MC USER MANUAL

Disclaimer

Before using the product, please read carefully all the contents of this MC Product User Manual (hereinafter referred to as "Manual") to ensure the safe and effective use of the product.

Do not disassemble the product or tear off the seal on the product. Otherwise, Beijing Microlight Internet Technology Co. Ltd. will not be responsible for the warranty or replacement of the product.

The pictures in this manual are for reference only. If there is a discrepancy between an individual picture and the actual product, the actual product shall prevail. For the upgrade of this product, Beijing Microlight Internet Technology Co., Ltd. reserves the right to modify the document at any time without notice.

The use of this product is at your own risk. To the fullest extent permitted by applicable law, damages and risks resulting from the use or inability to use the software, including but not limited to direct or indirect personal damages, loss of commercial profits, trade interruption, loss of business information or any other economic loss, Beijing Microlight Internet Technology Co. Ltd. does not assume any responsibility.

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Preface

Product Introduction

Thanks for using the MC series of scanners provided by Microlight Internet Ltd. This product can realize QR code identification. Please read the user manual carefully before use, you will appreciate its perfect function and simple operation method.

This product is mainly used for QR code identification and RF card reading. The company does not assume responsibility for the property loss or personal injury caused by the user's abnormal operation. Please design and develop the corresponding product according to the technical specifications and reference in the manual. Also please pay attention to the general safety matters that should be taken into account when using mobile products.

Before the statement, the company has the right to modify the contents of this manual according to the needs of technological development.

Product Features

- ***Strong reading ability***

It can recognize the QR code and one-dimensional code on the screen of the mobile phone, support the enhanced engine mode, and can scan and read the code when the screen of the mobile phone is dark.

- *Paper code reading ability*

The main QR codes and various one-dimensional codes printed on the paper can also be read.

- *High speed reading*

Different mobile phone LCD screens generally have different contrast, color, and degree of reflection, which can be read as long as the code system is within the reading window.

- *Easy to use*

Scanners can be configured using configuration tools to achieve optimal operation.

Precautions

Dismantling and modification: Please do not disassemble or modify the hardware of the product. If the equipment is damaged thereof, the company will not be responsible for the warranty.

Abnormal condition: Keep away from fire. If you find unusual odor, overheat or smoke, please immediately turn off the power switch and unplug the plug from the AC outlet, and contact the dealer where you purchased the product or our customer service center.

Drop damage: If the product is damaged due to falling on the ground, please immediately turn off the power and contact the dealer where you purchased the product or our customer service center.

Placement location: Please do not place the product in an unstable or uneven place, so as to avoid the device falling down and causing damage; please do not put the device in a place with large amount of moisture or dust, so as to avoid causing electric leakage or fire.

Please keep the illuminating glass lens clean. When wiping, use soft cotton or lens paper. Do not wipe the window glass with detergent or dissolved liquid.

Do not touch the window glass with abrasive substances, so as to avoid wearing the window glass and affecting the reading effect.

Chapter I   Product Parameters

Apparent parameters

Figure 1-1 Front view

Figure 1-2 Left view
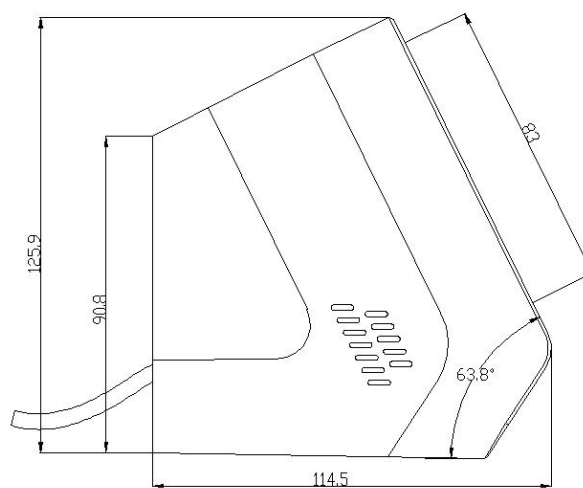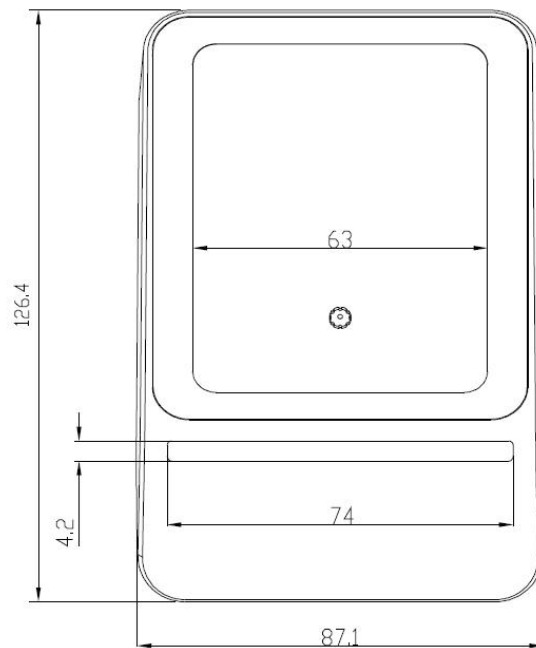
Figure 1-3 Back view

Figure 1-4 Angle two

Size parameters

table 1-1 MC size parameters

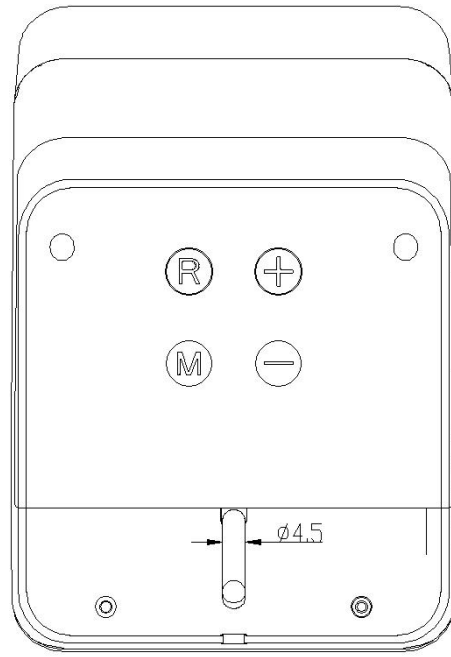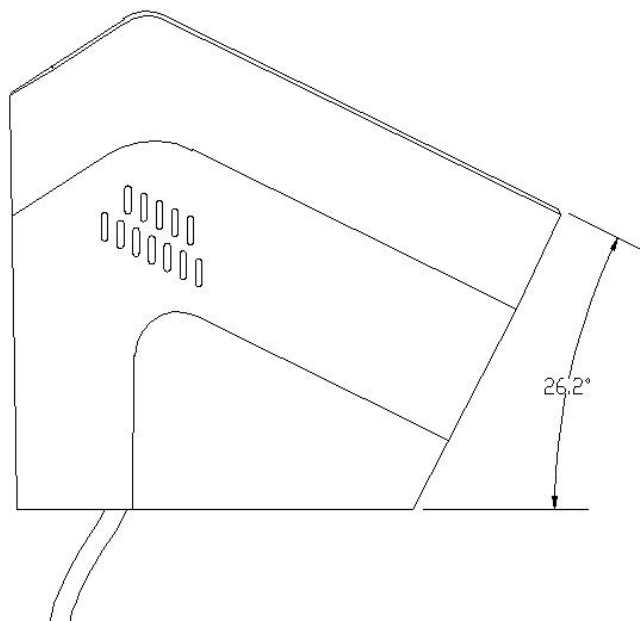| Parameters types	Specifications
physical dimension	114.5*87.1*126.4　mm
Reading window size	63*83　mm
Reading window angle	63.8°, 26.2°
Materials	ABS+PC　V0 Level Flame retardant material

Reading parameters

table 1-2 QR Code reading parameters

QR Code reading parameters	
Identification code	QR code: QR Code, Data Matrix, PDF417, etc.
	One-dimensional code：EAN-8,EAN-13,ISBN-10,ISBN-13,UPC-E,UPCA,CODE 39,CODE93.CODE128 etc;
Decoding support	All prints such as mobile phones, screens, and paper
Reading depth of field	0mm-130mm（various apply payment code）
Image sensor	300,000 pixel CMOS sensor
Maximum resolution	640*480
Reading accuracy	≥10mil
Reading rate	15times per second
Reading speed	00ms each time (average), supports continuous reading
Reading direction	360degrees
Ambient light	0～80000LUX

Device parameters

table 1-3 Device parameters

Device parameters	
Support interface	USB (HID Analog Keyboard, Custom HID), RS232
Light source	LED diffuse illumination: white light (adjustable brightness)
Indicator	Buzzer, red & green& blue 3 LED indicator, speaker voice prompt
Working temperature	-20℃～70℃
Storage temperature	-40℃～80℃
Humidity	Relative humidity 5%~95% (non-condensing, non-waterproof)
Data cable	USB tieline, RS232 tieline
Power supply	VCC=4.8V～5.5V（Recommended 5V）
Working current	VCC=5V
	Imin=0.16A，Imax=0.96A
Operation system	Windows（xp.7.8.10），Linux，Android，Mac,etc.

Interface parameters

- **USB Interface**

table 1-4 USB interface parameters

USB interface parameters	
Wiring types	USB Type-A
Support interface	USB2.0 backward compatible Master and slave devices can be switched
Theoretical bandwidth	480Mbit/s high-speed interface
Interface voltage	5V
Protection standard	±15kV Human Body Mode
	±15kV IEC61000-4-2 Air Discharge Mode
	±8kV IEC61000-4-2 Contact Discharge Mode

- **232 Interface**

table 1-4 232 interface parameters

232 interface parameters	
Wiring types	DB9
Support interface	Peer to peer
Theoretical bandwidth	300 bps to 460800bps，the default 115200bps
Interface voltage	±6V output
Protection standard	±15kV Human Body Mode
	±15kV IEC61000-4-2 Air Discharge Mode
	±8kV IEC61000-4-2 Contact Discharge Mode

Chapter II Wiring instructions

- **USB version**

USB version output interface is USB-Type A public seat. The pin definition conforms to the USB 2.0 standard. Connect directly to your computer and use it.

- **RS232 version**

The output cable of the RS232 version has two interfaces, a DB9 socket, a USB-Type A socket, and a USB-Type A socket is to connect the power adapter or power the device. DB9 socket wire sequence is shown in Table 2-1.

Table 2-1 RS232 wire sequence

Functions description \ Interface	USB-A	DB9 interface
GND	4	5
VCC	1	
RS232_RX		3
RS232_TX		2

- **Keyboard version**

There are two interfaces for the keyboard version, one USB-Type A male and one USB-Type A female. The USB-Type A male connector connects the power adapter to the device and the USB-Type A female connector connects the keypad.

Chapter III Product Configuration

Run Configuration Tool

(1) Run configuration tool: Double-click the MX86 configuration tool application.

Figure 3-1 Configuration tool icon

(2) Device Connection: Click the [Connect Device] button and the message "Device connection successful" appears.

Configure Corresponding Functions

(1)Working Mode: Can be configured as normal mode or development mode, under normal mode, Adjustable to USB, serial port 232/485 output methods.
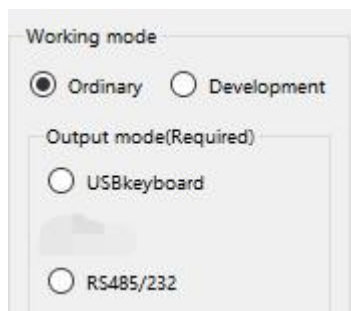

Figure 3-2 Normal mode

Under development mode, can be configured as USB, serial protocol, communication protocols methods etc. choose according to your needs.

Figure 3-3 Development mode

(2)General configuration:

Figure 3-4 General configuration options

- Code selection: Changing the code system is available, the QR code (QR code) is checked by default. The rest of the code system can be selected according to your needs.

- Output settings: Scan code prefix and suffix can be set;

- Decoding Engine: Choosing to QR strengthens or bar code strengthens , choose according to your needs.

- Control settings: You can set the end of the scan code information with a line break or carriage return, you can also control the lighting switch;

- Scan code mode: It can be adjusted to single mode or interval mode. The same two-dimensional code will not be recognized continuously under single mode. The scan interval time can be set under interval mode. The default is 300 milliseconds.

- Scanning behavior: the scanning feedback can be configured as buzzer, turn off the light, and pay code flash. Among them, Alipay flashes the blue light, WeChat flashes the green light, the error payment code flashes the red light, also can turn on /turn off voice frequency when scanning pay code

- Device number and brightness adjustment: You can configure the device number and adjust the brightness of the light;

Application Configuration

（1）**Direct connection configuration:**

After the configuration item is modified, click Save Configuration. The save success message appears. The configuration takes effect after the device is powered off and restarted. It should be noted that the direct connection configuration can be used only when connected via a USB cable; otherwise, use a scan code configuration.

（2）**Scan code configuration:**

Scan code configuration does not need to connect the device. After selecting the required function by running the configuration tool, click to generate the QR code to generate the configuration QR code in the left window. After the MC device is aligned with the QR code, the configuration takes effect; or the configuration takes effect. The two-dimensional code is saved by means of screenshot printing, photography, etc., and then aligned with the device for scanning code configuration.

Figure 3-5 Generate a configuration QR code

Chapter IV Communication Setting

USB Communication Setting

Connect the device directly to the computer U through the data cable. The device defaults to the analog keyboard output. You can open the text or cursor position to scan code output, as shown below:
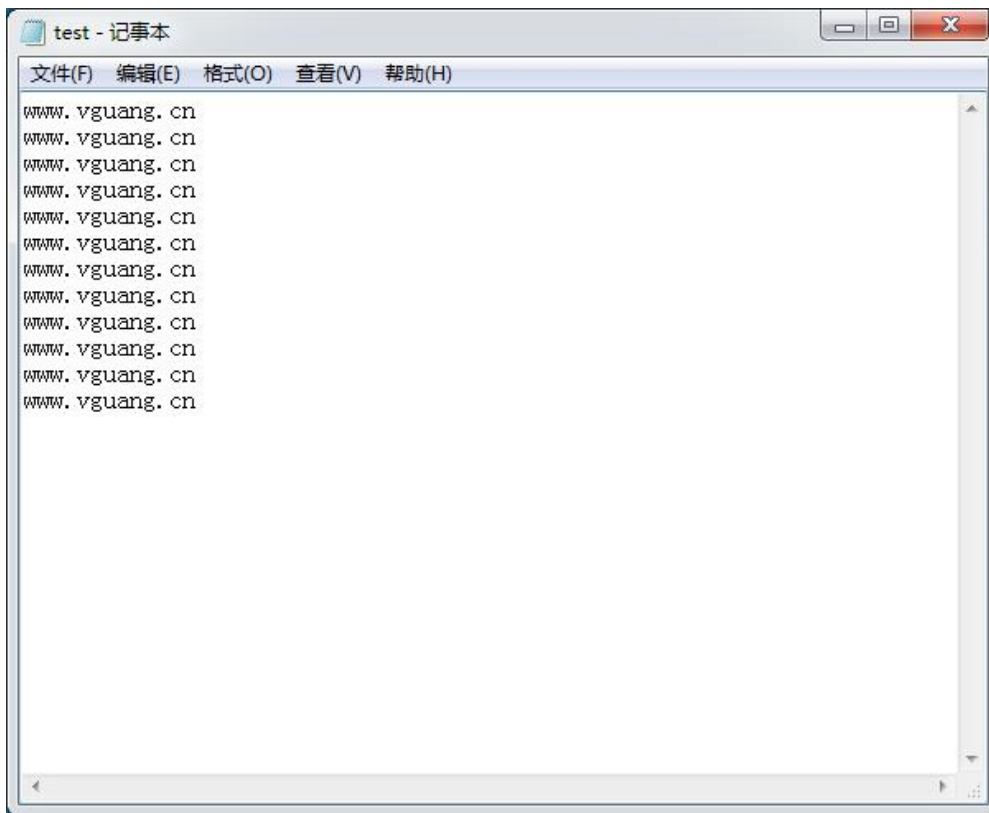
Figure 4-1 test

Serial Port Communication Setting

For computers that do not have their own serial port, needs to connect the device to your computer through USB-serial port connection.

Figure 4-2 USB-serial port connection. (not belong to the standard）

After completing the above settings, open serial port to cursor output program (Internet downloads, does not belong to the standard). As shown below:

Figure 4-3

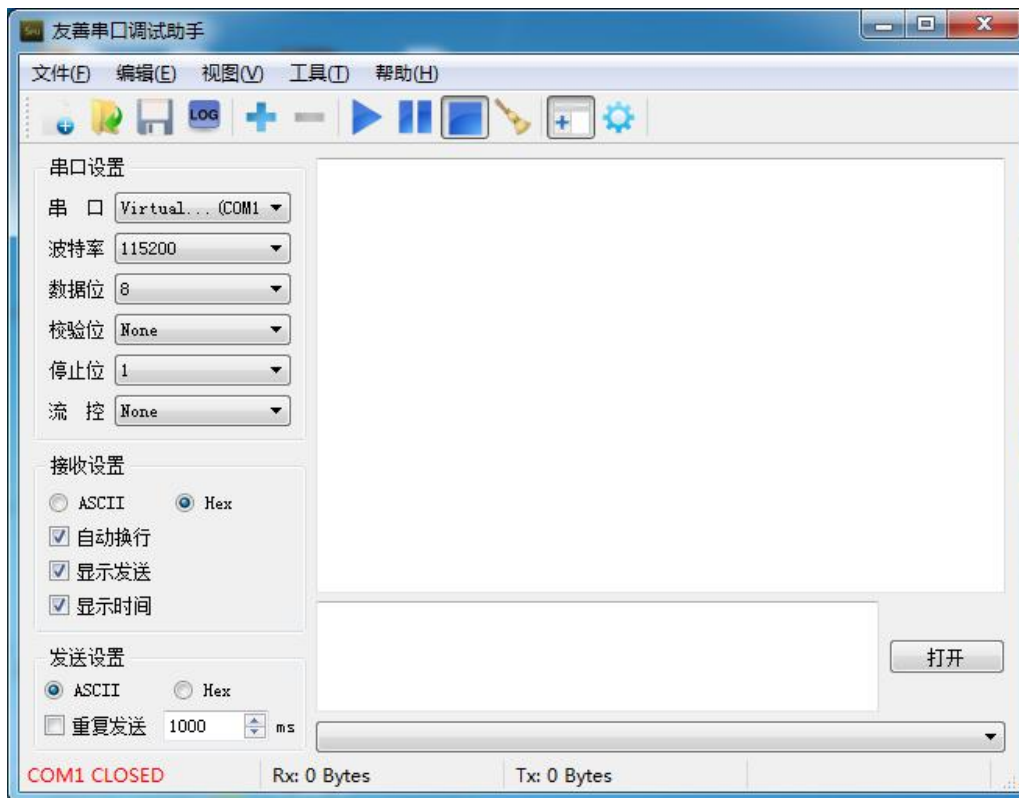The operation interface is as below:

Figure 4-4

After setting the related serial port configuration, click open to align the two-dimensional code that needs to be scanned with the scan window. Set the input method to the English state and you can scan the code normally.

During use, the serial port cursor output tool must be kept in the running state; otherwise, it cannot be output normally.

Chapter V Common Faults and Troubleshooting Methods

After adjusting to the secondary development mode, the product cannot connect to the configuration tool.

If you adjust the work mode from normal mode to secondary development mode that the secondary development output mode does not match the output mode in the normal configuration, the configuration tool cannot be connected after the configuration is saved. After adjusting the configuration in the configuration tool, configure it by scanning the configuration QR code.

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