

# 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.

## Table of Contents

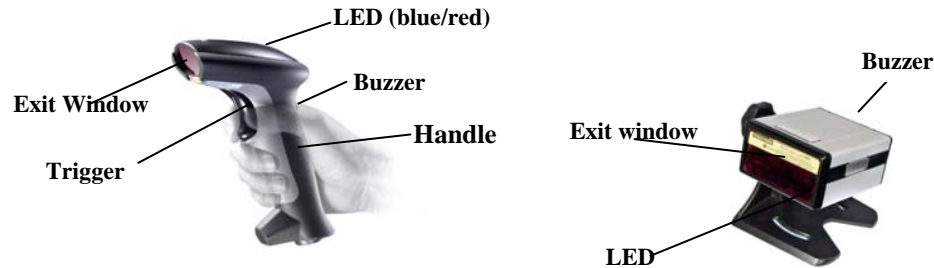
1.	INTRODUCTION.....	2~3
2.	INSTALLATION.....	4
3.	SET UP FROM BAR CODE LABEL.....	7
	Multi-interface Functions.....	8~9
	Interface-KBW.....	10
	Interface-Serial.....	11~12
	Symbologies On/Off.....	13~15
	Symbologies Set Up.....	16~21
	Edit Setup Bar Codes.....	22
	Macro/Special Keys Setup Bar Codes.....	23
	Termination String Setup Bar Codes.....	24
4.	FACTORY DEFAULT SETTING.....	25~26
5.	APPENDIX A: TROUBLESHOOTING AND ERROR BEEPS.....	27~31

# Introduction

# Installation

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.

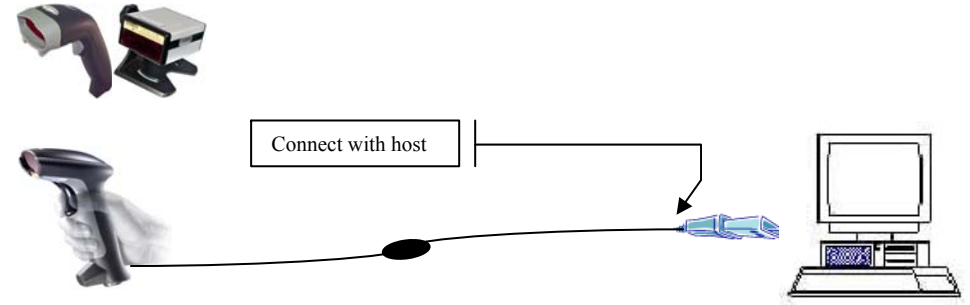
Our laser barcode scanner can compatible several interfaces (USB, K/B, RS-232,) and numerous configurations, is a powerful and reliable handheld scanner without compromise. All the operating parameters are programmed by bar code programming menu and stored in non-volatile RAM which can retain the settings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

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:**

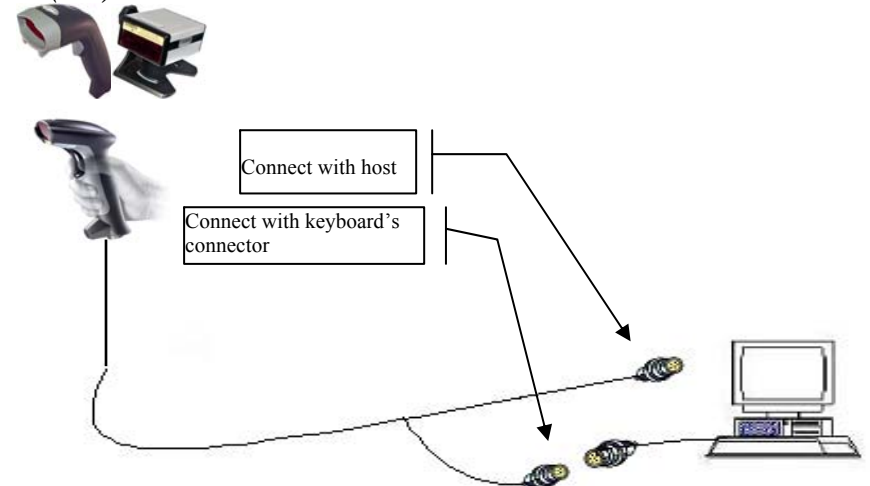


## Reset Configuration to Defaults

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:**

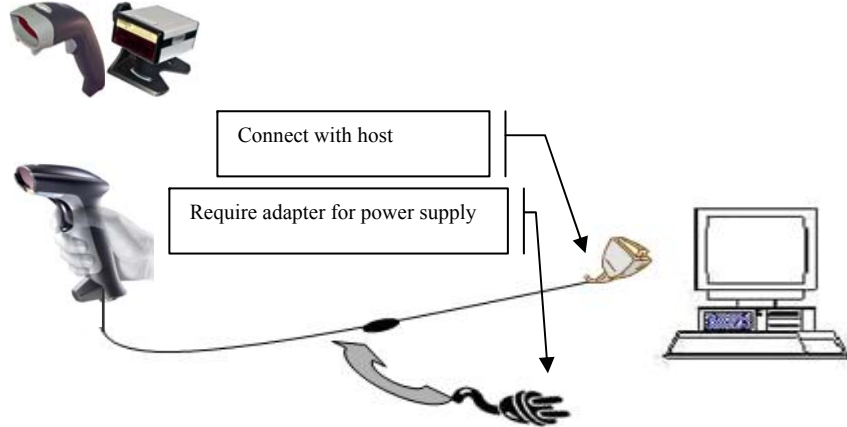


### Reset Configuration to Defaults

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

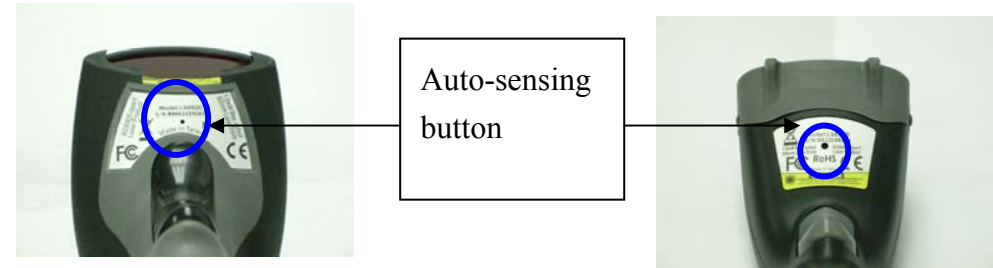
If you are unsure of the scanner configuration or have scanned the incorrect codes, please scan the “Reset Configuration to Defaults” barcode. This will reset the scanner to its factory defaults settings. Then “000601” for RS232 serial setting.



### 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.

## Multi-Interface Functions – 1

# Setup from Bar Code Label

OUTPUT FIRMWARE VERSION



0A

OUTPUT MODE – KEYBOARD / USB



000600

GOOD READ BEEP TONE – NONE



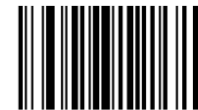
014200

DECODE OPTIONS REVERSE IMAGE –  
ENABLE



01391

DECODE OPTIONS SEND BAR CODE ID -  
DISABLE



01400

DECODE OPTIONS SEND BAR CODE ID -  
RESET



RESET CONFIGURATION TO  
DEFAULTS



0B

OUTPUT MODE - SERIAL



000601

GOOD READ BEEP TONE - RESET



0B142

DECODE OPTIONS REVERSE IMAGE  
- DISABLE



01390

**OUTPUT  
MODE**

**BUZZER /  
LED**

**IMAGE**

**CODE ID**

## Multi-Interface Functions – 2

### READING MODE

SCAN MODE – SINGLE SCAN



013300

SCAN MODE – MULTISCAN



013302

SCAN MODE – SINGLE SCAN NO  
TRIGGER



013301

SCAN MODE – MULTISCAN  
NO TRIGGER



013303

SCAN MODE - PULSE



013305

LASER/CCD TIMEOUT – 5 SECONDS



0134005  
0134005

LASER/CCD TIMEOUT – 2 SECONDS



0134002  
0134002

LASER/CCD PULSE RATE - 7



013507  
013507

LASER/CCD PULSE RATE - 3



013503  
013503

## Interface – KBW

### PC Communication

WEDGE MODE - AUTODETECT



000200

TRANSMIT SPEED - 0



0000000

KEYBOARD COUNTRY - USA



0005000

KEYBOARD COUNTRY – FRANCE



0005009

WEDGE MODE – SCAN SET 2 PASS  
THRU



000204

TRANSMIT SPEED - 25



0000025

### LANGUAGE

KEYBOARD COUNTRY - GERMAN



0005010

KEYBOARD COUNTRY - UNIVERSAL



0005025

## Interface – Serial - 1

### BAUD RATE

SERIAL BAUD RATE - 2400



000703

SERIAL BAUD RATE - 9600



000705

SERIAL HANDSHAKE - NONE



001200

SERIAL HANDSHAKE – RTS/CTS



001202

SERIAL HANDSHAKE TIMEOUT –  
2 SECONDS



0013020

SERIAL BAUD RATE - 4800



000704

SERIAL BAUD RATE - 19200



000706

SERIAL HANDSHAKE – XON/XOFF



001201

SERIAL HANDSHAKE – ACK/NAK



001203

SERIAL HANDSHAKE TIMEOUT –  
5 SECONDS



0013050

### HAND SHAKE

## Interface – Serial - 2

### PARAMETERS

SERIAL DATA BITS - 8



00081

SERIAL STOP BITS - 1



00090

SERIAL PARITY - NONE



001000

SERIAL PARITY - EVEN



001002

SERIAL PARITY - SPACE



001004

SERIAL DATA BITS - 7



00080

SERIAL STOP BITS - 2



00091

SERIAL PARITY - ODD



001001

SERIAL PARITY - MARK



001003

SERIAL PARITY - RESET



0B010

## Symbologies On/Off - 1

CODE 11 - ENABLE



01261

### CODE 11

CODE 11 - DISABLE



01260

CODE 39 ENABLE



00221

### CODE 39

CODE 39 DISABLE



00220

FULL ASCII ENABLE



00231

FULL ASCII DISABLE



00230

CODE 93 - ENABLE



00621

### CODE 93

CODE 93 - DISABLE



00620

CODE 128 - ENABLE



00691

### CODE 128

CODE 128 - DISABLE



00690

CODE 128 ISBT - ENABLE



00701

CODE 128 ISBT - DISABLE



00700

CODABAR - ENABLE



00851

### CODABAR

CODABAR - DISABLE



00850

I2OF5 - ENABLE



00961

### INTERLEAVED 2

OF 5

I2OF5 - DISABLE



00960

ID2OF5 - ENABLE



01061

### INDUSTRIAL 2 OF 5

ID2OF5 - DISABLE



01060



## Symbologies On/Off - 3

### MSI

MSI - ENABLE



01151

MSI - DISABLE



01150

### UPC/EAN

UPC-A ENABLE



00341

UPC-A DISABLE



00340

UPC-E ENABLE



00351

UPC-E DISABLE



00350

EAN-13 ENABLE



00361

EAN-13 DISABLE



00360

EAN-8 ENABLE



00371

EAN-8 DISABLE



00370

## Symbologies Set Up - 1

### CODE 11

CODE 11 ID CHARACTER - "m"



0131m

CODE 11 ID CHARACTER - "Z"



0131Z

CODE 11 LASER/CCD REDUNDANCY -  
ENABLE



01321

CODE 11 LASER/CCD REDUNDANCY -  
DISABLE



01320

### CODE 39

CODE 39 SS CHAR - NONE



002700

CODE 39 SS CHAR '+'



002704

CODE 39 SEND START/STOP CHARS  
ENABLE



00281

CODE 39 SEND START/STOP CHARS  
DISABLE



00280

CODE 39 ID CHARACTER 'a'



0031a

CODE 39 ID CHARACTER 'z'



0031Z

CODE 39 LASER/CCD REDUNDANCY  
ENABLE



00331

CODE 39 LASER/CCD REDUNDANCY  
DISABLE



00330

**Symbologies Set Up – 2**

**CODE 93**

CODE 93 ID CHARACTER – ‘h’



0066h

CODE 93 ID CHARACTER – ‘Z’



0066Z

CODE 93 LASER/CCD REDUNDANCY -  
ENABLE



00681

CODE 93 LASER/CCD REDUNDANCY -  
DISABLE



00680

**CODE 128**

CODE 128 ID CHARACTER – ‘g’



0081g

CODE128 ID CHARACTER - ‘Z’



0081Z

CODE 128 LASER/CCD REDUNDANCY -  
ENABLE



00841

CODE 128 LASER/CCD REDUNDANCY -  
DISABLE



00840

**CODABAR**

CODABAR SEND START/STOP CHARS -  
ENABLE



00861

CODABAR SEND START/STOP CHARS -  
DISABLE



00860

CODABAR WIDE GAPS ALLOWED -  
ENABLE



00901

CODABAR WIDE GAPS ALLOWED -  
DISABLE



00900

**Symbologies Set Up – 3**

**CODABAR**

CODABAR ID CHARACTER – ‘k’



0094k

CODABAR ID CHARACTER – ‘Z’



0094Z

CODABAR LASER/CCD REDUNDANCY  
- ENABLE



00951

CODABAR LASER/CCD  
REDUNDANCY - DISABLE



00950

**Interleaved 2 of 5**

I2OF5 CHECK DIGIT - DISABLE



00970

I2OF5 CHECK DIGIT - ENABLE



00981

I2OF5 ID CHARACTER – ‘i’



0104i

I2OF5 ID CHARACTER – ‘Z’



0104Z

I2OF5 LASER/CCD REDUNDANCY -  
ENABLE



01051

I2OF5 LASER/CCD REDUNDANCY -  
DISABLE



01050

**Industrial 2 of 5**

ID2OF5 BAR START/STOP - ENABLE



01071

ID2OF5 BAR START/STOP - DISABLE



01070

ID2OF5 ID CHARACTER - ‘j’



0113j

ID2OF5 ID CHARACTER - ‘Z’



0113Z

## Symbologies Set Up – 4

ID2OF5 LASER/CCD REDUNDANCY -  
ENABLE



01141

MSI CHECK DIGIT - MOD 10



01160

MSI ISBN ID CHARACTER - 'f'



0053f

MSI LASER/CCD REDUNDANCY -  
ENABLE



01251

EXPAND UPC-E TO UPC-A ENABLE



00381

EXPAND UPC-A TO EAN-13 ENABLE



00391

CONVERT EAN-13 TO ISBN ENABLE



00481

ID2OF5 LASER/CCD REDUNDANCY -  
DISABLE



01140

MSI CHECK DIGIT - RESET



0B116

MSI ISBN ID CHARACTER - 'Z'



0053Z

MSI LASER/CCD REDUNDANCY -  
DISABLE



01250

EXPAND UPC-E TO UPC-A DISABLE



00380

EXPAND UPC-A TO EAN-13 DISABLE



00390

CONVERT EAN-13 TO ISBN DISABLE



00480

MSI

UPC/EAN

## Symbologies Set Up – 5

SEND UPC-A CHECK DIGIT ENABLE



00421

SEND UPC-E CHECK DIGIT ENABLE



00431

SEND EAN-13 CHECK DIGIT ENABLE



00461

SEND EAN-8 CHECK DIGIT ENABLE



00471

UPC-A ID CHARACTER 'b'



0049b

UPC-E ID CHARACTER 'c'



0050c

EAN-13 ID CHARACTER 'e'



0051e

SEND UPC-A CHECK DIGIT DISABLE



00420

SEND UPC-E CHECK DIGIT DISABLE



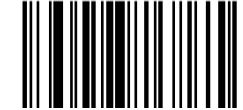
00430

SEND EAN-13 CHECK DIGIT DISABLE



00460

SEND EAN-8 CHECK DIGIT DISABLE



00470

UPC-A ID CHARACTER 'Z'



0049Z

UPC-E ID CHARACTER 'Z'



0050Z

EAN-13 ID CHARACTER 'Z'



0051Z

## Symbologies Set Up – 6

### UPC/EAN

EAN-8 ID CHARACTER 'd'



0052d

ISBN ID CHARACTER 'f'



0053f

UPC/EAN SUPPLEMENTS - DISABLE



00550

UPC/EAN SUPPLEMENTS – 5 DIGIT ONLY



00552

UPC/EAN LASER/CCD REDUNDANCY  
ENABLE



00541

EAN-8 ID CHARACTER 'Z'



0052Z

ISBN ID CHARACTER 'Z'



0053Z

UPC/EAN SUPPLEMENTS – 2 DIGIT  
ONLY



00551

UPC/EAN SUPPLEMENTS – 2 & 5 DIGIT



00553

UPC/EAN LASER/CCD REDUNDANCY  
DISABLE



00540

## EDIT SETUP BAR CODES

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



02000101000000100000000112345

EDIT #2 – STRIP 1 TRAILING CHARACTER



020002020000001

EDIT #1 – FILTER LEADING SPACES



0200010300000032

EDIT #1 – FILTER TRAILING SPACES



0200010400000032

EDIT – FILTER ALL '-' CHARACTERS



0200000500000045

EDIT - INSERT LEADING ZERO



020000060000000048

EDIT #1 - OFF



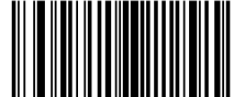
0B20001

EDIT #2 – OFF



0B20002

EDIT #1 - OFF



0B20001

EDIT #1 - OFF



0B20001

EDIT – DISABLE FILTER OF ALL '-' CHARS



0B200000500000045

EDIT – DISABLE INSERT LEADING ZERO



0B2000006000000048

## MACRO/SPECIAL KEYS SETUP BAR CODES

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



02010101011ONE

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



0201023012TWO

MACRO – FIND '0' AND REPLACE WITH 'A'



02010001010A

SPECIAL KEY –MAP F3 TO '0'



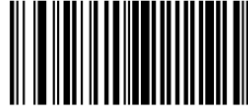
0162048

SPECIAL KEY – MAP KEYPAD ENTER TO '2'



0182050

MACRO #1 - DISABLED



0B20101

MACRO #2 - DISABLED



0B20102

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



0B2010001010A

SPECIAL KEY – DISABLE F3 KEY MAPPING



0B162

SPECIAL KEY – DISABLE KEYPAD ENTER  
MAPPING



0B182

## TERMINATION STRING SETUP BAR CODES

STRING #1 – TERMINATION CHAR - CR



0202011000\$0D

STRING #1 – TERMINATION CR+LF



0202011000\$0D\$0A

STRING #2– CODE 128 TERMINATION CHAR -  
CR



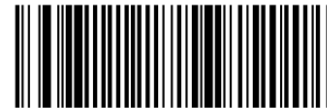
0202021080\$0D

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



0202021080\$0D\$0A

STRING – CODE 39 TERMINATION CHAR -  
TAB



0202001020\$09

STRING ALL CODES PREAMBLE - STX



0202002000\$02

STRING #1 – TERMINATION - LF



0202011000\$0A

STRING #1 - DISABLE



0B20201

STRING #2 – CODE 128 TERMINATION CHAR -  
LF



0202021090\$0A

STRING #2– CODE 128 TERMINATION CHAR -  
REMOVED



0B20202

STRING – CODE 39 TERMINATION CHAR – TAB  
- REMOVED



0B202001020\$09

STRING ALL CODES POSTAMBLE - ETX



0202003000\$03

# Factory Default Setting

<b>Scanner Timing</b>	<b>Default</b>
<b>RS-232 communication</b>	<b>Default</b>
Baud rate	9600
Parity	None
Data Bits	8
Stop Bit	1
RTS/CTS	Off
Terminator	<CR>
<b>Keyboard Wedge Communication</b>	<b>Default</b>
Terminal Type	PC/AT
Keyboard	US keyboard
Terminator	Enter (Alpha numeric)
<b>USB Communication</b>	<b>Default</b>
Terminator type	Enter
Code mode	Scan Code
Keyboard	US keyboard
<b>Decoder Selection</b>	<b>Default</b>
EAN/UPC	Enable
Code 39	Enable
Code 32	Disable
CODABAR	Enable
ITF 2 of 5	Enable
MSI	Disable
Code 93	Enable
Code 128	Enable
EAN-128	Disable

# 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.

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

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

Possible Cause	Possible Solution
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.

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