

# **SG300BT**

**SG300BT C1/C2 Linear Barcode Scanner With Bluetooth**

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## **User's Manual**

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# 1. Product Safety

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## 1.1 Safety & Caution

1. Please read the following safety statement carefully.
2. Please preserve this user manual for reference sometime.
3. Before cleaning the device, the users must cut off all AC power. Do not use liquid or spray type of detergent to clean SG310BT. Please use dampish cotton cloth to clean up the device.
4. The outlet must be set nearby the device for connecting power easily.
5. Keep the device dry to avoid short circuit.
6. During installation, you must fix this equipment at solid table to avoid damage caused by falling.
7. Before inserting power please ensure the voltage is healthy to the equipment.
8. For safety please tie wire well and don't put anything on the wire.
9. If you don't use this equipment for long time, please cut off the power to avoid damage from surge power.
10. Don't spray any liquid on this machine because it may cause a fire or short circuit.
11. Please do not open the equipment. For safety only the qualified serviceman can open the equipment.
12. If there are the following situations please contact with the qualified serviceman to check this equipment.
  - (a) The damage of wire or pin of power supply.
  - (b) Some liquid infiltrate into the equipment.
  - (c) The equipment has been exposed to wet environment.
  - (d) The equipment can't work well.
  - (e) The equipment has any obvious damage, making the device working abnormally.
13. Don't storage the device at the temperature lower than  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) or higher than  $+70^{\circ}\text{C}$  ( $158^{\circ}\text{F}$ ) to avoid any damage.

## 1.2 FCC Warning

### FCC Caution:

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

### Class B digital device

This equipment 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 to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to 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 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.

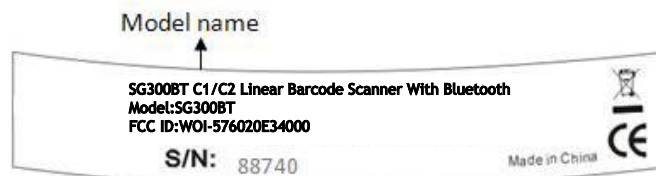
### FCC RF Radiation Exposure Statement: □

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. □
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled □ environment.

## 1.3 Labeling

Each scanner and cradle has a label located on the underside. This label provides the unit's model number, date of manufacture, serial number, CE, FCC and caution information. The following figure gives an example of the label and its location

### Scanner



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

### Cradle



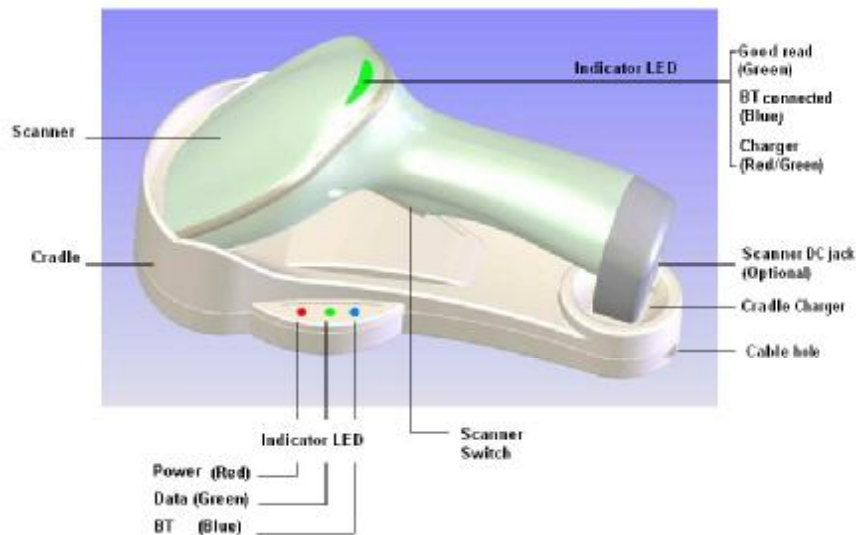
# 2. Introduction

---

## 2.1 Product Description

This BT wireless hand-held long-range CCD scanner features a freedom of scanning without the limitation of cable. Thanks to the user-friendly two-way communication, the operator will be alarmed if the scanned result was not reached the receiving cradle. This scanner can be operated at 10 Meters range in open space and it can be upgraded to 100 Meters range for optional. The receiving cradle includes BT receiver and batteries charger. The charger cradle and scanner charger jack have been reserved for special request.

## 2.2 Illustration



## 2.3 Unpack the device as follows

Take the device and its accessories out of the box. Remove the packing material. Check the packing list to make sure you have all of the items ordered.

- a. Handheld wireless scanner (Including Battery)
- b. Receiver and charger of cradle
- c. Power adaptor & plug
- d. Interface Cable (RS232, Keyboard or USB)
- e. User's and Programming Menu or CD title
- f. Skip resistant pad
- g. Iron panel of cradle and screw

Visually inspect the device and accessories for any evidence of physical damage. If anything is missing or appears to be damaged, immediately contact your dealer.

**Attention**

Store the packing materials and boxes, it should be used whenever the device is transported for servicing.

## **3. Installation**

---

This device is very user friendly to be connected to your POS or Host system through a RS232, Keyboard or USB cable.

To read barcode, you simply press the trigger button and aim the beam to the barcode. You will hear one beep and the green LED indicator will light on after scan successfully.

The configuration is very easy also you can setup the device by scanning all necessary programming codes from programming menu at a time to change the settings permanently. And all settings can be disabled after scan reset to factory default.

### **3.1 Environment Requirement**

Operation System: Win 98 / 2000 / XP / Vista

Hardware Interface: RS232, KBW, USB II

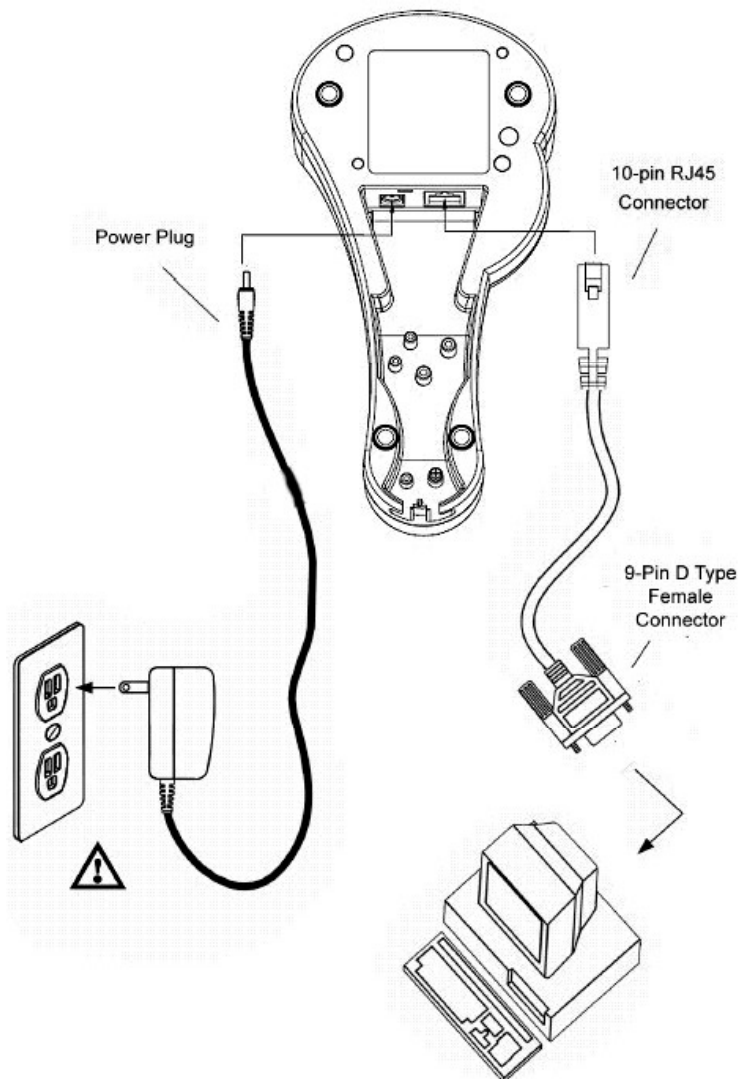
Power Supply: 5V DC

### **3.2 Cradle Installation to the Host Device**

Once you have unpacked all components, you can start installing the device into different steps.

### 3.2.1 RS232 Interface

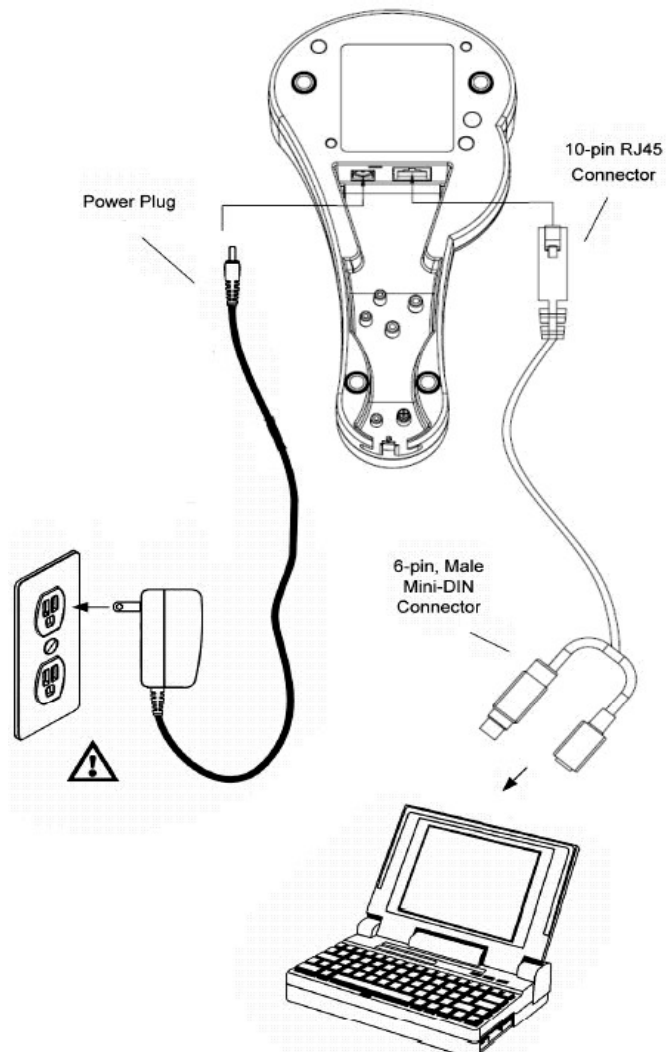
- A. Turn off the host device.
- B. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the cradle.
- C. Connect the 9-pin D-type Female connector of the RS232 cable to the proper COM port of the host device.
- D. Plug the external power supply into the power jack on the bottom of the cradle.
- E. Plug the power supply into the AC outlet. The red LED on the rear of the cradle will stay on.
- F. Turn on the host device





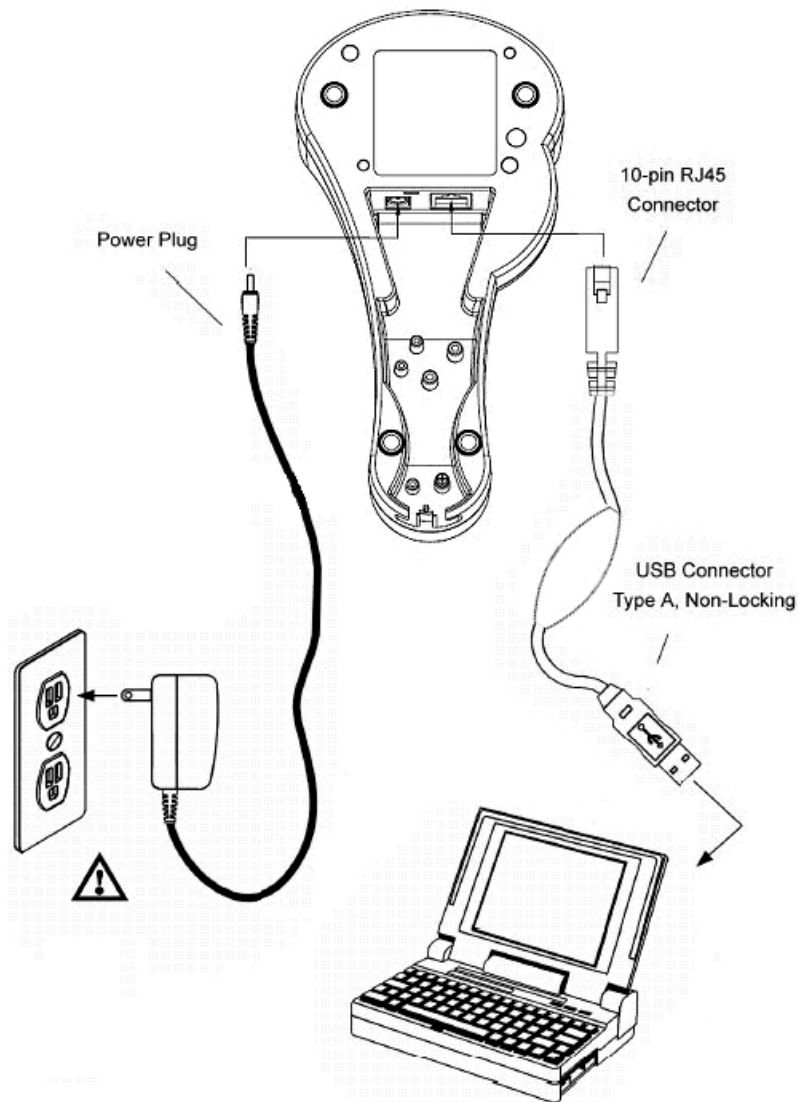
### 3.2.2 Keyboard Wedge Interface

- A. Turn off the host device.
- B. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the cradle.
- C. Disconnect the keyboard from host.
- D. Connect the “Y” ends of the communication cable to the keyboard and keyboard port on the host device. If necessary, use the male/female adapter cable supplied with the scanner for the proper connections.
- E. Plug the external power supply into the power jack on the bottom of the cradle.
- F. Plug the power supply into the AC outlet. The red LED on the rear of the cradle will stay on.
- G. Turn on the host device.
- H. Establish communication between the scanner and cradle.



### 3.2.3 USB Interface

- A. Turn off the host device.
- B. Connect the 10-pin RJ45 male connector into the 10-pin modular jack on the bottom of the charger cradle.
- C. Connect the USB A type connector to the USB port on the host device.
- D. Plug the power supply into the power jack on the bottom of the cradle.
- E. Plug the power supply into the AC outlet. The red LED on the rear of the cradle will stay on.
- F. Turn on the host device.
- G. Establish communication between the scanner and cradle.



### 3.3 Cable installation

Connect cable and adaptor to Cradle. The other end of cable will be connected with Host device. Lock the iron panel of Cradle by screwdriver



### 3.4 Skip resistant pad position



### 3.5 Factory Default Setting

The device is set default with the following settings.

RS-232 Communication	Default
Baud rate	9600
Parity	None
Data bits	8
Stop bits	1
RTS/CTS	Off
Postamble	<CR+LF>

Decoder Selection	Default Enable
All UPC/EAN/JAN	On
EAN128 Code	On
Code 39	On
Code 39 Full ASCII	Off
Code32 / Italian Pharmacy	Off
Code 128	On
CODABAR/NW7	On
Interleave 25	On
Industrial 25	Off
Matrix 25	Off
MSI/PLESSEY	Off
Telepen	Off
Code 93	Off
Code 11	Off
China Postage	Off
RSS	Off

If you want to return the settings to default, please scan this programming code to set the scanner parameters to factory default: And reset all configuration parameters to the factory default setting

Set Factory Default



After this reset you must select all required parameters that meet applications.

# 4. Operation

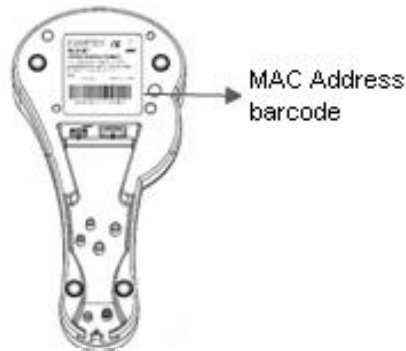
---

## 4.1 Bluetooth Setting

### 4.1.1 Scanner Client Mode

The scanner has been set with the cradle with Bluetooth at factory, following instructions will help you to reset.

- A. The scanner must establish Bluetooth MAC Address first, scans MAC Address barcode on receiver cradle base may establish directly.



- B. After scanning the MAC barcode, the scanner sounds Di-Do and flashes blue/red light. After connecting successfully, scanner sounds one long Bi and then turn off the lights.
- C. The blue light of receiver cradle will continue on when the Bluetooth is connected
- D. When the blue light of receiver cradle last flashes means Bluetooth connect defeat. At the same time the scanner also send out the Bi-Bi-Bi sound.
- E. During sleeping mode all the functions and connection will be halted. You can press trigger key to wake up the scanner and connect the Bluetooth once more.

### 4.1.2 Scanner Server Mode

The scanner can setup the Server Mode to connect with Bluetooth application device, following instructions will help you to install

- A. When scanner scans “Scanner Server Mode ON/Scanner Client Mode Off” barcode, it works on the server mode.
- B. When the Bluetooth device is searching the scanner, please enter pin code (default 00:00:00:00) to setup comport. Open the application to start receiving the data information.
- C. When scanner is searching the Bluetooth device to connect, scanner sounds Di-Do with blue and red light flashes. The blue light will go off and sounds a long Bi after the scanner is connected successfully
- D. During sleeping mode all the function and connection will be halted. You can press red trigger key to wake up the scanner again
- E. During sleeping mode all the functions and connection will be halted. You can press trigger key to wake up the scanner and connect the Bluetooth once more.

### 4.1.3 Return to Bluetooth Default

Bluetooth Function	Default
Memory Mode	Off
Sleep Mode	On
Scanner Server Mode On Scanner Client Mode Off	On
Scanner Client Mode On Scanner Server Mode Off	Off

Please scan the Bluetooth Default barcode to return the Memory mode and Sleep mode to default.

#### Set Bluetooth Default



After this reset you must select all required parameters that meet applications.

The Scanner Serve / Client Mode setting need to scan the barcode needed directly.

#### 4.1.4 Scanner Charger and Battery

- A. The Scanner is equipped with a Li-ion battery internal. The first time using, please charge the battery for 8 hours. Recharge the battery fully will take about 4 to 5 hours. This will make sure the battery to run on the best status.
- B. The low battery warning is red light flashing four blinks with four beeps. Please have your scanner to recharge immediately.
- C. During the battery is in charging, the red light of cradle is keeping blink until it is recharged fully.
- D. The battery and power adaptor is built specifically for device. In order to avoid break down the device, please do not change to different type by yourself
- E. The cradle powers on at the first time, the green and blue light flash ◦

#### 4.1.5 Sleep Mode

- A. There are three kinds of waiting time to sleep mode which are 1 min, 10 min and 1 hour.
- B. The scanner sounds Bi-Bi-Bi and red light flashes three times means your scanner has been turned into the sleep mode.
- C. Press trigger key and wake up the scanner and connect the Bluetooth once more.

#### 4.1.6 Data Information Transmission

- A. When the scanner successfully transmits it will be beep once with green light flash one time and green light of cradle flashes once as well.
- B. When the scanner reads failed. it sounds Bi-Bi with red blink two times and cradle is no activity.

#### 4.1.7 Memory Mode

- A. After a successful scan, the scanner transmits the data to the host device, not to store in the memory.
- B. When the memory function is enabled, if the host is not ready to accept the data, the scanned data will be stored in the memory until the data can be transmitted.
- C. The capacity of memory is depended on the data size and 50 sets of limitation.
- D. During the data is transmitting, the green light of scanner and cradle will last flash until completed. . Once the data is transmitted completed, the scanner sounds Bi and erases the memory data.

### 4.2 Indicator Status

Operating status of LED and Beeper indicator is shown as below.

#### Cradle

Light	Signal	Status
Green	1 blink	good read and transmitted
Red	continuous on	power on
	off	Power off
Blue	flash	BT disconnect
	continuous on	BT connected



## Scanner

Light	Signal	Status
<b>Green</b>	1 blink and 1 beep	good read and transmitted
		good read and save on memory (BT disconnect)
	continue on	battery charged full
<b>Red</b>	3 long blink and 3 long beeps	memory full
	4 blink and 4 beeps	low Battery warning
	2 blink and 2 beeps	good read but transmit fail
	continue on	in charging
<b>Blue</b>	3 blink and 3 beeps	BT disconnect
	fast flash twice per 2 seconds	on connecting
	dark	BT disconnect before sleep
	continuous on and 1 long beep	BT connected
<b>Red Blue</b>	1 blink at the same time and 2 beeps	Setting ok
<b>Red Green</b>	red and green light flash alternately three times	Start charging
<b>Green Red Blue</b>	1 blink taking turns 3 times	Battery changed

## 5. Specification

Electrical Characteristics		
a) Scanner	Supply Voltage	DC +3.7V ±5%
	Battery Type	Li-ion battery (1100mAh)
	Recharge Time	3.5 Hours
	Operating Capacity	20,000 scans (Min.) 10 days on sleep mode
	Current Draw	
	Power On (Typ.)	180mA
	Stand by (Typ.)	0.1mA
b) Receiver	Operation (Typ.)	180mA
	Supply Voltage	DC +5V ±5%
	Current Draw	
	Power On (Typ.)	60mA
b) Receiver	Stand by (Typ.)	60mA
	Operation (Typ.)	60mA
	Performance	
a) Scanner Characteristics	Light Source	Visible Red LED 639nm
	Sensor	Linear CCD Sensor
	Processor Type	Single chip 16-bit MCU
	Operating Freq.	16 MHz
	Scan Rate	300 scans/sec
	Reading Distance	270 mm
	Width of Field	80 mm
	Print Contrast Ratio	PCS 0.45@0.1mm
	Resolution	0.1mm @ PCS90%
	Ambient Light	100,000 Lux Max. @ Direct sunlight
	Reading Angle	Test Conditions: Code 39, 10mil, PCS90%
	Forward & Backward	5~70± 5 degree
	Left & Right	5~60±5 degree
b) Radio Characteristics	Frequency Band	2.402GHz~2.480GHz
	Working Range (open area)	Class 2: 10M Class 1: 100 M
	Modulation Method	FHSS, GFSK, π/4-DQPSK, 8DPSK
	RF Output Power	6.97dBm
	Data storage on BT disconnect	1,000 barcodes @Code39 10 digits
Readable Symbolologies		
	Readable	Default Enable
All UPC/EAN/JAN	V	V
EAN128 Code	V	V
Code 39	V	V
Code 39 Full ASCII	V	
Code32/ Italian Pharmacy	V	
Code 128	V	V
CODABAR/NW7	V	V
Interleave 25	V	V

Industrial 25	V	
Matrix 25	V	
<b>Readable Symbologies</b>		
	Readable	Default Enable
MSI/PLESSEY	V	
Telepen	V	
Code 93	V	
Code 11	V	
China Postage	V	
RSS-14	V	
RSS Limited	V	
RSS Expanded	V	
<b>Scan Map</b>		
<b>Reliability</b>		
Light Source	40,000 hours	
Trigger Switch	1,000,000 times	
<b>Environmental</b>		
Operating Temperature	-10 °C to 40 °C (14 °F to 104 °F)	
Storage Temperature	-20 °C to 70 °C (-4 °F to 158 °F)	
Relative Humidity	20% to 95% (Non-condensing)	
<b>Mechanical Shock</b>	40 in. (100 cm) drops on Concrete Surface	
<b>Battery charge time</b>	500 times	
<b>Safety</b>	CE, FCC	
<b>Packing</b>		
<b>Dimension</b>	Unit : 27.5 cm X 11.5 cm X 14 cm	
	Carton : 55.5 cm X 49 cm X 30 cm	
<b>Weight</b>	Unit N.W.: 654g (USB)	
	Unit G.W.: 766.4g (USB)	
<b>Carton</b>	13.26Kg ( Q'ty:16pcs 1 to 1) (USB)	

# 6. Programming Menu

---

## 6.1 General Process

---

1 Power up the scanner

---

2 Scan the Start of  
Configuration bar code



3 Scan the bar code for the desired feature. You can scan  
all features before scanning End of Configuration.

---

4 Scan End of Configuration  
bar code



5 Scan Save Parameters bar  
code



### 6.1.1 Abort Configuration

---

Terminate current  
programming status.



### 6.1.2 Recall

---

Replace the current  
parameters by the parameters  
saved last time



### 6.1.3 Set All Default

---

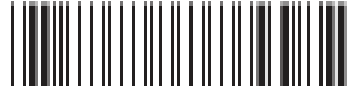
Scan Set all Default bar code



### 6.1.4 Version information

---

Display the decoder version  
information and date code.



## 6.2 Interface Selection

### 6.2.1 Interface

---

Keyboard Mode



<RS232 Mode>



USB Mode



## 6.3 Bluetooth Setup

### 6.3.1 Scanner Mode

---

Client Mode ON / Server  
Mode OFF



Server Mode ON / Client  
Mode OFF



### 6.3.2 Bluetooth Default Setting




---

Default Setting



### 6.3.3 Memory Mode





---

Memory Mode ON	
Memory Mode <OFF>	
Memory Read	
Memory Clear	

---

### 6.3.4 Sleep Mode

---








Sleep Mode <ON>	
Sleep Mode OFF	
Set Scanner to enter Sleep Mode in 1 min	
Set scanner to enter Sleep Mode in 10 min	

---

### 6.3.5 Reading Mode

Default setting is shown with <> in Description.

---

Good Read <OFF>	
Trigger ON/OFF	
Continuous/Trigger OFF	
Continuous/Auto Power ON	
Flash	
Flash/Auto Power ON	
Testing	

---

### 6.3.6 Good Read Led Control

---

Good read Led <ON>	
Good read Led OFF	

---

### 6.3.7 Beeper option

---

<High>	
Medium	
Low	
Off	

### 6.3.8 Reading Level

Bar Equals High	
<Bar Equals Low>	

### 6.3.9 Accuracy / Redundant Scan

<Original> - Require 1 good decode for a good scan	
1 Redundant Scan - Require 2 consecutive decodes of the same bar code data for a good scan	
2 Redundant Scan - Require 3 consecutive decodes of the same bar code data for a good scan	
3 Redundant Scan - Require 4 consecutive decodes of the same bar code data for a good scan	



### 6.3.10 Sensitivity of Continuous Reading

This Feature is working under Reading Mode > Continuous modes

---

<Fast>	
Slow	

---

### 6.3.11 Reverse Output Characters

Example: 012345 → 543210

---

Enable	
<Disable>	

---

## 6.4 RS232 mode parameters

### 6.4.1 Baud Rate

---

600	
1200	
2400	
4800	

---

9600	
<19200>	
38400	



### 6.4.2 Data / Stop Bits

The number of data bits transmitted for each character

7 Data Bits	
< 8 Data Bits >	
< 1 Stop Bits >	
2 Stop Bits	

### 6.4.3 Parity

A Parity bit is an extra data bit used to help catch data transmission errors.

<None>	
Even – Select to set the parity bit either a 1 or 0 to ensure an even number of bits are 1's	

---

Odd – Select to set the parity bit  
either a 1 or 0 to ensure an odd  
number of bits are 1's



---

Mark – Select to set the parity bit  
always 1.



---

Space– Select to set the parity bit  
always 0.



---

#### 6.4.4 Handshaking

---

RTS/CTS ON– Output a Request  
to Send (RTS) signal and wait for a  
Clear to Send (CTS) signal before  
transmitting data



---

RTS/CTS <OFF>



---

ACK/NAK – After transmitting data,  
wait for host to send an ACK or a  
NAK response. If ACK is received,  
then complete the data  
transmission. If NAK is received,  
re-send the last set of data and wait  
for ACK/NAK again.



---

ACK/NAK <OFF>



---

XON/XOFF – After transmitting  
data, wait for host to send an XON  
or a XOFF response. If XON is



---

received, then complete the data transmission. If XOFF is received, stop the transmission.

---

XON/XOFF <OFF>



---

## 6.5 Keyboard Wedge Mode Parameters

### 6.5.1 Terminal Type

---

<IBM PC/AT,PS/2> - Includes IBM PS/2 and compatible models 50, 55, 60, 80



---

IBM PC/XT



---

PS/2 25, 30



---

IBM 5550



---

IBM 102 Key



---

IBM 122 Key (1)



---

IBM 122 Key (2)



---

NEC 9800



---

Apple Desktop Bus(ADB)






**6.5.2 Country/Language**




---

<US English>	
UK English	
Italian	
Spanish	
French	
German	
Swedish	
Switzerland	
Hungarian	
Japanese	
Belgium	
Portuguese	

---

Denmark	
Netherlands	
Turkey	

### 6.5.3 Upper/Lower Case

<No Change>	
Enable Lower Case – Transmit all data as lower case	
Enable Upper Case – Transmit all data as upper case	







### 6.5.4 Interscan Code Delay

<No Delay>	
5 msec	
10 msec	
25 msec	
50 msec	

100 msec	
200 msec	
300 msec	

## 6.6 Output Characters

### 6.6.1 Select Terminator

<p>&lt;CR+LF&gt;- The scanner transmits a carriage return and a line feed after each scan</p>	
<p>CR Suffix – The scanner transmits a carriage return after each scan</p>	
<p>LF Suffix – The scanner transmits a line feed after each scan</p>	
<p>Space</p>	
<p>Tab</p>	
<p>Alt</p>	
<p>Disable Alt</p>	

---

STX-ETX – RS232 only



---

## 6.7 Code Type

### 6.7.1 Barcode Selections

If “Enable” is selected for all bar codes types, then the scanner could read all types of bar code. If “Disable” is selected for a certain bar code type, then the scanner could not read the particular bar code. The symbol of “<>” means default settings.

---

All Bar Codes ON



---

UPC-A <ON>



---

UPC-A OFF



---

UPC-E <ON>



---

UPC-E OFF



---

EAN-13 / JAN-13 <ON>



---

EAN-13 / JAN-13 OFF



---

EAN-8 / JAN-8 <ON>



---

EAN-8 / JAN-8 OFF











CODE 39 <ON>	
CODE 39 OFF	
Standard Code 39 <ON>	
Full ASCII Code 39 ON	
Code 32 / Italian Pharmacy ON	
Code32 / Italian Pharmacy <OFF>	
Code 128 <ON>	
Code 128 OFF	
Interleaved 2 of 5 <ON>	
Interleaved 2 of 5 OFF	
CODABAR/NW7 <ON>	
CODABAR/NW7 OFF	
Industrial 2 of 5 ON	

Industrial 2 of 5 <OFF>	
Matrix 2 of 5 ON	
Matrix 2 of 5 <OFF>	
CODE 93 ON	
CODE 93 <OFF>	
CODE 11 ON	
MSI/PLESSEY ON	
MSI/PLESSEY <OFF>	
Telepen ON	
Telepen <OFF>	
China Postage ON	
China Postage <OFF>	
GS1 DataBar ON	

GS1 DataBar <OFF>	
GS1 DataBar Expanded ON	
GS1 DataBar Expanded <OFF>	
GS1 DataBar Limited ON	
GS1 DataBar Limited <OFF>	

## 6.8 UPC/EAN/JAN Parameters

### 6.8.1 Reading Type

UPC-A=EAN-13 ON Add 0 before UPC-A to make it 13 digits.	
<UPC-A = EAN-13> <OFF>	
ISBN Enable	
ISBN <Disable>	
ISSN Enable	
ISSN <Disable>	

---

Decode with Supplement



---

<Auto discriminate  
supplement>



---

### 6.8.2 Supplemental Setup

---

<Not Transmit>



---

2 Digit Supplemental



---

5 Digit Supplemental



---

2 & 5 Digit Supplemental



---

### 6.8.3 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 Digit  
Transmission <ON>



EAN-8 Check Digit Transmission OFF	
EAN-13 Check Digit Transmission <ON>	
EAN-13 Check Digit Transmission OFF	
ISSN Check Digit Transmission <ON>	
ISSN Check Digit Transmission OFF	

## 6.9 Code 39 Parameters

### 6.9.1 Type of Code

<Standard Code 39>	
Full ASCII Code 39	

### 6.9.2 Check Digit Transmission

<Do not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

### 6.9.3 Output Start/Stop Character

---

Enable



<Disable>



### 6.9.4 Decode Asterisk

---

Enable



<Disable>



### 6.9.5 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths.**

---

<Variable>



### Fixed Length 1<sup>st</sup> Set

---

1<sup>st</sup> Set Begin



Decimal Value

See Appendix A

---

1<sup>st</sup> Set Complete



### Fixed length 2<sup>nd</sup> Set

---

2<sup>nd</sup> Set Begin



Decimal Value

See Appendix A

---

2nd Set Complete



### Minimum length

---

Minimum Length begin



Decimal Value

See Appendix A

---

Minimum Length Complete



## 6.10 Code 128 Parameters

### 6.10.1 Check Digit Transmission

---

Do Not Calculate Check Digit



---

Calculate Check Digit and  
Transmit



---

<Calculate Check Digit and  
Not Transmit>



### 6.10.2 Append FNC2

---

ON



---

<OFF>



### 6.10.3 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths**

---

<Variable>



### Fixed Length 1<sup>st</sup> Set

---

1st Set Begin



---

Decimal Value

**See Appendix A**

---



---

1st Set Complete



---

**Fixed length 2<sup>nd</sup> Set**

---

2<sup>nd</sup> Set Begin



---

Decimal Value

**See Appendix A**

---

2nd Set Complete



---

**Minimum length**

---

Minimum Length begin



---

Decimal Value

**See Appendix A**

---

Minimum Length Complete



---

**6.11 Interleaved 2 of 5 Parameters**

**6.11.1 Check Digit Transmission**

---

<Do Not Calculate Check  
Digit>



---

Calculate Check Digit and  
Transmit



---

Calculate Check Digit and Not  
Transmit



### 6.11.2 Set Up Number of Character

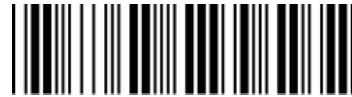
---

<Even>



---

Odd



---

### 6.11.3 Brazilian Banking Code

---

**Enable**



---

<Disable>



---

### 6.11.4 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths**

---

<Variable>



### Fixed Length 1<sup>st</sup> Set

---

1<sup>st</sup> Set Begin



Decimal Value

See Appendix A

---

1<sup>st</sup> Set Complete



### Fixed length 2<sup>nd</sup> Set

---

2<sup>nd</sup> Set Begin



Decimal Value

See Appendix A

---

2<sup>nd</sup> Set Complete



### Minimum length

---

Minimum Length begin



Decimal Value

See Appendix A

---

Minimum Length Complete



## 6.12 Industrial 2 of 5 Parameters

### 6.12.1 Check Digit Transmission

---

<Do Not Calculate Check Digit>



---

Calculate Check Digit and  
Transmit



---

Calculate Check Digit and Not  
Transmit

---



### 6.12.2 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

Repeat the steps 1 – 3 to set additional lengths

---

<Variable>



---

#### Fixed Length 1<sup>st</sup> Set

1st Set Begin



---

Decimal Value

**See Appendix A**



---

1st Set Complete



## Fixed length 2<sup>nd</sup> Set



---

2 <sup>nd</sup> Set Begin	
Decimal Value	See Appendix A
2nd Set Complete	

---

## Minimum length

---

Minimum Length begin	
Decimal Value	See Appendix A
Minimum Length Complete	

---

## 6.13 Matrix 2 of 5 Parameters

### 6.13.1 Check Digit Transmission

---

<Do Not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

---

### 6.13.2 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the "Begin" programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the "Complete" programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths**

---

**<Variable>**



#### **Fixed Length 1<sup>st</sup> Set**

---

1st Set Begin



Decimal Value

**See Appendix A**

---

1st Set Complete



#### **Fixed length 2<sup>nd</sup> Set**

---

2nd Set Begin



Decimal Value

**See Appendix A**

---

2nd Set Complete



## Minimum length

Minimum Length begin



Decimal Value

Minimum Length Complete



## 6.14 CODABAR Parameters

### 6.14.1 Set Up Start/Stop Characters upon Transmission

ON



<OFF>



### 6.14.2 Transmission Type of Start/Stop

A/B/C/D <Start>



A/B/C/D <Stop>



A Start



A Stop



B Start



B Stop



---

C Start



---

C Stop



---

D Start



---

D Stop



### 6.14.3 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths**

---

<Variable>



### Fixed Length 1<sup>st</sup> Set

---

1<sup>st</sup> Set Begin



---

Decimal Value

**See Appendix A**

---

1<sup>st</sup> Set Complete





## Fixed length 2<sup>nd</sup> Set

2<sup>nd</sup> Set Begin



Decimal Value

See Appendix A

2nd Set Complete



## Minimum length

Minimum Length begin



Decimal Value

See Appendix A

Minimum Length Complete



## 6.15 Code 93 Parameters

### 6.15.1 Check Digit Transmission

Calculate Check Digit Disable



<Calculate Check 2 Digit and  
Not Transmit>



### 7.15.2 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths.**

---

<Variable>



#### Fixed Length 1st Set

---

1<sup>st</sup> Set Begin



Decimal Value

**See Appendix A**

---

1<sup>st</sup> Set Complete



#### Fixed length 2<sup>nd</sup> Set

---

2<sup>nd</sup> Set Begin



Decimal Value

**See Appendix A**

---

2nd Set Complete








## Minimum length

Minimum Length begin	
Decimal Value	See Appendix A
Minimum Length Complete	

## 6.16 Code 11 Parameters

### 6.16.1 Check Digit Transmission

<Do Not Calculate Check Digit>	
Calculate Check 1 Digit and Transmit	
Calculate Check 1 Digit and Not Transmit	
Calculate Check 2 Digit and Transmit	
Calculate Check 2 Digit and Not Transmit	

### 7.16.2 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths.**

---

<Variable>



---

**Fixed Length 1st Set**

---

1st Set Begin



---

Decimal Value

**See Appendix A**

---

1st Set Complete



---

**Fixed length 2<sup>nd</sup> Set**

---

2nd Set Begin



---

Decimal Value

**See Appendix A**

---

2nd Set Complete



---

**Minimum length**

---

Minimum Length begin



---

Decimal Value

**See Appendix A**

---

Minimum Length Complete



## 6.17 MSI/plessey Code Parameters

### 6.17.1 Check digit transmission

---

<Do Not Calculate Check Digit>	
Calculate Check Digit and Transmit	
Calculate Check Digit and Not Transmit	

---

### 6.17.2 Set Up Code Length

To set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths.**

---

<Variable>	
------------	--

---

### Fixed Length 1<sup>st</sup> Set

---

1 <sup>st</sup> Set Begin	
Decimal Value	<b>See Appendix A</b>
1 <sup>st</sup> Set Complete	

---

## Fixed length 2<sup>nd</sup> Set

---

2nd Set Begin



---

Decimal Value

**See Appendix A**

---

2nd Set Complete



## Minimum length

---

Minimum Length begin



---

Decimal Value

**See Appendix A**

---

Minimum Length Complete



## 6.18 Telepen Parameters

### 6.18.1 Type of Code

---

Telepen ASCII <ON>



---

Telepen Numeric



### 6.18.2 Check Digit Transmission

---

Do Not Calculate Check  
Digit



---

Calculate Check Digit and  
Transmit



---

<Calculate Check Digit  
and Not Transmit>

---



### 6.18.3 Set Up Code Length

o set the fixed length: (2 sets Available)

1. Scan the “Begin” programming code of the desired set
2. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the length to be read.
3. Scan the “Complete” programming code of the desired set.

**Repeat the steps 1 – 3 to set additional lengths.**

---

<Variable>



---

#### Fixed Length 1st Set

1<sup>st</sup> Set Begin



---

Decimal Value

**See Appendix A**

---

1<sup>st</sup> Set Complete



---

#### Fixed length 2nd Set

2<sup>nd</sup> Set Begin



---

Decimal Value

**See Appendix A**

---

---

2nd Set Complete



---

### Minimum length

---

Minimum Length begin



---

Decimal Value

**See Appendix A**

---

Minimum Length Complete



## 6.19 GS1 Databar Parameters

### 6.19.1 Check Digit Transmission

---

<Calculate Check Digit and  
Transmit>



---

Calculate Check Digit and Not  
Transmit



### 6.19.2 Application ID

---

<Transmit Application ID>  
Add 01 before GS1 Databar.



---

Don't Transmit Application ID



### 6.19.3 Symbology ID

---

Transmit Symbology ID  
Add ]e0 before GS1 Databar.





---

<Don't Transmit Symbology  
ID>



---

## 6.20 GS1 Databar Limited Parameters

### 6.20.1 Check Digit Transmission

---

<Calculate Check Digit and  
Transmit>



---

Calculate Check Digit and  
Not Transmit



---

### 6.20.2 Application ID

---

<Transmit Application ID>

Add 01 before GS1 Databar  
Limited.



---

Don't Transmit Application ID



---

### 6.20.3 Symbology ID

---

Transmit Symbology ID  
Add ]e0 before GS1 Databar  
Limited.



---

<Don't Transmit Symbology  
ID>



# 6.21 GS1 Databar Expanded Parameters

## 6.21.1 Symbology ID

---

Transmit Symbology ID

Add ]e0 before GS1 Databar

Expanded.



---

<Don't Transmit Symbology

ID>



# 7. Miscellaneous Parameters

---

## 7.1 Bar Code ID

### 7.1.1 Default Barcode ID

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 barcode is being scanned.

Code Type	ID	Code Type	ID
UPC-A	A	UPC-E	B
EAN-8	C	EAN-13	D
Code 39	E	Code 128	F
Interleaved 2 of 5	G	Industrial 2 of 5	H
Matrix 2 of 5	I	Codabar	J
Code 93	K	Code 11	L
China Postage	M	MSI/Plessey	N
Telepen	T	GS1 DataBar	U
GS1 DataBar Lim.	V	GS1 DataBar Exp.	W

---

Bar Code ID ON




---

Bar Code ID <OFF>




---

Default – Return from User

Define to Default



### 7.1.2 User Define Code ID

To set the code ID










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

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

---

UPC-A	
UPC-E	
EAN-13/JAN-13	
EAN-8/JAN-8	
CODE 39	
CODE 128	
CODABAR	
Interleaved 2 of 5	
Industrial 2 of 5	

---

Matrix 2 of 5	
CODE 93	
CODE 11	
China Postage	
MSI/PLESSEY	
Telepen	
GS1 DataBar	
GS1 DataBar Expanded	
GS1 DataBar Limited	

## 7.2 preambles and postambles Insertion

### 7.2.1 Setup Insertion










To set the insertion of the output characters;

1. Scan the programming code of the desired set.
2. Scan the programming code of the desired symbology
3. Go to the Decimal Value in Appendix A, scan programming codes that represents the desired position to be inserted (1= the first digit, 99 the last digit).

4. Scan the “Complete” programming code of “Character Position to be Inserted”.
5. Go to the ASCII Tables in Appendix C, Scan programming codes that represents the desired characters to be inserted.
6. Scan the “Complete” programming code of “Characters to be Inserted”.

**Repeat the steps 1 – 6 to set additional insertion.**







**Example: Insert \$ as Preamble for Code UPC-A.**














Start configuration	
1 <sup>st</sup> Set	
Code UPC-A	
1st digit	
Complete	
\$	
Complete	
End of Configuration bar code	
Save Parameters bar code	

### 7.2.2 Insertion set number

1 <sup>st</sup> Set	
2 <sup>nd</sup> Set	
3 <sup>rd</sup> Set	
4 <sup>th</sup> Set	
5 <sup>th</sup> Set	
6 <sup>th</sup> Set	

### 7.2.3 Symbologies Selection

UPC-A	
UPC-E	
EAN-13/JAN-13	
EAN-8/JAN-8	
CODE 39	
CODE 128	

Codabar/NW7	
Interleaved 2 of 5	
Industrial 2 of 5	
Matrix 2 of 5	
CODE 93	
CODE 11	
China Postage	
MSI/PLESSEY	
Telepen	
GS1 DataBar	
GS1 DataBar Expanded	
GS1 DataBar limited	
All Codes	



---

None



---

#### 7.2.4 Character Position to be Inserted

---

Decimal Value

See Appendix A

---

Complete



---

#### 7.2.5 Characters to be Inserted

---

ASCII Table

See Appendix B and C

---

Complete



---

### 7.3 Character deletion










To setup the deletion of output characters:

1. Scan the programming code of the desired set.
2. Scan the programming code of the desired symbology.
3. Go to the decimal Value tables in Appendix A, scan programming codes that represents the desired position to be deleted.
4. Scan the "Complete" programming code of "Character Position to be Deleted".
5. Go to the Decimal Value Tables in Appendix A, scan programming codes that represents the number of characters to be deleted.

6. Scan the "Complete" programming code of "Number of Characters to be deleted".

**Repeat the steps 1 – 6 to set additional deletion.**







**Example: Delete first 3 codes for Code EAN-13.**














Start Configuration	
1 <sup>st</sup> Set	
Code EAN-13	
1st digit – delete from the 1 <sup>st</sup> digit	
Complete	
3 – delete 3 characters	
Complete	
End of Configuration bar code	
Save Parameters bar code	

### 7.3.1 Deletion Set Number

1 <sup>st</sup> Set	
2 <sup>nd</sup> Set	
3 <sup>rd</sup> Set	
4 <sup>th</sup> Set	
5 <sup>th</sup> Set	
6 <sup>th</sup> Set	

### 7.3.2 Code Type to be Delete

UPC-A	
UPC-E	
EAN-13/JAN-13	
EAN-8/JAN-8	
CODE 39	
CODE 128	

<b>CODABAR/NW7</b>	
<b>Interleaved 2 of 5</b>	
<b>Industrial 2 of 5</b>	
<b>Matrix 2 of 5</b>	
<b>CODE 93</b>	
<b>CODE 11</b>	
<b>China Postage</b>	
<b>MSI/PLESSEY</b>	
<b>Telepen</b>	
<b>GS1 DataBar</b>	
<b>GS1 DataBar Expanded</b>	
<b>GS1 DataBar Limited</b>	
<b>All Codes</b>	

---

None



---

### 7.3.3 Character Position to be Delete

---

Decimal Value

See Appendix A

---

Complete



---

### 7.3.4 Number of Characters to be Deleted

---

Decimal Value

See Appendix A

---











Complete



























---



























## 7.4 Appendices



























### A. Decimal Value Table

 0	 1
 2	 3
 4	 5
 6	 7
 8	 9


























**B ASCII Table**


























<b>NULL</b>		<b>RS</b>	
<b>ETX</b>		<b>STX</b>	
<b>ACK</b>		<b>ENQ</b>	
<b>HT</b>		<b>BS</b>	
<b>FF</b>		<b>VT</b>	
<b>SI</b>		<b>SO</b>	
<b>DC2</b>		<b>DC1</b>	
<b>NAK</b>		<b>DC4</b>	
<b>CAN</b>		<b>ETB</b>	
<b>ESC</b>		<b>SUB</b>	
<b>GS</b>		<b>SYN</b>	
<b>SOH</b>		<b>EM</b>	

<b>BEL</b>		<b>US</b>	
<b>LF</b>		<b>SPACE</b>	
<b>CR</b>		<b>"</b>	
<b>DLE</b>		<b>!</b>	
<b>DC3</b>		<b>#</b>	
<b>%</b>		<b>0</b>	
<b>\$</b>		<b>1</b>	
<b>&amp;</b>		<b>2</b>	
<b>(</b>		<b>3</b>	
<b>'</b>		<b>4</b>	
<b>)</b>		<b>5</b>	
<b>+</b>		<b>6</b>	
<b>*</b>		<b>7</b>	























<p>,</p> <p><b>Comma</b></p>		<p><b>8</b></p>	
<p>.</p> <p><b>period</b></p>		<p><b>9</b></p>	
<p>-</p> <p><b>minus</b></p>		<p><b>B</b></p>	
<p>/</p>		<p><b>C</b></p>	
<p>;</p>		<p><b>D</b></p>	
<p>:</p>		<p><b>E</b></p>	
<p>&lt;</p> <p><b>Less than</b></p>		<p><b>F</b></p>	
<p>&gt;</p> <p><b>Greater than</b></p> <p><b>than</b></p>		<p><b>G</b></p>	
<p>=</p>		<p><b>H</b></p>	
<p>?</p>		<p><b>I</b></p> <p><b>Letter I</b></p>	
<p>@</p>		<p><b>J</b></p>	
<p><b>A</b></p>		<p><b>K</b></p>	
<p><b>L</b></p>		<p><b>T</b></p>	



<b>M</b>		<b>U</b>	
<b>N</b>		<b>V</b>	
<b>O</b> <b>Letter O</b>		<b>W</b>	
<b>P</b>		<b>X</b>	
<b>Q</b>		<b>Y</b>	
<b>R</b>		<b>Z</b>	
<b>S</b>			
<b>[</b>		<b>]</b>	
<b>\</b>		<b>^</b>	
<b>_</b> <b>Underscore</b>		<b>`</b>	
<b>a</b>		<b>h</b>	
<b>b</b>		<b>i</b>	
<b>c</b>		<b>j</b>	

<b>d</b>		<b>k</b>	
<b>e</b>		<b>l</b>	
<b>f</b>		<b>m</b>	
<b>g</b>		<b>n</b>	
<b>o</b>		<b>u</b>	
<b>p</b>		<b>v</b>	
<b>q</b>		<b>w</b>	
<b>r</b>		<b>x</b>	
<b>s</b>		<b>y</b>	
<b>t</b>		<b>z</b>	
<b>{</b>		<b> </b> <b>Vertical</b> <b>slash</b>	
<b>}</b>		<b>~</b>	
<b>DEL</b>			

### C Function Key Table

<b>F1</b>		<b>F7</b>	
<b>F2</b>		<b>F8</b>	
<b>F3</b>		<b>F9</b>	
<b>F4</b>		<b>F10</b>	
<b>F5</b>		<b>F11</b>	
<b>F6</b>		<b>F12</b>	
<b>Insert</b>		<b>Delete</b>	
<b>Home</b>		<b>End</b>	
<b>Page Up</b>		<b>Page Down</b>	
		<b>Up</b>	
<b>Left</b>		<b>Down</b>	





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