Barcode Slot Reader

Quick Guide

REV 2 8013-0006000

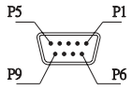
Product Overview

The barcode slot reader is a flexible, cost effective scanning solution. With resolution of up to 5 mils, the it is capable of reading any barcoded identification badge/card. Its sealed optical system is available in both visible light or infrared. The infrared units ensure accurate reading of visible and laminated badges. Its water resistant base and rugged housing make the barcode slot reader ideal for harsh environments. It is suitable for education, time attendance etc.

Cable Pin Assignment:

1.) RS232 (D-Sub 9 Female):

Pin	Signal
2	TXD(Out)
3	RXD(In)
5	GND
7	CTS(In)
8	RTS(Out)
9	+5VCC



2.) USB (Type A Male):

Pin	Signal
1	+5VCC
2	Data -
3	Data +
4	GND

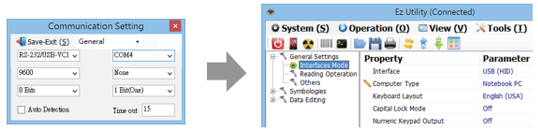
Install Software Utility (Ez Utility)

Ez Utility software utility is the simplest and most user-friendly way to configure your scanner settings. Before the installation please connect the cable to the USB/RS232 port of the host PC/Laptop.

1. Contact your local distributor for the latest Ez Utility.
2. Download and unzip the file.
3. Install Ez Utility.

Configure the Scanner

1. Click on Ez Utility icon from your desktop to launch Ez Utility.
2. In Communication Setting window, select “General” as genre, select “USB-HID”, or “RS232/USB-VCP” according to the interface of your product.
3. Click [Save-Exit (S)] to continue.



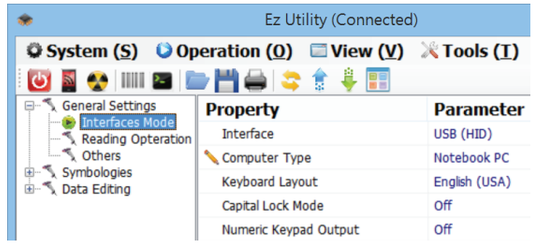
(*Note: Call for help please press [F1] when the program is running.)

4. Click on icon on the toolbar to retrieve scanner’s parameters.
5. Double click on the items you want to edit and then press [Enter] to save changes.
6. Click on icon on the toolbar to update scanner’s parameters.

Icon	Function	Description
	Retrieve Scanner’s Parameters	Retrieve scanner’s current parameters onto the main window.
	Update Scanner’s Parameters	Upload the parameters shown in the main window to the scanner.
	Default	Click this icon can conduct one of the following functions: 1. Undo all changes 2. Reset current parameters to default 3. Reset scanner parameters to default
	Open	Load settings from a saved file.
	Save	The scanner settings will be saved as *.txt or *.bin file, so you can have access to a variety of different scanner configurations that you’ve set up.

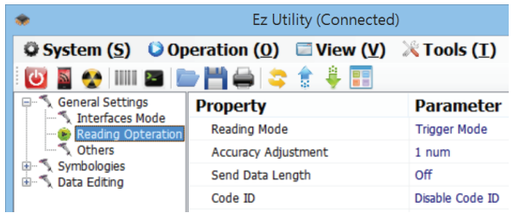
• Function Description

- Interface Mode



Interface	Select the interface for making data-input.
Computer Type	Select the device which the scanner is connected.
Keyboard Layout	Default is English (USA)
Capital Lock Mode	When Capital Lock Mode is set to Auto, whether the keyboard CapsLock LED indicator is ON or OFF, output will be always the same as the original data of a barcode.
Numeric Keypad Output	Whether to output the data using Numeric Keypad. This setting is only available for USB-HID interface.
Function Code	Once enabled, the following data encoded in Code39 will be treated as Function Keys: $TA = [F1], $TB = [F2], ... $TL = [F12]
HT/CR/ESC -> TAB/Enter/Escape	Once enabled, HT/CR/ESC (^I/ ^M/ ^[ ) will be sent as TAB/Enter/Escape.
Terminator	The terminator is a command that follows the input of barcode data. Default is “CR” for USB, and “CR+LF” for RS232.
Interblock Delay	Time interval between every two consecutive reads.
Intercharacter Delay	Time interval between every two consecutive characters in an output data.

- Reading Operation



Reading Mode	Default is Trigger Mode (Do not change it)
Accuracy Adjustment	Accuracy Adjustment assures a more reliable decoded output. The higher the value, the greater the accuracy.
Send Data Length	Status of the length of a decoded barcode to be shown before every output data.
Code ID	Status of Code ID to be shown before every output data.

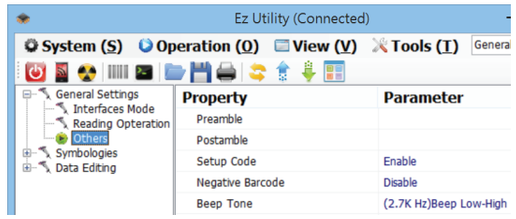
<Code ID>

The Code ID function can be used to identify the type of bar code that is being scanned by inserting an identifying letter at the beginning of the barcode output. For example, if the Code ID function is on, and a barcode string of “54321” was output as “M54321”, the barcode would thus be identified as type Code 39. Default is “Disable”.

SYMBOLOGIES CODE ID IDENTIFIER

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

- Others



Preamble	Preamble can be a prefix of up to 16 digits composed of alphanumeric characters/ function codes added to the beginning of an output data.
Postamble	Postamble can be a suffix of up to 16 digits composed of alphanumeric characters/ function codes added to the end of an output data.
Setup Code	Disabling Setup Code will turn the scanner into unprogrammable state and the scanner will not react to any setup/config barcode.
Negative Barcode	Status of negative/inverse barcode decoding capability.
Beep Tone	Beep tone for good read indication.

<Preamble & Postamble (Prefix and Suffix)>

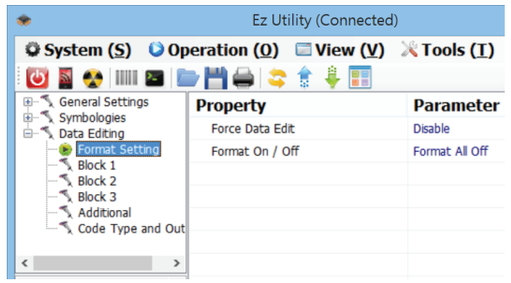
EXAMPLE:
Set PREAMBLE String as " ## "
POSTAMBLE String as " $$ "

Setting Procedure:
1. Double-click Preamble, and a Special Keyboard window will show up.
2. Input “#” in the first column and click [Next] before input the second “#”.
3. Click [Save-Exit] to save changes.
4. Double click Postamble and input two “$” in the same way as Preamble.

*Data Format: { Preamble }{ CodeID }{ Barcode Data }{ Postamble }{Terminator}

- Symbologies
This function is for user to set up the parameters of all kinds of barcodes.

- Data Editing
This advanced function is for special purpose; it's recommanded to keep the default settings.



Trouble Shooting

Most problems that you might encounter with your scanner can be solved using the following procedures:

• Try scanning other barcodes.
If your scanner can scan other types of barcode symbologies, but cannot scan your barcodes, first check to see if your particular barcode symbology is enabled. If it is, try the scanner on the same barcode type in the Barcode Test Chart in the back of this manual. Then, ensure that your barcodes are crisp and clear.

• Reset to Factory Default.
While the Ez Utility program is running, please click icon on the toolbar to

reset the scanner back to factory default.

*Notice: This action will remove all changes of configurations you have made.

• Test the scanner on other ports.
Our scanners are built to the highest standards, and a perceived scanner malfunction may actually be a malfunction in the host computer. Test the scanner on the host's other ports if possible or, if necessary, on other systems to verify that the problem is actually in the scanner and not in the host computer.

Q1. Scanner doesn't light up.
If the scanner does not emit a light when plugged in, check the interface. If the scanner uses an RS232 interface, you will very likely need a power supply (5V, >120mA). Unplug the scanner and plug it back in.
Try the scanner on another port if possible. Re-boot the computer.
If the scanner still doesn't light up, try the scanner on another computer to ensure that the fault isn't in the original computer.

Q2. Scanner lights up but doesn't beep.
If the scanner emits a light, but doesn't beep when scanning a bar code, try bar codes of different symbologies. If other types of bar codes scan properly, then it might be that the scanner is not configured to scan your particular symbology. If the scanner can scan other bar codes of the same symbology, then other parameters (such as mini-mum/maximum length, etc.) may have to be adjusted. Ensure that your bar code has been created properly, with crisp edges and start/stop sentinels. For instance, Code 39 bar codes require asterisk (*) start/stop sentinels at the beginning and end of the data string (*123ABC*). Avoid glossy surfaces or glossy inks for your bar codes. A glossy black surface may be indistinguishable from a white surface to your scanner. Try photocopying your barcode and scanning the copy to determine if glossiness may be a factor.

Q3. No output from scanner.
If the scanner appears to scan (emits a light and beeps), but does not output data, try scanning into a word processor application or Notepad session to see if it's a software problem. Try the scanner on other ports to see if it's a computer port problem. If your scanner is connected by RS232 interface, make sure that the correct com port is selected. If you're testing your scanner in HyperTerminal, make sure that "Bits per second" = 9600, "Data bits" = 8, "Parity" = None, "Stop bits" = 1, and "Flow control" = None.

Q4. Ez Utility cannot upload or download
Ez Utility can currently conduct two-way communication (upload and download) in all Windows operating system (NT excluded). If you have a different OS, or the download function doesn't work, set up your scanner's configuration in EZU off-line. And then, instead of uploading, click the icon on the toolbar to print out the configuration barcodes so that you can then cut them into barcode strips and swipe them respectively to configure the scanner manually.

Warranty

Limited Hardware Warranty

The Limited Warranty terms described below are solely applicable to the customer This warranty applies to equipment only. All consumables and accessories are exempted.

We warranties the products to be delivered free from defects in material and workmanship, from the date of purchase. All equipment except for cables, batteries and power supplies are warranted for a period of twelve months (beginning from the month of delivery). Some products may have longer warranties, but all products (except for cables, batteries and power supplies carry at least a one year warranty. All cables, batteries and power supplies, external to dedicated products carry a ninety day warranty.

During this warranty period we will, at our sole discretion, replace or repair free of charge any product(s) which, in our opinion, is/are defective. Any merchandise that is to be returned must have a valid Return Merchandise Authorization (RMA) number clearly indicated on the outside of the returned package and on the accompanying packing list. We cannot be held responsible for any package returned without a RMA number. To obtain a RMA number, please contact Customer Service Department or Sales Representative of your local distributor.

The Customer is responsible for packing the defective product properly, and for the cost of shipping the defective product to us. We are responsible for shipping back the product which is repaired or replaced. If any charges borne by the Customer, the invoice for the repaired or replaced product(s) will be sent to the Customer's payment terms.

In the event that the product has been modified without 's consent or if the product failure is the result of misuse, abuse, willful neglect or misapplication. We have no

obligation to repair or replace the product.

Except as expressly mentioned above, the hardware and accompanying written materials (including the user's manual) are provided "as is" without warranty of any kind, including the implied warranties of merchant ability and fitness for a particular purpose, even we have been advised of that purpose. In no event will we be liable for any direct, indirect, consequential, or incidental damages arising out of the use of or inability to use such product(s), even if we have been advised of the possibility of such damages.

Specifications

PERFORMANCE	
Light Source	Visible Light: 660nm LED Infrared Light: 850nm LED
Depth of field	2 mm (CODE-39 5mil)
Sensor	Photo diode
Resolution	0.127mm (5 mil)
Print Contrast Ratio	60%
Scan Rate	47~470mm(1.85"~18.5")/Sec.
MECHANICAL / ELECTRICAL	
Dimensions	124(L) x 61(W) x 34(H) mm
Max Card Thickness	54 mils (.054", 1.37mm)
Voltage	5 VDC ± 5%
Working Current	<120 mA (Visible light); <110mA (Infrared)
DECODER	
Cable Type	RS232 or USB
Configuration	Configurable by software utility (Ez Utility)
Symbologies	UPC-A, UPC-E, EAN-8, EAN-13, Industrial 2 of 5, Codabar, Matrix 2 of 5, code 11, Code 93, Code 32, Code 128, Standard Code 39, Full ASCII Code 39, Interleaved 2 of 5, China Postal Code, MSI Plessy Code, UK Plessy Code, EAN/UCC 128, Telepen Code, IATA Code
ENVIRONMENTAL	

Temperature	Operating: 0~50°C (32 to 122ºF) Storage: -20~60°C (4 to 140ºF)
Humidity	0% to 95% (non-condensing)
Mechanical shock:	1.6M drop to concrete

Appendix 1 -Default Table

Table 1

PARAMETER	DEFAULT	PARAMETER	DEFAULT
Computer Type	PC-AT	Cadabar	Enable
Interface	*	Telepen	Disable
Beep Tone	Beep Medium	UPC-A	Enable
Capital Lock Mode	Caplock Off	UPC-E	Enable
Preamble & Postamble	Off	EAN-8	Enable
Enable & Disable Code ID	Off	EAN-13	Enable
Interblock Delay	0 ms	MSI	Disable
Inter-character Delay	140us	Code 39	Enable
Keyboard Layout	English(USA)	Code 11	Enable
Terminator	CR, CR+LF	Code 93	Disable
Baud Rate	9600	EAN-128	Enable
Data Bits & Parity	8 Bit None	IATA	Disable
Stop Bits	1 stop bit	China Post Code	
Handshaking	None	Enable/Disable	Enable
ACK/NAK	Off	Check Digits	Disable CDV
Flow Control TimeOut	1 Sec	Min Length	11 digits
Enable and Disable Symbologies		Max Length	48 digits
Code 32	Disable	Code 32	
China Postal Code	Enable	Enable/Disable	Disable
UK Plessy Code	Disable	Leading send/not send	send
Industrial 2 of 5	Disable	MSI	
Matrix 2 of 5	Disable	Enable/Disable	Disable
Interleaved 2 of 5	Enable	Check Digits	CDV & send CD
Code 128	Enable	Check Digits Mode	Single MOD 10

Table 2

PARAMETER	DEFAULT	PARAMETER	DEFAULT
UK Plesssy		Matrix 2 of 5	
Enable/Disable	Disable	Enable/Disable	Disable
Check Digits	CDV & not send CD	Check Digits	Disable CDV
		Min Length	6 digits
IATA		Max Length	48 digits
Enable/ Disable	Disable		
Check Digits	Disable CDV	Codabar	
Min Length	6 digits	Enable/Disable	Enable
Max Length	48 digits	Check Digits	Disable CDV
		Min Length	6 digits
Code 93		Max Length	48 digits
Enable/Disable	Disable	ST/SP;Abcd/ abcd,abcd/tn*c,	ABCD/ABCD
Min Length	6 digits		
Max Length	48 digits	ABCD/ABCD,ABCD/ TN*C	
Telepen		Start(ST)/ Stop(SP)send	Send
Enable/Disable	Disable		
Telpen ASCII /Number	Number	CLSI Format	On
		ABC-Codabar	
Interlenved 2 of 5		ON/OFF	Off
Enable/Disable	Enable	Insert Data	Off
Check Digits	Disable CDV	CX-Codabar	
First/ last digit suppressed	No suppressed	ON/OFF	Off
		Insert Data	Off
Min Length	6 digits		
Max Length	48 digits	Codabar-Coupling	
		ON/OFF	Off
Code II		Insert Data	Off
Enable/Disable	Disable	Adjacent Required	Off
Check Digits	Disable CDV		
Min Length	6 digits	Code 39	
Max Length	32 digits	Full ASCII 39 Enable/ Disable	Enable
Industrial 2 of 5			
Enable/Disable	Disable	Check Digits	Disable CDV
Check Digits	Disable CDV	Start/Stop	Not Send
Min Length	6 digits	Min Length	1 digits
Max Length	48 digits	Max Length	48 digits

Table 3

PARAMETER	DEFAULT	PARAMETER	DEFAULT
UPC-E		EAN-13	
Enable/Disable	Enable	Enable/Disable	Enable
Check Digits	Send	Check Digits	Send
Lead Digits	Send	Lead Digits	Send
Add a space	Off	Add a space	Off
Addenda required	Off	Addenda required	Off
+5 On/Off	Off	+5 On/Off	Off
+2 On/Off	Off	+2 On/Off	Off
		ISSN On/Off	Off
UPC-E systems number		ISBN	Off
UPC E(0) On/Off	On	EAN/UCC128	
UPC E(1) On/Off	Off	Enable/Disable	Enable
UPC-E expand to UPC-A	Disable	Code ID	Disable
		Func I Chear send	Not Send
UPC-A expand to EAN13	Disable	Code 128	
UPC-A		Enable/Disable	Enable
Enable/Disable	Enable	Check Digits	Disable CDV
Check Digits	Send	Min Length	5 digits
Lead Digits	Send	Max Length	48 digits
Add a space	Off		
Addenda required	Off		
+5 On/Off	Off		
+2 On/Off	Off		
EAN-8			
Enable/Disable	Enable		
Check Digits	Send		
Lead Digits	Send		
Add a space	Off		
Addenda required	Off		
+5 On/Off	Off		
+2 On/Off	Off		

Appendex 2- Barcode Test Chart

3 045214 834123
EAN-13

1234558
MSI Code

0 47669 13716 6
UPC-A

0987654321
Interleaved 2 of 5

1122334455
Standard 2 of 5

Medium Density

Density	Narrow mm(mil)	Wide mm(mil)	Char.Gap mm(mil)	N/W RATIO
Medium Density	0.25(10)	0.625(25)	0.25(10)	1/2.5

4 712567 014012
EAN-13

0 6
31323 12078
UPC-A

9876543210
Interleaved 2 of 5

A12345678A
NW-7 (Codabar)

CODE-39 TEST
Code 39