BT CCD Barcode Scanner

- SP1-C -

User's Manual

Version 1.0

About This Manual

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

Regulatory Compliance Statements

FCC Warning Statements

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

Our company herewith declares that the 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.

CE RF Exposure Compliance

This device meets EU requirements (2014/53/EU) 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

This equipment complies with the requirements of Directive 2014/53/EU of the European Parliament and Commission from 24 May, 2014 governing Radio and Telecommunications Equipment and mutual recognition of conformity.

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)

Our company has set up a policy and process to meet the EU directive 2002/96/EC and update 2003/108/EC concerning electronic waste disposal.

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。

Laser Information

The 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 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 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 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 our 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 our company. Using a third party battery can damage our products. Please note that when such damage occurs, it is not covered by our 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 and 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 using 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 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 the product for charging.
2. Please remove the power adapter when the battery is fully recharged.
3. The bundled power adapter that comes with the 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 the product. Using the wrong power adapter can damage the 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.

Table of Contents

Chapter 1 - Overview

1.1 Package

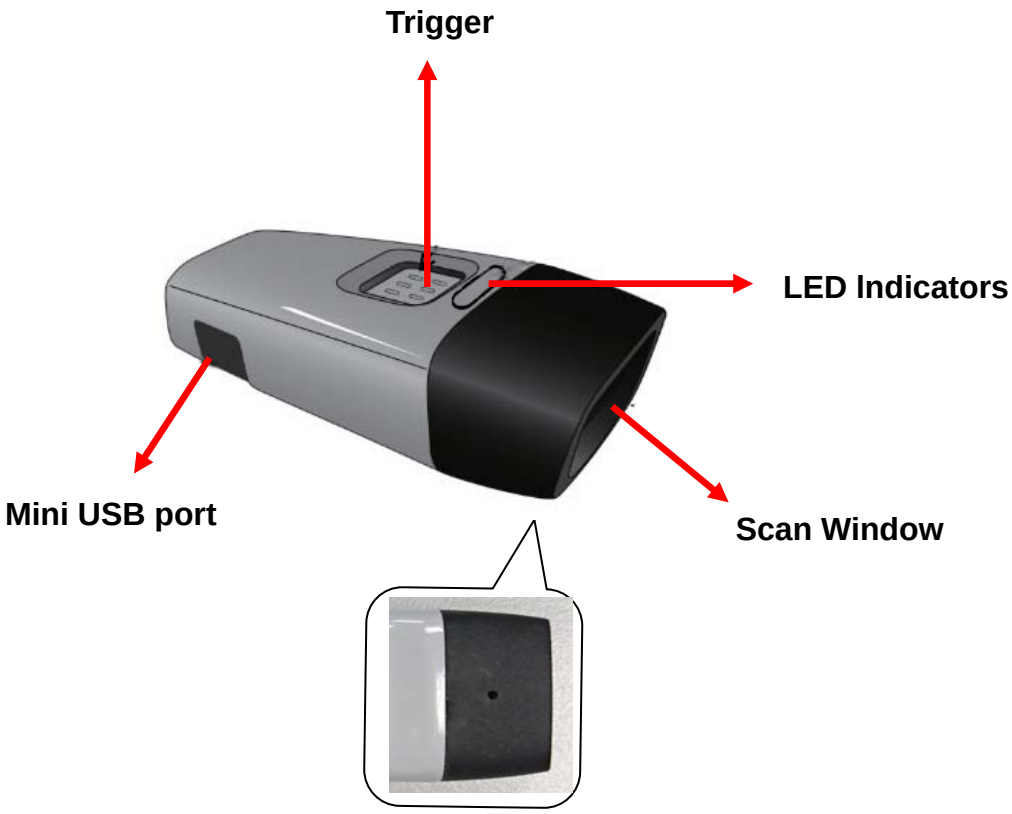
Please make sure the following contents are in the SP1-C gift box.
If something is missing or damaged, please contact our representative.

The standard package contents:

- SP1-C Scanner
- Quick Start Guide
- Regulatory Compliance Statements
- USB Charging Cable
- Hand Strap

Note: To scan a barcode, make sure the aiming beam crosses every bar and space of the barcode.

1.2 Scanner Detail



Hard Reset Button in the back of SP1-C (insert pin into the hole)

1.3 Specifications

Performance/Optical	
Image Sensor	Linear CMOS sensor
Light Source	625nm Visible Red LED
Max. Resolution	4 mil (0.1mm)
Scan Rate	650 scans/ second
Printing Contrast Scale	30% Minimum
Depth of Field	
Reading Distance (DOF PCS=90%)	Code 39, 4mil: 40mm (near) / 65mm (far) Code 39, 5mil: 35mm (near) / 90mm (far) Code 39, 10mil: 35mm (near) / 195mm (far) Code 39, 15mil: 50mm (near) / 280mm (far) UPC/EAN, 13mil: 35mm (near) / 230mm (far)
Functionality	
Symbologies	UPC-A/UPC-E, EAN-8/EAN-13, Industrial 2of 5, Codabar, Matrix 2 of 5, Code 11, Code93, Code 32, Code 128, Standard Code 39,Full ASCII Code 39, Interleaved 2 of 5, ChinaPostal Code, MSI Plessy Code, UK PlessyCode, EAN/UCC 128, Telepen Code, IATACode, GS1 Databar.
Configuration Method	Configuration barcodes
Electrical	
Operation Voltage	3.7VDC ± 5%
Battery Type	Lithium-Ion
Current Consumption	Operation mode: < 145mA Standby mode: < 55mA
Battery Duration	6000 scans/ charge

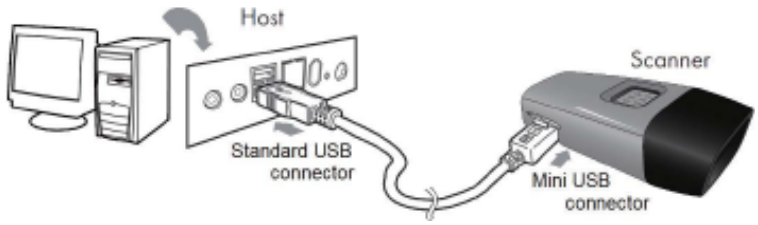
Environmental			
ESD Protection	Functional after 4KV Contact and 8KV Air		
Operating Temperature	0°C to 50°C		
Storage Temperature	-20°C to 60°C		
Relative Humidity	0% to 95% non-condensing		
Drop Test	1.5M		
Communication			
Range	10M (line of sight)		
Host Interface supported	Mini USB		
Interface/Profile	SPP,HID		
Wireless Class	Wireless Class 2		
Mechanical			
Housing Material	ABS + PC		
Dimensions	L65 x ABS + PC 18mm / 2.6 x 0.9 x 0.7in		
Weight	30.2g / 1.06oz		
Regulation Approvals			
FCC Part15B, FCC Part15C, EN301489-1-17, EN62133, EN60950-1, EN300328, IEC 62471, NCC, TELEC, VCCI, BSMI			
Accessories			
Mini USB cable, Hand Strap			
Radio type / Description		**Transmitter Frequency**	**Maximum Output Power**
Bluetooth	Bluetooth	2400-2483.5MHz	4.6dBm

1.4 Getting Started

Please make sure your PC or Smartphone has a built-in wireless adaptor; the SP1-C supports both HID and SPP wireless profiles. If you are connecting it to an iOS (Apple) smartphone, please follow the instruction of "Connecting via Human Interface Device (HID) Mode"; if you are connecting it to an Android smartphone, please follow the instruction of "Connecting via Serial Port Profile (SPP) Mode" or the instruction of "Human Interface Device (HID) Mode".

Note: Android 2.x devices can work with SP1-C in the SPP mode ONLY.
The SPP mode or/and the HID mode are not definitely compatible with each version of Android OS, and thus depends on the Android-based hardware specifications defined by the Android device manufacturers.

1.5 Battery Charging



1. Flip open the mini USB port on the scanner.
2. Insert the mini USB connector into the port on the scanner and USB connector into a USB port on the host PC.
3. Please charge the scanner for at least 2 hours (until the LED indicator turns off).

1.6 LED Indicator / Beeper Sequence

Scanner LED & Beeper Indication					
		Green LED	Red LED	Beeper	Remark
Scanner	Power Off or Standby	-	-	-	See Power Off Timeout
	Charging	-	Solid	-	-
	Disconnected or Discoverable	Flash	-	-	-
	Initializing	Flash	Flash	1 long beep	-
	Power Up	-	-	1 long beep	-
	Barcode scanning w/o proper connection	Flash	-	1 beep	-
	Successful barcode scan	1 Flash	-	1 beep	-
	Successful Connection	-	-	2 beeps	-
	Unsuccessful Pincode Setup	-	Flash	3 short beeps	Scan [Pincode Stop] and retry
	Low Power	-	Flash	5 beeps	-
	Out of range	1 Flash	-	4 beeps (high-low-high-low)	Move closer to the host.

Chapter 2 – Configuration-General

2.1 BT HID

1. Turn on the wireless device on your host (PC, Smartphone, or Tablet).
2. Hold the trigger for one second to activate the scanner.
3. Scan the [Disconnect] barcode.

Disconnect

4. Hold the trigger for one second to activate the scanner.
5. Scan the [HID] barcode below.

HID

6. The scanner will emit several short beeps and then stop beeping. The green LED light will flash continually during the pairing process.
7. On your host device, in the settings section where you can see Bluetooth settings and manage your connections.
    a. You will see the SP1-C listed as [Wireless Scanner] under Bluetooth devices.
    b. You will see a message under that [Pair with this device].
    c. Select this device on your host and begin to pair.
8. Your Host device will ask you to type in a pin code.
    a. Use your host device keypad to enter this pin code.
    b. The pin code can be any set of numbers.
    c. We suggest using 4 numbers.
9. Once you have entered the pin code on the Host device, you need to set up the pin code on the SP1-C to match.
    a. With the SP1-C, scan the Pincode Start barcode below.

Pincode Start

b. Refer to the numeric barcode table on ***Appendix A*** and scan the same numbers that you used as the pin code on your Host device. For example, if your pin code is "241657", scan [2] – [4] – [1] – [6] – [5] – [7] in sequential order.

c. Scan the [Enter] barcode below:

Enter

d. Scan the [Pincode-Stop] barcode:

Pincode-Stop

10. On your Host device you will see the message under [Wireless Scanner] saying [connecting...].
11. Once that message turns to [Paired and Connected], the scanner will beep twice to verify a successful connection, and you are ready to start scanning bar code date into your Host device.
    a. To do a test, open up Word or Note Pad or even a new E-mail [anything that will allow you to type in data].
    b. Scan a number bar code from this manual.
    c. That number should appear on your Host device in the application you opened.
    d. If not, please scan [Disconnect] barcode below and repeat steps 1 to 9 above.

Note: *To disconnect the scanner from the host or to switch the wireless profile from one to another,please scan the [Disconnect] barcode:*

Disconnect

After scanning the [Disconnect] barcode, the SP1-C will emit 3 beeps..

2.1.1 Connecting via Human Interface Device (HID) Mode (Non-Pincode)

1. Hold the trigger for one second.
2. Scan [DISCONNECT]

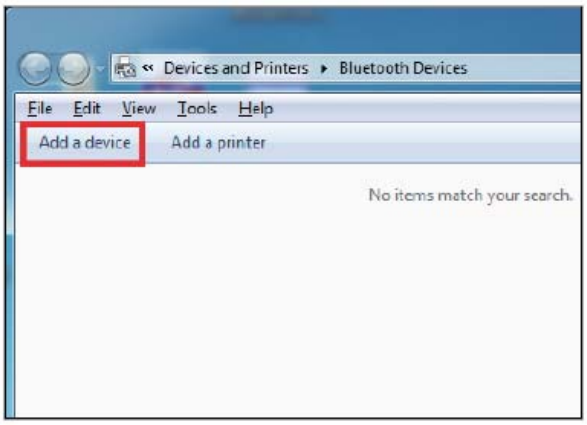
Disconnect

3. Scan [BT mode - HID non-pincode]; the scanner will emit 8 beeps.

BT mode - HID non-pincode

4. Search for the scanner nearby around by using the Bluetooth module of your host PC.

5. Click **Add a device** to search for a wireless scanner nearby around



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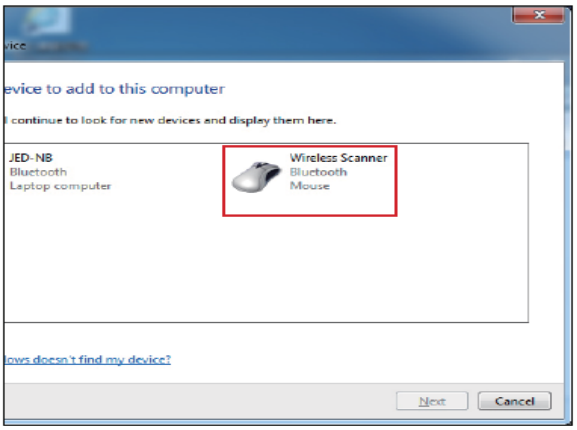
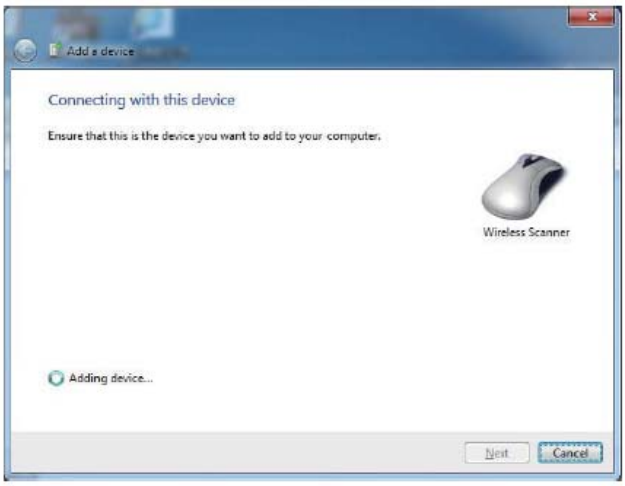
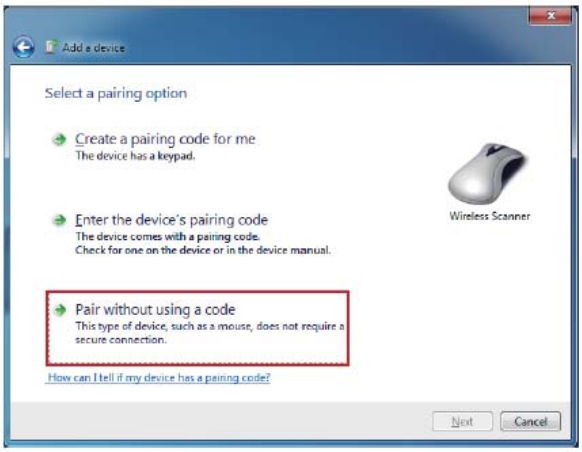
6. Click Wireless Scanner to add to the computer. Then, click **Next**



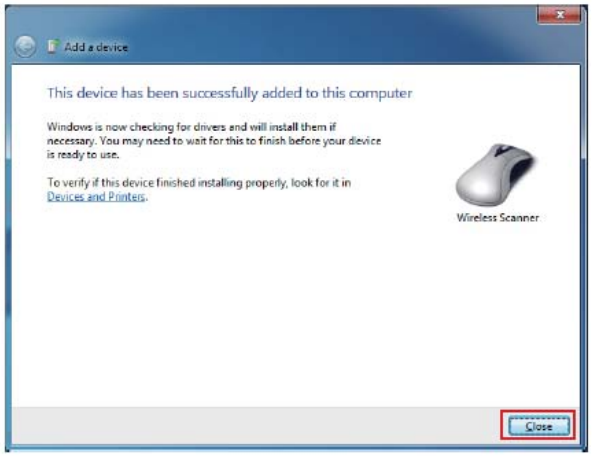
7. In this step, the computer is connecting the wireless scanner. When it connects, click **Next.**



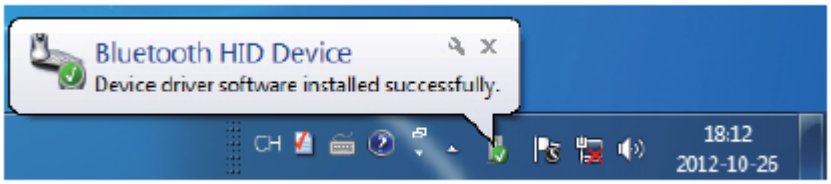
8. Click **Pair without using a code.** Then, click **Next**.



9. Then, click **Close**.



10. You will see a message telling that the device driver software is installed successfully.



11. The scanner will beep twice to verify the connection.

Note: *In this mode, the scanner is recognized by the host as a mouse (pointing device). If your host fails to find it , please try [Connectiong via Human Interface Device (HID) Mode] instead.*

2.2 BT SPP

Connecting via Serial Port Profile (SPP) Mode：

1. Turn on the wireless device on your host (PC, Smartphone, or Tablet).
2. Hold the trigger for one second
3. Scan [Disconnect] barcode.

Disconnect

4. Scan the [SPP] barcode below:

SPP

5. The scanner will emit several beeps.
6. Conduct a search for the SP1-C on your host. Select "Wireless Scanner" from discovered device list and the scanner will beep twice.
7. Enter pincode, which is "1234" by default.
8. Open serial communication software with a COM port (see Device Manager) properly set up.
9. The scanner will beep twice and the indicator LED will turn off to verify the successful connection.

Chapter 3 –Bar Codes & Others

3.1 All Symbologies

Enable	Disable
ENABLE ALL CODE	DISABLE ALL CDE
	
CODE 32	CODE 32 *
	
CHINA POSTAL CODE *	CHINA POSTAL CODE
	
UK PLESSEY CODE	UK PLESSEY CODE *
	
INDUSTRIAL 2 OF 5	INDUSTRIAL 2 OF 5 *
	
MATRIX 2 OF 5	MATRIX 2 OF 5 *
	
INTERLEAVED 2 OF 5 *	INTERLEAVED 2 OF 5
	
CODE 128 *	CODE 128
	
CODABAR *	CODABAR
	
TEELEPEN	TELEPEN *
	

Enable	Disable
UPC-A *	UPC-A
	
UPC-E *	UPC-E
	
EAN-8 *	EAN-8
	
EAN-13 *	EAN-13
	
MSI	MSI *
	
CODE 39 *	CODE 39
	
CODE 11	CODE 11 *
	
CODE 93	CODE 93 *
	
EAN-128 *	EAN-128
	
IATA	IATA *
	

Enable	Disable
GS1 Databar ENABLE	GS1 Databar DISABLE
GS1 Databar STACKED ENABLE *	GS1 Databar STACKED DISABLE
GS1 Databar LIMITED ENABLE	GS1 Databar LIMITED DISABLE *
GS1 Databar EXPANDED ENABLE	GS1 Databar EXPANDED DISABLE *
GS1 Databar EXPANDED STACKED ENABLE *	GS1 Databar EXPANDED STACKED DISABLE
PDF 417 ENABLE	PDF 417 DISABLE *

China postcode (Toshiba code)	
ENABLE *	CDV & SEND CD
DISABLE	CDV & NOT SEND CD
DISABLE CDV *	MIN LENGTH (11)
	MAX LENGTH (48)

Note: ***For MIN / MAX Length setting, please refer to Appendix A***

3.2 MSI / UK Plessey code

MSI	UK PLESSEY CODE
ENABLE	ENABLE
DISABLE *	DISABLE
CDV & SEND CD*	CDV & SEND CD
CDV & NOT SEND CD	CDV & NOT SEND CD *
CHECK DIGIT DOUBLE MOD 10	
CHECK DIGIT DOUBLE 11 PLUS MOD 10	
CHECK DIGIT SINGLE MOD 10*	
MIN LENGTH [6]	
MAX LENGTH [48]	

Note: ***For MIN / MAX Length setting, please refer to Appendix A***

3.3 Code93 / Telepen / IATA

CODE 93	TELEPEN	IATA
ENABLE	ENABLE TELEPEN	ENABLE
		
DISABLE *	DISABLE TELEPEN*	DISABLE *
		
MIN LENGTH [6]	TELEPEN ASCII	DESABLE CDV *
		
MAX LENGTH [48]	TELEPEN NUMBER	CDV & SEND CD
		
		CDV & NOT SEND CDV
		
		MIN LENGTH [6]
		
		MAX LENGTH [48]
		

Note: ***For MIN / MAX Length setting, please refer to Appendix A***

3.4 Interleaved 2 of 5 / Code 11

Interleaved 2 OF 5	Code 11
ENABLE*	ENABLE
DISABLE	DISABLE*
DISABLE CDV*	DISABLE CDV *
CDV & SEND CD	CDV & SEND CD
CDV & NOT SEND CDV	CDV & SEND CDV (1DIGIT)
First digit suppressed	CDV & SEND CDV (2DIGIT)
Last digit suppressed	CDV & NOT SEND CD
NO suppressed *	MIN LENGTH [6]
MIN LENGTH [6]	MAX LENGTH [32]
MAX LENGTH [48]	

Note: ***For MIN / MAX Length setting, please refer to Appendix A***

3.5 Industrial 2 of 5 / Matrix 2 of 5

Interleaved 2 OF 5	Code 11
ENABLE	ENABLE
DISABLE*	DISABLE*
DISABLE CDV*	DISABLE CDV*
CDV & SEND CD	CDV & SEND CD
CDV & NOT SEND CDV	CDV & NOT SEND CDV
MIN LENGTH [6]	MIN LENGTH [6]
MAX LENGTH [48]	MAX LENGTH [48]

Note: ***For MIN / MAX Length setting, please refer to Appendix A***

3.6 Codabar

Codebar	Start / Stop	CLSI Format
ENABLE *	ST/SP: abcd/abcd	CLSI- Enable library space insertion. If you enable the CLSI format, this option inserts spaces in position 2, 7, 13 of the data string for use in library systems.
DISABLE	ST/SP: ABCD/ABCD *	CLSI FORMAT ON
DESABLE CDV*	ST/SP:ABCD/TN*E	CLSI FORMAT OFF
CDV & SEND CD	ST/SP: abcd/tn*e	
CDV & NOT SEND CD	SEND START / STOP *	
MIN LENGTH [6]	Not Send START /STOP	
MAX LENGTH [48]	**Example of ST (Start) / SP (Stop)** 123456 Not Transmit ST/SP A123456B ST/SP: ABCD/ABCD a123456b ST/SP: abcd/abcd A123456N ST/SP: ABCD/TN*E a123456n ST/SP: abcd/tn*e	

Note: ***For MIN / MAX Length setting, please refer to Appendix A***

3.7 ABC Codabar, CX Codabar

ABC- CODABAR	CX CODE- CODABAR
ON	ON
	
OFF*	OFF*
	
◆SET INSERT DATA	◆SET INSERT DATA
	
INSERT DATA-ON	INSERT DATA-ON
	
INSERT DATA-OFF	INSERT DATA-OFF
	
◆The data can be any alphanumerics of FULL ASCII Table.	
Remark: ABC-CODABAR (American Blood Commission). The ABC Code is an acronym for American Blood Commission. This bar code is a variant of the CODABAR Code developed for the use in the blood bank. This Code consists of two bar codes which are decoded in one read cycle. The code is concatenated when the stop character of the first bar code and the start character of the second bar code is a " D ", these two " D " are not transmitted.	**Remark :** The CX-Code consists of two bar codes which are decoded in one read cycle, the code is concatenated when the stop character of the first bar code is a C, and the start character of the second bar code is a B. The B and C characters are not transmitted.

3.7.1 Codabar Coupling

Codabar Coupling		
ON	OFF*	◆SET INSERT DATA
		
INSERT DATA-ON	INSERT DATA-OFF	
		
ABC-Codabar and CX-Codabar have certain rules regarding the Stop Character of first bar code and the stop character of second bar code while in conjunction, while Codabar-Coupling is enabled, the data from any two Codabar bar codes can be coupled into one set of data without any limitations Between the Stop character of first bar code and the Start characters of second bar code. The Start and Stop characters associated with each bar code will be sent. ◆The data can be any alphanumerics of FULL ASCII Table. (***Appendix B***)		

Adjacent Required	
ON	OFF*
	
If CODABAR ADJACENT is enabled, the scanner will only read two adjacent Codabar bar codes; a single bar code will not be read. Note: 1. Both ABC-Codabar and CX-Codabar can be enabled together, except when Codabar-Coupling is also enabled. 2. If ABC-Codabar, CX-Codabar, and Codabar-Coupling are all enabled at the same time, the scanner will read only Codabar- Coupling, that is, ABCCodabar,CX-Codabar will be considered coupling formats	

Setting Procedure – Set Insert Data	
Step 1 - Scan: Scan SET INSERT DATA. **Stet 2** - Scan: Scan any combination of alphanumeric characters from FULL ASCII Table. (***Appendix B***) **Step 3** - Scan: SET INSERT DATA..	
RESET	
Note:	*1. The scanner will beep three times as a reminder that a setting is not yet complete.* *2. If you make a mistake, forget a step, etc., Scan RESET to start again.*

3.8 Code 39 (Full ASCII/Standard) / Code 32

Standard Code 39 & Full ASCII 39	
ENABLE *	DISABLE
	
FULL ASCII CODE39 ENABLE *	FULL ASCII CODE39 DISABLE
	
START / STOP –SEND	DESABLE CDV *
	
CDV & SEND CD	CDV & NOT SEND CD
	
MIN LENGTH [1]	MAX LENGTH [48]
	
START / STOP NOT SEND *	
	
Note: *The default for Code 39 is Standard Code 39. If Full ASCII Code 39 is enabled, Standard Code 39 will be automatically disabled.*	
CODE 32	
ENABLE	DISABLE *
	
LEADING SEND *	LEADING NOT SEND
	
TAILING SEND *	TAILING NOT SEND
	

Note: ***For MIN / MAX Length setting, please refer to Appendix A***

3.9 UPC-E

UPC-E	
ENABLE*	DISABLE
	
LEAD DIGIT SEND*	LEAD DIGIT NO SEND
	
CHECK DIGIT SEND*	CHECK DIGIT NO SEND
	
Add On Supplement	
+5 ON	+5 OFF*
	
+2 ON	+2 OFF*
	
ADD A SPACE ON	ADD A SPACE OFF*
	
ADDENDA REQUIRED ON	ADDENDA REQUIRED OFF
	
NOTE: *If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.*	

3.10 UPC-E(0)&(1) / UPC-E EXPAND

UPC-E0	
E [0] OFF	E (0) ON *
	
E [1] ON	E (1) OFF *
	
Note: *Most UPC bar codes lead with 0 number systems, for these bar codes use UPC E(0) selection. For the bar codes that lead with the 1 number, use UPC E(1) selection.*	
UPC-E Expand to UPC-A	
ENABLE	DISABLE *
	
NOTE: 1. *If UPC-E EXPAND TO UPC A FORMAT is enabled, the output of UPC-A will be 12 digits.* 2. *The default output of UPC-A is 12 digits, if UPC-A EXPAND TO EAN13 is enabled, a zero will be added to in front of the bar code.*	

3.11 UPC-A

UPC-A	
ENABLE *	DISABLE
	
LEAD DIGIT SEND *	LEAD DIGIT NO SEND
	
CHECK DIGIT SEND *	LEAD DIGIT NO SEND
	
UPC-A Expand to EAN-13	
ENABLE	DISABLE *
	
Add On Supplement	
+5 ON	+5 OFF *
	
+2 ON	+2 OFF *
	
ADD A SPACE ON	ADD A SPACE OFF *
	
ADDENDA REQUIRED ON	ADDENDA REQUIRED OFF
	
Note: *If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.*	

3.12 EAN-8

EAN-8	
ENABLE*	DISABLE
	
LEAD DIGIT SEND*	LEAD DIGIT NO SEND
	
CHECK DIGIT SEND*	LEAD DIGIT NO SEND
	
Add On Supplement	
+5 ON	+5 OFF*
	
+2 ON	+2 OFF*
	
ADD A SPACE ON	ADD A SPACE OFF*
	
ADDENDA REQUIRED ON	ADDENDA REQUIRED OFF
	
Note: *If ADDENDA REQUIRED is set to ON, the scanner will only read an UPC-E bar code that has an addenda. At the same time please also scan +5 ON or +2 ON so the scanner will output a 5-digit or 2-digit addendum.*	

3.13 EAN-13 / ISSN / ISBN / ISMN

EAN-13	
ENABLE*	DISABLE
	
LEAD DIGIT SEND*	LEAD DIGIT NO SEND
	
CHECK DIGIT SEND*	CHECK DIGIT NO SEND
	
Add On Supplement	
+5 ON	+5 OFF*
	
+2 ON	+2 OFF*
	
ADD A SPACE ON	ADD A SPACE OFF*
	
ADDENDA REQUIRED ON	ADDENDA REQUIRED OFF*
	

ISBN	
ISBN OFF*	ISBN ON
	
Note: 1. If ADDENDA REQUIRED is set to ON, the scanner will only read an EAN-13 bar code that has an addenda. 2. Either ISSN or ISBN will be considered as an extension of EAN-13. If ISSN or ISBN needs to be read, EAN-13 must be enabled. If ISSN and ISBN need to be read with addenda, EAN-13 must be enabled with ADDENDA REQUIRED set to ON, and +2 ON or +5 ON must be enabled as well.	
ISSN	
ISSN OFF*	ISSN ON
	
ISMN	
ISMN OFF*	ISMN ON
	

3.14 EAN & UCC128/Code 128

EAN / UCC-128	
ENABLE*	DISABLE
	
CODE ID ENABLE	CODE ID DISABLE*
	
FUNC 1 CHAR SEND	FUNC 1 CHAR NOT SEND *
	
DEFINE EAN 128	
	

Note: DEFINE EAN 128

*The first FNC1 character is translated to]c1, and the second FNC1 character is translated to an ASCII <GS> character (scan from **Appendix B**)*

String format：

]C1	DATA CHARACTERS	<GS>	DATA CHARACTERS

Setting Procedure:

1: Scan DEFINE EAN128.

2: Scan ASCII Code ***(Appendix B)***

3: Scan DEFINE EAN128.

Code 128	
ENABLE*	DISABLE
	
MIN LENGTH [5]	MAX LENGTH [48]
	

3.15 DataBar (RSS)

GS1 DataBar (RSS) – OMNI & Stacked	
GS1 DataBar ENABLE	GS1 DataBar DISABLE*
	
GS1 DataBar CHECK DIGIT SEND	GS1 DataBar CHECK DIGIT NOT SEND*
	
GS1 DataBar PREFIX SEND	GS1 DataBar PREFIX NOT SEND*
	
GS1 DataBar STACKED ENABLE *	GS1 DataBar STACKED DISABLE
	
GS1 Databar SET ID	
	

GS1 DataBar (RSS) – Limited	
GS1 DataBar LIMITED ENABLE	GS1 DataBar LIMITED DISABLE*
	
GS1 DataBar LIMITED CHECK DIGIT SEND	GS1 DataBar LIMITED CHECK DIGIT NOT SEND*
	
GS1 DataBar LIMITED PREFIX SEND	GS1 DataBar LIMITED PREFIX NOT SEND *
	
GS1 DataBar LIMITED SET ID	
	

GS1 DataBar (RSS) - Expanded	
GS1 DataBar EXPANDED ENABLE	GS1 DataBar EXPANDED DISABLE*
	
GS1 DataBar EXPANDED STACKED ENABLE*	GS1 DataBar EXPANDED STACKED DISABLE
	
GS1 DataBar EXPANDED MIN LENGTH	GS1 DataBar EXPANDED MAX LENGTH
	
GS1 DataBar EXPANDED SET ID	
	

Chapter 4 – Command Setting

4.1 System Setting

Default
◆ Reset to factory default

Check Version
◆ Check firmware version

Reset/ Abort
◆ Abort multi-step configuration

Setup Code Read
Setup Code On *

Setup Code Off

◆Caution: Scanning SETUP CODE OFF will turn the scanner into unprogrammable state and the scanner will not react to any configuration barcode!

4.2 BT Pairing

4.2.1 Interface

Codabar Coupling	
Batch Mode 	Emulates a USB mass storage device that saves each barcode data during off-line data collection.
USB-HID 	Please connect the scanner with the host with mini USB cable before scanning above barcode.
USB-VCP 	Please connect the scanner with the host with mini USB cable and make sure the virtual com driver (please go to www.ute.com to download or contact your local distributor) is properly installed before scanning above barcode.

MODE	Interface	Auto Mode	Batch Mode	Ez Utility
Wireless	BT HID	V		
	BT SPP	V		
Tethered	Batch Mode		V	
	USB HID			V
	USB VCP			V

Note: *For Ez Utility, please go to SP1-C* ***download*** *section.*
http://eu.ute.com/products_info.php?pc1=3&pc2=296&rbu=0&pid=1771
to download or contact your local distributor

4.2.2 Bluetooth Profile

BT mode – HID

1. Press the trigger for 1 second to activate the scanner.
2. Scan **[DISCONNECT]**
3. Scan **[BT mode-HID]**; the scanner will emit several beeps.
4. Select "Wireless Scanner" from discovered device list. (For PC, please click "Create a pairing code for me")
5. The Bluetooth application may prompt you to scan a pincode.
6. Follow the steps in **PINCODE SETUP** section the on next page.
7. The scanner will beep twice to verify the connection.

BT mode - SPP

1. Press the trigger for 1 second to activate the scanner.
2. Scan **[DISCONNECT]**
3. Scan **[BT mode -SPP]**; the scanner will emit several beeps.
4. Select "Wireless Scanner" from discovered device list.
5. (For PC, please click "Enter the device's pairing code")
6. Enter "1234" from the host.
7. Open serial communication software with com port (see Device Manager) properly set up.
8. The scanner will beep twice to verify the connection.

BT mode - HID non-pincode

1. Press the trigger for 1 second to activate the scanner.
2. Scan **[DISCONNECT]**
3. Scan **[BT mode - HID non-pincode]**; the scanner will emit several beeps.
4. Select "Wireless Scanner" from discovered device list.
5. (For PC, please click "Pair without using a code.
6. .The scanner will beep twice to verify the connection.

Note： In this mode, the scanner emulates a mouse (pointing device). If your host fails to find it, please try **[BT mode -HID]** instead

Disconnect

4.2.2.1 Pincode Setup

Step 1 Pincode Start

Step 2 Scan numeric barcodes (see ***Appendix A***) based on the pincode generated by the Bluetooth application

Step 3 Enter

Step 4 Pincode Stop

4.2.2.2 Getting Connected - iOS & Android

Getting Connected - iOS (Apple)

Simply follow instruction in [BT mode - HID]. ***(4.2.2)***, in which step 5 & 6 can be skipped since Apple devices will not require pincode for connection.

Touch Keyboard

Enable iOS Hotkey	Disable iOS Hotkey

After enabling iOS Hotkey(disabled by default), you may simply double-click the trigger to toggle the iPhone/iPad Touch Keyboard.

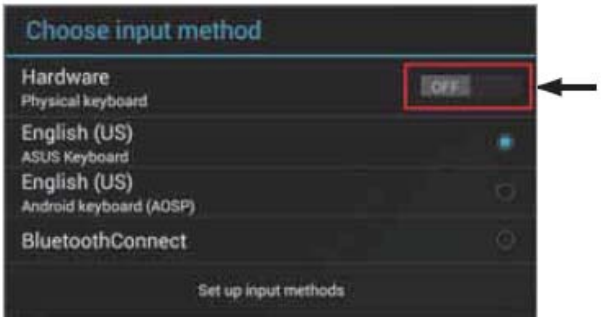
Getting Connected - Android (Samsung, hTC, Sony..)

Simply follow instruction in [BT mode - HID]. ***(4.2.2)***, in which step 5 & 6 can be skipped since Android devices will not require pincode for connection.
NOTE: *The BT HID profile is supported on Android 4.0 or newer versions.*

Touch Keyboard

While connected with the scanner, the Touch Keyboard on the Android smartphone or tablet might disappear. To resolve this issue, please change settings on Android device with below steps:

1. Enter "Settings"
2. Enter "Language & input"
3. In Keyboard & input window, tap "Default" to continue.
4. Turn off "Hardware - Physical keyboard", and the Touch Keyboard will function properly again.



4.2.2.3 Set Bluetooth Device ID

To customize your own Bluetooth device name for the wireless scanner, please follow below steps:

Step 1 Default Wireless ID

Step 2 Set Wireless ID

Step 3 Scan up to 16 alphanumeric characters from Full ASCII Table ***(Appendix B)***as your desired ID name.

Step 4 Set Wireless ID

Step 5 Scan a desired BT mode in BLUETOOTH PROFILE***(4.2.2)*** to complete the configuration.

Note：

1. If you have connected the scanner with the host BEFORE customizing your Bluetooth device name, please remove the device and create a new connection to make sure device name is refreshed. For PC, it is recommended to restart the Bluetooth adaptor in order to refresh device name.
2. At Step 3, the scanner will beep three times as an alert that more than 16 characters are entered.
3. To reset the Bluetooth device name to default (”Wireless Scanner”),please simply do Step 1 & Step 5, skipping Step 2 to Step 4.

4.2.2.4 Set Pincode

By default, the pincode under SPP profile for eh scanner is "1234" You may customize this pincode with bellows steps:

Step 1 Set SPP Pincode	
Step 2 Scan numeric barcodes (see ***Appendix A***) Up to 8 numbers can be set as SPP pincode	
Step 3 Set SPP Pincode	
Step 4 Scan a desired BT mode in **BLUETOOTH PROFILE*(4.2.2)*** to Complete the configuration.	

4.2.2.5 SPP Master Mode

First, please generate one configuration barcode for the target SPP slave device in below methods:

1. The barcode must be Code 39 with no checksum
2. Barcode data format: LTB + Target MAC address

For example, the target SPP slave device's MAC address is 001583522C3B.

Please encode:

LTB001583522C3B in Code39 barcode.

Then, follow below steps to create connection:

Step 1 SPP-Master	
Step 2	

4.2.2.6 Remote Control

SPP Remote Control

There are two ways to verify connection status by the host under SPP Profile.

Command Response

Host sends:	CR,LF,{,A,L,},CR,LF	(8 bytes)
Scanner replys:	O,K,CR,LF	(4 bytes)

Beeper Response

Host sends:	CR,LF,{,M,1,},CR,LF	(8 bytes)
Scanner replys:	a short beep	

Shut Down

This configuration barcode will shut down the scanner immediately but still reserve the pairing record.

Shut Down	

DISCONNECTION

Disconnect (clear pairing record)	
Disconnect (keep pairing record)	

4.3 Output data transmit

4.3.1 Auto mode

Auto mode

Enable

Disable

When out of range, the scanner will temporarily keep scanned data in its memory buffer (2K RAM) until the buffer is full. When back in range, the scanner will send all stored data back to the host.

Note: *Auto mode will not function when Batch Mode is enabled, or no connection is made beforehand.*

Binary Check Character

Enable

Disable

Once enabled, a checksum will be added to the end of each data to conduct Xor calculation. For Bluetooth SPP & USB-VCP, the BCC is 1 byte. For Bluetooth HID, the BCC are 2 bytes.

Example:

The barcode data is "TEST" with terminator <CR><LF>

1. Bluetooth SPP & USB-VCP:
   Data Format = <T> + <E> + <S> + <T> + <CR> + <LF> + <BCC>. BCC = 54h ^ 45h ^ 53h ^ 54h ^ 0Dh ^ 0Ah = 11h
2. Bluetooth HID:
   Data Format = <T> + <E> + <S> + <T> + <Enter> + <BCC> BCC = 54h ^ 45h ^ 53h ^ 54h ^ E7h = F1h

However, since control character cannot be displayed in Bluetooth HID, BCC will be converted into 2 bytes of characters.

As a result, the data will be: TEST + <Enter> + F + 1

4.3.2 Batch mode

Batch mode 

After scanning the above barcode, the scanner will be able to collect barcode data off-line. The barcode data will be stored in the format of:
< Date >, < Time >, < Barcode Data > < CR >
To retrieve stored data, please connect the scanner to the host with cable, access removable storage device "MiniScan" from which you may open or copy the file "BARCODE.txt" to your computer.

To delete ONE stored data, please scan below barcode :

Delete Last Data 

To delete ALL stored data, simply delete the file "BARCODE.txt" in the removable storage device "MiniScan" until you hear two beeps.

4.3.2.1 Batch mode - Data Format / Date & Time Setup

Data Format

Note *: [For memory version only]*

The default Data Format is <Date>, <Time>, <Barcode Data>
below are items and their setup codes:

Code	Item
2	Date
3	Time
4	Barcode Data
5	Quantity

Example:
To change Data Format to <Barcode Data>, <Date>, <Time>

1. Scan [Data Format]
2. Scan [4], [2], [3] from ***Appendix A -- numeric bar codes***
3. Scan [Data Format]

Field Separator

Default is comma (,) . You may replace it with any alphanumeric characters from the full ASCII table. ***(Appendix B)***
Example:
To change Field Separator to Semicolon (;)

1. Scan [Field Separator]
2. Scan [;] from the full ASCII table ***(Appendix B)***
3. Scan [Field Separator]

Date & Time Setup

Set Date

Note *：[For memory version only]*

Example:

To set Date to 2012-08-01 (Year-Month-Day):

1. Scan [Set Date]
2. Scan [1], [2], [0], [8], [0], [1] from ***Appendix A -- numeric bar codes***
3. Scan [Set Date]

Set Time

Example:

To set Time to 08:10:30 am (Hr:Min:Sec)

1. Scan [Set Time]
2. Scan [0], [8], [1], [0], [3], [0] from ***Appendix A -- numeric bar codes***
3. Scan [Set Time]

Note: *To avoid Time and Date being reset to factory default due to running out of battery, please fully charge the scanner for at least 3 hours before use.*

Date Format

Note *: [For memory version only]*

The default Date Format is DD/MM/YYYY (Code = 09), below is full list of available formats and their setup codes:

Code	Item	Code	Item
01	DD-MM-YYYY	09	DD/MM/YYYY
02	MM-DD-YYYY	10	MM/DD/YYYY
03	DD-MM-YY	11	DD/MM/YY
04	MM-DD-YY	12	MM/DD/YY
05	YYYY-MM-DD	13	YYYY/MM/DD
06	YY-MM-DD	14	YY/MM/DD
07	DD-MM	15	DD/MM
08	MM-DD	16	MM/DD

Example:

To set Date Format to MM/DD/YY (Code =12)

1. Scan [Date Format]
2. Scan [1], [2] from ***Appendix A -- numeric bar codes***
3. Scan [Date Format]

Time Format

Note *: [For memory version only]*

The default Time Format is HH:MM:SS (Code = 01), below are available formats and their setup codes:

Code	Item	Code	Item
01	HH:MM:SS	02	HH:MM

Example:

To set Time Format to HH:MM (Code = 02)

1. Scan [Time Format]
2. Scan [0], [2] from ***Appendix A -- numeric bar codes***
3. Scan [Time Format]

4.3.2.2 Time and Date synced with host PC

For time and date synced with host PC, please follow below steps :

1. Install the latest Ez Utility
   Connect SP1-C with the host with a mini USB cable.
2. Scan **USB-HID** below to switch to USB-HID interface.

USB HID

3. Enter Ez Utility. Select "USB" as Interface, "1D-Bluetooth" as Product Genre and click [Save].
4. Go to General Settings > Interfaces Mode. Double-click [Memory Status], select Enable.
5. Double-click [Date & Time]
6. A SET_DateTime window will pop up, with host PC's system time as default value. Click [OK] if you are okay with the date and time value.
7. Click  icon on the toolbar to upload current configuration to SP1-C.
8. Scan **Batch Mode** below to switch to Batch Mode.

Batch Mode

9. Click [X] or [Exit] to exit Ez Utility.
10. SP1-C now is in Batch Mode. Try scanning some random barcode and then connect SP1-C with the host with a mini USB cable.
11. Open the "BARCODE.txt" from the removable storage device and see if the time and date are synchronized with those of your host PC.

4.3.2.3 Quantity in Batch Mode

For quantity in batch mode, please follow below steps:

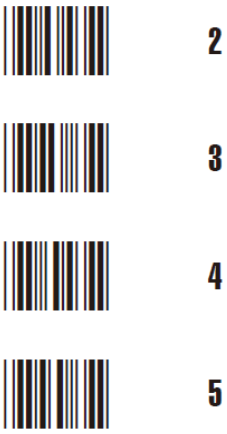
1. Scan Batch Mode below to switch to Batch Mode.

Batch Mode

2. Scan below barcodes one by one to reset Data Format to:
   <Date>, <Time>, <Barcode Data>, <Quantity>
   When finished, please scan data format once again to end the setting.

Data Format

(*Note: 2 = <Date>, 3 = <Time>, 4 = <Barcode Data>, 5 = <Quantity>)



3. Scan Enable Quantity Input below to enable quantity input function in Batch Mode.

Enable Quantity Input

4. Now scan a random barcode; it will be stored as <Barcode Data>
5. Scan Set Quantity > Scan 1 to 5 digits of numeric barcodes > Scan Set Quantity below. The numeric barcodes scanned will be treated as <Quantity> When finished, please scan Set Quantity once again to end the setting.

Set Quantity

6. Scan Save Data below to finish a data storage process.

Save Data

7. Repeat Step 4~6 to complete your task.

*(*Note1: If you do not want to input quantity, simply skip Step 5, and the <Quantity> will be treated as 1 by default.)*

*(*Note2: Step 6 cannot be skipped as long as Quantity Input is enabled)*

Disable Quantity Input

Once quantity input is disabled, the operation procedure under batch mode will resume normal procedure as follows:

1. Scan [BATCH MODE]

2. Set DATA FORMAT as appropriate.
For example, your data format is <Barcode Data>, <Quantity>.

3. Scan a random barcode; it will be stored as <Barcode Data>

4. Repeat Step 3 to complete your task.

5. Retrieve batch data

<Barcode Data 1>
<Barcode Data 2>
<Barcode Data 3>
.....
.....

*(*Note3: Quantity setting is available on firmware "SM3-c-3.02.BTA. MEM-UT" or later version.)*

4.4 BT Config

4.4.1 Inter-block and Inter-character Delay

Interblock Delay	Intercharacter Delay
0mS	140uS
	
10mS	500uS
	
50mS	1mS
	
100mS	4mS
	
200mS	16mS
	
500mS	250mS
	

4.4.2 Caplock Mode / Numeric Key

Interblock Delay	Intercharacter Delay
CAPLOCK ON	NUMERIC KEY
	
CAPLOCK OFF *	ALPHANUMERIC KEY *
	
CAPLOCK FREE	
	

Note: *1. When barcode scanner is set to Caplock Free mode, no matter keyboard Capslock LED indicator is ON or OFF, output will be always the same as the Original barcode. In other words, what you see is what output is.(CODABAR is the exception)*

*2. If ABCD/ ABCD, abcd/ abcd, ABCD/T*E, abcd/tn*e are on, they workindependently according to their rules.*

4.4.3 KEYBOARD LAYOUT

Keyboard Layout	
ENGLISH (USA) *	SWISS (GERMAN)
	
ENGLISH (UK)	SWISS (FRENCH)
	
FRENCH	JAPAN (106KEY)
	
GERMAN	CANDIAN (FRENCH)
	
ITALIAN	CANADIAN (TRADITIONAL)
	
SPANISH	NORWEGIAN
	
CZECH (QWERTY)	SWEDISH
	
CZECH (QWERTZ)	PORTUGUESE
	
HUNGARIAN (QWERTZ)	BELGIAN (AZERTY)
	

Keyboard Layout	
HUNGARIAN (101 KEY)	DUTCH
	
DANISH	BRAZILIAN (PORTUGUESE)
	
SLOVAK	ALT CODE
	

4.5 Beep tone, Terminator

Beep Tone **2.7KHz Buzzer**	**Terminator**
BEEP OFF	NONE
BEEP HIGH	LF
BEEP HIGH-LOW	CR *
BEEP MEDIUM *	CR+LF *
BEEP LOW-HIGH	TAB
BEEP LOW	SPACE
	ESC

Note: *Below is the position of Terminator among output data string:*
[Preamble] [Symbology ID] [Barcode Length] [Barcode Data] [Postamble] ***[Terminator]***
By default, with Preamble, Postamble, Barcode Length and Symbology ID disabled, the scanner data output will be:
[Barcode Data] ***[Terminator]***

1. *For the Keyboard Wedge interface the default terminator is CR.*
2. *For the USB interface the default terminator is CR.*
3. *For the RS232 interface the default terminator is CR+LF.*

4.6 Scan mode

4.6.1 Trigger mode *

- The LED will light when the trigger is pressed.
- The LED will go off when the trigger is released.

4.6.2 Continuous mode

- LED is always on.
- The trigger does not function in Continuous Mode.

4.6.3 Continuous Auto off

- The LED is always on when the trigger is pressed.
- The LED will go off if no bar code has been detected after 60 seconds.

4.6.4 Flash mode

- The LED is on steady if a bar code is close to the scanner, but starts flashing if no bar code is detected after 60seconds.
- The trigger does not function in Flash Mode.

4.6.5 Toggle mode

- The LED is always on when the trigger is pressed.
- The LED will go off if one bar code is read.

Note: *1. To extend the scanner's life, keep the scanner set to Trigger Mode or Continuous Auto Off Mode.*

2. The LED indicator will glow for GOOD READ.

4.7 Send Data Length, Preamble, Postamble

Send Data Length	Preamble & Postamble (Prefix and Suffix)
SEND DATA LENGTH ON	CLEAR PRE / POSTAMBLE
	
SEND DATA LENHTH OFF *	PREAMBLE (16)
	
	POSTAMBLE (16)
	

Example:

Set PREAMBLE String as " ## "

POSTAMBLE String as " $$ "

Setting Procedure:

Step 1 : Scan : CLEAR PRE/ POSTAMBLE.

Step 2 : Scan : PREAMBLE.

Step 3 : Scan : " # " twice from FULL ASCII Table. ***(Appendix B)***

Step 4 : Scan : PREAMBLE.

Step 5 : Scan : POSTAMBLE.

Step 6 : Scan : " $ " twice from FULL ASCII Table. ***(Appendix B)***

Step 7 : Scan : POSTAMBLE.

Data Format:

[Preamble] [Symbology ID] [Barcode Length] [Barcode Data] **[Postamble]** [Terminator]

Note:

1. A PREAMBLE is a string of up to 16 characters added to the beginning of a scanned barcode.
2. A POSTAMBLE is a string of up to 16 characters added to the end of a scanned barcode.
3. Default value for both: None.

4.8 Accuracy Adjustment

Accuracy Adjustment	
Accuracy Adjustment assures a more reliable decoded output. Enabling the feature and setting a number from 1 to 9 subjects the decoded output a higher standard of accuracy. The higher the number, the greater the accuracy. **Step 1** - Scan ACCURACY ADJUSTMENT. **Step 2** - Scan one digit (1~9) from ***Appendix A -- numeric bar codes*** **Step 3** - Scan ACCURACY ADJUSTMENT	
RESET	
Note:	*1. The scanner will beep three times as a reminder that a setting is not yet complete.* *2. If you make a mistake, forget a step, etc., Scan RESET to start again.*

4.9 Code ID, Inverse Barcode

Enable Inverse Barcode

DISABLE INVERSE BARCODE * [READS POSITIVE BARCODE ONLY]	
ENABLE INVERSE BARCODE [READS POSITIVE & NEGATIVE BARCODES]	

Enable Code ID

FACTORY ID ON	
AIM ID ON	
SET ID ON	

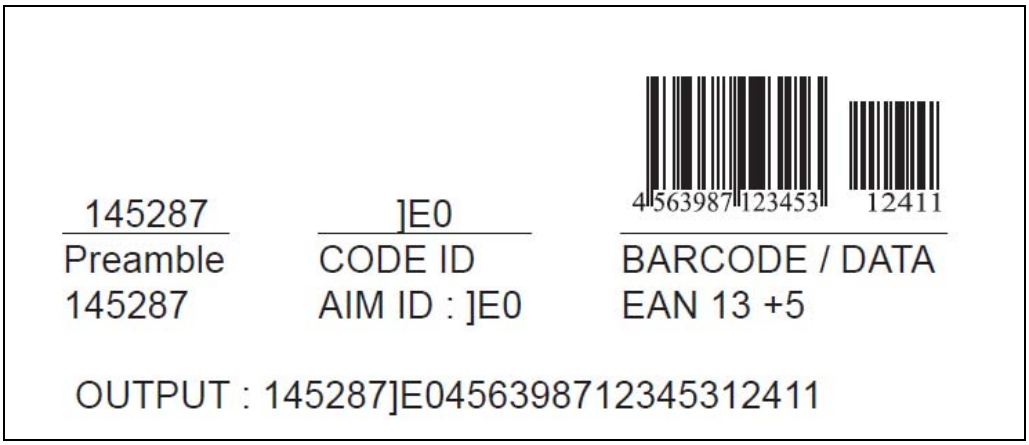
Disable Code ID

NOTE：

1. Only ONE code ID will be sent.
2. The code ID is located at the position before the bar code data and after the preamble.

EXAMPLE：

1. Preamble 145287
2. Code ID: enable AIM ID
3. Bar code symbologies : EAN 13+5



4.9.1 Symbologies Code Identifier

SYMBOLOGIES CODE ID IDENTIFIER					
Symbologies	Factory ID	AIM ID (new)	Symbologies	Factory ID	AIM ID (new)
EAN 128	T	]C1	MSI	O	]M0
Code 128	K	]C0	MSI(MOD 10 / CDV & not send CD)		]M1
EAN8(+2/+5 OFF)	S	]E4	Code 32	B	]X0
EAN8(+2 ON)		]E4	Codabar	N	]F0
EAN8(+5 ON)		]E4	Codabar(ABC Codabar)		]F1
UPC-E(+2/+5 OFF)	E	]E0	Codabar(CDV & Send CD)		]F2
UPC-E(+2 ON)		]E3	Codabar(CDV & not send CD)		]F4
UPC-E(+5 ON)		]E3	UK Plessey	P	]P0
UPC-A(+2/+5 OFF)	A	]E0	Matrix 2 of 5	Y	]X0
UPC-A(+2 ON)		]E3	Full ASCII Code 39(disable CDV)	D	]A4
UPC-A(+5 ON)		]E3	Full ASCII Code 39(CDV & send CD)		]A5
EAN-13(+2/+5 OFF)	F	]E0	Full ASCII Code 39(CDV & not send CD)		]A7
EAN-13(+2 ON)		]E3	Standard Code 39(disable CDV)	M	]A0
EAN-13(+5 ON)		]E3	Standard Code 39(CDV & send CD)		]A1
Code 93	L	]G0	Standard Code 39(CDV & not send CD)		]A3
Code 11(disable CDV)	J	]H0	Interleaved 2 of 5(CDV & send CD)	I	]I1
Code 11(send one CD)		]H0	Interleaved 2 of 5(CDV & not send CD)		]I3
Code 11(send two CD)		]H1	Interleaved 2 of 5(disable CDV)		]I0
Code 11(not send CD)		]H3	Databar	G	]e0
Telepen(ASCII)	U	]B0	Databar Stacked		
Telepen(Numeric)		]B1	Databar Stacked Omnidirectional		
IATA 2 of 5	R	]R0	Databar Truncated		
Industrial 2 of 5	V	]S0	Databar Limited	C	
China Post Code	H	]X0	Databar Expanded	Q	
PDF417	Z	]E0	Databar Expanded Stacked		

SET ID - Setting Procudures

Step 1 - Scan the SET ID bar code for a particular symbology.

Step 2 - Scan one or two alphanumeric characters from the Full ASCII Table. ***(Appendix B)***

Step 3 - Scan the SET ID bar code again.

Example：Define the MSI Code ID=A, Code 93=G9

MSI :	**Code 93:**
Step 1: Scan MSI Set ID	Step 1: Scan Code 93 Set ID
Step 2: "A" from the Full ASCII Table.***(Appendix B)***	Step 2: "G" & "9" from the Full ASCII Table.***(Appendix B)***
Step 3: Scan MSI Set ID	Step 3: Scan Code 93 Set ID

NOTE：

1. The length of a Code ID is either one or two characters. If one character is set, the Code ID output will be one character. If two characters are set, the Code ID output will be two characters.
2. Only one type of Code ID will be sent.

Set Code ID	
EAN 13 Set ID	IATA Set id
	
EAN 8 Set ID	Code 128 Set ID
	
UPC E Set ID	EAN 128 Set ID
	
UPC A Set ID	Telepen Set ID
	
Code 39 Set ID	Code 11 Set ID
	
Code 93 Set ID	Code 32 Set ID
	
Codabar Set ID	China Post Code [TOSHIBA Code] Set ID
	
MSI Code Set ID	Full ASCII Code39 Set ID
	
UK Plessey Set ID	GS1 Databar (RSS) Limited
	
Matrix 2 of 5 Set ID	GS1 Databar (RSS) Expanded
	

Set Code ID	
Interleaved 2 of 5 Set ID	GS1 Databar (RSS) Set ID
	
Industrial 2 of 5 Set ID	LABEL Code Set ID [Reserved]
	
RESET	
Note:	*1. The scanner will beep three times as a reminder that a setting is not yet complete.* *2. If you make a mistake, forget a step, etc., Scan RESET to start again.*

4.10 Power off Timeout

Variable Timeout

SET MINUTE (Range: 00 ~ 60)	
SET SECOND (Range: 00 ~ 60)	

The timeout is 3 minutes by default, and is programmable to the second and minute, ranging from 10 seconds (00:10) to 60 minutes and 60 seconds (60:60)

For example, to set the timeout as 5 minutes 30 seconds:

1. Scan [Set Minute]
2. Scan [0] & [5] on ***Appendix A -- numeric bar codes***
3. Scan [Set Minute]
4. Scan [Set Second]
5. Scan [3] & [0] on ***Appendix A -- numeric bar codes***
6. Scan [Set Second]

No Timeout (Scanner Always On)

Disable Timeout	

Appendix A – Numeric Bar Codes

FULL ASCII (Code 39) Numeric Table	
1	2
3	4
5	6
7	8
9	0

MIN / MAX Length Setting Procedure :	
Step 1 - Scan: MIN LENGTH/ MAX LENGTH **Step 2** - Scan: Two digits from FULL ASCII NUMERIC TABLE **Step 3** - Scan: MIN LENGTH/ MAX LENGTH Please note that when Min Length and / or Max Length are enabled, the scanner will only read bar codes that fall into those length parameters. Bar codes shorter or longer than specified will not be read. The default lengths for these are indicated in parentheses under the Min and Max bar codes for each symbology.	
RESET	
Note:	*1. The scanner will beep three times as a reminder that a setting is not yet complete.* *2. If you make a mistake, forget a step, etc., Scan RESET to start again.*

Appendix B – Full ASCII Table(Code39)

Control Codes

NUL

BS

SOH

HT

STX

LF

ETX

VT

EOT

FF

ENQ

CR

ACK

SO

BEL

SI

Control Codes

DLE

EM

DC1

SUB

DC2

ESC

DC3

FS

DC4

GS

NAK

RS

SYN

US

ETB

SP

CAN

Symbols

+

#

-

^

.

~

$

&

%

*

/

-

\

=

!

|

@

Symbols

{ 

` 

} 

" 

[

' 

] 

, 

(

; 

) 

: 

< 

? 

> 

DEL 

Upper Case Alphabets

A 

B 

C 

D 

E 

F 

G 

H 

I 

J 

K 

L 

M 

N 

Upper Case Alphabets

O

U

P

V

Q

W

R

X

S

Y

T

Z

Lower Case Alphabets

a 

b 

c 

d 

e 

f 

g 

h 

i 

j 

k 

l 

m 

n 

Lower Case Alphabets

o

u

p

v

q

w

r

x

s

y

t

z

Function Keys for PC-AT

F1

F2

F3

F4

F5

F6

F7

F8

F9

F10

F11

F12

Home

End

Enter (Numeric Key)

App

Navigation Keys

Cursor Right

Back Tab

Cursor Left

Esc

Cursor Up

Enter

Cursor Down

BS

Page Up

Ins

Page Down

Del

Tab

Modifier Keys

Alt (Left) make*1

Alt (Left) break

Alt (Right) make

Alt (Right) break

Shift (Left) make *2

Shift (Left) break

Shift (Right) make

Shift (Right) break

Win (Left) make

Win (Left) break

Win (Right) make

Win (Right) break

Ctrl (Left) make *3

Ctrl (Left) break

Ctrl (Right) make

Ctrl (Right) break

For UK Keyboard Special Character

¬

£

Note：

When "Alt(Left)Make" is programmed, please scan "Alt(Left)Break" to resume barcode setting..

When "Shift(Left)Make" is programmed, please scan "Shift(Left) Break" to resume barcode setting.

When "Ctrl(Left)Make" is programmed, please scan "Ctrl(Left) Break" to resume barcode setting.

Appendix C – Default Table

GROUP	PARAMETER	DEFAULT
1	Computer Type	PC-AT
	Interface	(depends on customer order)
	Setup Code	On
2	Reading Mode	Trigger
2.2	Bi-color Light Source	Green > Red
2.3	Magnetic Switch	On
	Green LED/ Supplement Light (CCD Scanner)	On
2.4	Deactivation Time (CCD & Laser Scanner)	3 Sec
	Same Code Interval (Laser Scanner)	30 Sec
	Idle Mode	Off
	Pre-Idle Time	1 Min
2.5	Connection Options	BT HID
2.6	Wireless ID	Wireless Scanner
2.7	Power Off Timeout	3 Min
2.8	SSP (Secure Simple Pairing)	Disable
	iOS Hotkey	Disable
2.9	Link Quality	Disable
	Batch Mode	Disable
2.10	SPP Pincode	1234
2.11	Data Format	<Date>, <Time>, <Barcode Data>
	Field Separator	,
2.12	Date Format	DD/MM/YYYY
	Time Format	HH:MM:SS

GROUP	PARAMETER	DEFAULT
3	Beep Tone Mode 2.1k	Beep Medium
	Beep Tone Mode 2.7k	Beep Medium
	Terminator	CR(KB, USB); CR+LF (RS232)
4	Send Data Length	Off
	Preamble & Postamble	None
5	Accuracy Adjustment	0
6	Label Type Positive/ Negative	Disable
6~9	Enable & Disable Code ID	Off
10	Interblock Delay	0ms
	Intercharacter Delay	4ms
11	Keyboard Layout	English(USA)
	Caplock	Off
	Numeric Key	Alphanumeric Key
12	Baud Rate	9600
	Data Bits & Parity	8 Bits None
13	Stop Bits	1 stop bit
	Handshaking	None
	ACK/NAK	Off
	Flow Control Timeout	1 Sec
	BCC	Off
14	Level duration of Mini Width	200us
	Polarity of Idle Condition	High
	Output of Wand Emulation	Bar High/ Space Low
	Wave Form	Full ASCII 39
	Idle Mode	Off
	Pre-Idle Time	1 Min
15	Enable and Disable Symbologies	
	Code 32	Disable
	China Postal Code	Enable
	UK Plessey Code	Disable
	Industrial 2 of 5	Disable
	Matrix 2 of 5	Disable
	Interleaved 2 of 5	Enable
	Code 128	Enable
	Codabar	Enable
	Telepen	Disable

GROUP		PARAMETER	DEFAULT
16		UPC-A	Enable
		UPC-E	Enable
		EAN-8	Enable
		EAN-13	Enable
		MSI	Disable
		Code 39	Enable
		Code 11	Disable
		Code 93	Disable
		EAN-128	Enable
		IATA	Disable
17	1	GS1 Databar	Disable
		GS1 Databar Stacked	Enable
		GS1 Databar Limited	Disable
		GS1 Databar Expanded	Disable
		GS1 Databar Expanded Stacked	Enable
		PDF417	Disable
	2	China Post Code	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		Min Length	11 digits
		Max Length	48 digits
18	1	MSI	
		Enable/Disable	Disable
		Check Digits	CDV & send CD
		Check Digits Mode	18 Single MOD 10
	2	**UK Plessy**	
		Enable/Disable	Disable
		Check Digits	CDV & not send CD

GROUP		PARAMETER	DEFAULT
19	1	**Code 93**	
		Enable/Disable	Disable
		Min Length	6 digits
		Max Length	48 digits
	2	**Telepen**	
		Enable/Disable	Disable
		Telepen ASCII/ Number	Number
	3	**IATA**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48 digits
20	1	**Interleaved 2 of 5**	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		First/ last digit suppressed	No suppressed
		Min Length	6 digits
		Max Length	48 digits
	2	**Code II**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	32 digits
21	1	**Industrial 2 of 5**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48digits
	2	**Matrix 2 of 5**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48digits

GROUP		PARAMETER	DEFAULT
22		**Codabar**	
		Enable/Disable	Disable
		Check Digits	Disable CDV
		Min Length	6 digits
		Max Length	48digits
		ST/SP; Abcd/abcd, abcd/tn*c, ABCD/ABCD,ABCD/TN*C	ABCD/ABCD
		Start(ST)/Stop(SP)	Send
		CLSI Format	On
23	1	**ABC-Codabar**	
		ON/OFF	Off
		Insert Data	Off
	2	**CX-Codabar**	
		ON/OFF	Off
		Insert Data	Off
24		**Codabar-Coupling**	
		ON/OFF	Off
		Insert Data	Off
		Adjacent Required	Off
25	1	**Code 39**	
		Full ASCII 39 Enable/Disable	Enable
		Check Digits	Disable CDV
		Start/Stop	Not Send
		Min Length	1 digit
		Max Length	48 digits
	2	**Code 32**	
		Enable/Disable	Disable
		Leading	send
		Tailing	send

GROUP	PARAMETER	DEFAULT
26	**UPC-E**	
	Enable/Disable	Enable
	Check Digits	Send
	Lead Digits	Send
	Add a space	Off
	Addenda required	Off
	+5 On/Off	Off
	+2 On/Off	Off
27	**UPC-E systems number**	
	UPC E(0) On/Off	On
	UPC E(1) On/Off	Off
	UPC-E expand to UPC-A	Disable
	UPC-A expand to EAN-13	Disable
28	**UPC-A**	
	Enable/Disable	Enable
	Check Digits	Send
	Lead Digits	Send
	Add a space	Off
	Addenda required	Off
	+5 On/Off	Off
	+2 On/Off	Off
29	**EAN-8**	
	Enable/Disable	Enable
	Check Digits	Send
	Lead Digits	Send
	Add a space	Off
	Addenda required	Off
	+5 On/Off	Off
	+2 On/Off	Off

GROUP		PARAMETER	DEFAULT
30		**EAN-13**	
		Enable/Disable	Enable
		Check Digits	Send
		Lead Digits	Send
		Add a space	Off
		Addenda required	Off
		+5 On/Off	Off
		+2 On/Off	Off
		ISSN On/Off	Off
		ISBN	Off
31	1	**EAN/UCC128**	
		Enable/Disable	Enable
		Code ID	Disable
		Func 1 Char Send	Not Send
	2	**Code128**	
		Enable/Disable	Enable
		Check Digits	Disable CDV
		Min Length	5 digits
		Max Length	48 digits
	3	**PDF417**	
		Enable/Disable	Disable
32		GS1 Databar	Disable
		GS1 Databar Check Digit	Not Send
		GS1 Databar Prefix	Not Send
		GS1 Databar Stacked	Enable
		GS1 Databar Limited	Disable
		GS1 Databar Limited Check Digit	Not Send
		GS1 Databar Limited Prefix	Not Send
		GS1 Databar Expanded	Disable
		GS1 Databar Expanded Stacked	Enable