

2D Barcode Scanner

Full Manual

Content

Connection Method.....	5
Enable/Disable Configuration barcode.....	5
Version No.....	5
Factory Default Setting.....	5
Data Interface.....	6
USB Keyboard Layout.....	6
Control Character Escaping.....	6
Control Character Output.....	7
CR/LF character processing(USB Keyboard).....	7
USB Keyboard Transfer Speed.....	8
Convert Case.....	8
Keyboard Layouts.....	9
Virtual Keyboard.....	13
Selection Of Host Operating System In Virtual Keyboard Mode.....	14
Barcode Encoding Configuration.....	14
Output Encoding Format.....	15
Invoice Function.....	15
Switch On/Off Invoice Function.....	15
Invoice Type.....	16
RS232 Interface Configuration.....	16
Baud Rate.....	16
Data bit, Stop bit, Parity bit.....	17
GS Control Character Replacement.....	19
Scan Mode.....	20
Auto Sense Mode off.....	20
Auto Sense Mode on.....	20
Repeat Barcode Detection.....	20
Light Configuration.....	21
LED Indicator Light.....	21
Buzzer Configuration.....	21
Volume Setting.....	21
Prompt Tone Setting.....	22
Successfully Decode Prompt Tone Setting.....	22
Successfully Decode Prompt Audio Frequency Setting (Tone).....	23
Successfully Decode Prompt Duration Setting.....	23
Error Warning Prompt Frequency Setting (Tone).....	24
Prefix and Suffix Configuration.....	24
Start Character.....	24
Terminal Character.....	25
Custom Prefix.....	25
Output Options.....	26
Edit.....	26

Custom Suffix.....	26
Output Options.....	26
Edit.....	27
Code ID.....	27
Output Options.....	27
Edit.....	28
AIM ID.....	28
Barcode Prefix And Suffix Order Selection.....	28
Prefix.....	29
Suffix.....	29
Inverse color barcode selection.....	29
Barcode Type Selection.....	30
Enable/Disable All barcodes.....	30
Enable/Disable All 1D barcodes.....	30
Enable/Disable All 2D barcodes.....	31
Codabar.....	31
Codabar Start/Terminal Character.....	31
Set Length Range For Codabar.....	32
Code 39.....	32
Code 39 Parity Check.....	32
Code 39 Full ASCII.....	33
Set Length Range For Code 39.....	33
Code 32(Enable code39 first).....	33
Interleaved 2 of 5 (ITF25).....	34
Interleaved 2 of 5 (ITF25) Check Bit.....	35
Interleaved 2 of 5 (ITF25) Length Selection.....	35
Set Length Range for Interleaved 2 of 5.....	37
Industrial 2 of 5.....	37
Set Length Range for Industrial 2 of 5.....	38
Matrix 2 of 5 (4-24bit).....	38
Set Length Range for Matrix 2 of 5.....	38
Code 93.....	39
Set Length Range for Code 93.....	39
Code 11.....	39
Code 11 Parity Check Output.....	40
Code 11 Parity Selection.....	40
Set Length Range for Code 11.....	40
Code 128.....	41
GS1-128.....	41
Set Length Range for CODE-128.....	41
UPC-A.....	42
UPC-A Check Bit.....	42
UPC-A Convert to EAN-13.....	42
UPC-E.....	43

UPC-E Check Bit.....	43
UPC-E Expand to UPC-A.....	43
EAN/JAN-8.....	44
EAN-8 Convert to EAN-13.....	44
EAN/JAN-13.....	44
UPC/EAN/JAN Add on code.....	45
EAN13 Convert to ISBN.....	45
EAN13 Convert to ISSN.....	45
GS1 DataBar (RSS14).....	46
GS1 DataBar Limited.....	46
GS1 DataBar Expanded.....	47
PDF417.....	47
Micro PDF417.....	47
QR Code.....	48
QR Code URL Link.....	48
Micro QR.....	48
Data Matrix.....	49
Aztec Code.....	49
Appendix.....	49
Data and Edit barcode.....	49
Barcode type ID Table.....	52
AIM ID Table.....	53
Visible Character ASCII Table.....	54
Control Character Set (USB keyboard mode).....	55
Control Character Set (RS232,USB,VCP).....	56
Configuration of instructions and examples.....	57
Example for user-defined prefix and suffix:.....	57
Example for barcode length range configuration.....	58
Example for USB keyboard transmit speed configuration.....	58

Connection Method

Put scanner connect the dedicated joint, on the other side plug into PC port.
If the barcode configuration was turned off, please turn on the barcode configuration .

Enable/Disable Configuration barcode

Scanner can set up when enabled barcode function.In contrast, the scanner can't set up if disabled. Need to switch on and set up again.



Enable Configuration Function (Default)



Disable Configuration Function

Version No.



Version Number

Factory Default Setting

Scanning the below barcode can restore the scanner the factory default.



Restore Factory Default Configuration

Data Interface

This scanner support USB-KBW, RS232, USB Virtual Com. Scanning the below barcode is USB-KBW mode.



USB-KBW (Default)

Scanning the below barcode is RS 232 mode.



RS232

Scanning the below barcode is USB Virtual Com mode(driver is needed).



USB Virtual Com

USB Keyboard Layout

Control Character Escaping



Enable



Disable (Default)

Control Character Output



Disable



Enable

CR/LF character processing(USB Keyboard)



Only 0A(LF) line feed



Only 0D (CR) line feed (Default)



All convert to 0A (LF)/0D(CR)

USB Keyboard Transfer Speed

Used for set up scanning speed under USB keyboard mode. If PC in a lower function, please choose low scanning speed to make sure its accuracy.



Low (Default)



Middle



High



Custom Sending Speed (2ms~50ms)

Convert Case



Original data (Default)



Case Inversion



All Convert to Upper Case



All Convert to Lower case

Keyboard Layouts



English (United States)
(Default)



French (France)



Italian (Italy)



Italian 142 (Italy)



German (Germany)



Spanish (Spain)



Spanish (Latin America)



Finnish



Japanese



Russian (MS)



Russian (typewriter)



Arabic (101)



Irish



Polish (214)



Polish (Programmers)



Dutch (Netherlands)



Czech (QWERTZ)



Portuguese (Portugal)



Portuguese (Brazil)



Swedish (Sweden)



Turkish Q



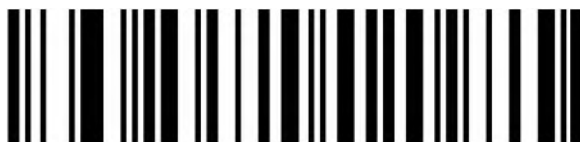
Turkish F



Greek (MS)



French (Belgium)



English (UK)

Virtual Keyboard

Mode 1: Do not support output the characters between 0x20 to 0xFF by using the virtual keyboard, under the current keyboard layout.

The characters between 0x00~0x1F are output according to the definition of control characters (Refer to Appendix)

Model 2: Support output the characters between 0x20 to 0xFF by using the virtual keyboard. The characters between 0x00~0x1F are output according to the definition of control characters (Refer to Appendix)

Model 3: Support output the characters between 0x00 ~ 0xFF by using the virtual keyboard



Turn Off (Default)



Turn On (Mode 1)



Turn On (Mode 2)



Turn On (Mode 3)

Selection Of Host Operating System In Virtual Keyboard Mode



WINDOWS (Default)



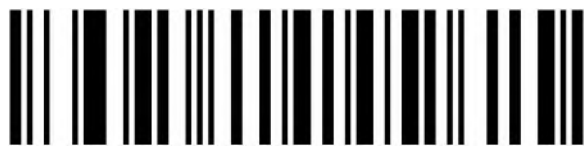
MAC OS



LINUX

Barcode Encoding Configuration

In a normal situation , the barcode encoding was identified accurately.
Please use manual to set up if encountered peculiar characters, that make sure output barcode content correctly.



Auto (Default)



KOI8-R code

Output Encoding Format

To output correctly in the specified encoding format.

For example: It's GBK code when output in the Notepad /Excel; It's UNICODE when output in the Word.

When output is English/Latin-1 encode format, the output mode will affected by the function switch of virtual keyboard. When output is GBK/UNICODE, the output mode will compelled to virtual keyboard.



English/Latin-1 (Default)



GBK (Notepad/excel)



UNICODE (Word)

Invoice Function

Switch On/Off Invoice Function



OFF (Default)



On

To ensure the correct output of the invoice content, when switch on the invoice code function, please configure the Chinese character output mode to GBK code (Notepad/Excel), and at the same time switch off like Code ID, User-defined prefix/suffix, and starting character to change original barcode content function.

Invoice Type



VAT Invoice (Special) (Default)



VAT Invoice (Normal)

RS232 Interface Configuration

Baud Rate



4800



9600 (Default)



19200



38400



57600



115200

Data bit, Stop bit, Parity bit



7 Bit, 1 Stop Bit, No Parity



7 Bit, 1 Stop Bit, Even Parity



7 Bit, 1 Stop Bit, Odd Parity



7 Bit, 2 Stop Bit, No Parity



7 Bit, 2 Stop Bit, Even Parity



7 Bit, 2 Stop Bit, Odd Parity



8 Bit, 1 Stop Bit, No Parity(Default)



8 Bit, 1 Stop Bit, Even Parity



8 Bit, 1 Stop Bit, Odd Parity



8 Bit, 2 stop Bit, No Parity



8 Bit, 2 Stop Bit, Even Parity



8 Bit, 2 Stop Bit, Odd Parity

GS Control Character Replacement



Do Not Replace (Default)

When output character is “Ç”, please first to scan” Virtual keyboard (Mode one or Mode two or Mode three)”.



Replace Ç



Replace |



Replace ^]



Replace]



Replace <GS>

Scan Mode

Auto Sense Mode off

Decoding by pulling the trigger of the scanner when auto sense mode is off. It's default mode.



Off (Default)

Auto Sense Mode on

The scanner can sense barcode for decoding automatically.



On

Repeat Barcode Detection

Use for decode same barcode of interval time, it will decode only one time if not exceeded set time.



500ms



750ms (Default)



1s



2s

Light Configuration

LED Indicator Light



Off



On (Default)

Buzzer Configuration

Volume Setting



Low



High (Default)

Prompt Tone Setting



Off



On (Default)

Successfully Decode Prompt Tone Setting



Off



On (Default)

Successfully Decode Prompt Audio Frequency Setting (Tone)



1 (Default)



2



3



Custom

Successfully Decode Prompt Duration Setting



Long (Default)



Short

Error Warning Prompt Frequency Setting (Tone)

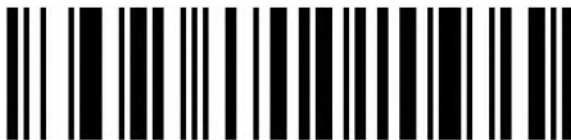
There will be four consecutive error warning tones if data transmission fails, and a single error warning tone when the unrecognized configuration code is scanned.



Low (Default)



Middle



High

Prefix and Suffix Configuration

Start Character



None (Default)



STX

Terminal Character



None



Enter



LF



CR/LF (Default)



TAB



ETX

Custom Prefix

Output Options



On



Off (Default)

Edit



Clear All Custom Prefix



Set Custom Prefix

(Please set up ID Table ,Data, and edit barcode refer to the appendix after scanning.)

Custom Suffix

Output Options



On



Off (Default)

Edit



Clear All Custom Suffix



Set Custom Suffix

(Please set up ID Table ,Data, and edit barcode refer to the appendix after scanning.)

Code ID

Output Options



Off (Default)



Before Switch on



After Switch On

Edit



Set Custom Prefix

(Please set up ID Table ,Data, and edit barcode refer to the appendix after scanning.)



Clear All Custom Prefix

AIM ID



Off (Default)



Before Switch On



After Switch On

Barcode Prefix And Suffix Order Selection

Prefix



Start Character+CODE ID+AIM ID+Custom Prefix (Default)



Start Character+ Custom Prefix + CODE ID+AIM ID

Suffix



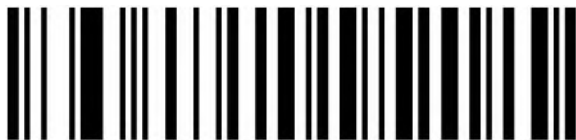
Custom Suffix+CODE ID+AIM ID+Terminal Character (Default)



CODE ID+AIM ID+Custom Suffix+Terminal Character

Inverse color barcode selection

(Only 1D/DataMatrix/Aztec)



Normal Color



Inverse Color



Both (Normal/Inverse)

Barcode Type Selection

Enable/Disable All barcodes

Enable all barcodes will low down decoding speed. So, we suggest you switch on scanner when needed. (Default is switch on state)



Enable All



Disable All

Enable/Disable All 1D barcodes



Enable All



Disable All

Enable/Disable All 2D barcodes



Enable All



Disable All

Codabar



Enable



Disable

Codabar Start/Terminal Character



Not Send Codabar Start/Terminal Character (Default)



Send Codabar Start/Terminal Character

Set Length Range For Codabar



Minimum Length (0~50bit)



Maximum Length (0~50bit)

Code 39



Enable



Disable

Code 39 Parity Check



Disable (Default)



Enable But Not Transfer



Enable & Transfer

Code 39 Full ASCII



Enable



Disable (Default)

Set Length Range For Code 39



Minimum Length (0~50bit)



Maximum (0~50bit)

Code 32(Enable code39 first)



Enable



Disable

Code 32 Prefix



Enable



Disable

Interleaved 2 of 5 (ITF25)



Enable



Disable

Interleaved 2 of 5 (ITF25) Check Bit



Disable Check Bit (Default)



Enable Check and Not Send Check Bit



Enable Check & Send Check Bit

Interleaved 2 of 5 (ITF25) Length Selection



Random Length (6-50bit) (Default)



6 Bit



8 Bit



10 Bit



12 Bit



14 Bit



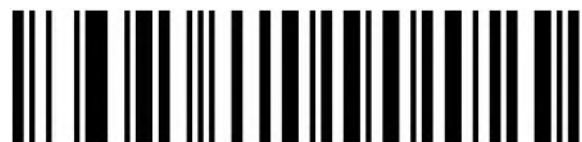
16 Bit



18 Bit



20 Bit



22 Bit



24 Bit

Set Length Range for Interleaved 2 of 5



Minimum (0~50bit)



Maximum (0~50bit)

Industrial 2 of 5



Enable



Disable

Set Length Range for Industrial 2 of 5



Minimum (0~50bit)



Maximum (0~50bit)

Matrix 2 of 5 (4-24bit)



Enable



Disable

Set Length Range for Matrix 2 of 5



Minimum (0~50bit)



Maximum (0~50bit)

Code 93



Enable



Disable

Set Length Range for Code 93



Minimum (0~50bit)



Maximum (0~50bit)

Code 11



Enable



Disable (Default)

Code 11 Parity Check Output



Enable



Disable (Default)

Code 11 Parity Selection



Disable (Default)



1 Bit



2 Bit

Set Length Range for Code 11



Minimum (0~50bit)



Maximum (0~50bit)

Code 128

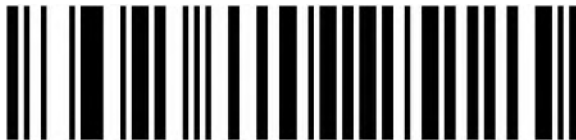


Enable



Disable

GS1-128



Enable



Disable

Set Length Range for CODE-128



Minimum (0~50bit)



Maximum (0~50bit)

UPC-A



Enable



Disable

UPC-A Check Bit



Send UPC-A Check Bit (Default)



Not send UPC-A Check Bit

UPC-A Convert to EAN-13



Enable UPC-A convert to EAN-13



Disable UPC-A convert to EAN-13 (Default)

UPC-E

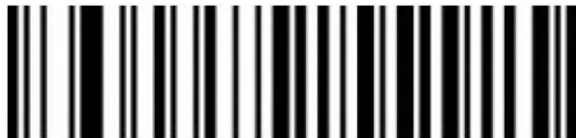


Enable



Disable

UPC-E Check Bit



Send UPC-E Check Bit (Default)



Not send UPC-E Check bit

UPC-E Expand to UPC-A



Enable



Disable (Default)

EAN/JAN-8



Enable



Disable

EAN-8 Convert to EAN-13



Disable EAN-8 convert to EAN-13



Enable EAN-8 convert to EAN-13

EAN/JAN-13



Enable



Disable

UPC/EAN/JAN Add on code



Ignore UPC/EAN/JAN (Default)



Decode UPC/EAN/JAN



Custom UPC/EAN/JANA add on code

EAN13 Convert to ISBN



Enable



Disable (Default)

EAN13 Convert to ISSN



Enable



Disable (Default)

GS1 DataBar (RSS14)



Enable



Disable

GS1 DataBar Limited



Enable

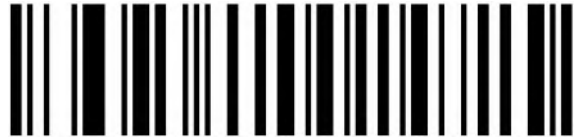


Disable

GS1 DataBar Expanded



Enable



Disable

PDF417



Enable



Disable

Micro PDF417



Enable



Disable

QR Code



Enable



Disable

QR Code URL Link

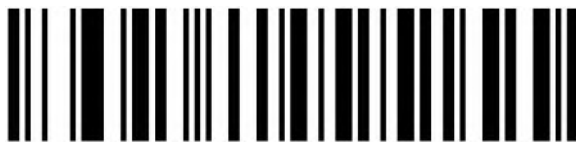


Disable



Enable

Micro QR



Enable



Disable

Data Matrix



Enable



Disable

Aztec Code



Enable



Disable

Appendix

Data and Edit barcode



0



1



2



3



4



5



6



7



8



9



A



B



C



D



E



F



Cancel current setting



Cancel a string of data from previous read



Cancel the data from previous read



Save

Barcode type ID Table

Code type	HEX	CODE
All codes	99	
Codabar	61	a
Code128	6A	j
Code32	3C	<
Code93	69	i
Code39	62	b
Code11	48	H
EAN-13	64	d
EAN-8	64	d
GS1 DataBar	52	R

GS1-128 (EAN-128)	6A	j
2 of 5		
Interleaved 2 of 5	65	e
Matrix 2 of 5	76	v
Industry 2 of 5/IATA	44	D
UPC-A	63	c
UPC-E	63	c
ISBN	42	B
ISSN	6E	n
MSI	6D	m
Aztec Code	7A	z
DataMatrix	75	u
PDF417	72	r
Micro PDF417	53	S
QR Code	51	Q
Micro QR Code	51	Q

AIM ID Table

Code type	AIM ID	Description
Codabar	]Fm	m: 0~1
Code128	]C0	m: 0, 1, 2, 4
Code32	]A0	
Code93	]G0	
Code39	]Am	m: 0, 1, 3, 4, 5, 7
Code11	]Hm	m: 0, 1, 3, 8, 9
EAN-13 / EAN-8	]Em	m: 0, 1, 3, 4
GS1 DataBar	]e0	
GS1-128 (EAN-128)	]C1	
Interleaved 2 of 5	]lm	m: 0, 1, 3
Matrix 2 of 5	]X0	
Industry 2 of 5	]S0	
UPC-A / UPC-E	]Em	m: 0, 3
ISBN	]X0	
ISSN	]X0	
Aztec Code	]z0	
DataMatrix	]dm	m: 0~6
PDF417 / Micro PDF417	]Lm	m: 0~5
QR Code / Micro QR Code	]Qm	m: 0~6

Visible Character ASCII Table

Decimal	Hexadecimal	Character	Decimal	Hexadecimal	Character
32	20	<SPACE>	80	50	P
33	21	!	81	51	Q
34	22	"	82	52	R
35	23	#	83	53	S
36	24	\$	84	54	T
37	25	%	85	55	U
38	26	&	86	56	V
39	27	'	87	57	W
40	28	(	88	58	X
41	29	)	89	59	Y
42	2A	*	90	5A	Z
43	2B	+	91	5B	[
44	2C	,	92	5C	\
45	2D	-	93	5D]
46	2E	.	94	5E	^
47	2F	/	95	5F	_
48	30	0	96	60	`
49	31	1	97	61	a
50	32	2	98	62	b
51	33	3	99	63	c
52	34	4	100	64	d
53	35	5	101	65	e
54	36	6	102	66	f
55	37	7	103	67	g
56	38	8	104	68	h
57	39	9	105	69	i
58	3A	:	106	6A	j
59	3B	;	107	6B	k
60	3C	<	108	6C	l
61	3D	=	109	6D	m
62	3E	>	110	6E	n
63	3F	?	111	6F	o
64	40	@	112	70	p
65	41	A	113	71	q
66	42	B	114	72	r
67	43	C	115	73	s
68	44	D	116	74	t
69	45	E	117	75	u
70	46	F	118	76	v

71	47	G	119	77	w
72	48	H	120	78	x
73	49	I	121	79	y
74	4A	J	122	7A	z
75	4B	K	123	7B	{
76	4C	L	124	7C	|
77	4D	M	125	7D	}
78	4E	N	126	7E	~
79	4F	O			

Control Character Set (USB keyboard mode)

Decimal	Hexadecimal	Corresponding key value (disable CODE ID)	Corresponding key value (enable CODE ID)
0	00	reserve	Ctrl+@
1	01	Insert	Ctrl+A
2	02	Home	Ctrl+B
3	03	End	Ctrl+C
4	04	Delete	Ctrl+D
5	05	Page Up	Ctrl+E
6	06	Page Down	Ctrl+F
7	07	ESC	Ctrl+G
8	08	Backspace	Ctrl+H
9	09	Tab	Ctrl+I
10	0A	Enter (The configuration of CRLF processing decide how it express)	Ctrl+J
11	0B	Caps Lock	Ctrl+K
12	0C	Print Screen	Ctrl+L
13	0D	Enter (The configuration of CRLF processing decide how it express)	Ctrl+M
14	0E	Scroll Lock	Ctrl+N
15	0F	Pause/Break	Ctrl+O
16	10	F11	Ctrl+P
17	11	Direction key ↑	Ctrl+Q
18	12	Direction key ↓	Ctrl+R
19	13	Direction key ←	Ctrl+S
20	14	Direction key →	Ctrl+T

21	15	F12	Ctrl+U
22	16	F1	Ctrl+V
23	17	F2	Ctrl+W
24	18	F3	Ctrl+X
25	19	F4	Ctrl+Y
26	1A	F5	Ctrl+Z
27	1B	F6	Ctrl+[
28	1C	F7	Ctrl+\
29	1D	F8	Ctrl+]
30	1E	F9	Ctrl+^
31	1F	F10	Ctrl+_

Control Character Set (RS232,USB,VCP)

Decimal	Hexadecimal	Character
0	00	NUL
1	01	SOH
2	02	STX
3	03	ETX
4	04	EOT
5	05	ENQ
6	06	ACK
7	07	BEL
8	08	BS
9	09	HT
10	0A	LF
11	0B	VT
12	0C	FF
13	0D	CR
14	0E	SO
15	0F	SI
16	10	DLE
17	11	DC1
18	12	DC2
19	13	DC3
20	14	DC4
21	15	NAK
22	16	SYN
23	17	ETB
24	18	CAN
25	19	EM

26	1A	SUB
27	1B	ESC
28	1C	FS
29	1D	GS
30	1E	RS
31	1F	US

Configuration of instructions and examples

Example for user-defined prefix and suffix:

You can edit 10 characters as prefix or suffix. (In order to make sure the prefix and suffix can output normally, please enable user-defined prefix or suffix first)

Example 1.1:

Set "XYZ" as prefix on all codes

Before set up, please search HEX value for all codes is "99" (Appendix: barcode type ID Table); find "X" "Y" "Z" HEX value is "58" "59" "5A" (Appendix: Visible Character ASCII Table)

Step: Set "User-defined Prefix"; Set " 9" "9" "5" "8" "5" "9" "5" "A" (Appendix: data and edit barcode); Set "Save".

If you want to revise the scanned barcode before save, please set up "Cancel the data from previous read" or "Cancel a string of data from previous read" to reset. If you want to give up setting scan, then scan "Cancel current setting".

Example 1.2:

Set "R" as prefix on QR

Before set up, please search HEX value for QR code is "51" (Appendix: barcode type ID Table); find "R" HEX value is "52" (Appendix: Visible Character ASCII Table)

Step: Set "Custom prefix"; Set "5" "1" "5" "2" (Appendix: data and edit barcode); Set "Save".

Example 1.3:

Cancel Custom prefix in QR code

Step: Set "Custom prefix"; Set "5" "1"; Set "Save"

Note: If set up prefix on all QR codes, it will default all QR codes prefix after set up.

In contrast, if cancel all prefix / suffix on barcodes, please set “ Clear All Custom Prefix” and “Clear All Custom Suffix”.

Example for barcode length range configuration

Please sure it not bigger than current maximum length range when set up minimum length. Otherwise, it will show error. In the same way, must be make sure it's not smaller than current minimum length range when set up maximum length.

Example 2.1:

Set Code 128 length range is 4-12bit

Step: Set "Code 128 Minimum (0~50bit) "; Set"4"; Set "Save" Set "Code 128 Maximum (0+50bit)"; Set"1"2"; Set "Save"

Example 2.2:

Set Interleaved 2 of 5 length is 14bit

It can set up by "ITF25 14bit", through barcode length range of Maximum /Minimum to set,too.

Step: Set" Interleave 2 of 5 Minimum (0~50bit) "; Set"1"4"; Set"Save" Set" Interleave 2 of 5 Maximum (0+50bit)"; Set"1"4"; Set"Save"

Example 2.3:

Set Code 39 length is random length

Step: Set" Code 39 Minimum (0~50bit) "; Set"0" ; Set"Save" Set"Code 39 Maximum (0+50bit)"; Set"0"; Set "Save"

Example for USB keyboard transmit speed configuration

If PC in a lower function, it will appear error status. Need to set up a slow scanning speed with customized under USB keyboard mode. Such as: 50ms

Step: Set"Custom Sending Speed"; Set"5"0";Set"Save"

Warning Tone

It will appear error warning for 4 times in a continue while transfer failure barcode. Please check if it's normal work when appear this situation.

Read Skills

To get a good reading performance, a beam of aim light from scanner should be aimed at the centre of barcode, support to aim in any directions for read convenient, too.

More nearly barcode, the beam of aim light is smaller; More further barcode, the beam of aim light bigger. For reading barcode correctly, if barcode small, the scanner should be close to barcode, if barcode big, the scanner should be farther to barcode.

If the barcode is highly reflective (for example: coated surface), please adjust the scanner angle to read it successfully.



Safety

Please not direct aim eye when the scanner has a strong ray of light, to avoid causing any hurt or unwell.