2D Barcode Scanner
User Manual

BROCHURE

NOTE:

• For stability enhancement of scanner or otherproperties, Manufacturer may modify the software(including firmware)

• A standard packing includes a user guide, a cable and a Scanner.

Profile:

It is developed to meet the increasing needs of 2d barcode dentification. It does not only accurately and quickly read both1D and 2D barcodes, but also seamlessly captures barcodes on electronic screens (such as mobile phone) and provides aneffective data acquisition tool for e-coupons and e-tickets. it's suitable for a wide variety of applications. Compared to the expensive imported scanners, It is definitely a cost effective andhigh performance product for you!

Performance index:

Scan Performance

Sensor	640×480 CMOS
Light Sourc	White Light LED
Focus	Red light LED
Supported Symbologies:	2D: QR Code, Data Matrix, PDF417, Aztec, Maxicode，HanxinCode, 1D: EAN,UPC,Code 39,Code 93,Code 128,UCC/EAN 128, Codabar，Interleaved 2 of 5, ITF-6,ITF-14,ISBN, ISSN, MSI-Plessey GS1 Databar,GS1 Composite Code,Code 11,Industrial 25, Standard 25,Plessey, Matrix 2 of 5
Barcode Accuracy	≥5mil
Depth of Field	EAN-13 50mm-200mm (13mil) Code39 40mm-90mm（5mil 10 bytes） QR Code 25mm-240mm (20mil 16 bytes) Data Marix 50mm-90mm（10mil 20 bytes） PDF 417 30mm-130mm (6.67mil 7 bytes)
Print Contrast	≥25%
Scan Angle	Corner 360°，Pitch angle ± 55°，Skew toleranc ± 55°
Field angle	diagonal 42°

Machinery /Electricalpar ameter

Communication interface	USB、RS232、USB COM
Appearance size	21.6(W)×16(D)×12(H)mm
Working Voltage	DC 5 V
Working currents	160mA
Standby currents	20mA

Environment Parameter

Working Temperature	-20℃~+50℃
Storage Temperature	-40℃~+70℃
Working Humidity	5%~95%（no condensation）
Ambient light	0~100000LUX

Relevant regulations

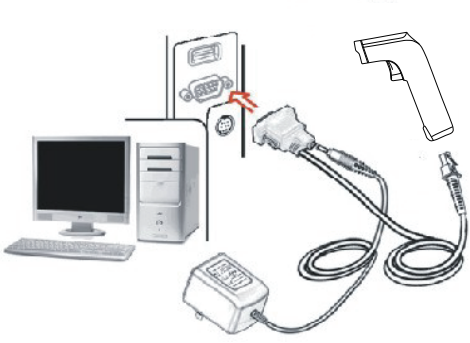
Electrical safety：In accordance with UL1950、CSA C22.2 No.950、EN60950/IEC950 EMI/RFI:FCC Part 15 Class B、European Union EMC Directive、Taiwan EMC、
the environment in accordance with RoHS directive 2002/95/EEC

Installation of cable

USB Cable

1、Refer to the picture, connect the host with the scanner;
2、Switch on the host. If the installation is successful, the beeper and LED will work.
3、Scanner can work without External power supply.
4、Host will automatically detect the scanner.

RS232 cable



1、Make sure the power off。
2、Insert the RJ45 into the scanner。
3、Connect the RS232 to the host。
4、Plug the power adapter。
5、Power on the host. If connect right, it will prompt from beeper and LED.

Software Development Manual

A: Factory Default Configuration

Communication Mode：USB
Trigger Mode：Manual mode
Terminator：CR。

Setup Code

*Enable Parameter code

Disable Parameter code

Product information

B: Communication Mode

1.Serial Port
Using Serial Port，read moudle and the host devices must match exactly in ommunication parameter configuration, to ensure smooth

communication and content are correct, Serial Port is configured to: 9600 baud rate, 8 bits of data, no parity, 1 stop bit

Serial Port

（1）Baud Rate

The default baud rate is 9,600

1200bps

2400bps

4800bps

* 900bps6

19200bps

38400bps

57600bps

115200bps

（2）Parity

Odd

Even

* None

（3）Stop bit

*1 Stop Bit

2 Stop Bits

2. USB KBW

USB KBW

3. USB COM

USB COM

C: Scanning Mode

1.Continuous Mode
The reading engine performs continuous work. Reading success or reading time over a single reading time will end the reading. More than the specified time will automatically trigger the next reading

Continuous Mode

（1）Interval Time
The interval time between two readings in continuous mode. Regardless of the last success or failure to read, more than the specified time will automatically trigger the next reading. Default: 500ms,unit: 100ms,range: 0-9900ms
To set a Interval Time, scan the bar code below. Next scan two Numeric Bar Codes in appendix that correspond to the desired time-out. Single digit values must have a leading zero. For example, to set a time-out of 0.5 seconds, scan the bar code below, then scan the “0” and “5” bar codes. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

Interval Time (Default: 500ms.)

3.Automatic Induction Mode
In automatic induction mode, the scan engine detects the brightness of the surroundings. Trigger reading when the brightness changes. Reading success or reading time over a single reading time will end the reading. Regardless of the last success or failure to read, re-enter the detection of the surrounding environment brightness.

Automatic Induction Mode

（1）Stability of Induction Time

Stability of induction time, Default: 500ms, unit:100ms, range: 0-9900ms

For example:

Set stability of induction time is 200ms

Scan stability of induction time setting code,then scan Numeric Bar Codes 0 and 2

Set stability of induction time is 1500ms

Scan stability of induction time setting code,then scan Numeric Bar Codes 1 and 5

Stability of Induction Time

（2）Sensitivity Level

There are three levels of sensitivity to choose from , Default: 500ms

*High

Middle

Low

4.Duration in Scanning

This parameter sets the maximum time decode processing continues during a scan attempt. It is programmable in 0.1 second increments from 0.50 to 25.5 seconds.

To set a duration in scanning, scan the bar code below. Next scan three Numeric Bar Codes in appendix that correspond to the desired on time. Single digit numbers must have a leading zero. For example, to set an on time of 0.5 seconds, scan the bar code below, then scan the "0", "0" and "5" bar codes; to set an on time of 10.5 seconds, scan the bar code below, then scan the "1", "0" and "5" bar codes. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

Duration in Scanning(Default: 3.0 sec.)

5.Output Interval of The Same Code

To avoid reading the same barcode multiple times in continuous mode and automatic induction mode, set the scan engine to allow reading the same barcode after a delay.

Output interval of the same code is to refuse to read the same barcode within the set length of time.

Default: 500ms,unit:100ms,range: 0-9900ms

To set output interval of the same code, scan the bar code below. Next scan two Numeric Bar Codes in appendix that correspond to the desired time-out. Single digit values must have a leading zero. For example, to set a time-out of 0.5 seconds, scan the bar code below, then scan the “0” and “5” bar codes. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

Output Interval of The Same Code

D: Fill light and Positioning lights

1.Fill light

* Lighting when Read

Always Lighting

Always Close

2.Positioning lights

* Lighting when Read

Always Lighting

Always Close

E: Keyboard Language Setting

1.Language Keyboard

* American Keyboard

Belgium

Finland

France

Germany

Italy

Sweden

England

Denmark

Norway

Spain

Portugal

Turkey_F

Turkey_Q

Japan

Russia

2.Buzzer Beep Setting

（1）Mute

ON

* OFF

（2）Beeper Volume

* High

Middle

Low

（3）Beep After Good Decode

*Open

Close

（4）Boot prompt

*open

Close

（5）Setup Code Prompt

*open

Close

3.Transmit “No Read” Message
Enable this option to transmit “NR” if a symbol does not decode during the timeout period or before the trigger is released. Any enabled prefix or suffixes are appended around this message.
When disabled, and a symbol cannot be decoded, no message is sent to the host.

*Disable No Read

Enable No Read

4.Letter case conversion
For example If the Barcode content is：ab123dE，if set to " all uppercase "，the output is：AB123DE；if set to "all lowercase", the output is：ab123de；
if set to " Case Inversion", the output is：AB123De；
Default: Normal Letter Case

* Normal Letter Case

all uppercase

all lowercase

Case Inversion

5.Data encoding format
1:GBK(GB2312),
2:UNICODE,

*GBK

Unicode

6.Invoice Function

* Disable

Enable

F: Data editor
1.Code ID
The user can identify different barcode types by CODE ID, and CODE ID USES a character to identify them

*Disable send Code ID

Enable send Code ID

2.Special Suffix Setting
Add character format: Decode Data+Terminator.

*None

CR LF

CR

TAB

G: Code Enable/Disable

1.UPC-A

* Enable

Disable

2.UPC-E

* Enable

Disable

3.EAN-8

* Enable

Disable

4.EAN-13

* Enable

Disable

5.Bookland EAN

Enable

* Disable

6.UPC/EAN Supplementals

*Ignore UPC/EAN with Supplementals

Autodiscriminate UPC/EAN Supplementals

Decode UPC/EAN with Supplementals

7.CODE 128

* Enable

Disable

8.GS1-128

* Enable

Disable

9.ISBT-128

* Enable

Disable

10.Interleaved 2 of 5

* Enable

Disable

Set Lengths for Interleaved 2 of 5
For example, to decode Interleaved 2 of 5 symbols containing between 4 and 12 characters
first scan Interleaved 2 of 5-Length Within Range, then scan 0, 4, 1 and 2 (single digit numbers must be preceded by a leading zero). Numeric Bar Codes is in appendix. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

I 2 of 5 - Length Within Range

I 2 of 5 - Any Length

11.Matrix 2 of 5

Enable

* Disable

Set Lengths for Matrix 25
For example, to decode Matrix 25 symbols containing between 4 and 12 characters
first scan Matrix 25 Length Within Range, then scan 0, 4, 1 and 2 (single digit numbers must be preceded by a leading zero). Numeric Bar Codes is in appendix. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

Matrix 25 - Length Within Range

Matrix 25 - Any Length

12.Industrial 2 of 5

Enable

* Disable

Set Lengths for Industrial 2 of 5
For example, to decode Industrial 2 of 5 containing between 4 and 12 characters
first scan Industrial 2 of 5 Length Within Range, then scan 0, 4, 1 and 2 (single digit numbers must be preceded by a leading zero). Numeric Bar Codes is in appendix. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

D 2 of 5 - Length Within Range

D 2 of 5 - Any Length

13.Standard 2 of 5

Enable

* Disable

Set Lengths for Standard 2 of 5
For example, to decode Standard 2 of 5 containing between 4 and 12 characters
first scan Standard 2 of 5 Length Within Range, then scan 0, 4, 1 and 2 (single digit numbers must be preceded by a leading zero). Numeric Bar Codes is in appendix. To change the selection or cancel an incorrect entry, scan Cancel in appendix.

Standard 25 - Length Within Range

Standard 25 - Any Length

14.Code 39

* Enable

Disable

15.Code 39 Full ASCII

Enable

Disable

16.Code 93

Enable

* Disable

17.Code 11

Enable

* Disable

18.Codabar

Enable

* Disable

19.MSI

Enable

* Disable

20.GS1-Databar

Enable

* Disable

21.QR Code

* Enable

Disable

22.Data Matrix

* Enable

Disable

23.PDF 417

* Enable

Disable

24.Aztec code

Enable

* Disable

25.Maxi code

Enable

* Disable

26.Hanxin

Enable

* Disable

Appendix 1： numbered bar code
For parameters requiring specific numeric values, scan the appropriately numbered bar code(s).

0

1

2

3

4

5

6

7

8

9

Appendix 2：CANCEL

To change the selection or cancel an incorrect entry, scan the bar code below.

Cancel

Appendix 3：Code ID

Code charactar	Code type
A	UPC-A, UPC-E, EAN-8, EAN-13
B	Code 39, Code 32
C	Codabar
D	Code 128, ISBT 128
E	Code 93
F	Interleaved 2 of 5
G	Discrete 2 of 5
H	CODE11
J	MSI, MSI/Plessey
K	GS1-DataBar, /UCC/EAN-128
L	Bookland EAN, Bookland EAN/ISBN
M	Trioptic Code 39
N	Coupon Code
R	GS1 DataBar-14, GS1 DataBar Limited, GS1 DataBar Expanded, RSS
S	SETUP128
r	PDF417
u	DataMatrix(DM)
q	QR
a	Aztec Code
x	Maxi Code
v	Veri Code
c	HanXin

Appendix 4：Common Used Serial Command Chart

Name	Corresponding Command
Start decoding	04 E4 04 00 FF 14
Stop decoding	04 E5 04 00 FF 13

Common Used Serial Command Chart

Parameter	Serial Command
Defaults Setting	Default Factory Setting:
	08 C6 04 08 00 F2 FF 00 FD 35
Continuous Scanning Time	4s：07 C6 04 08 00 88 28 FE 77
	10s:07 C6 04 08 00 88 64 FE 3B
Trigger Mode	Trigger Manually Mode：07 C6 04 08 00 8A 00 FE 9D
	Contiously Scanning Mode：07 C6 04 08 00 8A 04 FE 99
	Auto-sense Mode： 07 C6 04 08 00 8A 09 FE 94
	Host Mode： 07 C6 04 08 00 8A 08 FE 95
Scanning Interval Time	0s:07 C6 04 08 00 89 00 FE 9E
	0.5s: 07 C6 04 08 00 89 05 FE 99
	3s：07 C6 04 08 00 89 1E FE 80
Buzzer Volume	Low：07 C6 04 08 00 8C 02 FE 99
	Medium: 07 C6 04 08 00 8C 01 FE 9A
	High: 07 C6 04 08 00 8C 00 FE 9B
Decode scucessfully Beep	Enable：07 C6 04 08 00 38 01 FE EE
	Disable：07 C6 04 08 00 38 00 FE EF
Ending Character Setting	Disable:08 C6 04 08 00 F2 05 00 FE 2F
	CR LF:08 C6 04 08 00 F2 05 01 FE 2E
	CR:08 C6 04 08 00 F2 05 02 FE 2D
	TAB: 08 C6 04 08 00 F2 05 03 FE 2C
Decode scucessfully Indicator	Disable: 08 C6 04 08 00 F2 0B 00 FE 29
	Enable: 08 C6 04 08 00 F2 0B 01 FE 28
Mute	Disable: 08 C6 04 08 00 F2 0C 00 FE 28
	Enable: 08 C6 04 08 00 F2 0C 01 FE 27

Power-on Beep	Disable: 08 C6 04 08 00 F2 0D 00 FE 27
	Enable: 08 C6 04 08 00 F2 0D 01 FE 26
Braud Rate	4800：07 C6 04 08 00 9C 05 FE 86
	9600：07 C6 04 08 00 9C 06 FE 85
	115200：07 C6 04 08 00 9C 0A FE 81