - Any Length

Inverse 1D

This parameter sets the 1D inverse decoder setting. Options are:

- **Regular Only** - the decoder decodes regular 1D bar codes only.
- **Inverse Only** - the decoder decodes inverse 1D bar codes only.
- **Inverse Autodetect** - the decoder decodes both regular and inverse 1D bar codes.

*Regular

Inverse Only

Inverse Autodetect

Postal Code Symbologies

US Postnet

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

Enable US Postnet

*Disable US Postnet

UK Postal

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

Enable UK Postal

*Disable UK Postal

Japan Postal

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

Enable Japan Postal

*Disable Japan Postal

GS1 (Globe Standard 1) DataBar

*Enable GS1 DataBar

Disable GS1 DataBar

GS1 DataBar Limited

Enable GS1 DataBar Limited

*Disable GS1 DataBar Limited

GS1 DataBar Limited Security Level

The decoder offers four levels of decode security for GS1 DataBar Limited bar codes. There is an inverse relationship between security and decoder aggressiveness. Increasing the level of security may result in reduced aggressiveness in scanning, so only choose the level of security necessary.

- Level 1 – No clear margin required. This complies with the original GS1 standard, yet might result in erroneous1 decoding of the DataBar Limited bar code when scanning some UPC symbols that start with the digits “9” and “7”.

- Level 2 – Automatic risk detection. This level of security may result in erroneous decoding of DataBar Limited bar codes when scanning some UPC symbols. If a misdecode is detected, the decoder operates in Level 3 or Level 1.
- Level 3 – Security level reflects newly proposed GS1 standard that requires a 5X trailing clear margin.
- Level 4 – Security level extends beyond the standard required by GS1. This level of security requires a 5X leading and trailing clear margin.

Security Level 1

Security Level 2

***Security Level 3**

Security Level 4

Note: *It may result in erroneous decoding due to Databar Limited and UPC symbologies.*

GS1 DataBar Expanded

***Enable GS1 DataBar Expanded**

Disable GS1 DataBar Expanded

Netherlands KIX Code

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

Enable Netherlands KIX Code

***Disable Netherlands KIX Code**

Australia Post

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

Enable Australia Post

*Disable Australia Post

Composite Symbologies

Composite CC-C

Scan a bar code below to enable or disable Composite bar codes of type CC-C.

Enable CC-C

*Disable CC-C

Composite CC-A/B

Scan a bar code below to enable or disable Composite bar codes of type CC-A/B.

Enable CC-A/B

*Disable CC-A/B

Note: *If you enable this code type, also see the section -- UPC Composite Mode.*

Composite TLC-39

Scan a bar code below to enable or disable Composite bar codes of type TLC-39.

Enable TLC39

*Disable TLC39

2D Symbologies

PDF417

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

*Enable PDF417

Disable PDF417

MicroPDF417

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

Enable MicroPDF417

*Disable MicroPDF417

Code 128 Emulation

Enable this parameter to transmit data from certain MicroPDF417 symbols as Code 128. *AIM Code ID Character* must be enabled for this parameter to work.

AIM Code ID Character

Scan a bar code below to enable or disable Code 128 Emulation.

Enable Code 128 Emulation

*Disable Code 128 Emulation

Data Matrix

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

*Enable Data Matrix

Disable Data Matrix

Data Matrix Inverse

This parameter sets the Data Matrix inverse decoder setting. Options are:

- **Regular Only** - the decoder decodes regular Data Matrix bar codes only.
- **Inverse Only** - the decoder decodes inverse Data Matrix bar codes only.
- **Inverse Autodetect** - the decoder decodes both regular and inverse Data Matrix bar codes.

*Regular

Inverse Only

Inverse Autodetect

Decode Mirror Images (Data Matrix Only)

Select an option for decoding mirror image Data Matrix bar codes:

- Always - decode only Data Matrix bar codes that are mirror images
- Never - do not decode Data Matrix bar codes that are mirror images
- Auto - decode both mirrored and unmirrored Data Matrix bar codes.

Never

Always

* Auto

Maxicode

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

Enable Maxicode

*Disable Maxicode

QR Code

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

*Enable QR Code

Disable QR Code

QR Inverse

This parameter sets the QR inverse decoder setting. Options are:

- **Regular Only** - the decoder decodes regular QR bar codes only.
- **Inverse Only** - the decoder decodes inverse QR bar codes only.
- **Inverse Autodetect** - the decoder decodes both regular and inverse QR bar codes.

*Regular

Inverse Only

Inverse Autodetect

MicroQR

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

*Enable MicroQR

Disable MicroQR

Aztec

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

*Enable Aztec

Disable Aztec

Aztec Inverse

This parameter sets the Aztec inverse decoder setting. Options are:

- **Regular Only** - the decoder decodes regular Aztec bar codes only.
- **Inverse Only** - the decoder decodes inverse Aztec bar codes only.
- **Inverse Autodetect** - the decoder decodes both regular and inverse Aztec bar codes.

Regular

Inverse Only

*Inverse Autodetect

Redundancy Level

The decoder offers four levels of decode redundancy. Select higher redundancy levels for decreasing levels of bar code quality. As redundancy levels increase, the decoder's aggressiveness decreases.

Select the redundancy level appropriate for the bar code quality.

Redundancy Level 1
The following code types must be successfully read twice before being decoded:

Code Type	Code Length
Codabar	8 characters or less
MSI	4 characters or less
D 2 of 5	8 characters or less
I 2 of 5	8 characters or less

Redundancy Level 2
The following code types must be successfully read twice before being decoded:

Code Type	Code Length
All	All

Redundancy Level 3
Code types other than the following must be successfully read twice before being decoded. The following codes must be read three times:

Code Type	Code Length
MSI	4 characters or less
D 2 of 5	8 characters or less
I 2 of 5	8 characters or less
Codabar	8 characters or less

Redundancy Level 4
The following code types must be successfully read three times before being decoded:

Code Type	Code Length
All	All


*Redundancy Level 1


Redundancy Level 2


Redundancy Level 3


Redundancy Level 4

Security Level

The decoder offers four levels of decode security for delta bar codes, which include UPC/EAN and Code 93. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security and decoder aggressiveness, so choose only that level of security necessary for any given application.

- **Security Level 0:** This setting allows the decoder to operate in its most aggressive state, while providing sufficient security in decoding most “in-spec” bar codes.
- **Security Level 1:** This default setting eliminates most misdecodes.
- **Security Level 2:** Select this option if Security level 1 fails to eliminate misdecodes.
- **Security Level 3:** If you selected Security Level 2 and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the decoder. If you need this level of security, try to improve the quality of the bar codes.

Security Level 0

*Security Level 1

Security Level 2

Security Level 3

Intercharacter Gap Size

The Code 39 and Codabar symbologies have an intercharacter gap that is typically quite small. Due to various bar code-printing technologies, this gap can grow larger than the maximum size allowed, preventing the decoder from decoding the symbol. If this problem occurs, scan the **Large Intercharacter Gaps** parameter to tolerate these out-of-specification bar codes.

*Normal Intercharacter Gaps

Large Intercharacter Gaps

Macro PDF Features

Macro PDF is a special feature for concatenating multiple PDF symbols into one file. The decoder can decode symbols that are encoded with this feature, and can store more than 64 Kb of decoded data stored in up to 50 MacroPDF symbols.

CAUTION: *When printing, keep each Macro PDF sequence separate, as each sequence has unique identifiers. Do not mix bar codes from several Macro PDF sequences, even if they encode the same data. When scanning Macro PDF sequences, scan the entire sequence without interruption. When scanning a mixed sequence, two long low beeps (Low/Low) indicates an inconsistent file ID or inconsistent symbology error.*

Macro PDF User Indications

In this mode the decoder provides the following feedback.

User Scans	Passthrough All Symbols		Transmit Any Symbol in Set		Buffer All Symbols	
	Beep	T	Beep	T	Beep	T
Last Macro PDF in set	Decode Beep	Y	Decode Beep	Y	Decode Beep	Y
Any Macro PDF in set except last	Decode Beep	Y	Decode Beep	Y	2 Short Low	N
Macro PDF is not in current Set	Decode Beep	Y	2 Long Low	N	2 Long Low	N
Invalid formatted Macro PDF	Decode Beep	Y	2 Long Low	N	2 Long Low	N
Macro PDF from a set has already been scanned	Decode Beep	Y	4 Long Low	N	4 Long Low	N
Out of Macro PDF memory	N/A		3 Long Low	N	3 Long Low	N
Any non-Macro PDF scanned during a set	N/A	-	4 Long Low	N	4 Long Low	N
Flush Macro PDF	Low High	N	5 Long Low	N	5 Long Low	Y
Abort Macro PDF	High Low High Low	N	High Low High Low	N	High Low High Low	N

Notes:
1. The beep only sounds if the *BEEPER_ON signal is connected.
2. The column marked T indicates whether the symbol is transmitted to the host.
N = No transmission.

Macro PDF Transmit / Decode Mode Symbols

Select one of the options below for handling Macro PDF decoding. In **Buffer All Symbols** the decoder can handle sets of up to 50 maximum-sized Macro PDF symbols. In all other modes there is no limit to the size of the MacroPDF set.

- **Buffer All Symbols / Transmit Macro PDF When Complete**: This transmits all decode data from an entire Macro PDF sequence only when the entire sequence is scanned and decoded. Use the beeper and LED signals provided with the MS842 when using this mode to ensure proper user feedback. If the decode data exceeds the limit of 50 symbols, there is no transmission because the entire sequence was not scanned. Use the parameter *Flush Macro Buffer* to purge the buffer.
- **Transmit Any Symbol in Set / No Particular Order**: This transmits data from each Macro PDF symbol as decoded, regardless of the sequence (although some error handling is performed). When selecting this mode, enable *Transmit Macro PDF Control Header*. Also use the beeper and LED signals provided with the MS842 to ensure proper user feedback.

- **Passthrough All Symbols**: This transmits and decodes all Macro PDF symbols and performs no processing. In this mode the host is responsible for detecting and parsing the Macro PDF sequences.

Use this mode when the decoder's BEEPER_ON signal is not used to drive a beeper. In the other modes, some Macro PDF scanning sequences provide audible feedback only, so if BEEPER_ON is not used, no user feedback is provided. All actions marked **No Tranmission** provide no feedback unless the BEEPER_ON signal is used.

By using **Passthrough All Symbols** mode every user decode is transmitted to the host where the host software can provide the appropriate feedback.

Buffer All Symbols / Transmit Macro PDF When Complete

Transmit Any Symbol in Set / No Particular Order

***Passthrough All Symbols**

Transmit Macro PDF Control Header

When enabled, this activates transmission of the control header, which contains the segment index and the file ID, in Macro PDF symbols. For example, the field may be: \92800000\725\120\343. The five digits after the \928 are the segment index (or block index), and \725\120\343 is the file ID.

Enable this when selecting Transmit Any Symbol in Set / No Particular Order for the *Macro PDF Transmit /Decode Mode Symbols*, and disable this when selecting Buffer All Symbols / Transmit Macro PDF When Complete. This parameter has no effect when Passthrough All Symbols is selected.

Enable Macro PDF Control Header Transmit

***Disable Macro PDF Control Header Transmit**

Escape Characters

This enables the backslash (\) character as an Escape character for systems that can process transmissions containing special data sequences. Scan a bar code below to either format special data according to the GLI (Global Label Identifier) protocol, or to disable this parameter. This parameter only affects the data portion of a Macro PDF symbol transmission; the Macro PDF Control Header (if enabled) is always sent with GLI formatting.

GLI Protocol

***None**

Flush Macro Buffer

This flushes the buffer of all decoded Macro PDF data stored to that point, transmits it to the host device, and aborts from Macro PDF mode.

Flush Macro PDF Buffer

Abort Macro PDF Entry

This clears all currently-stored Macro PDF data in the buffer without transmission and aborts from Macro PDF mode.

Abort Macro PDF Entry

Appendix A

Sample Bar codes

2D Bar codes

Data Matrix

Maxicode

QR Code

PDF417

MicroPDF417

US Postnet

UK Postal

1D Bar codes

EAN-13

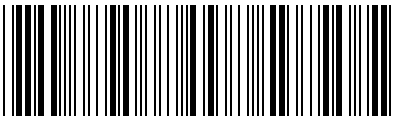
EAN-8

UPC-A

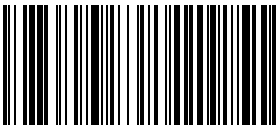
UPC-E

Interleave 2 of 5

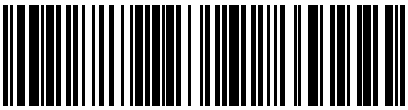
Code 39



Code 128



EAN 128



Codabar

MSI

GS1 Limited

Appendix B

Numeric Bar codes

For parameters requiring specific numeric values, scan the appropriately numbered bar code(s).


0


1


2


3


4


5


6


7


8


9

Cancel

To correct an error or change a selection, scan the bar code below.

Cancel

Appendix C

ASCII Character Sets

ASCII Value Table

ASCII Value	Full ASCII Code 39 Encode Char	Keystroke
1000	%U	CTRL 2
1001	$A	CTRL A
1002	$B	CTRL B
1003	$C	CTRL C
1004	$D	CTRL D
1005	$E	CTRL E
1006	$F	CTRL F
1007	$G	CTRL G
1008	$H	CTRL H/**BACKSPACE**[1]
1009	$I	CTRL I/**HORIZONTAL TAB**[1]
1010	$J	CTRL J
1011	$K	CTRL K
1012	$L	CTRL L
1013	$M	CTRL M/**ENTER**[1]
1014	$N	CTRL N
1015	$O	CTRL O
1016	$P	CTRL P
1017	$Q	CTRL Q
1018	$R	CTRL R
1019	$S	CTRL S
1020	$T	CTRL T
1021	$U	CTRL U
1022	$V	CTRL V
1023	$W	CTRL W
1024	$X	CTRL X
1025	$Y	CTRL Y
1026	$Z	CTRL Z
1027	%A	CTRL [
1028	%B	CTRL \

ASCII Value	Full ASCII Code 39 Encode Char	Keystroke
1029	%C	CTRL]
1030	%D	CTRL 6
1031	%E	CTRL -
1032	Space	Space
1033	/A	!
1034	/B	“
1035	/C	#
1036	/D	$
1037	/E	%
1038	/F	&
1039	/G	‘
1040	/H	(
1041	/I	)
1042	/J	*
1043	/K	+
1044	/L	,
1045	-	-
1046	.	.
1047	/o	/
1048	0	0
1049	1	1
1050	2	2
1051	3	3
1052	4	4
1053	5	5
1054	6	6
1055	7	7
1056	8	8
1057	9	9
1058	/Z	:
1059	%F	;
1060	%G	<
1061	%H	=
1062	%I	>
1063	%J	?
1064	%V	@

ASCII Value	Full ASCII Code 39 Encode Char	Keystroke
1065	A	A
1066	B	B
1067	C	C
1068	D	D
1069	E	E
1070	F	F
1071	G	G
1072	H	H
1073	I	I
1074	J	J
1075	K	K
1076	L	L
1077	M	M
1078	N	N
1079	O	O
1080	P	P
1081	Q	Q
1082	R	R
1083	S	S
1084	T	T
1085	U	U
1086	V	V
1087	W	W
1088	X	X
1089	Y	Y
1090	Z	Z
1091	%K	[
1092	%L	\
1093	%M	]
1094	%N	^
1095	%O	_
1096	%W	‘
1097	+A	A
1098	+B	B
1099	+C	C
1100	+D	D

ASCII Value	Full ASCII Code 39 Encode Char	Keystroke
1101	+E	E
1102	+F	F
1103	+G	G
1104	+H	H
1105	+I	I
1106	+J	J
1107	+K	K
1108	+L	L
1109	+M	M
1110	+N	N
1111	+O	O
1112	+P	P
1113	+Q	Q
1114	+R	R
1115	+S	S
1116	+T	T
1117	+U	U
1118	+V	V
1119	+W	W
1120	+X	X
1121	+Y	Y
1122	+Z	Z
1123	%P	{
1124	%Q	I
1125	%R	}
1126	%S	~
The keystroke in bold transmits only if you enabled Function Key Mapping. Otherwise, the unbold keystroke transmits.		

ALT Key Standard Default Tables

ALT Keys	Keystroke
2064	ALT 2
2065	ALT A
2066	ALT B
2067	ALT C
2068	ALT D
2069	ALT E
2070	ALT F
2071	ALT G
2072	ALT H
2073	ALT I
2074	ALT J
2075	ALT K
2076	ALT L
2077	ALT M
2078	ALT N
2079	ALT O
2080	ALT P
2081	ALT Q
2082	ALT R
2083	ALT S
2084	ALT T
2085	ALT U
2086	ALT V
2087	ALT W
2088	ALT X
2089	ALT Y
2090	ALT Z

USB GUI Key Character Set

GUI Key	Keystroke
3000	Right Control Key
3048	GUI 0
3049	GUI 1
3050	GUI 2
3051	GUI 3
3052	GUI 4
3053	GUI 5
3054	GUI 6
3055	GUI 7
3056	GUI 8
3057	GUI 9
3065	GUI A
3066	GUI B
3067	GUI C
3068	GUI D
3069	GUI E
3070	GUI F
3071	GUI G
3072	GUI H
3073	GUI I
3074	GUI J
3075	GUI K
3076	GUI L
3077	GUI M
3078	GUI N
3079	GUI O
3080	GUI P
3081	GUI Q
3082	GUI R
3083	GUI S
3084	GUI T
3085	GUI U
3086	GUI V
3087	GUI W
3088	GUI X

GUI Key	Keystroke
3089	GUI Y
3090	GUI Z

Note: GUI Shift Keys - The Apple™ iMac keyboard has an apple key on either side of the space bar. Windows-based systems have a GUI key to the left of the left ALT key, and to the right of the right ALT key.

PF Key Standard Default Table

PF Keys	Keystroke
4001	PF 1
4002	PF 2
4003	PF 3
4004	PF 4
4005	PF 5
4006	PF 6
4007	PF 7
4008	PF 8
4009	PF 9
4010	PF 10
4011	PF 11
4012	PF 12
4013	PF 13
4014	PF 14
4015	PF 15
4016	PF 16

F key Standard Default Table

F Keys	Keystroke
5001	F 1
5002	F 2
5003	F 3
5004	F 4
5005	F 5
5006	F 6
5007	F 7
5008	F 8
5009	F 9
5010	F 10
5011	F 11

F Keys	Keystroke
5012	F 12
5013	F 13
5014	F 14
5015	F 15
5016	F 16
5017	F 17
5018	F 18
5019	F 19
5020	F 20
5021	F 21
5022	F 22
5023	F 23
5024	F 24

Numeric Key Standard Default Table

Numeric Keypad	Keystroke
6042	*
6043	+
6044	Undefined
6045	-
6046	.
6047	/
6048	0
6049	1
6050	2
6051	3
6052	4
6053	5
6054	6
6055	7
6056	8
6057	9
6058	Enter
6059	Num Lock

Extended Keypad Standard Default Table

Extended Keypad	Keystroke
7001	Break
7002	Delete
7003	Pg Up
7004	End
7005	Pg Dn
7006	Pause
7007	Scroll Lock
7008	Backspace
7009	Tab
7010	Print Screen
7011	Insert
7012	Home
7013	Enter
7014	Escape
7015	Up Arrow
7016	Dn Arrow
7017	Left Arrow
7018	Right Arrow