unitech
because we care

Long Range CCD Barcode Scanner

- MS340 -

User's Manual

Version 1.2

Revision History

Date	Change Description	Version
2015/10/5	first published version	1.0
2015/12/1	4.1.1 Interface Selection : Delete WAND Emulation, Add Virtual COM	1.1
2016/1/8	• Delete 4.2.4- WAND emulation • Update 4.4 – Reading level •4.1.2 Reading Mode Selection-- Replace Auto sense to presentation	1.2

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, and
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 1.5 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 R&TTE 1999/5/EC directive, the EMC 2004/108/EC directive and the Low Voltage 2006/95/EC 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 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

交通部電信總局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。

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。

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 your warranty.

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 and make the batteries unstable and dangerous. Please use a battery temperature detecting device for a charger to ensure a safe charging temperature range.

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			
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 / http://can.ute.com		

Warranty Policy

The 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 MS340 gift box.
If something is missing or damaged, please contact your unitech representative.

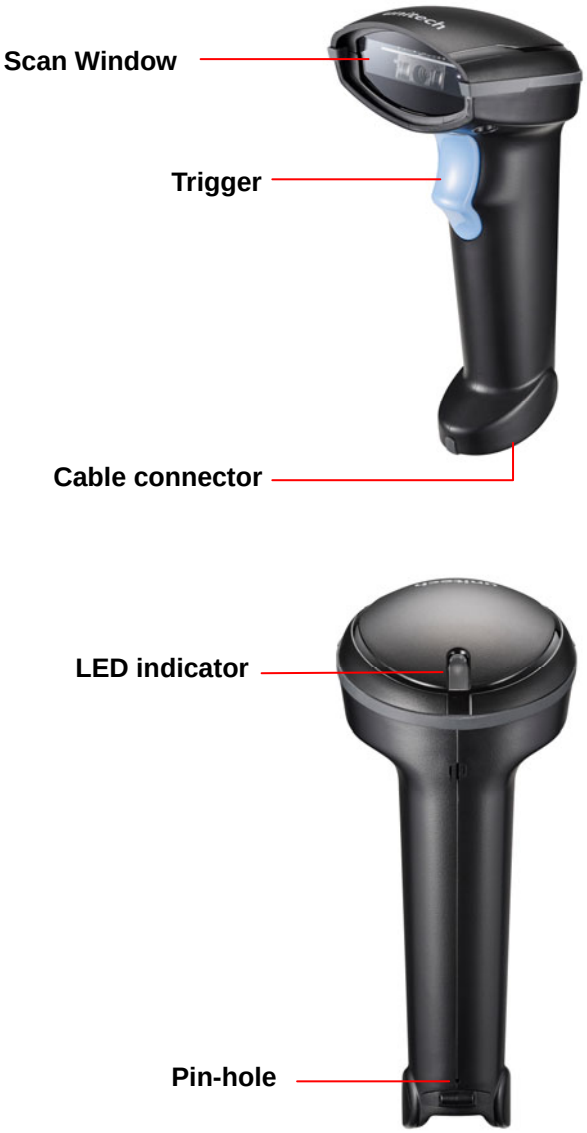
The standard package contents:

- MS340 Scanner
- Quick Start Guide
- Regulatory Compliance Statements
- Cable

Optional accessory:

- Hand-Free Stand

1.2 Scanner Detail



1.3 Specifications

<table>
<tr><th colspan="2">Optical & Performance</th></tr>
<tr><td>Sensor</td><td>Linear Imager</td></tr>
<tr><td>Visual Indicators</td><td>Beep and LED (Good read Green)</td></tr>
<tr><td>System Interface</td><td>USB, RS232, Keyboard Wedge</td></tr>
<tr><td>Light Source</td><td>635 nm Visible Red LED</td></tr>
<tr><td>Max. Resolution</td><td>4mil (0.1mm) PCS90%, Code39</td></tr>
<tr><td>Scan Rate</td><td>Up to 500 scans/second</td></tr>
<tr><td>Skew Angle</td><td>±60° (±5°)</td></tr>
<tr><td>Pitch Angle</td><td>±10°~65° (±5°)</td></tr>
<tr><td>Printing Contrast Scale</td><td>minimum 30%</td></tr>
<tr><td>Decoding</td><td>Supports most standard 1D bar code, GS1 Databar linear and stacked Codes</td></tr>
<tr><td>Depth of Field
(DOF Code39 PCS=90%)</td><td>
<table>
<tr><th rowspan="2">Density</th><th colspan="2">Working Ranges</th></tr>
<tr><th>Near</th><th>far</th></tr>
<tr><td>0.1mm / 4mil</td><td>80mm</td><td>120mm</td></tr>
<tr><td>0.127mm / 5mil</td><td>70mm</td><td>140mm</td></tr>
<tr><td>0.15mm / 6mil</td><td>60mm</td><td>170mm</td></tr>
<tr><td>0.26mm / 10mil</td><td>40mm</td><td>220mm</td></tr>
<tr><td>0.33mm / 13mil</td><td>40mm</td><td>330mm</td></tr>
<tr><td>0.39mm / 15mil</td><td>40mm</td><td>370mm</td></tr>
<tr><td>0.5mm / 20mil</td><td>40mm</td><td>400mm</td></tr>
</table>
</td></tr>
</table>

Mechanical	
Dimensions	72 x 70.3 x 164mm (length x width x height)
Weight	173.5g
Switch life	1,000,000 times
Environmental	
Light Levels	Max 100,000 Lux
Mechanical Shock	1.5m onto concrete (scanner only)
IP Rate	IP42
Operating Temperature	0°C to 50°C
Storage Temperature	-20°C to 70°C
Relative Humidity	20% to 95% non-condensing
Regulation Approvals	
CE, FCC, BSMI, VCCI	

1.4 Getting Started

Step 1: Connecting the scanner

Keyboard wedge / RS232 / USB:

Connect the 10-pins RS-45 male connector into the bottom of the scanner and you will hear a “click” when the connection is made.

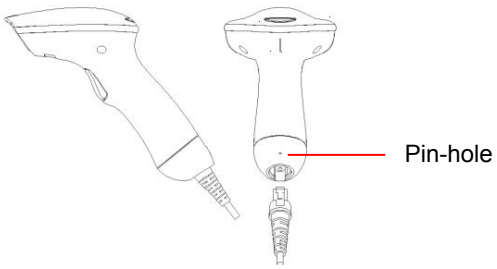
Step 2: Installing the scanner to the Host System:

1. Connect the USB cable of MS340 to the USB port on your host PC.
2. After six beeps, MS340 is successfully connected with your host PC, then the driver will be started to install automatically.

Tips for Switching Cable

Before removing the cable from the scanner, it is recommended that the power on the host system is off and the power supply has been disconnected from the unit.

1. Find the small "Pin-hole" on the bottom of the unit. (Please see the figure as below)
2. Use a bended regular paperclip and insert the tip into the hole.
3. You will hear a "click", then gentle on the strain- relief of the cable and it will slide out of the scanner.



Tips for Power supply for RS232 scanner

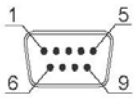
There are 3 ways to supplying the power, use external +5V power supply, use optional power cable (KBDC) which taking the power from KB wedge or if the host supports +5V power from pin 9.

1.5 Pin Assignment

A. Input Port for Mini Decoder

DB 9 Male

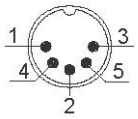
Pin No.	Wand / Slot Reader	CCD / Laser Scanner
1	N.C.	S.O.S.
2	DATA	DATA
3	N.C.	N.C.
4	N.C.	N.C.
5	N.C.	TRIGGER
6	N.C.	P. E.
7	GND	GND
8	SHIELD	SHIELD
9	+5V	+5V

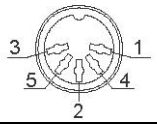


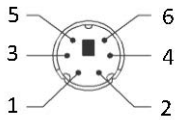
B. Output Port

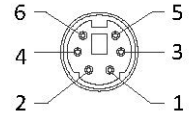
1. PC Keyboard Output

DIN 5 Male		DIN 5 Female		MiniDIN 6 Male		MiniDIN 6 Female	
Pin No.	Function	Pin No.	Function	Pin No.	Function	Pin No.	Function
1	HOST CLK	1	KB CLK	1	HOST DATA	1	KB DATA
2	HOST DATA	2	KB DATA	3	GND	3	GND
4	GND	4	GND	4	Vcc	4	Vcc
5	Vcc(+5V)	5	Vcc(+5V)	5	HOST CLK	5	KB CLK





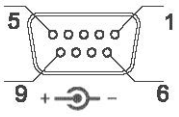




2. RS232 Output

DB 9 Female

Pin No.	Function
2	TXD
3	RXD
5	GND
7	CTS
8	RTS
Power Lead	Vcc (+5V)

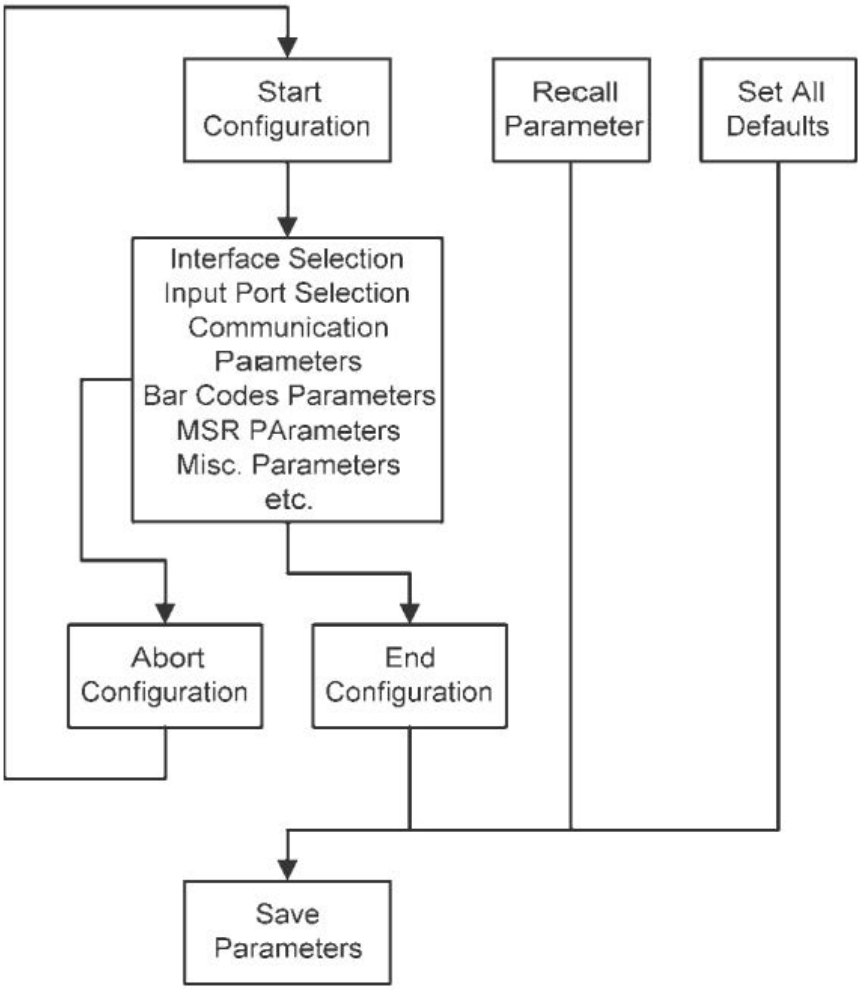


1.6 LED Indicator / Beeper Sequence

Division	Action/Status	LED for Barcode reading & Communication	LED for Battery status	Beep / Sound
USB connection		Green Light blinks		Six Beeps
Barcode reading	Data sent to PC successfully	Green Light blinks once		One Beep
	Fail sent data to PC	No action		No action

Chapter 2 – Configuration-General

2.1 Flow Chart



Please scan the following barcodes for configuration

Start Configuration	
End Configuration	
Abort Configuration	
Save Parameters	

2.2 Loop of Programming

The philosophy of programming parameters has been shown on the flow chart of 2.1. Basically user should :

1. Scan Start of Configuration.
2. Scan all necessary labels for parameters that meet applications.
3. Scan End of Configuration to end the programming.
4. To permanently save the settings you programmed, just scan label for Save Parameters.
5. To go back to the Default Settings, just scan label for Set All Defaults.

(Please refer to 2.4 – Main Page of Configuration)

2.3 Factory Default Settings

The barcode with an asterisk (*) which appears in the following chapters indicates that it is the default option for the corresponding setting.
You can make your own settings by following the procedures in this manual. If you want to save the settings permanently, you should scan the label of “Save Parameters” in chapter 2.4, otherwise the settings will not be saved after the decoder power is off, and all settings will go back to previous settings.
By scanning “Set All Default” label, the settings will go back to the factory default settings. *(Please refer to 2.4 – Main Page of Configuration)*

2.4 Main Page of Configuration

Save Parameters	
Recall Stored Parameters	
Set All Defaults	
Start Configuration	
End Configuration	
Abort Configuration	
Version Information	

Save Parameters -The parameter settings will be saved permanently.
Recall Stored Parameters - Replace the current parameters by the parameters you saved last time.
Set All Defaults - Set all the parameters to the factory default settings.
Abort Configuration - Terminate current programming status.
Version Information - Display the decoder version information and date code.

Chapter 3 –Bar Codes & Others

3.1 Symbologies Selection

UPC-A **ON ***	UPC-A **OFF**	Industrial 25 **ON**	Industrial 25 **OFF ***
UPC-E **ON ***	UPC-E **OFF**	Matrix 25 **ON**	Matrix 25 **OFF ***
EAN-13/JAN-13/ISBN-13 **ON ***	EAN-13/JAN-13/ISBN-13 **OFF**	CODE 93 **ON**	CODE 93 **OFF ***
EAN-8/JAN-8 **ON ***	EAN-8/JAN-8 **OFF**	CODE 11 **ON**	CODE 11 **OFF ***
CODE 39 **ON ***	CODE 39 **OFF**	China Postage **ON**	China Postage **OFF ***
CODE 128 **ON ***	CODE 128 **OFF**	MSI/PLESSEY **ON**	MSI/PLESSEY **OFF ***
CODABAR/NW7 **ON ***	CODABAR/NW7 **OFF**	Code 2 of 6 **ON**	Code 2 of 6 **OFF ***
Interleave 25 **ON ***	Interleave 25 **OFF**	LCD25 **ON**	LCD25 **OFF ***

Telepen **ON**	Telepen **OFF ***		GS1 DataBar Omnidirectional **ON**	GS1 DataBar Omnidirectional **OFF ***
Reserved5 **ON**	Reserved5 **OFF ***		GS1 DataBar Limited **ON**	GS1 DataBar Limited **OFF ***
Reserved6 **ON**	Reserved6 **OFF ***		GS1 DataBar Expanded **ON**	GS1 DataBar Expanded **OFF ***
Select All Bar Codes				

3.2 UPC/EAN/JAN Parameters

A. Reading Type	
UPCA=EAN13 **ON**	UPCA=EAN13 **OFF ***
ISBN-10 Enable	ISBN-13 Enable *
ISSN Enable	ISSN Disable *
Decode with Supplement	Auto discriminate Supplement *
Expand UPC-E Enable	Expand UPC-E Disable *
EAN8=EAN13 Enable	EAN8=EAN13 Disable *
GTIN Format Enable	GTIN Format Disable *

B. Supplemental Set Up
Not Transmit *
Transmit 2 Code
Transmit 5 Code
Transmit 2&5 Code

C. Check Digit Transmission	
UPC-A Check Digit Transmission **ON *** 	UPC-A Check Digit Transmission **OFF** 
UPC-E Check Digit Transmission **ON *** 	UPC-E Check Digit Transmission **OFF** 
EAN-8 Check DigitTransmission **ON *** 	EAN-8 Check DigitTransmission **OFF** 
EAN-13 Check Digit Transmission **ON *** 	EAN-13 Check Digit Transmission **OFF** 
ISSN Check Digit Transmission **ON *** 	ISSN Check Digit Transmission **OFF** 

3.3 Code 39 Parameters

A. Type of Code	B. Check Digit Transmission	C. Output Start/Stop Character	D. Decode Asterisk
Italian Pharmacy/ Code 32 OFF *	Do Not Calculate Check Digit *	Disable *	Disable *
Italian Pharmacy/ Code 32 ON	Calculate Check Digit & Transmit	Enable	Enable
Standard *	Calculate Check Digit & Not Transmit		
Full ASCII			

E. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3.1st Set Complete
3. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.4 Code 128 Parameters

A. Reading Type		B. Check Digit Transmission	C. Append FNC2
UCC/EAN-128 Disable *	UCC/EAN-128 Enable	Calculate Check Digit& Not Transmit *	OFF*
Enable ‘]C1‘Code Format *	Disable ‘]C1‘Code Format	Calculate Check Digit & Transmit	ON
Enable Code128 Group Separators(GS) *	Disable Code128 Group Separators(GS)	Do Not Calculate Check Digit	

D. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1st Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.5 Interleave 25 Parameters

A. Check Digit Transmission	B. Set Up Number of Character	C. Brazilian Banking Code
Do Not Calculate Check Digit *	Even *	Disable *
Calculate Check Digit & Transmit	Odd	Enable
Calculate Check Digit & Not Transmit		

D. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1st Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.6 Industrial 25 Parameters

A. Reading Type	B. Check Digit Transmission
IATA25 Disable *	Do Not Calculate Check Digit *
IATA25 Enable	Calculate Check Digit & Transmit
	Calculate Check Digit & Not Transmit

C. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1st Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.7 Matrix 25 Parameters

A. Check Digit Transmission
Do Not Calculate Check Digit *
Calculate Check Digit & Transmit
Calculate Check Digit & Not Transmit

B. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1ST Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1ST Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.8 CODABAR/NW7 Parameters

A. Set Up Start/ Stop Characters Upon Transmission	B. Transmission Type of Start/Stop	
OFF *	A/B/C/D Start *	A/B/C/D Stop *
ON	A Start	A Stop
	B Start	B Stop
	C Start	C Stop
	D Start	D Stop

C. Set Up Code Length

To set the fixed length:

1. Scan the “Begin“ label of the desired set.
2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read.
3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.

Variable *

Fix Length (2 Sets Available)

1. 1st Set Begin

2. Numeric Bar Codes (Appendix A)

3. 1st Set Complete

1. 2nd Set Begin

2. Numeric Bar Codes (Appendix A)

3. 2nd Complete

Minimum Length

1. Begin

2. Numeric Bar Codes (Appendix A)

3. Complete

3.9 Code 93 Parameters

A. Check Digit Transmission
Calculate Check 2 Digits & Not Transmit *
Do Not Calculate Check Digit

B. Set Up Code Length			
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.			
Variable*			
Fix Length (2 Sets Available)			
1. 1st Set Begin	→	2. Numeric Bar Codes (Appendix A)	→ 3. 1ST Set Complete
1. 2nd Set Begin	→	2. Numeric Bar Codes (Appendix A)	→ 3. 2nd Set Complete
Minimum Length			
1. Begin	→	2. Numeric Bar Codes (Appendix A)	→ 3. Complete

3.10 Code 11 Parameters

A. Check Digit Transmission	
Do Not Calculate Check Digit *	
Calculate Check 1 Digit & Transmit	Calculate Check 1 Digit & Not Transmit
Calculate Check 2 Digit & Transmit	Calculate Check 2 Digit & Not Transmit

B. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1ST Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.11 MSI/PLESSEY Code Parameters

A. Check Digit Transmission
Calculate Check Digit & Not Transmit *
Do Not Calculate Check Digit
Calculate Check Digit & Transmit

B. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1ST Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1st Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.12 Code 2 of 6 Parameters

A. Check Digit Transmission
Do Not Calculate Check Digit *
Calculate Check Digit & Transmit
Calculate Check Digit & Not Transmit

B. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1.1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1st Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.13 LCD25 Parameters

A. Check Digit Transmission
Do Not Calculate Check Digit *
Calculate Check Digit & Transmit
Calculate Check Digit & Not Transmit

B. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1st Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.14 Telepen Parameters

A. Type of Code	B. Check Digit Transmission
Full ASCII Mode *	Calculate Check Digit & Not Transmit*
Compressed Numeric Mode	Do Not Calculate Check Digit
	Calculate Check Digit & Transmit

C. Set Up Code Length
To set the fixed length: 1. Scan the “Begin“ label of the desired set. 2. Go to Numeric Bar Codes in Appendix A, scan label(s) that represents the length to be read. 3. Scan the “Complete“ label of the desired set. Repeat the steps 1 - 3 to set additional lengths.
Variable *
Fix Length (2 Sets Available)
1. 1st Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 1ST Set Complete
1. 2nd Set Begin → 2. Numeric Bar Codes (Appendix A) → 3. 2nd Set Complete
Minimum Length
1. Begin → 2. Numeric Bar Codes (Appendix A) → 3. Complete

3.15 GS1 Databar

A. GS1 DataBar Omnidirectional	
Transmit Check Digit * 	Don’t Transmit Check Digit 
Transmit Application ID * 	Don’t Transmit Application ID 
Don’t Transmit Symbology ID * 	Transmit Symbology ID 

B. GS1 DataBar Limited Parameters	
Transmit Check Digit * 	Don’t Transmit Check Digit 
Transmit Application ID* 	Don’t Transmit Application ID 
Don’t Transmit Symbology ID * 	Transmit Symbology ID 

C. GS1 DataBar Expanded Parameters
Don’t Transmit Symbology ID * 
Transmit Symbology ID 

3.16 Bar Code ID

OFF * 
ON 
Default 

With this function ON, a leading character will be added to the output string while scanning code, user may refer to the following table to know what kind of bar code is being scanned.

Please refer to the table below for matching code ID of codes read in.

Code Type	ID	Code Type	ID
UPC-A	A	UPC-E	B
EAN-8	C	EAN-13	D
CODE 39	E	CODE 128	F
Interleave 25	G	Industrial 25	H
Matrix 25	I	Codabar/NW7	J
CODE 93	K	CODE 11	L
China Postage	M	MSI / PLESSEY	N
Code 2 of 6	P	LCD 25	Q
Telepen	T	GS1 DataBar Omnidirectional	U
GS1 DataBar Limited	V	GS1 DataBar Expanded	W

User Define Code ID

To set the code ID:

1. Scan the symbologies label.
2. Go to the ASCII Tables in Appendix B, scan label that represents the desired code ID.

Note :

User define code ID will override default value. Program will not check the conflict. It is possible to have more than two symbologies which have same code ID.

UPC-A	UPC-E
EAN-13/JAN-13	EAN-8/JAN-8
CODE 39	CODE 128
CODABAR/NW7	Interleave 25
Industrial 25	Matrix 25
CODE 93	CODE 11
ChinaPostage	MSI/PLESSEY
Code 2 of 6	Telepen

LCD25	GS1 DataBar Omnidirectional ON
GS1 DataBar Limited ON	GS1 DataBar Expanded ON
Reserved5	Reserved6

Chapter 4 – Command Setting

4.1 Interface & Reading Mode Selection

4.1.1 Interface Selection

USB Mode * 	RS232 Mode 
Virtual COM 	Keyboard Mode 

4.1.2 Reading Mode Selection

Trigger ON/OFF * 	Good Read OFF 
Continuous/Trigger OFF 	Testing 
Continuous/Auto Power On 	Flash 
Flash/Auto Power On 	Presentation 

4.2 Communication Parameters

4.2.1 RS232 Communication Parameters

A. Set Up BAUD Rate	B. Set Up Data Bits	C. Set Up Stop Bits
9600 *	8 Data Bits *	1 Bit*
1200	7 Data Bits	2 Bits
2400		
4800		
19200		
38400		

D. Set Up Parity	E. Handshaking	
None *	RTS/CTS Disable *	RTS/CTS Enable
Even	ACK/NAK Disable *	ACK/NAK Enable
Odd	XON/XOFF Disable *	XON/XOFF Enable
Mark		
Space		

4.2.2 Keyboard Wedge Mode Parameters

A. Terminal Type		
IBM PC/AT, PS/2 *	IBM 5550	Reserved 1
IBM PC/XT	IBM 102 Key	Reserved 2
IBM PS/2 25, 30	IBM 122 Key (1)	Reserved 3
NEC 9800	IBM 122 Key (2)	Reserved 4
Apple Desktop Bus(ADB)		Reserved 5

B. Upper / Lower Case	C. Caps Lock Detection	D. Send Character by ALT Method	E. Select Numerical Pad
No Change *	Disable *	Disable *	OFF *
Upper Case	Enable	Enable	ON
Lower Case			

4.2.3 Output Characters Parameters

A. Select Terminator	B. Time-out Between Characters
CR*	0ms *
None	5 ms
CR +LF	10 ms
LF	25 ms
Space	50 ms
HT(TAB)	100 ms
STX-ETX	200 ms
	300 ms

4.3 Language Selection

US English *	Hungarian
UK English	Janpanese
Italian	Belgium
Spanish	Portuguese
French	Denmark
German	Netherlands
Swedish	Turkey
Switzerland	Reserved 2

4.4 Reading Level

The Polarity can be sent as standard with black bars high, or reversed with white bars high.

Black Bars High * 
White Bars High 

4.5 Accuracy

This setting is to provide the assurance of barcode consistency and to prevent the misread outcome before the data is sent to the host.Scan the barcode below to choose how many times you would like to verify the data.

Note: *It will cause the scanning process to slow down by choosing more than 1 time to verify the data.*

1 Time *
2 Times
3 Times
4 Times

4.6 Buzzer Beep Tone

High *
Medium
Low
Off

4.7 Sensitivity of Continuous Reading Mode

A. Quick Setting
Fast * 
Slow 

B. Same Code Delay Reading Interval
Following code sequences represent the length of time before a barcode can be rescanned at continuous and flash reading mode. The value can be defined from 1-50 and they represent 100ms to 5 seconds in100ms interval. Default value is 3 (0.3 seconds).
To setup same code delay reading interval: 1. Scan the "Begin" label 2. Go the Numeric Bar Codes in Appendix A, Scan label(s),that represents the same code delay reading interval. They are ranged form 1-50.One step is represented 0.1second.So the interval is from 0.1 to 5 seconds. 3. Scan the "Complete" label Repeat the steps 1-3 to set time out of same symbol
1. Begin  → 2. Numeric Bar Codes (Appendix A) → 3. Complete 

4.8 Reverse Output Characters

Disable * 
Enable 

4.9 Setup Deletion

To setup the deletion of output characters:

1. Scan the label of the desired set below.
2. Scan the label of the desired symbology.
3. Go to the Numeric Bar Codes in Appendix A, scan label(s) that represents the desired position to be deleted.
4. Scan the “Complete” label of “Character Position to be Deleted”.
5. Go to the Numeric Bar Codes in Appendix A, scan label(s) that represents the number of characters to be deleted.
6. Scan the “Complete” label of “Number of Characters to be Deleted”.

Repeat the steps 1 – 6 to set additional deletion.

A. Select Deletion Set Number		
1st Set 	2nd Set 	3rd Set 
4th Set 	5th Set 	6th Set 

B. Symbologies Selection	
UPC-A	Industrial 25
UPC-E	Matrix 25
EAN-13/JAN-13/ISBN-13	CODE 93
EAN-8/JAN-8	CODE 11
CODE 39	China Postage
CODE 128	MSI/PLESSEY
CODABAR/NW7	Code 2 of 6
Interleave 25	Telepen
LCD25	GS1 DataBar Omnidirectional
GS1 DataBar Limited	GS1 DataBar Expanded
None	All Codes

C. Character Position to be Deleted	
1. Numeric Bar Codes (Appendix A)	2. Complete 
D. Number of Characters to be Deleted	
1. Numeric Bar Codes (Appendix A)	2. Complete 

4.10 Setup Insertion

To setup the insertion of output characters :

1. Scan the label of the desired set.
2. Scan the label of the desired symbology.
3. Go to the Numeric Bar Codes in Appendix A, scan label(s) that represents the desired position to be inserted.
4. Scan the “Complete” label of “Character Position to be Inserted”.
5. Go to the ASCII Tables in Appendix B or Function Key Tables in Appendix C, scan label(s) that represents the desired characters to be inserted. Scan the “Complete” label of “Number of Characters to be Deleted”.
6. Scan the “Complete” label of “Characters to be inserted”.

Repeat the steps 1 – 6 to set additional insertion.

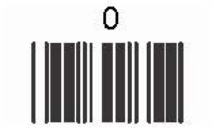
A. Select Insertion Set Number		
1st Set	2nd Set	3rd Set
4th Set	5th Set	6th Set

B. Symbologies Selection		
UPC-A		Industrial 25
UPC-E		Matrix 25
EAN-13/JAN-13/ISBN-13		CODE 93
EAN-8/JAN-8		CODE 11
CODE 39		China Postage
CODE 128		MSI/PLESSEY
CODABAR/NW7		Code 2 of 6
Interleave 25		Telepen
LCD25		GS1 DataBar Omnidirectional
GS1 DataBar Limited		GS1 DataBar Expanded
None		All Codes

C. Character Position to be Inserted	
1. Numeric Bar Codes (Appendix A)	2. Complete 
D. Characters to be Inserted	
1. ASCII Table (Appendix B)	2. Complete 

Appendix A –Numeric Bar Codes

0



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3

4

5

6

7

8

9

Appendix B –ASCII Table

NULL

SOH

STX

ETX

EOT

ENQ

ACK

BEL

BS

HT

LF

VT

FF

CR

SO

SI

DLE

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DEL

Appendix C –Function Key Table

F1

F2

F3

F4

F5

F6

F7

F8

F9

F10

F11

F12

Insert

Delete

Home

Page Up

Page Down

End

Left

Right

Up

Down

Appendix D–Numeric Bar Codes2

0		1	
2		3	
4		5	
6		7	
8		9	
Enter