RIOTEC

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

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.

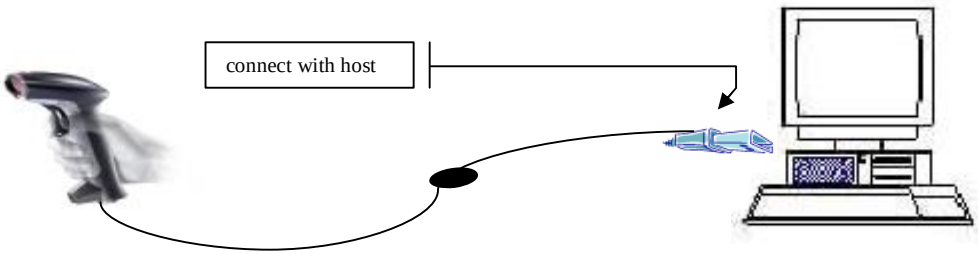
The products we are offering can be integrated into a computer system by RS232, PS2 or USB interface. All the operating parameters are programmed by bar code programming menu and stored in non-volatile RAM which can retain the settings after power is turned off. All the functions which are not listed in this menu, please consult your supplier for more details.

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.

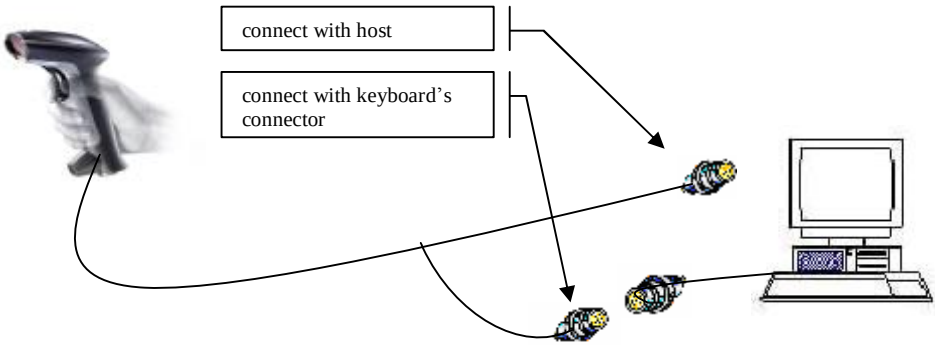
Installation

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

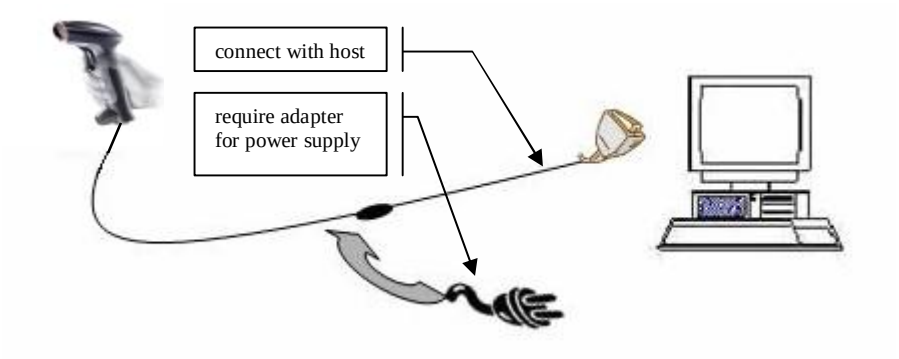
1. USB Connection



2. PS2(K/B) Connection



3. RS232 Connection



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

1. Be sure that Host computer is turned on.
2. Ensure that all connections are secure.
3. Turn on your host. And please operate the scanner under the right software application.
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.

Setup from Bar Code Label

Multiscan Functions – 1

OUTPUT FIRMWARE VERSION

0A

RESET CONFIGURATION TO DEFAULTS

0B

OUTPUT MODE

OUTPUT MODE – KEYBOARD WEDGE

000600

OUTPUT MODE - SERIAL

000601

OUTPUT MODE – WAND EMULATION

000602

OUTPUT MODE - RESET

0B006

OUTPUT MODE – OCIA
(NOT AVAILABLE YET)

000603

OUTPUT MODE – MAC
(NOT AVAILALE YET)

000604

BUZZER / LED

GOOD READ BEEP TONE – NONE

014200

GOOD READ BEEP TONE - RESET

0B142

GOOD READ BEEP DURATION - MEDIUM

014301

LED POWER SAVE MODE - ENABLE

01451

Multiscan Functions – 2

IMAGE

DECODE OPTIONS REVERSE IMAGE – ENABLE

01391

DECODE OPTIONS REVERSE IMANGE - DISABLE

01390

CODE ID

DECODE OPTIONS SEND BAR CODE ID - DISABLE

01400

DECODE OPTIONS SEND BAR CODE ID – AS A PREFIX

01401

DECODE OPTIONS SEND BAR CODE ID - RESET

0B140

DECODE OPTIONS SEND BAR CODE ID – AS A SUFFIX

01402

READING MODE

LASER/CCD MODE – SINGLE SCAN

013300

LASER/CCD MODE – SINGLE SCAN NO TRIGGER

013301

LASER/CCD MODE – MULTISCAN

013302

LASER/CCD MODE – MULTISCAN NO TRIGGER

013303

ASER/CCD MODE – CONTINUOUS SCAN

013304

LASER/CCD MODE - PULSE

013305

Interface – KBW

PC Communication

WEDGE MODE - AUTODETECT

000200

WEDGE MODE – SCAN SET 2 PASS THRU

000204

TRANSMIT SPEED

TRANSMIT SPEED - 0

0000000

TRANSMIT SPEED - 25

0000025

LANGUAGE

KEYBOARD COUNTRY - USA

0005000

KEYBOARD COUNTRY - GERMAN

0005010

KEYBOARD COUNTRY – FRANCE

0005009

KEYBOARD COUNTRY - UNIVERSAL

0005025

Interface – Serial - 1

BAUD RATE

SERIAL BAUD RATE - 2400

000703

SERIAL BAUD RATE - 4800

000704

SERIAL BAUD RATE - 9600

000705

SERIAL BAUD RATE - 19200

000706

HAND SHAKE

SERIAL HANDSHAKE - NONE

001200

SERIAL HANDSHAKE – XON/XOFF

001201

SERIAL HANDSHAKE – RTS/CTS

001202

SERIAL HANDSHAKE – ACK/NAK

001203

SERIAL HANDSHAKE TIMEOUT – 2 SECONDS

0013020

SERIAL HANDSHAKE TIMEOUT – 5 SECONDS

0013050

Interface – Serial - 2

PARAMETERS

SERIAL DATA BITS - 8

00081

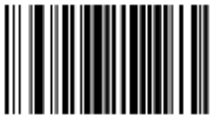
SERIAL DATA BITS - 7

00080

SERIAL STOP BITS - 1

00090

SERIAL STOP BITS - 2



00091

SERIAL PARITY - NONE

001000

SERIAL PARITY - ODD

001001

SERIAL PARITY - EVEN

001002

SERIAL PARITY - MARK

001003

SERIAL PARITY - SPACE

001004

SERIAL PARITY - RESET

0B010

Interface - WAND

CODE 128 WAND EMULATION – ENABLE

00141

CODE 128 WAND EMULATION - DISABLE

00140

SPEED

WAND EMULATON SPEED – FASTEST (0)

001500

WAND EMULATION SPEED – SLOWEST (3)

001503

BAR LEVEL

WAND EMULATION – BAR=1 (HIGH)

00161

WAND EMULATION – BAR=0 (LOW)

00160

CODE 11

CODE 11 - ENABLE

01261

CODE 11 - DISABLE

01260

CODE 39

CODE 39 ENABLE

00221

CODE 39 DISABLE

00220

FULL ASCII ENABLE

00231

FULL ASCII DISABLE

00230

Symbologies On/Off - 1

CODE 93

CODE 93 - ENABLE

00621

CODE 93 - DISABLE

00620

CODE 128

CODE 128 - ENABLE

00691

CODE 128 - DISABLE

00690

CODE 128 ISBT - ENABLE

00701

CODE 128 ISBT - DISABLE

00700

CODABAR

CODABAR - ENABLE

00851

CODABAR - DISABLE

00850

INTERLEAVED 2 OF 5

I2OF5 - ENABLE

00961

I2OF5 - DISABLE

00960

INDUSTRIAL 2 OF 5

ID2OF5 - ENABLE

01061

ID2OF5 - DISABLE

01060

Symbologies On/Off - 2

MSI/PLESSEY

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

CODE 128

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 ID CHARACTER - ‘j’

0113j

ID2OF5 ID CHARACTER - ‘Z’

0113Z

ID2OF5 LASER/CCD REDUNDANCY - ENABLE

01141

ID2OF5 LASER/CCD REDUNDANCY - DISABLE

01140

Symbologies Set Up – 4

MSI/PLESSEY

MSI ISBN ID CHARACTER –‘f’

0053f

MSI ISBN ID CHARACTER –‘Z’

0053Z

MSI LASER/CCD REDUNDANCY - ENABLE

01251

MSI LASER/CCD REDUNDANCY - DISABLE

01250

UPC/EAN

EXPAND UPC-E TO UPC-A ENABLE

00381

EXPAND UPC-E TO UPC-A DISABLE

00380

EXPAND UPC-A TO EAN-13 ENABLE

00391

EXPAND UPC-A TO EAN-13 DISABLE

00390

CONVERT EAN-13 TO ISBN ENABLE

00481

CONVERT EAN-13 TO ISBN DISABLE

00480

UPC-A ID CHARACTER ‘b’

0049b

UPC-A ID CHARACTER ‘Z’

0049Z

Symbologies Set Up – 5

UPC/EAN

UPC-E ID CHARACTER –‘c’

0050c

UPC-E ID CHARACTER –‘Z’

0050Z

EAN-13 ID CHARACTER –‘e’

0051e

EAN-13 ID CHARACTER –‘Z’

0051Z

EAN-8 ID CHARACTER –‘d’

0052d

EAN-8 ID CHARACTER –‘Z’

0052Z

ISBN ID CHARACTER –‘f’

0053f

ISBN ID CHARACTER –‘Z’

0053Z

UPC/EAN SUPPLEMENTS - DISABLE

00550

UPC/EAN SUPPLEMENTS – 2 DIGIT ONLY

00551

UPC/EAN SUPPLEMENTS – 5 DIGIT ONLY

00552

UPC/EAN SUPPLEMENTS – 2&5 DIGIT

00553

Symbologies Set Up – 6

UPC/EAN

UPC/EAN LASER/CCD REDUNDANCY ENABLE

00541

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’

020001010000001000000000112345

EDIT #1 - OFF

0B20001

EDIT #2 – STRIP 1 TRAILING CHARACTER

020002020000001

EDIT #2 - OFF

0B20002

EDIT #1 – FILTER LEADING SPACES

020001030000032

EDIT #1 - OFF

0B20001

EDIT #1 – FILTER TRAILING SPACES

020001040000032

EDIT #1 - OFF

0B20001

EDIT – FILTER ALL ’-’ CHARACTERS

020000050000045

EDIT – DISABLE FILTER OF ALL ’-’ CHARS

0B20000050000045

EDIT - INSERT LEADING ZERO

020000060000000048

EDIT – DISABLE INSERT LEADING ZERO

0B20000060000000048

MACRO/SPECIAL KEYS SETUP BAR CODES

MACRO #1 – FIND ‘1’ AND REPLACE WITH ‘ONE’

02010101011ONE

MACRO #1 - DISABLED

0B20101

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

0201023012TWO

MACRO #2 - DISABLED

0B20102

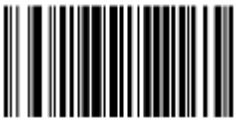
MACRO – FIND ‘0’ AND REPLACE WITH ‘A’

02010001010A

MACRO – FIND ‘0’ AND REPLACE WITH ‘A’ - DISABLE

0B2010001010A

SPECIAL KEY –MAP F3 TO ‘0’



0162048

SPECIAL KEY – DISABLE F3 KEY MAPPING

0B162

SPECIAL KEY – MAP KEYPAD ENTER TO ‘2’

0182050

SPECIAL KEY – DISABLE KEYPAD ENTER MAPPING

0B182

TERMINATION STRING SETUP BAR CODES

STRING #1 – TERMINATION CHAR - CR

0202011000$0D

STRING #1 – TERMINATION - LF

0202011000$0A

STRING #1 – TERMINATION CR+LF

0202011000$0D$0A

STRING #1 - DISABLE

0B20201

STRING #2– CODE 128 TERMINATION CHAR - CR

0202021080$0D

STRING #2 – CODE 128 TERMINIATION CHAR - LF

0202021090$0A

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

0202021080$0D$0A

STRING #2– CODE 128 TERMINATION CHAR - REMOVED

0B20202

STRING – CODE 39 TERMINATION CHAR - TAB

0202001020$09

STRING – CODE 39 TERMINATION CHAR – TAB - REMOVED

0B202001020$09

STRING ALL CODES PREAMBLE - STX

0202002000$02

STRING ALL CODES POSTAMBLE - ETX

0202003000$03

Factory Default Setting

Scanner Timing	Default
RS-232 communication	**Default**
Baud rate	9600
Parity	None
Data Bits	8
Stop Bit	1
RTS/CTS	Off
Terminator	<CR>
Keyboard Wedge Communication	**Default**
Terminal Type	PC/AT
Keyboard	US keyboard
Terminator	Enter (Alpha numeric)
USB Communication	**Default**
Terminator type	Enter
Code mode	Scan mode
Keyboard	US keyboard
Decoder Selection	**Default**
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. 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.

e. Problem: The decoder beeps, but no data is displayed on my computer.

Possible Cause	Possible Solution
Decoder 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 Guide.
The decoder is configured to send the numeric data as KEYPAD NUMERICS, or the Keyboard Country setting is set to UNIVERSAL.	Reconfigure the decoder to Send Numerics as MAIN KEYBOARD KEYS and set the Keyboard Country setting to the country setting of your computer.

f. 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 RS232, ensure the scanner's communication parameters match the host's settings For keyboard emulation configuration, 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 decoder's Keyboard Country setting does not match the computer's keyboard setup.	Set the decoders Keyboard Country to the same setting as the keyboard on your computer.

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

Possible Cause	Possible Solution
The decoder's transmit speed is too fast.	Slow down the decoder's transmit speed.

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

Possible Cause	Possible Solution
The decoder is damaged or is no longer functioning.	Disconnect the decoder 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 decoder. Call technical support for assistance.

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.