



# **Laser Barcode Scanner**

**User's Manual**

## **FCC Compliance**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## **Limited Warranty**

No warranty of any kind is made in regard to this material, including, but not limited to, implied warranties of merchantability or fitness for any particular purpose. We are not liable for any errors contained herein or for incidental or consequential damages in connection with furnishing, performance or use of this material. We shall be under no liability in respect of any defect arising from fair wear and tear, willful damage, negligence, abnormal working conditions, failure to follow the instructions and warnings, or misuse or alteration or repair of the products without written approval.

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# **Introduction**

Our 1D Laser barcode scanner combines the best scanning performance and value. The device provides an accurate, easy, and fast method of data entry and data storage for computerized information systems. It is easy to install and does not require Software or drivers to operate.

Our laser barcode scanner can compatible several interfaces (USB, K/B, RS-232,) and numerous configurations, is a powerful and reliable handheld scanner without compromise. All the operating parameters are programmed by bar code programming menu and stored in non-volatile RAM which can retain the settings after power is turned off.

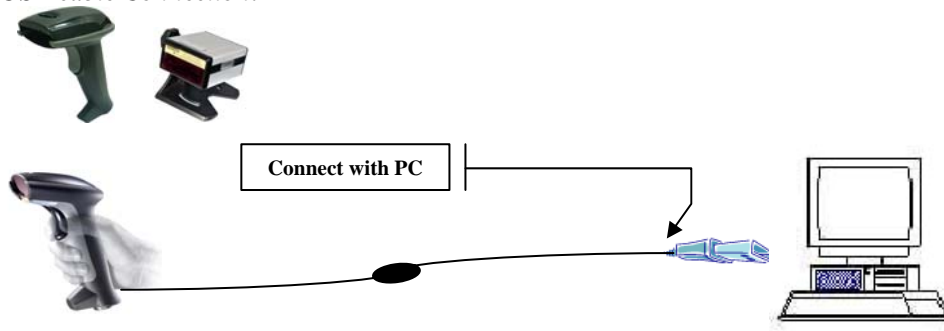


When a barcode is successful decoded, the blue LED light of the scanner will turn on and off. The scanner will beep once. If the barcode is not successful read, the LED will show red and the buzzer will not sound.

# Installation

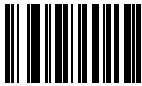
Insert the plug on the free end of the Communications Cable into the appropriate connector on the host as below described:

## 1. *USB cable Connection:*

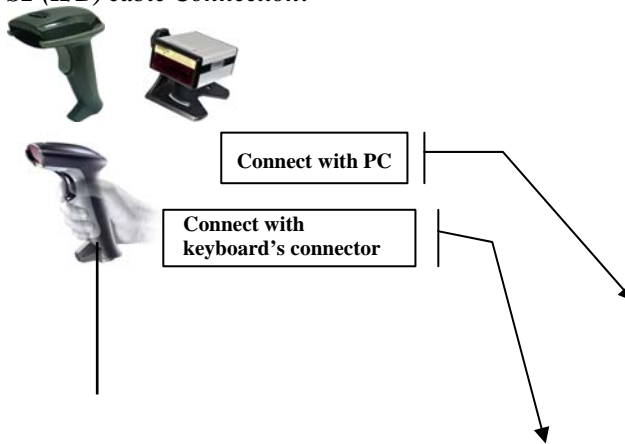


## Reset Configuration to Defaults

If you are unsure of the scanner configuration or have scanned the incorrect codes, please scan the “Reset Configuration to Defaults” barcode. This will reset the scanner to its factory defaults settings in USB interface.



## 2. *PS2 (K/B) cable Connection:*



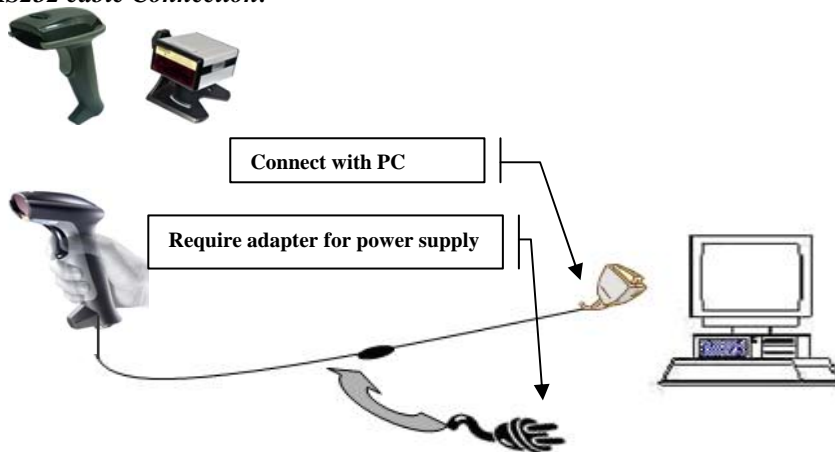


### **Reset Configuration to Defaults**

If you are unsure of the scanner configuration or have scanned the incorrect codes, please scan the “Reset Configuration to Defaults” barcode. This will reset the scanner to its factory defaults settings in PS/2 interface.



### **3. RS232 cable Connection:**



**NOTE:** for Serial port (RS232 cable), please plug the power connector of 5V power adapter to RS232 cable.

### **Reset Configuration to Defaults**

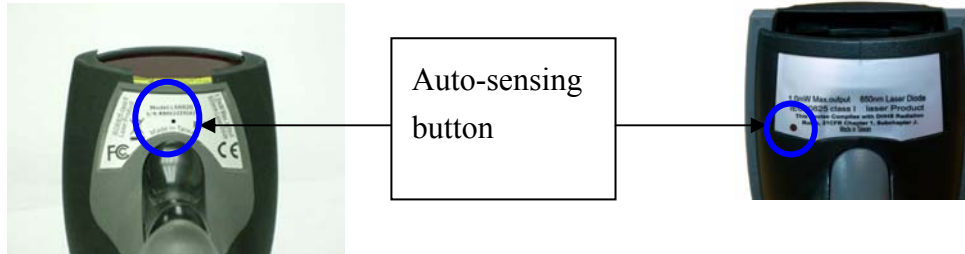
If you are unsure of the scanner configuration or have scanned the incorrect codes, please scan the “Reset Configuration to Defaults” barcode. This will reset the scanner to its factory defaults settings. Then “000601” for RS232 serial setting.



#### 4. Auto-sensing setup

For some scanners have auto-sensing function. There is an auto-sensing function button shown on below photo. Default is ON.

\*Auto-sensing normally is ON. Press once is OFF, Press once again is ON.



## Operation

1. Be sure that Host computer is turned OFF.
2. Ensure that all connections are secure.
3. Turn on your host. And please operate the scanner under the right software application, such as Notepad or Word(RS232 interface should be under Hyper Terminal” and make the right setting).
4. Aim the scanner at a barcode, ensure that the scanner is in trigger mode (default), and press the trigger.
5. On successful decode, the blue LED light will turn on and off. The scanner will beep once.

### **Tip**

Do not hold the scanner directly over a barcode at 90°. Scanning light bounces directly back into the scanner from the barcode label is known as specular reflection which will create a "dead zone" where decoding is difficult. Practice a few times to find what range of angles works best.



### **Maintenance**

Cleaning the scan window is the only maintenance required. A dirty window may affect scanning accuracy.

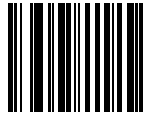
Wipe the scanner window gently with a lens tissue or other material suitable for cleaning optical material.

Do not spray water or other cleaning liquids directly onto the window.

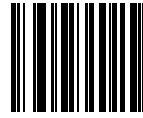
## **Setup from Bar Code Label**

# Multi-Interface Functions – 1

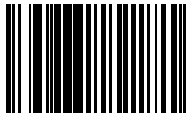
OUTPUT FIRMWARE VERSION



RESET CONFIGURATION TO  
DEFAULTS

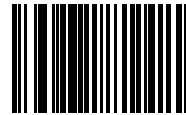


OUTPUT MODE – KEYBOARD / USB

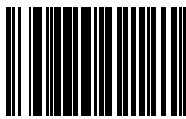


**OUTPUT  
MODE**

OUTPUT MODE - SERIAL

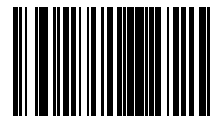


GOOD READ BEEP TONE – NONE

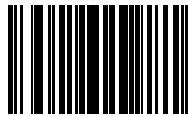


**BUZZER /  
LED**

GOOD READ BEEP TONE - RESET

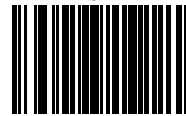


DECODE OPTIONS REVERSE IMAGE –  
ENABLE

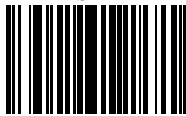


**IMAGE**

DECODE OPTIONS REVERSE IMAGE  
- DISABLE

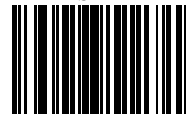


DECODE OPTIONS SEND BAR CODE ID -  
DISABLE

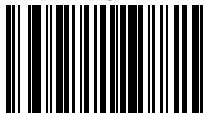


**CODE ID**

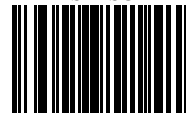
DECODE OPTIONS SEND BAR CODE  
ID – AS A PREFIX



DECODE OPTIONS SEND BAR CODE ID -  
RESET



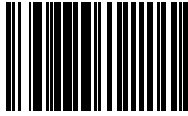
DECODE OPTIONS SEND BAR CODE  
ID – AS A SUFFIX



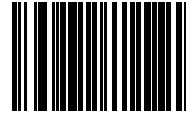
## Multi-Interface Functions – 2

### READING MODE

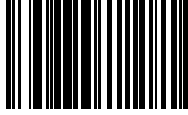
SCAN MODE – SINGLE SCAN



SCAN MODE – SINGLE SCAN NO  
TRIGGER



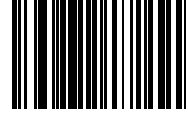
SCAN MODE – MULTISCAN



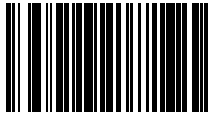
SCAN MODE – MULTISCAN  
NO TRIGGER



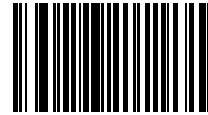
SCAN MODE - PULSE



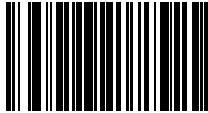
LASER/CCD TIMEOUT – 5 SECONDS



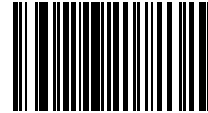
LASER/CCD TIMEOUT – 2 SECONDS



LASER/CCD PULSE RATE - 7



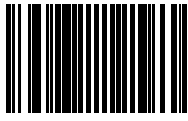
LASER/CCD PULSE RATE - 3



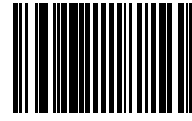
# Interface – KBW

## PC Communication

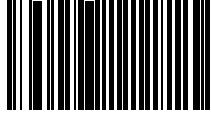
WEDGE MODE - AUTODETECT



WEDGE MODE – SCAN SET 2 PASS  
THRU

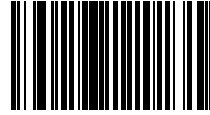


TRANSMIT SPEED - 0



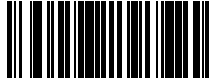
## TRANSMIT SPEED

TRANSMIT SPEED - 25

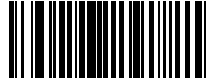


## Keyboard Language

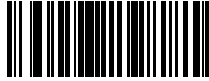
DENMARK



FINLAND



FRANCE



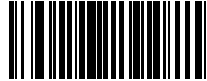
GERMANY



ITALY



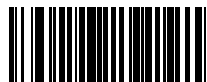
LATIN AMERICA



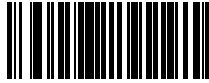
NETHERLANDS



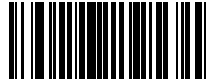
NORWAY



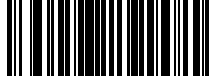
POLAND



SPAIN



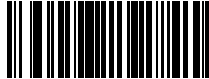
SWITZERLAND  
(FRENCH)



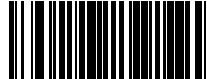
SWITZERLAND  
(GERMAN)



SWEDEN



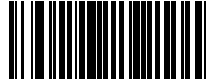
UNITED KINGDOM



UNIVERSAL



UNITED STATES



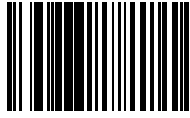
\*As a general rule, the following characters are not supported by the scanner for countries other than the United States:

@ | \$ # { } [ ] = / ' \ < > ~

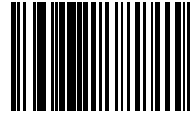
# Interface – Serial - 1

## BAUD RATE

SERIAL BAUD RATE - 2400



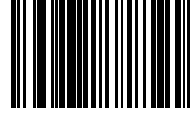
SERIAL BAUD RATE - 4800



SERIAL BAUD RATE - 9600

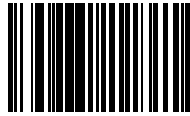


SERIAL BAUD RATE - 19200

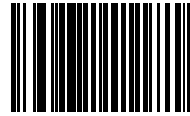


## HAND SHAKE

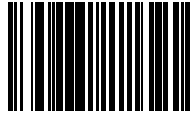
SERIAL HANDSHAKE - NONE



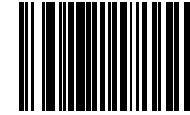
SERIAL HANDSHAKE – XON/XOFF



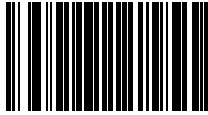
SERIAL HANDSHAKE – RTS/CTS



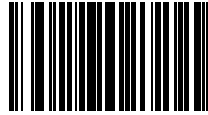
SERIAL HANDSHAKE – ACK/NAK



SERIAL HANDSHAKE TIMEOUT –  
2 SECONDS



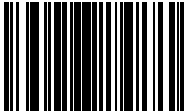
SERIAL HANDSHAKE TIMEOUT –  
5 SECONDS



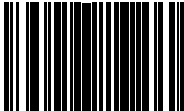
# Interface – Serial - 2

## PARAMETERS

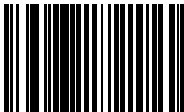
SERIAL DATA BITS - 8



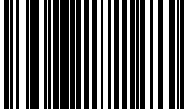
SERIAL STOP BITS - 1



SERIAL PARITY - NONE



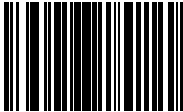
SERIAL PARITY - EVEN



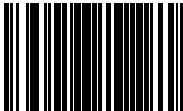
SERIAL PARITY - SPACE



SERIAL DATA BITS - 7



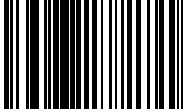
SERIAL STOP BITS - 2



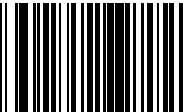
SERIAL PARITY - ODD



SERIAL PARITY - MARK



SERIAL PARITY - RESET



## Symbologies On/Off - 1

CODE 11 - ENABLE



CODE 11

CODE 11 - DISABLE



CODE 39 ENABLE



CODE 39

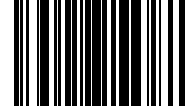
CODE 39 DISABLE



FULL ASCII ENABLE



FULL ASCII DISABLE

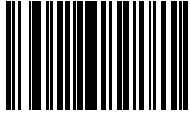




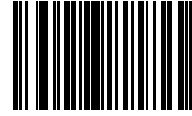
## Symbologies On/Off - 2

### CODE 93

CODE 93 - ENABLE

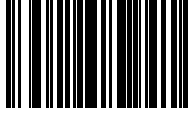


CODE 93 - DISABLE

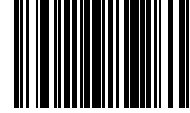


### CODE 128

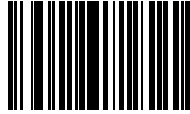
CODE 128 - ENABLE



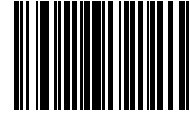
CODE 128 - DISABLE



CODE 128 ISBT - ENABLE



CODE 128 ISBT - DISABLE

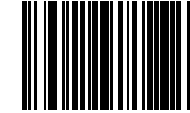


### CODABAR

CODABAR - ENABLE

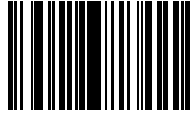


CODABAR - DISABLE

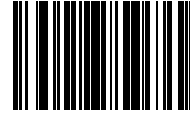


### INTERLEAVED 2 OF 5

I2OF5 - ENABLE

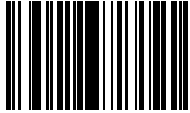


I2OF5 - DISABLE

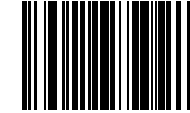


### INDUSTRIAL 2 OF 5

ID2OF5 - ENABLE



ID2OF5 - DISABLE



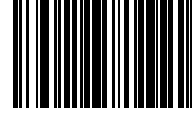
### Symbologies On/Off - 3

#### MSI

MSI - ENABLE



MSI - DISABLE

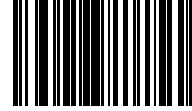


#### UPC/EAN

UPC-A ENABLE



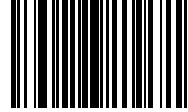
UPC-A DISABLE



UPC-E ENABLE



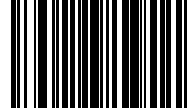
UPC-E DISABLE



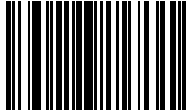
EAN-13 ENABLE



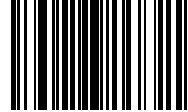
EAN-13 DISABLE



EAN-8 ENABLE



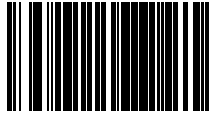
EAN-8 DISABLE



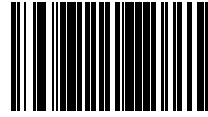
# Symbologies Set Up - 1

## CODE 11

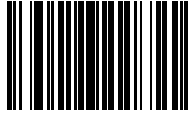
CODE 11 ID CHARACTER – “m”



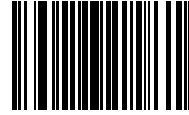
CODE 11 ID CHARACTER – “Z”



CODE 11 DOUBLE CHECK - ENABLE

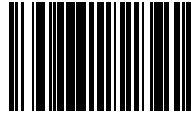


CODE 11 **DOUBLE CHECK** - DISABLE

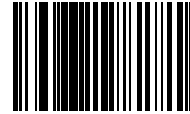


## CODE 39

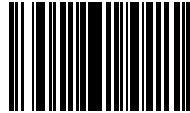
CODE 39 SS CHAR - NONE



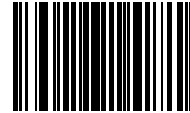
CODE 39 SS CHAR '+'



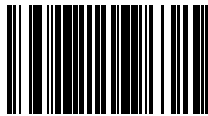
CODE 39 SEND START/STOP CHARS  
ENABLE



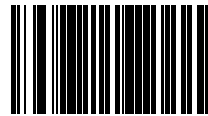
CODE 39 SEND START/STOP CHARS  
DISABLE



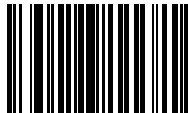
CODE 39 ID CHARACTER 'a'



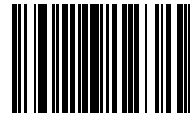
CODE 39 ID CHARACTER 'Z'



CODE 39 **DOUBLE CHECK** ENABLE



CODE 39 **DOUBLE CHECK** DISABLE



## Symbologies Set Up – 2

### CODE 93

CODE 93 ID CHARACTER – “h”



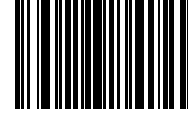
CODE 93 ID CHARACTER – “Z”



CODE 93 DOUBLE CHECK - ENABLE



CODE 93 DOUBLE CHECK - DISABLE

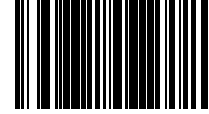


### CODE 128

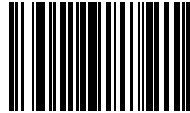
CODE 128 ID CHARACTER – ‘g’



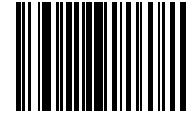
CODE128 ID CHARACTER - ‘Z’



CODE 128 DOUBLE CHECK - ENABLE

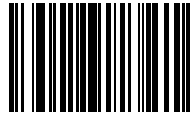


CODE 128 DOUBLE CHECK - DISABLE

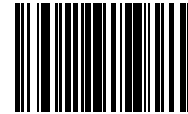


### CODABAR

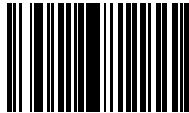
CODABAR SEND START/STOP CHARS -  
ENABLE



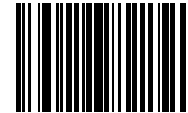
CODABAR SEND START/STOP CHARS -  
DISABLE



CODABAR WIDE GAPS ALLOWED -  
ENABLE

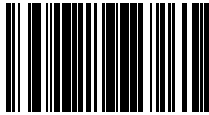


CODABAR WIDE GAPS ALLOWED -  
DISABLE



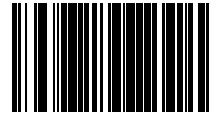
### Symbologies Set Up – 3

CODABAR ID CHARACTER - 'k'

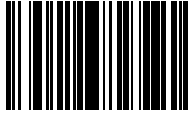


#### CODABAR

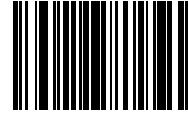
CODABAR ID CHARACTER - 'Z'



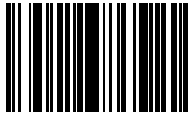
CODABAR DOUBLE CHECK - ENABLE



CODABAR DOUBLE CHECK -  
DISABLE

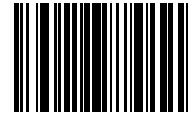


I2OF5 CHECK DIGIT - DISABLE



#### Interleaved 2 of 5

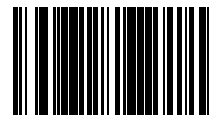
I2OF5 CHECK DIGIT - ENABLE



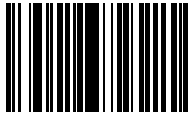
I2OF5 ID CHARACTER - 'i'



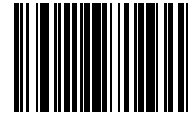
I2OF5 ID CHARACTER - 'Z'



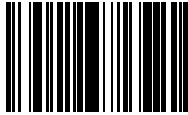
I2OF5 DOUBLE CHECK - ENABLE



I2OF5 DOUBLE CHECK - DISABLE

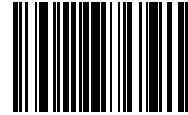


ID2OF5 BAR START/STOP - ENABLE

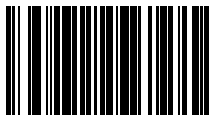


#### Industrial 2 of 5

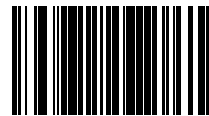
ID2OF5 BAR START/STOP - DISABLE



ID2OF5 ID CHARACTER - 'j'



ID2OF5 ID CHARACTER - 'Z'



## Symbologies Set Up – 4

ID2OF5 DOUBLE CHECK - ENABLE



ID2OF5 DOUBLE CHECK - DISABLE



MSI CHECK DIGIT - MOD 10



### MSI

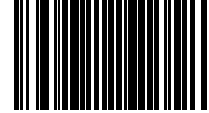
MSI CHECK DIGIT - RESET



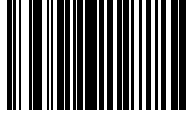
MSI ISBN ID CHARACTER - 'f'



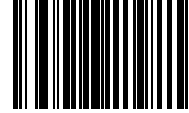
MSI ISBN ID CHARACTER - 'Z'



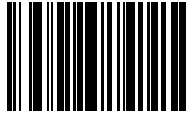
MSI DOUBLE CHECK - ENABLE



MSI DOUBLE CHECK - DISABLE

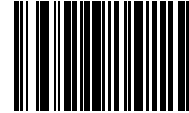


EXPAND UPC-E TO UPC-A ENABLE

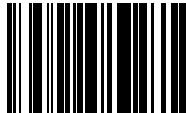


### UPC/EAN

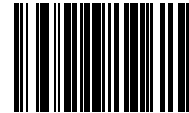
EXPAND UPC-E TO UPC-A DISABLE



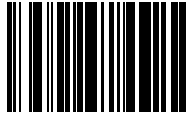
EXPAND UPC-A TO EAN-13 ENABLE



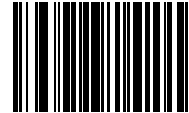
EXPAND UPC-A TO EAN-13 DISABLE



CONVERT EAN-13 TO ISBN ENABLE

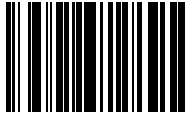


CONVERT EAN-13 TO ISBN DISABLE

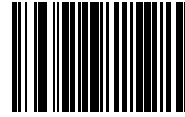


## Symbologies Set Up – 5

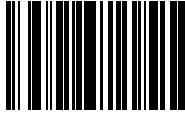
SEND UPC-A CHECK DIGIT ENABLE



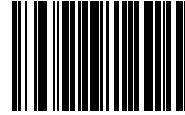
SEND UPC-A CHECK DIGIT DISABLE



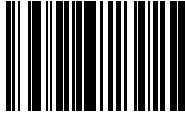
SEND UPC-E CHECK DIGIT ENABLE



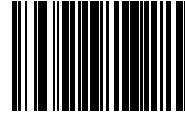
SEND UPC-E CHECK DIGIT DISABLE



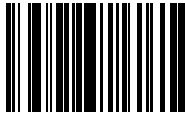
SEND EAN-13 CHECK DIGIT ENABLE



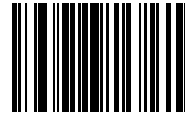
SEND EAN-13 CHECK DIGIT DISABLE



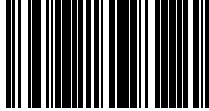
SEND EAN-8 CHECK DIGIT ENABLE



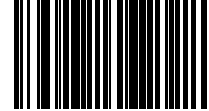
SEND EAN-8 CHECK DIGIT DISABLE



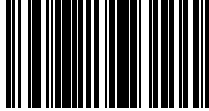
UPC-A ID CHARACTER 'b'



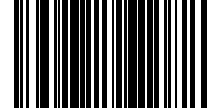
UPC-A ID CHARACTER 'Z'



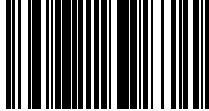
UPC-E ID CHARACTER 'c'



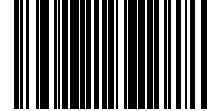
UPC-E ID CHARACTER 'Z'



EAN-13 ID CHARACTER 'e'

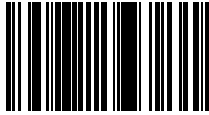


EAN-13 ID CHARACTER 'Z'



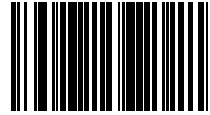
## Symbologies Set Up – 6

EAN-8 ID CHARACTER 'd'



UPC/EAN

EAN-8 ID CHARACTER 'Z'



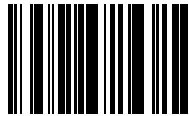
ISBN ID CHARACTER 'f'



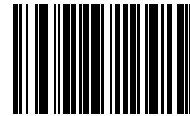
ISBN ID CHARACTER 'Z'



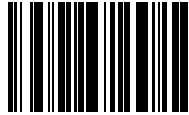
UPC/EAN SUPPLEMENTS - DISABLE



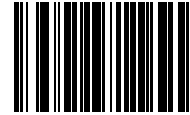
UPC/EAN SUPPLEMENTS – 2 DIGIT ONLY



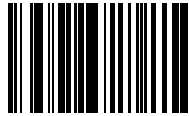
UPC/EAN SUPPLEMENTS – 5 DIGIT ONLY



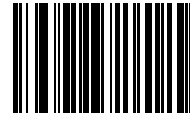
UPC/EAN SUPPLEMENTS – 2 & 5 DIGIT



UPC/EAN DOUBLE CHECK ENABLE



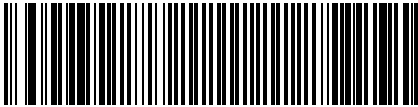
UPC/EAN DOUBLE CHECK DISABLE



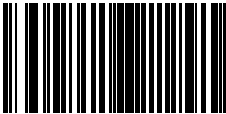


**EDIT SETUP BAR CODES**

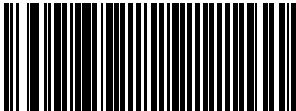
EDIT #1 – STRIP 1 LEADING CHARACTER  
ON ALL BAR CODES THAT START WITH  
'12345'



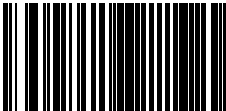
EDIT #1 - OFF



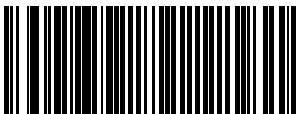
EDIT #2 – STRIP 1 TRAILING CHARACTER



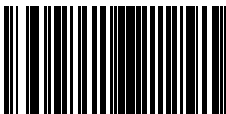
EDIT #2 – OFF



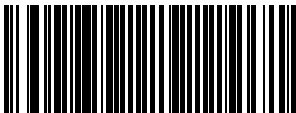
EDIT #1 – FILTER LEADING SPACES



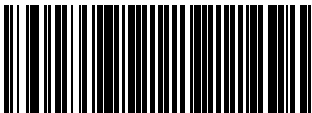
EDIT #1 - OFF



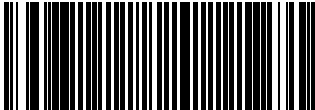
EDIT – FILTER ALL '-' CHARACTERS



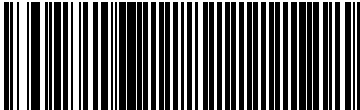
EDIT – DISABLE FILTER OF ALL '-' CHARS



EDIT - INSERT LEADING ZERO

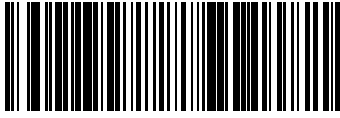


EDIT – DISABLE INSERT LEADING ZERO

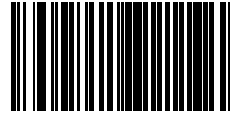


## MACRO/SPECIAL KEYS SETUP BAR CODES

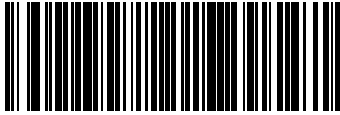
MACRO #1 – FIND '1' AND REPLACE WITH  
'ONE'



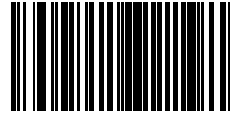
MACRO #1 - DISABLED



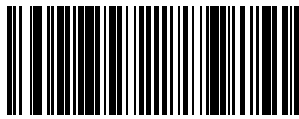
MACRO #2 – FIND '2' AND REPLACE WITH  
'TWO' FOR CODE 39 ONLY



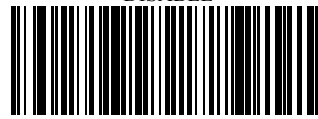
MACRO #2 - DISABLED



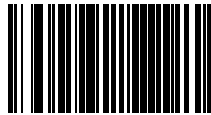
MACRO – FIND '0' AND REPLACE WITH 'A'



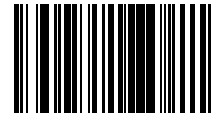
MACRO – FIND '0' AND REPLACE WITH 'A' -  
DISABLE



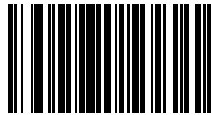
SPECIAL KEY –MAP F3 TO '0'



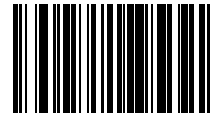
SPECIAL KEY – DISABLE F3 KEY MAPPING



SPECIAL KEY – MAP KEYPAD ENTER TO '2'

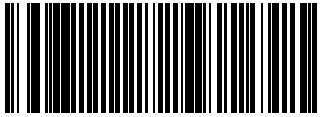


SPECIAL KEY – DISABLE KEYPAD ENTER  
MAPPING

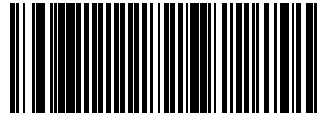


# TERMINATION STRING SETUP BAR CODES

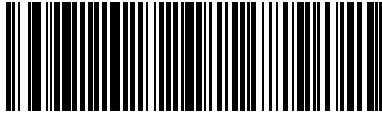
STRING #1 – TERMINATION CHAR - CR



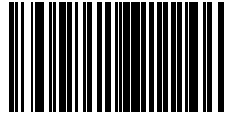
STRING #1 – TERMINATION - LF



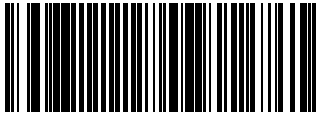
STRING #1 – TERMINATION CR+LF



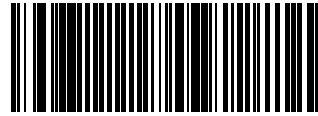
STRING #1 - DISABLE



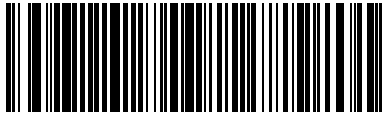
STRING #2– CODE 128 TERMINATION CHAR -  
CR



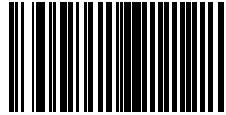
STRING #2 – CODE 128 TERMINATION CHAR -  
LF



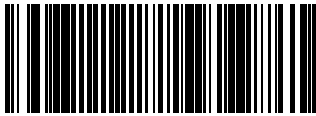
STRING #2– CODE 128 TERMINATION CHAR –  
CR+LF



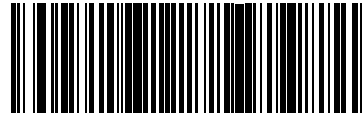
STRING #2– CODE 128 TERMINATION CHAR -  
REMOVED



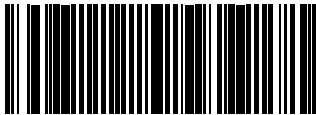
STRING – CODE 39 TERMINATION CHAR -  
TAB



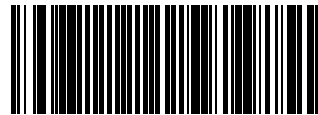
STRING – CODE 39 TERMINATION CHAR – TAB  
- REMOVED



STRING ALL CODES PREAMBLE - STX



STRING ALL CODES POSTAMBLE - ETX



# **Appendix-A**

## **Troubleshooting & Error Beeps**

a. Problem: Nothing happens when I follow the operating instructions.

Possible Cause	Possible Solution
Interface cables are loose	Check for loose cable connections

b. Problem: When I connected RS232 interface reader to PC, I could not get power up signal.

Possible Cause	Possible Solution
There is no power from PC series port.	Use external power supply or take the power from PC.

c. Problem: When I connected RS232 interface reader to PC or terminal, I got power up signal but no data transmitted.

Possible Cause	Possible Solution
This may cause by wrong pin out or wrong communication protocol.	Check the pin out and communication protocol to match the PC or terminal you are using.

d. My computer gets a keyboard error while booting up.

<b>Possible Cause</b>	<b>Possible Solution</b>
The scanner is damaged or is no longer functioning.	<p>Disconnect the scanner from your computer and use your keyboard only.</p> <p>Reboot your computer. If your computer still gets a keyboard error, then the problem may not be the scanner. Call technical support for assistance.</p>

e. Problem: Light comes on, but symbol does not decode.

<b>Possible Cause</b>	<b>Possible Solution</b>
Scanner is not programmed for the correct bar-code type.	Please refer User's Guide and be sure to select the correct interface selection and ensure that the scanner is programmed to read the type of barcode you are scanning.
Barcode symbol is unreadable.	Check the symbol to make sure it is not de-faced. Try scanning test symbols of the same barcode type.
Distance between scanner and barcode is incorrect.	Move the scanner closer to or further from the barcode.

f. Problem: The scanner beeps, but no data is displayed on my computer.

Possible Cause	Possible Solution
Scanner is not programmed for the correct host type.	Please make sure the scanner is configured to the appropriate host type by scanning the corresponding programming barcode on the User's Manual.
The scanner is configured to send the numeric data as KEYPAD NUMERICS, or the Keyboard Country setting is set to UNIVERSAL.	Reconfigure the scanner to Send Numerics as MAIN KEYBOARD KEYS and set the Keyboard Country setting to the country setting of your computer.

g. Problem: Scanned data is incorrectly displayed on the host.

Possible Cause	Possible Solution
Scanner is not programmed to work with the host.	Be sure proper host type is selected. For <u>RS232</u> , ensure the scanner's communication parameters match the host's settings For <u>keyboard emulation configuration</u> , ensure the system is programmed for the correct keyboard type, and that the CAPS LOCK key is off. Be sure editing options (e.g UPC-E to UPC-A Conversion) are properly programmed.
The scanner's Keyboard Country setting does not match the computer's keyboard setup.	Set the scanners Keyboard Country to the same setting as the keyboard on your computer.

h. Problem: Some of the barcode data is missing displayed on the host.

Possible Cause	Possible Solution
The scanner's transmit speed is too fast.	For RS232, you can set up the scanner's transmit speed.

i. My Caps Lock LED on my keyboard flickers when I read a bar code.

Possible Cause	Possible Solution
The Keyboard Country that you are using requires shifting in and out of the shift Lock mode to send the data properly.	This is normal operation. You can reduce the flickering and speed the data transmit by sending numerics as keypad numerics, or setting the keyboard country to UNIVERSAL mode.

The laser module we adopt is compliant with IEC60825 Class I.



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