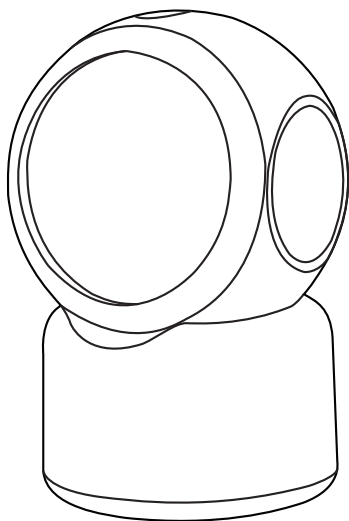


2D Desktop Barcode Scanner Manual



BROCHURE

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一、Product Introduction

The desktop scanner applicable to this manual adopt 2D image to identify 1D and 2D bar codes. The application of the new development of a full set of patented technology ensures scanner strong identification performance. Support automatic continuous scanning mode with fast and flexible performance .

This section will introduce the use of the product step by step with pictures, please compare actual products you have purchased when you read the document, which will be more conducive to your understanding. This section is applicable for general users, maintenance personnel and software developers.

二、Product Features

- *The company reserves a full set of patents cause we research and develop the product by ourselves completely. The scanner can be plug and play without any driver.
- *Designed with wide voltage, the scanner avoid data transmission failure cause by voltage fluctuation.
- *Adopted 32bits main control chip with patent software, the scanner can smoothly read reflective barcode, ruffly barcode, blurred barcode and colored barcode. It can also decode the barcodes under strong light and dark light.
- *Support RS232, USB, USB-COM several interfaces. In that case it can be compatible with your current and prospective terminals.
- *It can reduce user's fatigue with smooth and harmonious design so that improve the efficiency and comfort.

三、Product Parameters

Sensor: 1280*1024 CMOS

Symbologies: 1D (EAN-8、EAN-13、EAN-13 2 add-on、EAN-13 5 add-on、ISSN、ISBN、UPC-A、UPC-E、Code 11、Code 32、Code 39、Code 93、Code 128、Codabar、Industrial 2 of 5、Interleaved 2 of 5、Matrix 2 of 5、GS1-128、GS1 DataBar (RSS14)、GS1 DataBar Limited、GS1 DataBar Expanded)

2D (PDF417、MicroPDF417、MicroQR、Data Matrix、QR、Aztec)

Decoding Range: Test Barcodes	Minimum	Maximum
5mil code39	1cm	15cm
UPC-13mil	1cm	29cm
20 mil code39	1cm	32cm
20 mil QR Code	1cm	28cm

System compatibility: Linux、Android、Windows XP、7、8、10、MAC

Precision: Code 39 code 4mil

Supported barcode: Printed、Plastic 1D/2D barcodes; electronic barcodes on smartphone or ipad

Exercise tolerance: 4.0m/second

Scanning mode: Auto-sense continuous scanning mode

Supported Keyboard language: English、French、Italian、German、Spanish、Japanese、Russian、Arabic、Irish、Polish、Dutch、Czech、Swedish、Portuguese (Portugal、Brazil)、Turkish F、Turkish Q、Greek、Finnish、Belgium (French)、England-English

Supported Barcode Language: Simplified Chinese characters (win system)

Invoicing function: Support (Only for Chinese Market) (win system)

Secondary development: Not support SDK

Barcodes output edit : Support to add prefix and suffix

Print Contrast : 20%

Angle of Scanning: Roll $\pm 360^{\circ}$, Pitch $\pm 60^{\circ}$, Skew $\pm 70^{\circ}$

LED indicator light: Red and blue indicator light: Red for decoding, Blue for power indicator

Beeper: Startup beep, prompt tone for decoding

Button(Trigger mode): Enable /Disable 2D Barcodes

Drop Resistance: Resist 3 times 1.5M drops to concrete.

Water-proof and Dust-proof: Meet IP54 standard

Working Temperature: $-20\sim 55^{\circ}\text{C}$

Storage Temperature: $-20\sim 60^{\circ}\text{C}$

Working Humidity: 5-95% Non-condensing

Storage Humidity: 5-95% Non-condensing

Ambient light intensity: 0-70000LUX

Interface: USB (without driver) 、 Serial Port、 TTL、 USB virtual (install driver)

Working voltage: 5V

USB interface : Standby electric power (200mA/1W)

Working electric power (362mA/1.81w)

Maximum Working electric power (416mA/2.08W)

Serial Port: Standby electric power (202mA/1.01W)

Working electric power (362mA/1.81w)

Maximum Working electric power (420mA/2.1W)

四、Barcode Setup

This product sets different functions and programming by reading and decoding a series of special setup barcodes. In this section, we will introduce available setup and functions with corresponding setup barcodes.

This method is simple to understand and convenient for users operation.

4.1 Setup Mark



This is setup barcode mark for Turn on configuration setup function (default), which is composed of two parts:

1. The part of barcode.
2. Setup options or the name of function, such as Turn on configuration setup function.

4.2 Elementary settings of barcode

4.2.1 Turn on/off configuration setup function.

When turn on configuration setup function, the scanner can scan all setup barcode to set configurations.

When turn off configuration setup function, the scanner cannot scan any setup barcode to set configurations. In that case, it should turn on again.



Turn on configuration setup function. (default)



Turn off configuration setup function.

4.2.2 Reset Configuration to Default



Reset Configuration to Defaults

4.2.3 Read Version Information



Version Information

4.2.4 Standby time setting

Select standby intervals setup barcodes



Don't standby



Standby after 1 minute



Standby after 5 minutes (Default)



Standby after 10 minutes



Standby after 30 minutes

4.2.5 User self-defined configuration settings

Scan below barcode to save current parameters as user's self-defined configuration.



Save user's self-defined configurations

Scan below barcodes to restore the user's self-defined configurations which has been saved.



Restore user's self-defined configurations

4.2.6 Interface mode settings

The desktop scanner supports USB Keyboard and serial port.



USB KB (Default)

Scan below barcodes so that the scanner can be set as serial port interface mode.



Serial port



USB Upgrade

4.2.7 Serial port baud rate settings



baud rate 4800



baud rate 9600 (default)



baud rate 38400



baud rate 19200



baud rate 57600



baud rate 115200

4.2.8 Start character settings



Without Start character (default)



Set Start character as STX

4.2.9 End character settings



Without end character



Set end character as CR



Set end character as LF



Set end character as CR and LF (default)



Set end character as Tab



Set end character as ETX

4.2.10 Self-defined prefix and suffix statement and example

Self-defined prefix and suffix example

Configure prefix/suffix by scanning setup barcodes, each prefix or suffix characters up to 10.

(to ensure that customized prefix/suffix output is available, please turn on self-defined prefix/suffix configuration.)

Example 1.1: add a customized prefix XYZ to all types of barcodes

Query appendix of code type ID, and all codes HEX values is 99. Query ASCII table of visible characters, and corresponding HEX value of XYZ is 58, 59, 5A.

Scan configuration code Self-defined prefix, barcode scanner will make "Di..di.." two prompt tone and scan data and edit bar code of 9, 9, 5, 8, 5, 9, 5, A in the appendix. Then save and complete the configuration.

If you need to modify the scanned bar code before saving, you can also scan cancel the last decoding data or cancel previous decoding data to reset. If you need to quit the configuration halfway, directly scan cancel current setup.

Example 1.2: Add a customized prefix R to QR Code.

Query appendix of code type ID, and QR code HEX value is 51. Query ASCII table of visible characters, and corresponding HEX value of R is 52.

Scan configuration code Self-defined prefix, and scan data and edit bar code of 5, 1, 5, 2 in the appendix. Then save and complete the configuration.

Example 1.3: Cancel customized prefix of QR Code.

Re-define the prefix of that type bar code, save the type bar code character without adding other characters, and it equal to clear customized prefix of bar code for this type.

Scan configuration code self-defined prefix, then scan data and edit barcodes of QR code 5, 1 in appendix. Save and complete the configuration.

Note: if there is a prefix added for all barcode types before, the QR code prefix will revert to the prefix added for all barcodes after configuration.

If you need to clear the prefix/suffix added for various barcode types, scan Clear all Self-defined prefix or Clear all Self-defined suffix configuration codes.

4.2.11 Self-defined prefix

Output options



Turn on Self-defined prefix Output



Turn off Self-defined prefix Output



Clear all Self-defined prefix



Self-defined prefix

(After scanning please setup the scanner as barcode types ID chart and its data in the appendix as well as setup barcodes.)

4.2.12 Self-defined suffix

Output options



Turn on Self-defined suffix output



Turn off Self-defined suffix output (Default)

Edit



Clear all Self-defined Suffix



Self-defined suffix

(After scanning please setup the scanner as barcode types ID chart and its data in the appendix as well as setup barcodes.)

4.2.13 The order of prefix and suffix options

Prefix

Start character+CODE ID+
AIM ID+Self-defined prefixStart character+Self-defined
prefix +CODE ID+AIM ID

Suffix

Self-defined suffix+CODE ID+
AIM ID+end characterCODE ID+AIM ID+Self-defined
suffix+end character

4.2.14 Deal with the CR/LF character in the barcode data (USB Keyboard)



Only 0A(LF)



Only 0D(CR) (Default)



0A(LR) and 0D(CR)

4.2.15 Chinese characters output mode

To output correctly in the specified encoding format, you need to specify the output encoding format, Such as simplified Chinese in notebook/excel is configured as GBK code, and the output of Word is configured as UNICODE code.

When the output encoding format is configured as English/latin-1 encoding, the output mode under the USB keyboard is subject to the virtual keyboard switch. When the output encoding format is configured as GBK/UNICODE the output mode under USB keyboard is forced to be virtual keyboard output.



GBK (notebook/excel)



English/Latin-1 (default)

4.2.16 Invoicing function



Turn off Invoicing function (default)



UNICODE (Word)



Turn on Invoicing function

Note: to ensure the correct output of the invoice content, please configure the Chinese character output mode as simplified Chinese (notebook /excel) when turn on invoice function. At the same time, disable CodeID, self-defined prefix/suffix, and start character etc such change the bar code original content function.

4.2.17 Invoice type choice



Tax invoice (Default)



Plain invoice

4.2.18 Control character escaping



Turn on Control character escaping function



Turn off Control character escaping (default)

4.2.19 Virtual keyboard

Mode 1: Characters between 0x20 and 0xFF do not support output with virtual keys under current keyboard layout.

Characters between 0x00 and 0x1F output according to the control character defination.

Mode 2: All characters between 0x20 and 0xFF output in virtual keyboard.

Characters between 0x00 and 0x1F output according to the control character definition

Mode 3: All characters between 0x00 and 0xFF output in virtual keyboard.



Turn off Virtual keyboard (default)



Turn on Virtual keyboard (mode 1)



Turn on Virtual keyboard (mode 2)



Turn on Virtual keyboard (mode 3)

4.2.20 Code ID Setup

Output options



Turn off CODE ID (default)



Turn on CODE ID before barcode



Turn on CODE ID after barcode



Clear self-defined CODE ID

4.2.21 AIM ID Setup



Turn off Barcode AIM ID (default)



Turn on AIM ID before barcode



Turn on AIM ID after barcode

4.2.22 Inverse barcode option (Only for 1D barcodes /DataMatrix/Aztec)



Only read normal barcodes (default)



Read normal barcodes and
inverse barcodes

4.3 Beeper and LED indicators settings

4.3.1 Beeper Volume setting



Volume Low



Volume High (Default)

4.3.2 Startup beeper setting



Turn off Startup beeper



Turn on Startup beeper (Default)

4.3.3 Prompt tone setup of Success decoding



Turn off Prompt tone



Turn on Prompt tone (default)

4.3.4 Prompt tone frequency (pitch) setup of Success decoding



Low frequency (Default)



Medium frequency



High frequency

4.3.5 Prompt tone duration setup of Success decoding.



Short Prompt Tone



Long Prompt Tone (default)

4.3.6 LED Indicator Light



Turn off LED Indicator Light



Turn on LED Indicator Light (default)

4.4 Repeated barcodes detection and read intervals (**under auto-sense mode**)

It is used for configuring intervals of reading same bar code, if the setting time is not exceeded, the same bar code will only read one time.



intervals for 200ms



intervals for 500ms (default)



intervals for 750ms



intervals for 1s

4.5 USB Keyboard Related Setup

4.5.1 USB Keyboard Transmission Speed Setup

It is used for configuring the speed of sending data in USB keyboard mode. If you are using a PC with low performance, to ensure the accuracy of transmission, it is recommended to choose low speed.



Slow Transmission



Medium Speed



Fast Transmission (default)



Self-defined Transmission Speed
(2ms~50ms)

4.5.2 USB Keyboard Capital and Lowcase Switch



Normal Output (default)



Capital and Lowcase Switch



All Capital Letter



all Lowcase

4.6 Language Settings



English (United States)



Italian (Italy)



Spanish (Spain)



Portuguese (Brazil)



French (Belgium)



French (France)



German (Germany)



Portuguese (Portugal)



Turkish Q

4.7 Barcode Types Setup

4.7.1 Enable/Disable all barcodes

Decoding speed may slow down if you enable all barcodes .So we suggest that it had better enable the barcodes you need according to corresponding application scenarios. Enable all barcodes by default.



Enable all barcodes (default)



Disable all barcodes

4.7.2 Enable/Disable all 1D barcodes



Enable all 1D barcodes



Disable all 1D barcodes

4.7.3 Enable/Disable all 2D barcodes



Enable all 2D barcodes



Disable all 2D barcodes

4.7.4 Codabar Setup



Enable Codabar



Disable Codabar

4.7.5 Codabar start/end characters setup

not Transmit Codabar start/end
characters (default)Transmit Codabar start/end
characters

4.7.6 Codabar length limit settings

Codabar minimum length limit
(1~127 digits)Codabar maximum length limit
(1~127 digits)

4.7.7 Code 11



Enable Code 11



Disable Code 11 (default)

4.7.8 Code 39



Enable Code 39



Disable Code 39

4.7.9 Code 39 Check Digit



Turn off Code 39 Check Digit
(default)



Turn on Code 39 Check Digit but
not transmit



Turn on Code 39 Check Digit and transmit

4.7.10 Code 39 Full ASCII



Enable Full ASCII



Disable Full ASCII (default)

4.7.11 Code 39 length limit settings



Code 39 minimum length limit
(1~127digits)



Code 39 maximum length limit
(1~127digits)

4.7.12 Interleaved 2 of 5 (ITF5)



Enable ITF25



Disable ITF25

4.7.13 Interleaved 2 of 5 (ITF5) Check Digit



Turn off ITF25 Check Digit (default)

Turn on ITF25 check digit but
not transmit

Turn on ITF25 check digit and transmit

4.7.14 Interleaved 2 of 5 (ITF5) length settings

ITF25 random lengths
(4-128 digits) (default)

ITF25 6 digits



ITF25 8digits



ITF25 10digits



ITF25 12digits



ITF25 14digits



ITF25 16digits



ITF25 18digits



ITF25 20digits



ITF25 22digits



ITF25 24digits

4.7.15 Interleaved 2 of 5 length limit settings



Interleaved 2 of 5 minimum length limit
(4~128digits)



Interleaved 2 of 5 maximum length limit
(4~128digits)

4.7.16 Industrial 2 of 5 (4-24digits)



Enable Industrial 2 of 5



Disable Industrial 2 of 5

4.7.17 Industrial 2 of 5 length limit settings

Industrial 2 of 5 minimum length limit
(4~128digits)Industrial 2 of 5 maximum length limit
(4~128digits)

4.7.18 Matrix 2 of 5 (4-24digits)



Enable Matrix 2 of 5



Disable Matrix 2 of 5

4.7.19 Matrix 2 of 5 length limit settings

Matrix 2 of 5 minimum length limit
(4~128digits)Matrix 2 of 5 maximum length limit
(4~128digits)

4.7.20 Code 93



Enable Code 93



Disable Code 93

4.7.21 Code 128



Enable Code 128



Disable Code 128

4.7.22 GS1-128 (need enable CODE 128)



Enable GS1-128



Disable GS1-128

4.7.23 UPC-A



Enable UPC-A



Disable UPC-A

4.7.24 UPC-A Check Digit

Transmit UPC-A Check Digit
(default)

not Transmit UPC-A Check Digit

4.7.25 UPC-A to EAN-13



Enable UPC-A to EAN-13



Disable UPC-A to EAN-13

4.7.26 UPC-E



Enable UPC-E



Disable UPC-E

4.7.27 UPC-E Check Digit



Transmit UPC-E Check Digit (default)



not Transmit UPC-E Check Digit

4.7.28 EAN/JAN-8



Enable EAN/JAN-8



Disable EAN/JAN-8

4.7.29 EAN/JAN-13



Enable EAN/JAN-13



Disable EAN/JAN-13

4.7.30 UPC/EAN/JAN extra-code



Ignore UPC/EAN/JAN extra-code



Decode UPC/EAN/JAN extra-code



Auto-sense decode
UPC/EAN/JAN extra-code

4.7.31 EAN13 to ISBN



Enable EAN13 to ISBN



Disable EAN13 to ISBN (default)

4.7.32 EAN13 to ISSN



Enable EAN13 to ISSN



Disable EAN13 to ISSN (default)

4.7.33 GS1 DataBar (RSS14) (Stacked)



Enable GS1 DataBar



Disable GS1 DataBar

4.7.34 GS1 DataBar Limited



Enable GS1 DataBar Limited



Disable GS1 DataBar Limited

4.7.35 GS1 DataBar Expanded



Enable GS1 DataBar Expanded



Disable GS1 DataBar Expanded

4.7.36 PDF417



Enable PDF417



Disable PDF417

4.7.37 QR Code



Enable QR



Disable QR



Turn off QR Code URL Link output (default)



Turn on QR Code URL Link output

4.7.38 Micro QR



Enable Micro QR



Disable Micro QR

4.7.39 Data Matrix



Enable Data Matrix



Disable Data Matrix

Appendix

Appendix 1 Data and Barcode Edit



0



1



2



3



4



5



6



7



8



9



A



C



E



Cancel Previous Decoding Data



Cancel the Last Decoding Data



B



D



F



Cancel Current Setup



Save

Appendix 2 Barcode type ID chart

Symbologies	HEX	CODE ID (default)
All codes	99	
Codabar	61	a
Code128	6A	j
ISBT-128	6A	j
Code32	3C	<
Code93	69	i
Code39	62	b
Code11	48	H
Plessey	70	p
MSI plessey	6D	m
EAN-13	64	d
EAN-8	64	d
GS1 DataBar Limited	52	R
GS1 DataBar Expanded	52	R
GS1-128 (EAN-128)	6A	j
Interleaved 2 of 5	65	e
Matrix 2 of 5	76	v
Industry 2 of 5	44	D
Standard 25	73	s
UPC-A	63	c
UPC-E	63	c
ISBN	42	B
ISSN	6E	n
DataMatrix	75	u
PDF417	72	r
Micro PDF417	53	s
QR Code	51	Q
Micro QR Code	51	Q



Version Batch

Appendix 5 controlled character sets (Serial port and USB VSPD)

decimalism	hexadecimal	corresponding 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

Appendix 4 Controlled character sets (USB Keyboard mode)

	character	value (hex)	No escape corresponding function	Escape corresponding c
NUL	(Null char.)	00	Null	Ctrl+2
SOH	(Start of Header)	01	Keypad Enter	Ctrl+A
STX	(Start of Text)	02	Caps Lock	Ctrl+B
ETX	(End of Text)	03	Null	Ctrl+C
EOT	(End of Transmission)	04	Null	Ctrl+D
ENQ	(Enquiry)	05	Null	Ctrl+E
ACK	(Acknowledgment)	06	Null	Ctrl+F
BEL	(Bell)	07	Enter	Ctrl+G
BS	(Backspace)	08	Left Arrow	Ctrl+H
HT	(Horizontal Tab)	09	Horizontal Tab	Ctrl+I
LF	(Line Feed)	0A	Down Arrow	Ctrl+J
VT	(Vertical Tab)	0B	Vertical Tab	Ctrl+K
FF	(Form Feed)	0C	Backspace	Ctrl+L
CR	(Carriage Return)	0D	Enter	Ctrl+M
SO	(Shift Out)	0E	Insert	Ctrl+N
SI	(Shift In)	0F	Esc	Ctrl+O
DLE	(Data Link Escape)	10	F11	Ctrl+P
DC1 (XON)	(Device Control 1)	11	Home	Ctrl+Q
DC2	(Device Control 2)	12	Print Screen	Ctrl+R
DC3 (XOFF)	(Device Control 3)	13	Delete	Ctrl+S
DC4	(Device Control 4)	14	tab+shift	Ctrl+T
NAK	(Negative	15	F12	Ctrl+U
SYN	(Synchronous Idle)	16	F1	Ctrl+V
ETB	(End of Trans. Block)	17	F2	Ctrl+W
CAN	(Cancel)	18	F3	Ctrl+X
EM	(End of Medium)	19	F4	Ctrl+Y
SUB	(Substitute)	1A	F5	Ctrl+Z
ESC	(Escape)	1B	F6	Ctrl+[
FS	(File Separator)	1C	F7	Ctrl+\
GS	(Group Separator)	1D	F8	Refer to next chart Ctrl+]
RS	(Request to Send)	1E	F9	Ctrl+6
US	(Unit Separator)	1F	F10	Ctrl+-

Appendix 3 Visible character ASCII chart

decimal	hex	character	decimal	hex	character	decimal	hex	character
32	20	<SPACE>	64	40	@	96	60	`
33	21	!	65	41	A	97	61	a
34	22	"	66	42	B	98	62	b
35	23	#	67	43	C	99	63	c
36	24	\$	68	44	D	100	64	d
37	25	%	69	45	E	101	65	e
38	26	&	70	46	F	102	66	f
39	27	'	71	47	G	103	67	g
40	28	(	72	48	H	104	68	h
41	29	)	73	49	I	105	69	i
42	2A	*	74	4A	J	106	6A	j
43	2B	+	75	4B	K	107	6B	k
44	2C	,	76	4C	L	108	6C	l
45	2D	-	77	4D	M	109	6D	m
46	2E	.	78	4E	N	110	6E	n
47	2F	/	79	4F	O	111	6F	o
48	30	0	80	50	P	112	70	p
49	31	1	81	51	Q	113	71	q
50	32	2	82	52	R	114	72	r
51	33	3	83	53	S	115	73	s
52	34	4	84	54	T	116	74	t
53	35	5	85	55	U	117	75	u
54	36	6	86	56	V	118	76	v
55	37	7	87	57	W	119	77	w
56	38	8	88	58	X	120	78	x
57	39	9	89	59	Y	121	79	y
58	3A	:	90	5A	Z	122	7A	z
59	3B	;	91	5B	[	123	7B	{
60	3C	<	92	5C	\	124	7C	
61	3D	=	93	5D	]	125	7D	}
62	3E	>	94	5E	^	126	7E	~
63	3F	?	95	5F	_			