

VGA Kingmark Reference

Version	Date	Log
V1.0	2022/5/26	Add Version

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1 Summary

1.1 Brief introduction

Kingmark pneumatic software(Kingmark for short) is a software which is born to solve the user of the pneumatic machine to edit the content.The user interface of Kingmark is simple and easy to use.It has a lot of function to help the user to edit the content and support multilingual language and input method and user upgrade the software easily. If Kingmark doesn't have the function which user wanted,we can customized the function for you.

1.2 Software function

Kingmark can make and edit and save a document to contain the contents which to marking.Including static text, vectorgraph, barcode or qrcode, vin code and more.User can insert these type of mark into the document, edit them quickly, aim the position of marks, changed the parameters of pneumatic machine. User also can import the fonts, vectorgraph,database to mark and upgrade the software for more function.

1.3 User interface description

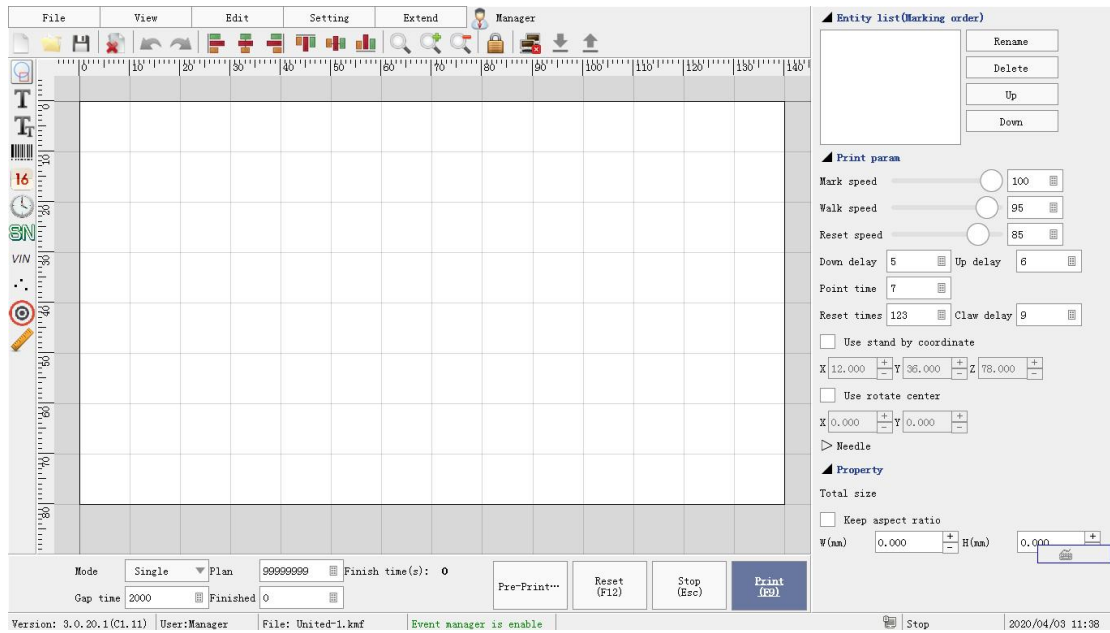


Figure 1-1

2 File

The file menu achieve the routine operation of document, such as new, open ,save as and save.As shown in figure 2-1.

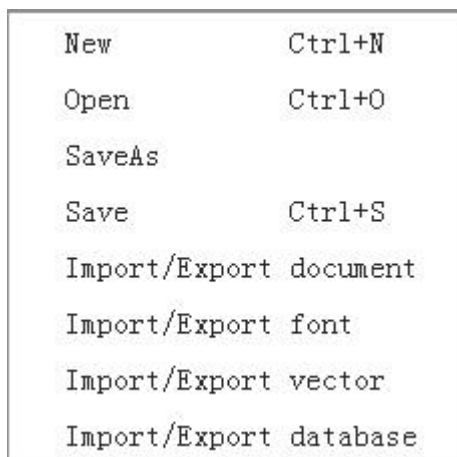


Figure 2-1 File menu

2.1 New

New menu is used for creating a empty document.Short cut key is CTRL+N.

Click the new menu or press the short cut key,if there is a document which is editing, Kingmark will notice user to save, and then popup a file name dialog, input a file name to create a new document.As shown in figure 2-2.



Figure 2-2 New file name input

In the quick tool bar the new menu is ,click on it can make the same function.

2.2 Open

Open menu is used for opening the document which has been saved in the

Kingmark. The suffix of the document is kmf, and the short cut key is CTRL+O.

Click the open menu or press the short cut key will pop up a file choose dialog.As shown in figure 2-3.

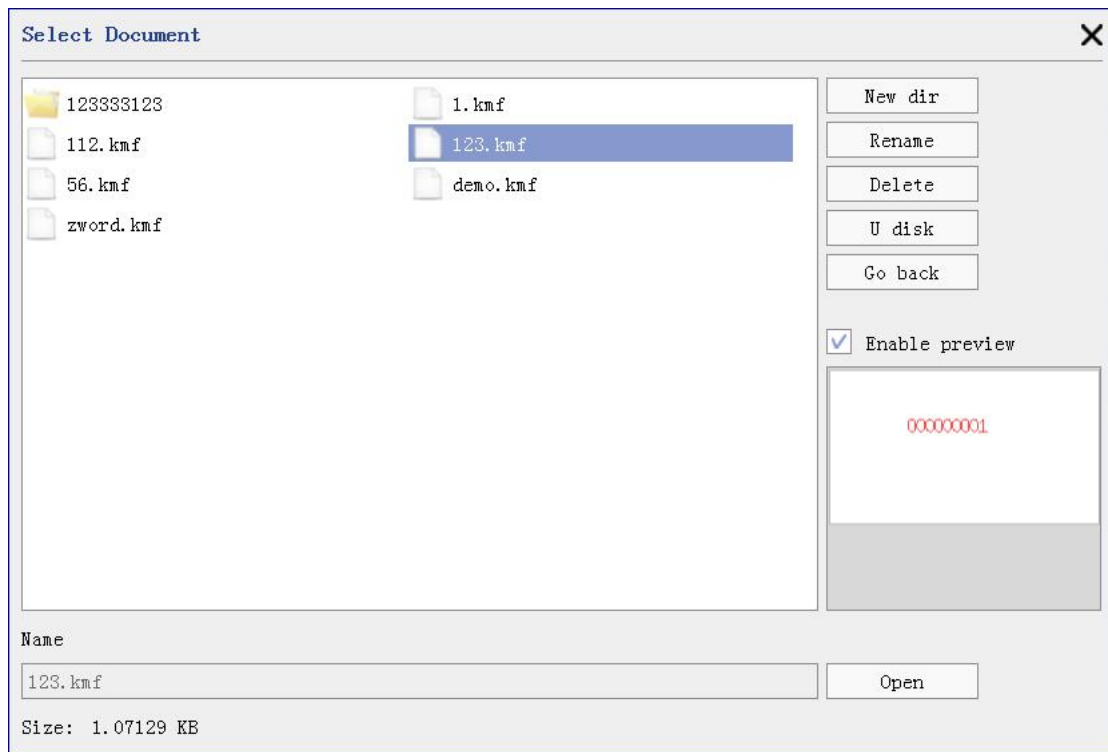



Figure 2-3 Choose file dialog

In the choose file dialog user can choose the file name and click on select button to open the document.If the document has been saved in sub folder user can double click on the folder icon to open it and choose.At the same time when user choose a file can rename or delete it.

In the quick tool bar the open menu is ,click on it can make the same function.

2.3 Save as

Save as menu is used for saving current document to another file name. As shown in figure 2-4.

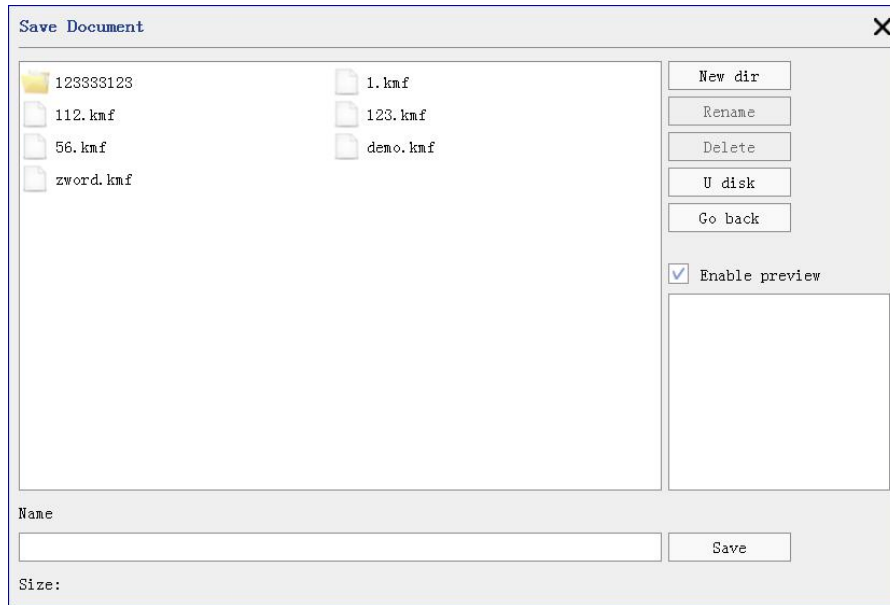


Figure 2-4 Save as dialog

In save as dialog user can save the document as any name or just choose a exist document name to cover it.

2.4 Save

Save menu is used for saving current document. The shortcut key is CTRL+S. As shown in figure 2-5.

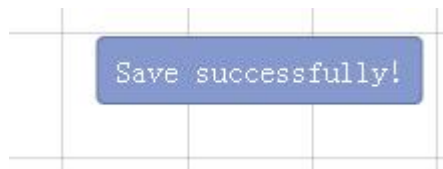




Figure 2-5 Save successfully

If current document is a new document,when user use save function will do the [save as](#) function which is telled in 2.3.

In the quick tool bar the save menu is , click on it to make the same function.If current document has no changed,this button will be shown like  and cann't be clicked.

2.5 Import and export

Will be introduced in 5.4 detailly.

3 View

The view menu implements display option,including Zoom in,Zoom out and Initial size.As shown in figure 3-1.

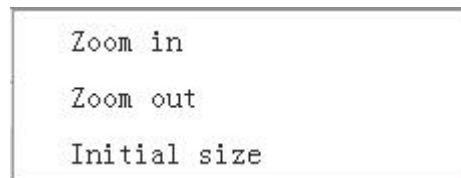


Figure 3-1 View menu

3.1 Zoom in

Zoom in is used for scaling the edit zone larger as position (0,0) reference while edit small marks.



Figure 3-2 Initial size

Figure 3-3 is zoom in 5 times.

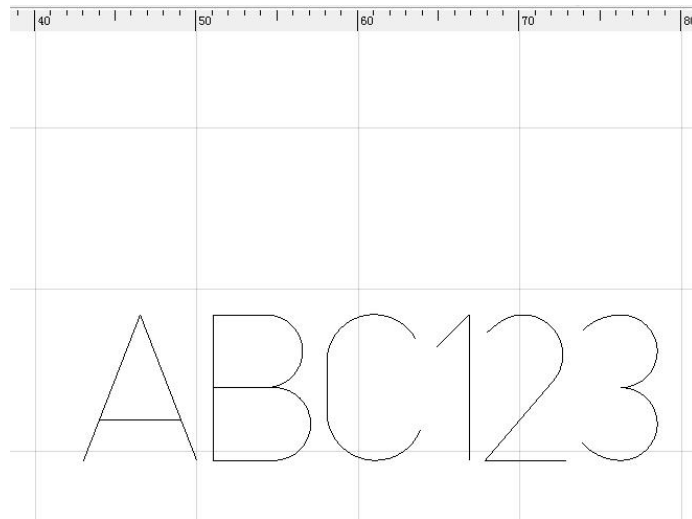



Figure 3-3 After zoom in 5 times

In the quick tool bar the zoom in is .

3.2 Zoom out

Zoom out is used for scaling the edit zone smaller as position (0,0) reference while edit large marks.

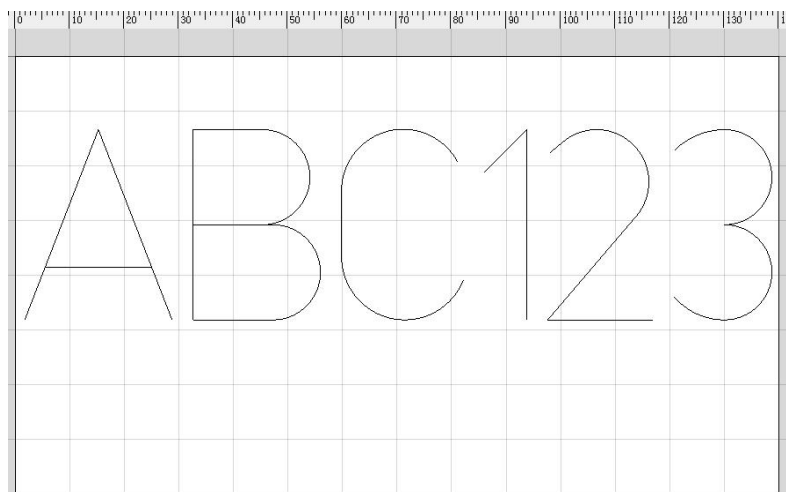


Figure 3-4 Initial size

Figure 3-5 is zoom out 5 times.

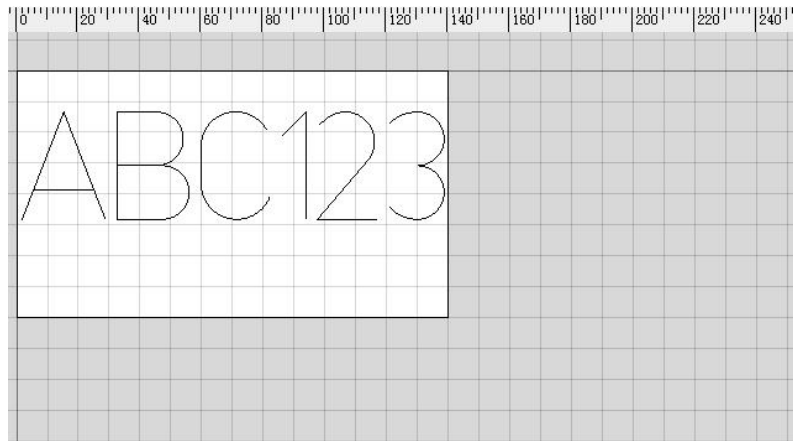




Figure 3-5 After zoom out 5 times

In the quick tool bar the zoom out is .

3.3 Initial size

Reset the edit zone to initial size and the initial position.

In the quick tool bar the initial size is .

4 Edit

Edit menu is as shown in figure 4-1.

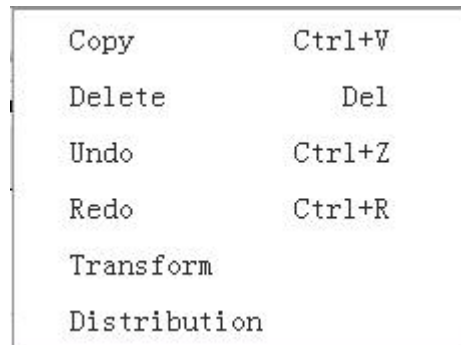


Figure 4-1 Edit menu

4.1 Copy

Copy is used for cloning the selected marks and it supports mutil selection. It will clone all the paramaters of the marks except the coordinat. The shortcut key of copy is CTRL+V.As shown in figure 4-2 and 4-3.

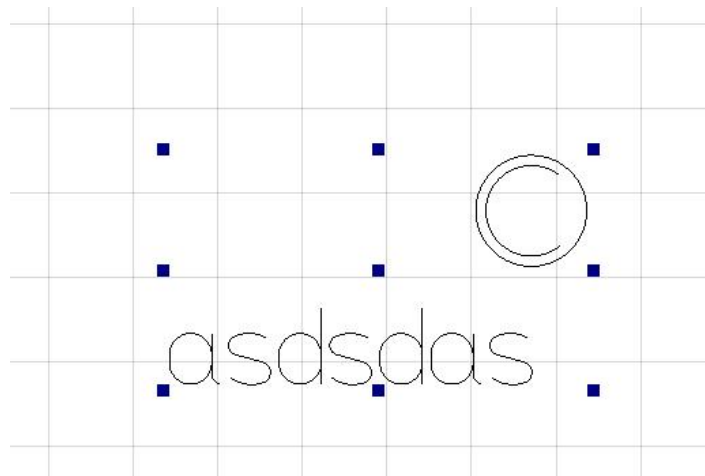


Figure 4-2 Choose a static text and a vertograph

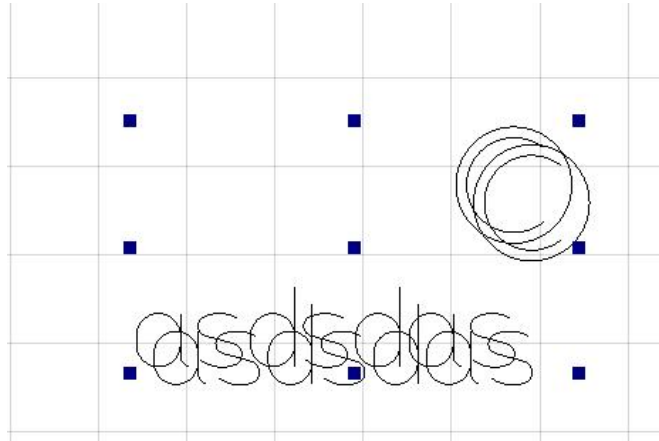


Figure 4-3 After copy

4.2 Delete

Delete is used for removing all the selected marks in the edit zone. The shortcut key is Del.

Notice: when user use delete function, Kingmark will delete them directly. User can undo this operation.

In the quick tool bar delete is



4.3 Undo

Undo is used for cancelling the last operation. The shortcut key is CTRL+Z.

Undo can cancel the edit operation, including moving, changing the content, changed the parameters, insert marks or delete marks. Undo can be used before the save or save as operation.

The quick tool bar of undo is





, and if there is no operation can be undo it will

shown as



4.4 Redo

Redo is used for cancelling the undo operation. The shortcut key is CTRL+R.

The quick tool bar of redo is  , and if there is no operation can be redo it will shown as .

4.5 Transform

Transform contains move ,scale ,rotate ,flip and tilt.As shown in figure 4-4.

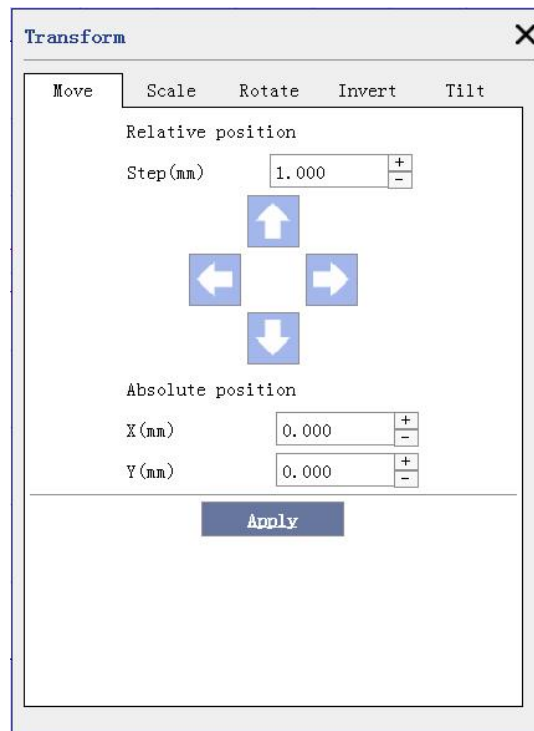






Figure 4-4 Transform

Move:There are two kinds of movement.In relative position user can set up a step then choose the direction as     to move;Absolute position is the x and y coordinate base on the lefttop corner.

Scale:Changed the height or width of the mark.If choose keep aspect ratio, the width and the height will change at the same time.As shown in figure 4-5.

☒ Keep aspect ratio

W (mm) +
-

H (mm) +
-

Pos refer

☒ ☐ ☐

☐ ☐ ☐

☐ ☐ ☐

Figure 4-5 Scale

Rotate: User can choose anticlockwise or clockwise to rotate the mark. And the angle is relative angle. As shown in figure 4-6.

☒ AntiClockwise ☐ Clockwise

Angle +
-

Pos refer

☒ ☐ ☐

☐ ☐ ☐

☐ ☐ ☐

Figure 4-6 Rotate

Invert: There are two mode of flip, Horizontal line or Vertical line. As shown in figure 4-7.

☒ H line ☐ V line

Pos refer

☒ ☐ ☐

☐ ☐ ☐

☐ ☐ ☐

Figure 4-7 Invert

Tilt: Looks like rotate. But tilt angle is inside the mark. And the angle is relative angle. As shown in figure 4-8.

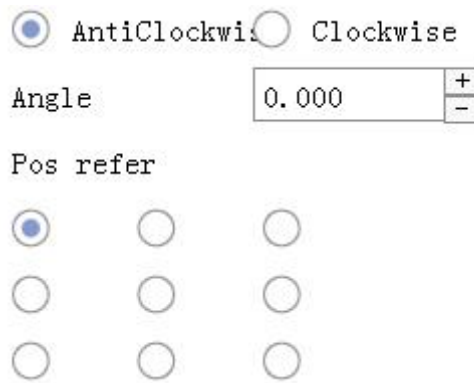


Figure 4-8 Tilt

4.6 Distribution

Distribution is used for rearrange the spacing of selected marks according to the selectd method.As shown in figure 4-9.

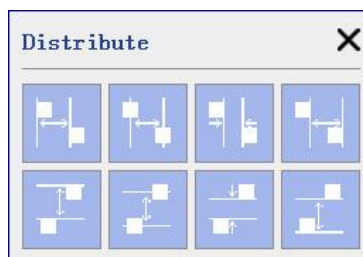
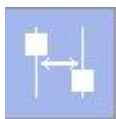


Figure 4-9



: Base on the left side of selected marks and arrange with equal left distance.



: Base on the horizontal center of selected marks and arrange with equal horizontal center distance.



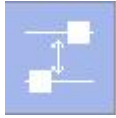
: Base on the horizontal spacing of selected marks and arrange with equal spacing.



: Base on the right side of selected marks and arrange with equal right distance.



: Base on the top side of selected marks and arrange with equal top distance.



: Base on the vertical center of selected marks and arrange with equal vertical center distance.



: Base on the vertical spacing of selected marks and arrange with equal spacing.



: Base on the bottom side of selected marks and arrange with equal bottom distance.

5 Setting

As shown in figure 5-1.



Figure 5-1 Setting5.1 Internal parameters

Internal parameters			
Print mode	X Range	140	Reset order xy
<input checked="" type="radio"/> Normal mode	Y Range	80	Moving overtime(S) 20
<input type="radio"/> Y axis	Z Range	99999	<input type="checkbox"/> Release limit switch
<input type="radio"/> Z axis	X Footlength	0.00698513	<input type="checkbox"/> Reset when start
<input type="radio"/> Z word	Y Footlength	0.00698513	Speed rate 10
	Z Footlength	0.00698513	Speed base 30
	Rotate rate	0.01125	Radius(mm) 30
			<input type="checkbox"/> Back to 0

Ok Cancel

Figure 5-2 Internal parameters UI

Internal parameters including the print mode of pneumatic machine , hardware parameters and so on. Need the administrator permission.

Print mode: Including normal mode, y axis rotation ,z axis rotation and z axis per word rotation.

Normal mode: Normal mode is flat marking mode and the default mode. Z axis will not effect under this mode.

Y axis: Y axis is the rotary axis , x axis is flat mode . Z axis will not effect under this mode.

Z axis: Z axis is the rotary axis , x axis and y axis is flat mode.

Z word: Z axis is the rotary axis , x axis and y axis is flat mode. User need to rotate the mark with 90 degree and then Kingmark will marking this mark word by word. When finish a word marking , z axis will roate to next word.

X,Y,Z range: Unit mm , means the max range x axis and y axis can move. And Kingmark will show a white background color section. When needling or marking, Kingmark will check the range of the document to avoid damage of the machine.(Over range will cause a wanring and stop marking).

X,Y,Z footlength: $\text{footlength} = \text{Motor gear diameter} \times \pi \div 360 \times \text{Motor step angle} \div \text{Drive subdivision number}$.

Reset order: Setting of machine reset axis order , default xy , means reset x axis and y axis at the same time. If user want to reset the axis in order. For example , reset x axis and y axis at first , then reset z axis, can type in xy,z.

Release limit switch: Release the machine origin limit switch , if there is a proximity switch , you can use it.

Radius(mm): Only valid in rotation axis mode, it is necessary to input the diameter of the target workpiece to calculate the accurate rotation step.

Back to 0: Only valid in z word rotation mode. If enable then z axis will return to 0 when marking finished, and disable it will not.

Moving overtime(s): Each movement (including needle movement, etc.) has a time-out time. If the time is not completed, the action will be considered as failure (i.e. time-out). The default time is 20 seconds. If the user needs to print a large format or rotate the Z axis for a long time, the value can be increased.

5.2 Hardware test

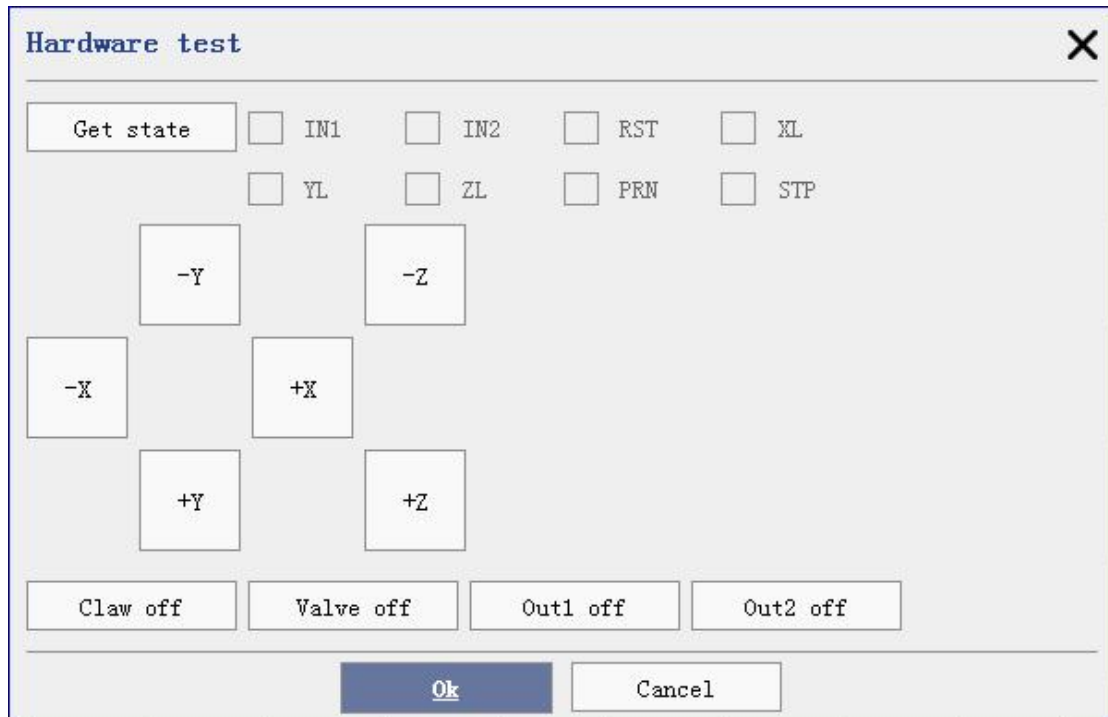


Figure 5-3 Hardware test

Get state: Click on it to get current IO ports information, including two user-defined io port, reset ,x,y,z limit switch , print and stop.

XYZ+-: Click on it to move the axis, footlength = 1mm.

Claw off/on: To control the claw.

Valve off/on: To control the valve.

Out1 Out2: To control the output port;

If pass all the test, means Kingmark can work well.

5.3 System

As shown in figure 5-4.

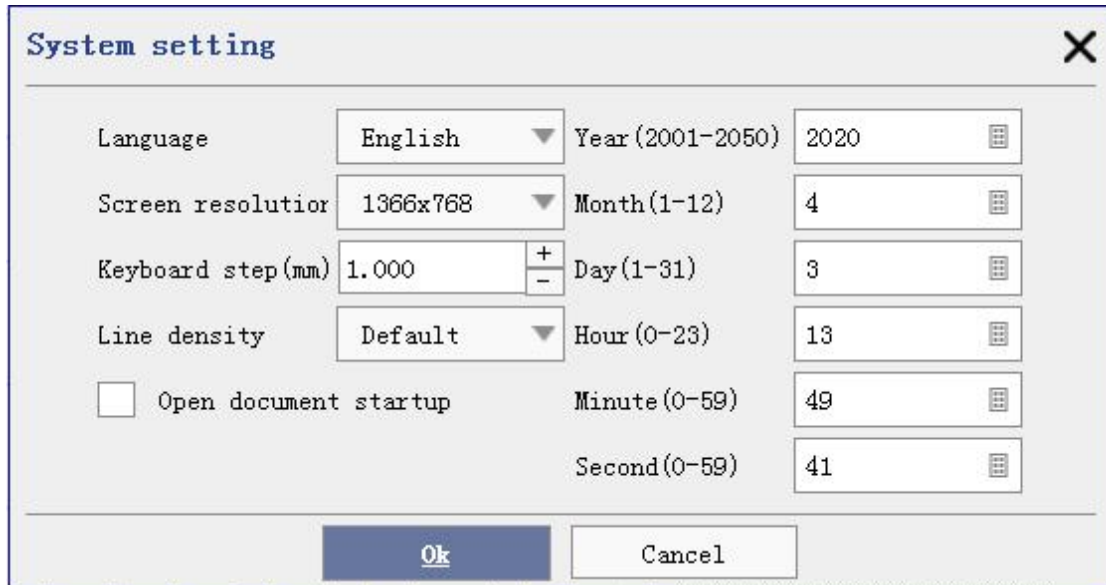


Figure 5-4 System setting

Language: Language of Kingmark. Supports Simplified Chinese , Traditional Chinese ,English ,Japanese, Korean, Polish and Russian for now.

Screen Resolution:Change this parameter to fit the screen.

Keyboard step:The value of keyboard move marks one step.

Line density: The higher the density, the higher the degree of arc subdivision. The more smooth the arc is, the more obvious the line segment is.

Open document startup:Auto open the last print document when Kingmark startup.

Time:Including year, month, day, hour, minute and second.

5.4 Plugin setting

Plugin setting can prune unnecessary plug-ins to simplify the interface.As shown in figure 5-5.

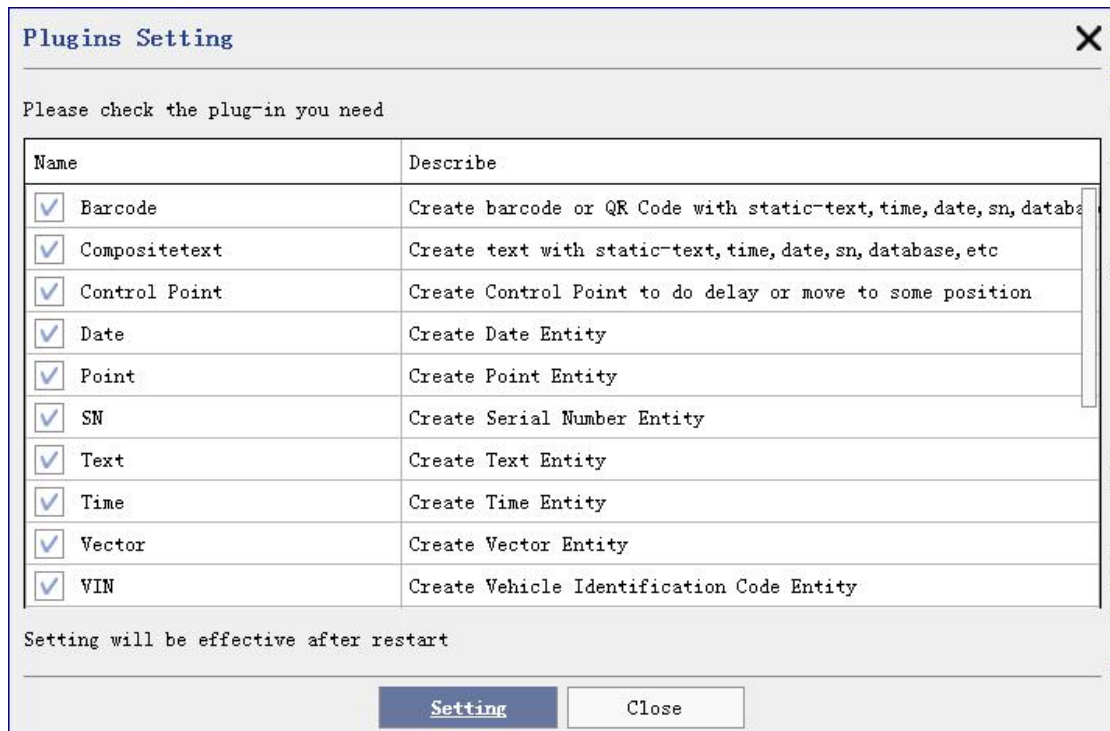


Figure 5-5

All tag types and plug-in items under the extension menu will be listed here. If this function does not need to be provided to customers, it can be realized by unchecking this item. After setting, click the setting button, and then restart the system to see the effect.

5.5 Resource manage/upgrade

As shown in figure 5-6.

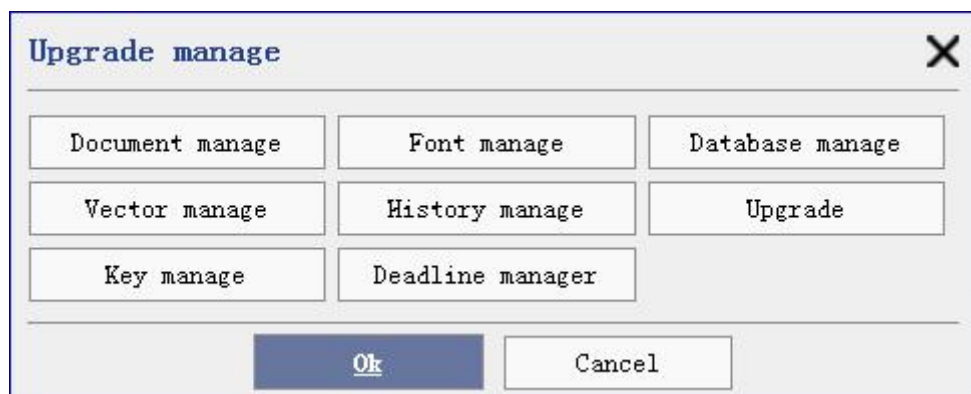


Figure 5-6 Resource manage/upgrade

In upgrade manage can manage the document of Kingmark and the other resource

such as fonts , database , vector and so on. The user interface are similar.

Document manage interface will shown below,as shown in figure 5-7.

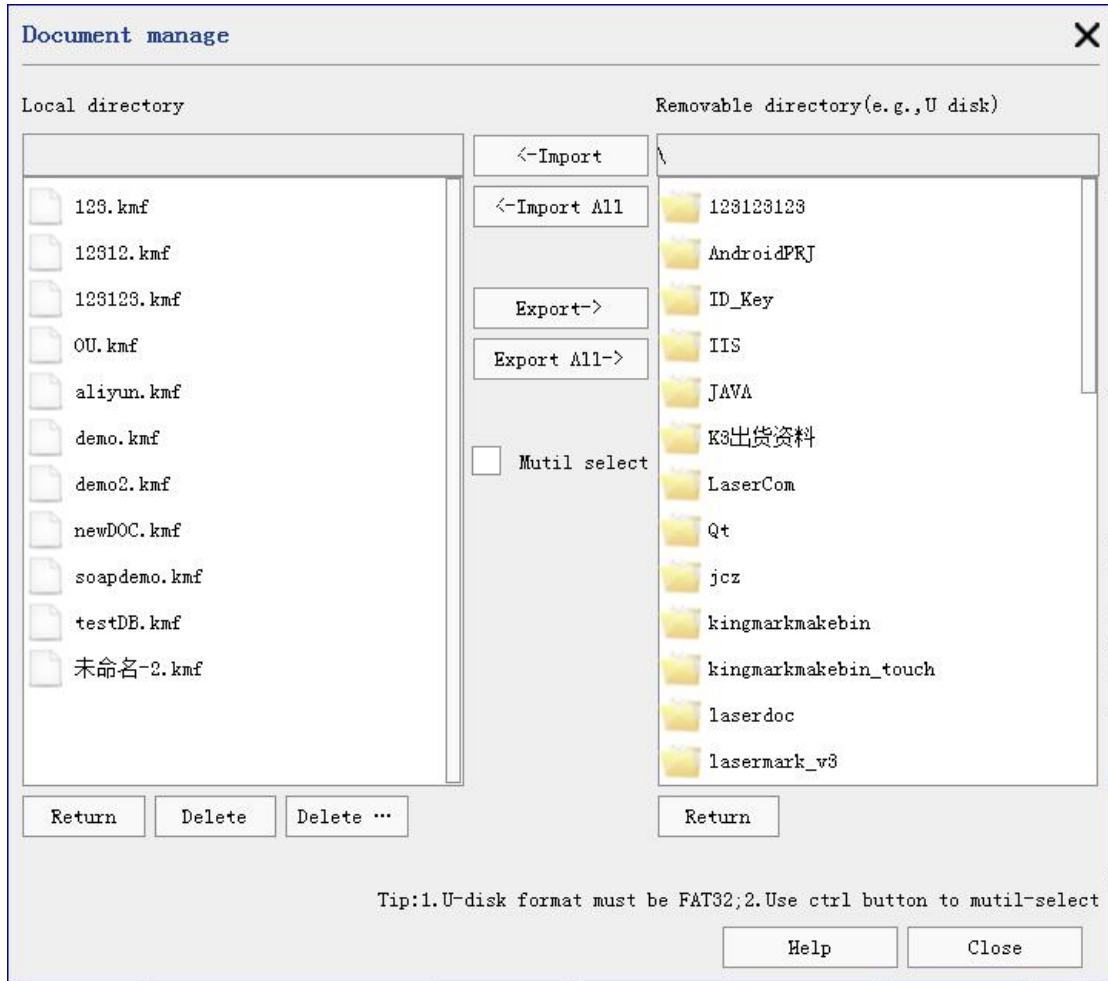


Figure 5-7 Document manage

In document user interface, the left list is the file list of Kingmark and the right list is the list from removable devices(such as u-disk). Only document can show the sub directory , the other resource must operate under root directory.

Import and export support single file or mutil files or all files. User can hold the CTRL key to select more than one files.

User can only delete the files from Kingmark .Some resouce, fonts for example,cann't be deleted when the resource is not a user-import resource.

Document: Only support .kmf format which created by Kingmark.

Font:Support .shx and .ttf and .dmf(Kingmark dot font).

Database: Support compliant format .txt and .csv or the .db3 created by Kingmark.

Vector graphic:Support .plt and .dxf.

Marking record:Only export the record to csv files.User can delete it when remove a document from Kingmark.

Upgrade:To upgrade the Kingmark version. If the chip config version is old, it also can upgrade the chip version by click on upgrade button.

Key manage:To unlock the pay function.

5.6 Authority

As shown in figure 5-8.



Figure 5-8 Authority manage

Administrator can changed the engineer or administrator password.

5.7 About

Displays the current software version number, system kernel information, product ID number, and authorized modules. As shown in figure 5-9.

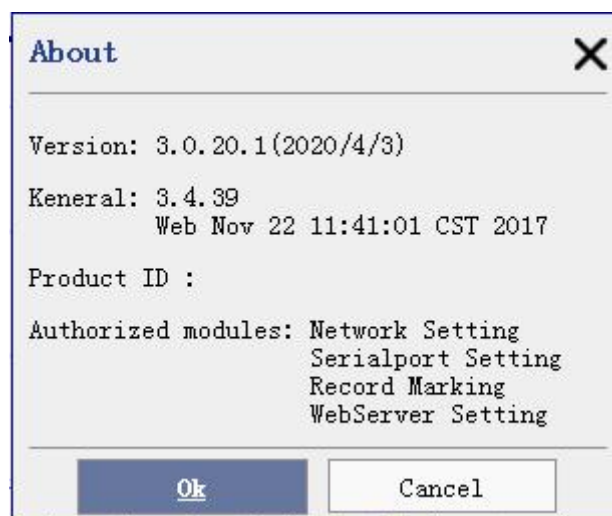
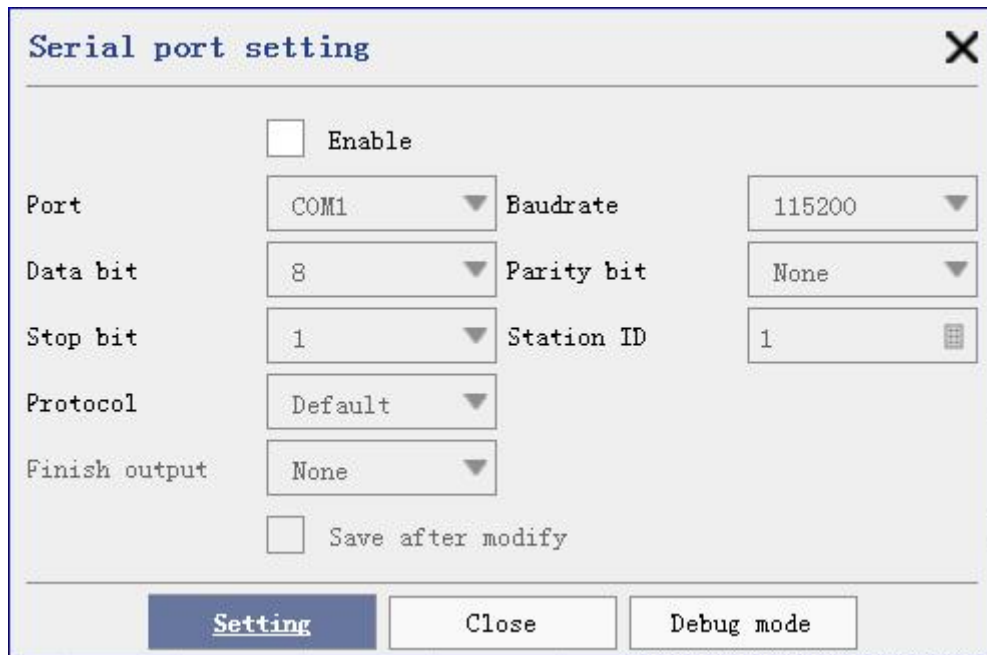


Figure 5-9

5.8 Serial port

As shown in figure 5-10.



The image shows a 'Serial port setting' dialog box with a close button (X) in the top right corner. The dialog contains the following settings:

- ☐ Enable
- Port: COM1 (dropdown)
- Baudrate: 115200 (dropdown)
- Data bit: 8 (dropdown)
- Parity bit: None (dropdown)
- Stop bit: 1 (dropdown)
- Station ID: 1 (text input with a small grid icon)
- Protocol: Default (dropdown)
- Finish output: None (dropdown)
- ☐ Save after modify

At the bottom, there are three buttons: 'Setting' (highlighted in blue), 'Close', and 'Debug mode'.

Figure 5-10 Serial port setting

Serial port is used for PC or PLC communication with Kingmark. The parameters must be the same with PC or PLC.

The protocol supports default protocol(hex) and ascii protocol. Watch the protocol reference for more information.

5.9 Event Manager

As shown in figure 5-11.

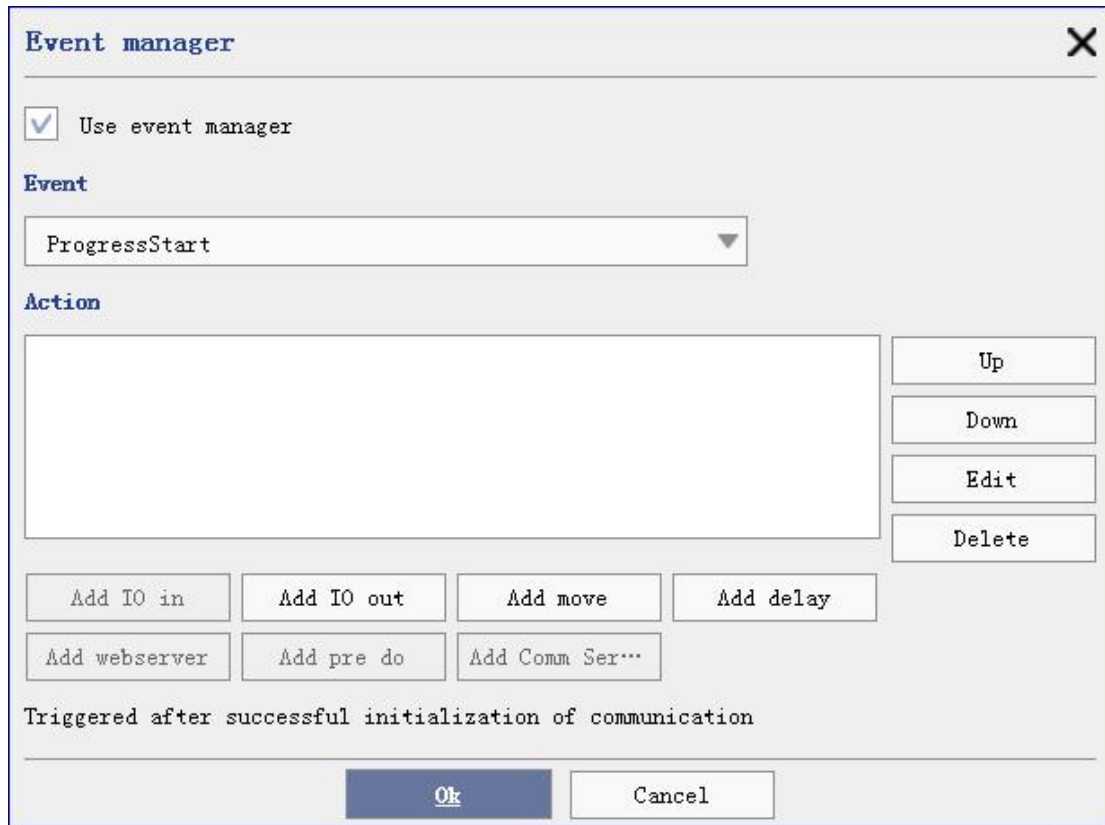


Figure 5-11 Event manager

Event manager according to user need to process the event when the opportunity happened. Opportunity including progress start, marking start, marking abort, marking finish, marking ready, marking free, reset start, reset fail and reset finish. Event including IO in, IO out, needle move, delay and webserver. IO in can only effect when marking free, and webserver can only effect when marking start, abort or finish.

Event manager can satisfy user different need. For example, if user need to output a signal when marking finish, choose “MarkingFinish”, then add an IO out, choose an IO port such as 1, and set up the duration such as 1000 ms, then the IO port will output a signal when every marking finish. As shown in figure 5-12.

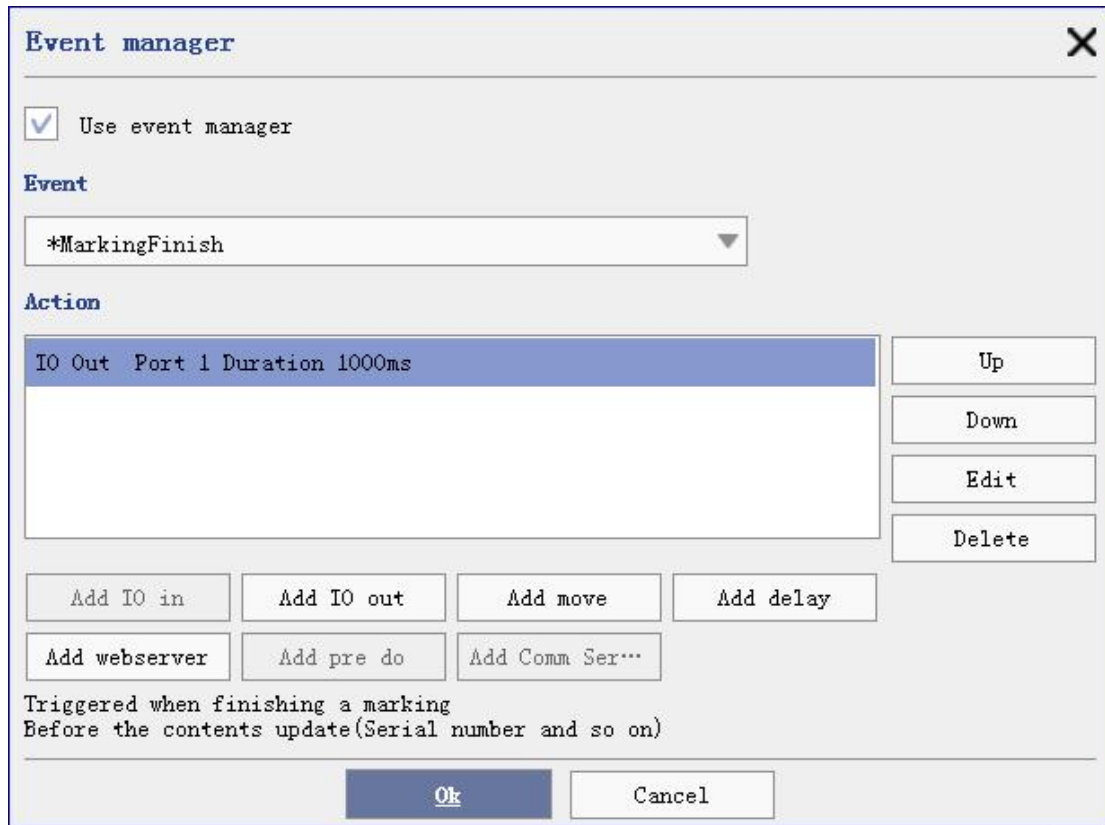


Figure 5-12 Marking finish

User can process more than one event in one opportunity. The order is up to down. User can change the order by choose the event then click on up or down button on the right side. Double click on the event will show a quick edit dialog for changing the content or event. As shown in figure 5-13.



Figure 5-13

If the event isn't need anymore, can click on delete button to delete it.

Click on OK button will save the list.

The detail timing of all opportunity is shown below.

Progress Start:After communication initial success.

Marking Start:After click on start button and current document is able to mark.

Marking Abort:When received a stop signal.

Marking Finish:After marking and before close the valve and the claw.

Marking Ready:After all marking operation and the stand by coordination,before entering marking free.

Marking Free:When the software is doing nothing.

Reset Start:After click on reset button.

Reset Fail:When reset fail or over time.

Reset Finish:When reset success.

5.10 Network

Network setting dialog is shown as figure 5-14.

Network setting [X]

Ethernet ☐ Static

IP Subnet mask Gateway Refresh

Network state: **Connected**

Wifi ☐ AP Mode ☐ Static

Name Connect list Open wifi IP Subnet mask

Gateway Refresh

Network state: **Disconnected**

Com protocol ☒ Enable Port(2000-5000)

Command char Recv timeout(ms) Finish output

[Setting] [Close] [Debug mode]

Figure 5-14 Network setting

Kingmark will read the IP addr and the other information of current connection. And if there is no network will show disconnected in red. Check enable and enable network connection function. Network protocol please check the relevant instructions.

6 Extend

6.1 History record

History record can only show under login status. As shown in figure 6-1.

History record

Key word All

1

id	content	type	date	time
----	---------	------	------	------

Figure 6-1 Histort record

Only current document's history record can be shown. Choose the date and click query to show the record. As shown in figure 6-2.

History record [X]

Key word All [v] Query

Prev 1 /1Pages Next Export Delete

id	content	type	date	time
1	000000001	SN	20200403	14:20:02
2	000000002	SN	20200403	14:20:07
3	000000003	SN	20200403	14:20:12
4	000000004	SN	20200403	14:20:17
5	000000005	SN	20200403	14:20:21
6	000000006	SN	20200403	14:20:26
7	000000007	SN	20200403	14:20:31
8	000000008	SN	20200403	14:20:36
9	000000009	SN	20200403	14:20:41
10	000000010	SN	20200403	14:20:46

Close

Figure 6-2 Record

Records will show in pages, each page can show 200 records. Press prev or next to turning the page.

If all is selected as the type, the keyword is invalid and all the content will be displayed directly; if content, type or date is selected as the keyword, the related query will be performed strictly according to the entered keyword. If it is necessary to display all VIN codes, key in the VIN code, select the type and click query.

The imprint record supports single deletion. If you want to reprint in case of mistyping and find that the recode detection prompt has been imprinted, you can use this method to delete the imprint record. Select a single record and click delete. A confirmation prompt will pop up. Confirm to delete.

6.2 Barcode output

Barcode output is used for the barcode printer, only can be setting under login

status.As shown in figure 6-3.

The dialog box titled "Barcode output" contains the following elements:

- A checked checkbox labeled "Use".
- COM port dropdown menu set to "COM1".
- Baudrate dropdown menu set to "9600".
- Action dropdown menu set to "No Print".
- Type dropdown menu set to "User1".
- A "Copy to" button and a dropdown menu set to "User1".
- Buttons: "Apply", "Add selected name", "Import", and "Export".
- A text area containing the following script:


```
CLS
SPEED 3.0
DENSITY 8
SET PEEL OFF
DIRECTION 0
GAP 3.00mm, 0.00 mm
REFERENCE 0,0
SET CUTTER OFF
SIZE 70 mm, 50 mm
BARCODE 50, 50, "3D", 50, 1, 0, 3, 6, "@1@"
PRINT 1, 1
```

Figure 6-3 Barcode output

In barcode output dialog user can't set the serial port, it must be COM2, and the baudrate must set the same value with the barcode printer.

Kingmark has 4 kinds of template ,PPLA , PPLB , TSPL and ZPL. User can make self-define template in User1-3. User1-3 will be saved after click on Ok button.

User also can choose the action of barcode output. Default action is no print. If printing before printing is selected, the serial port command will be sent to the barcode printer before the actual operation of the marking machine; and the serial port command will be sent after the marking machine is completely printed (including standby coordinate point, etc.).

After modifying the script, you need to click the Apply button to take effect.

When you need to input the replacement tag content, you can select the tag in the

editing area, click the text to be inserted in the script editing interface, and then click Insert the selected tag name. The program will automatically insert the name of the selected tag and the @ symbol before and after it into the location of the light mark.

6.3 Web Server

Under the administrator's permission and the authorization file has been imported, click exten - web service to open the web service settings page, as shown in figure 6-4.

Figure 6-4

Network services support multiple protocols. Currently, they support soap 1.1 and 1.2 protocols and JSON protocols, as well as customization (i.e., direct connection to database, currently support SQL server, mysql, Oracle and local SQLite).

6.3.1 SOAP

The soap protocol is divided into version 1.1 and 1.2, which are related to the server-side settings and selected according to the actual situation. As shown in figure 6-5.

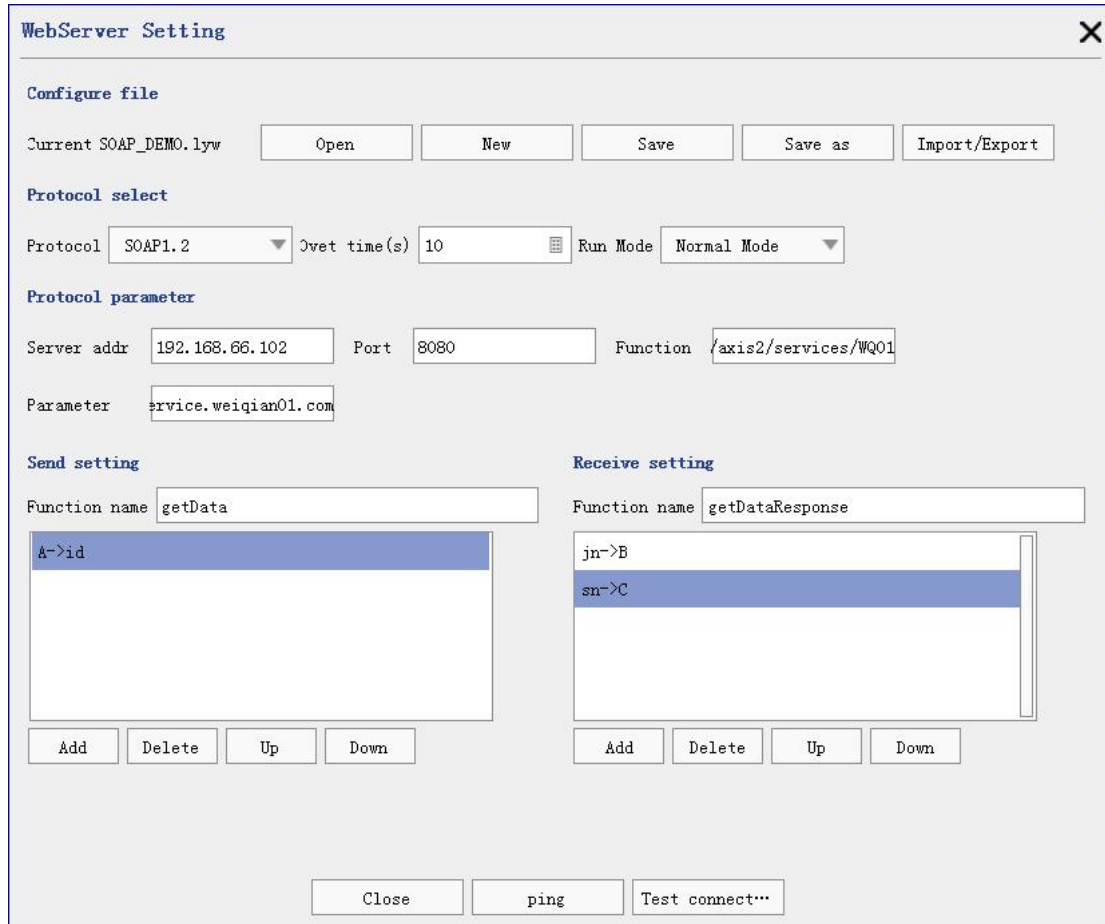


Figure 6-5

In soap protocol, you need to set server address, which can be IP address or domain name address; port number, which is 8080 by default; method address, which is the detailed path of the method to be called; named address, which is the content similar to a web address after targetNamespace in the WSDL file. In this example, the server address is 192.168.66.102 in the LAN, the port number is 8080, the method address is / Axis2 / services / WQ01, and the named address is http://service.weiqian01.com.

After setting the server, you need to set the sending and receiving method names.

Generally speaking, the receiving method name is the sending method name followed by the response. In our sample service, there is a method called `getData`, and the corresponding receiving name is `getdataresponse`. As shown in figure 6-6,6-7.

```
<xs:element name="getData">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="id" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
<xs:element name="getDataResponse">
  <xs:complexType>
    <xs:sequence>
      <xs:element minOccurs="0" name="return" nillable="true" type="ax24:bluetooth"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>
```

Figure 6-6

```
<xs:schema attributeFormDefault="qualified" elementFormDefault="qualified" targetNamespace="http://service.weiqian01.com/xsd">
  <xs:complexType name="bluetooth">
    <xs:sequence>
      <xs:element minOccurs="0" name="jianiu" nillable="true" type="xs:string"/>
      <xs:element minOccurs="0" name="sn" nillable="true" type="xs:string"/>
    </xs:sequence>
  </xs:complexType>
</xs:schema>
</wsdl:types>
```

Figure 6-7

According to the definition in Figure 6-6, it can be seen that `getData` contains an input value called ID, so in the sending setting, add an input item (A) to map to ID, as shown in Figure 6-8.

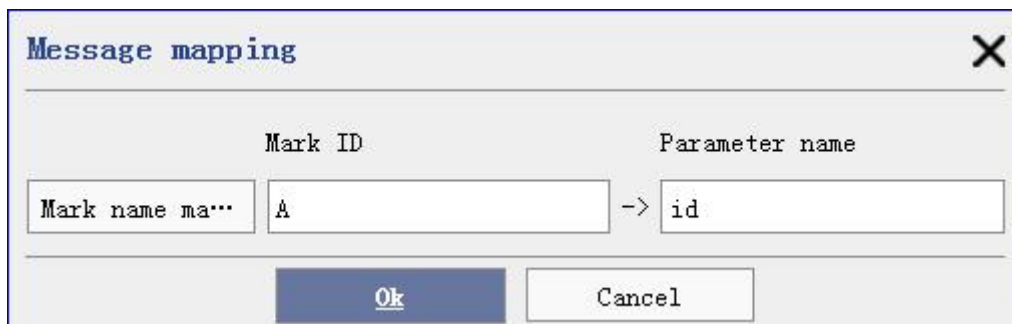


Figure 6-8

Click Advanced function to quickly insert specific name content, including tag ID, etc.

By analogy, add two output items (Jianiu, Sn) to map to B and C respectively.

In this way, the basic settings are completed. Click Save and enter a file name to finish saving.

6.3.2 Call WebServer

Network services need to be enabled by adding entries to the event manager. As shown in Figure 6-9.

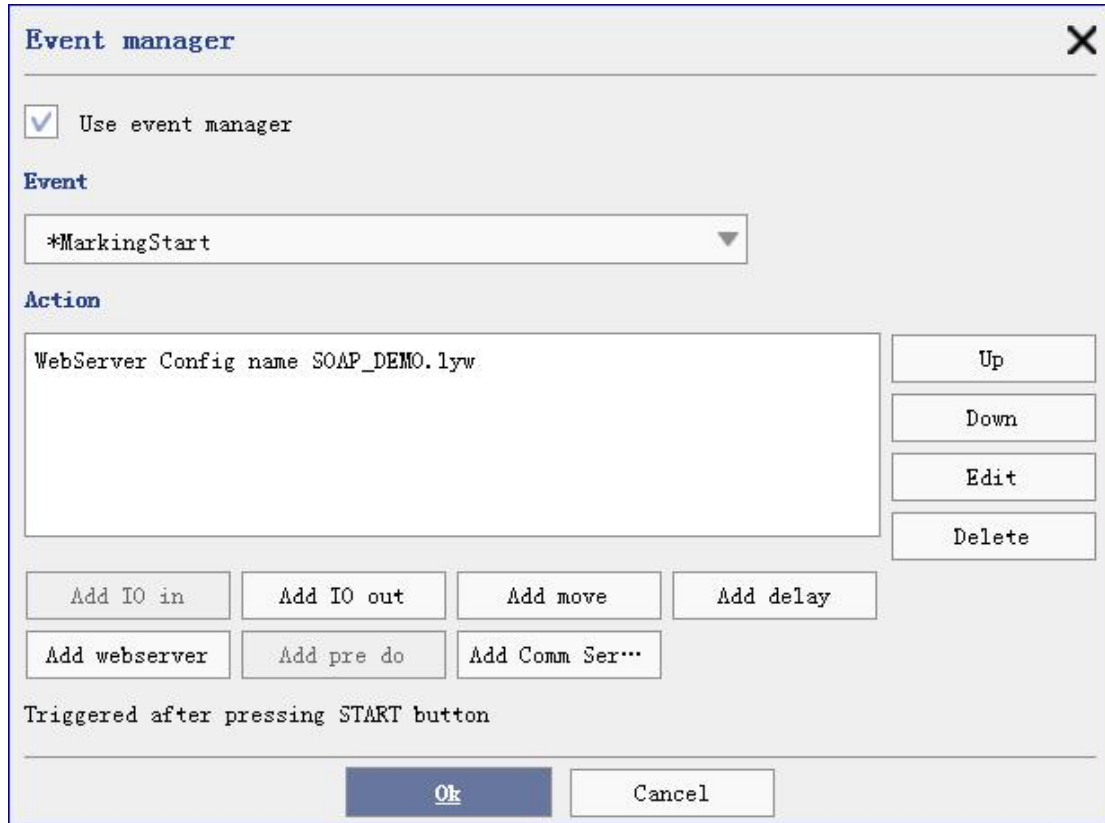


Figure 6-9

A network service has been added here. The time is the start of engraving. That is, press the start engraving button and trigger it immediately. Call the set configuration file (SOAP_DEMO.lyw) and get the content for engraving.

6.4 CommServer config manager

The main interface of CommServer config manager is shown in Figure 6-10.

CommServer config manager

Configure file

Current:

Comm select

Type timeout(ms)

SerialPort

Port Baudrate Data bit

Parity bit Stop bit

Send setting

Receive setting

Figure 6-10

The communication configuration manager is used to generate and modify configuration files for communication functions. It can be seen as a simplified version of webserver services. Here, you can choose serial communication or network communication, which will directly conduct ascii string communication, send out the specified tag content, and write the received content to the specified tag.

6.5 Database Record Marking

Under the administrator's permission and the authorization file has been imported, click extend - database record marking to open the database record marking setting page, as shown in Figure 6-11.

Figure 6-11

Database record marking is used to temporarily save multiple result data returned from a database query, and then call and mark through the memory database function in the combined text. Compared with the common database marking, database record marking supports the function of query by connecting to the remote database through the network, and can quickly preview the current index and the following 10 items, and quickly skip the content that does not need to be marked.

Click settings to open the database setting interface, as shown in Figure 6-12.

Figure 6-12

At present, the database supports SQL server, mysql, Oracle and SQLite. Only SQLite needs to be imported to the local machine in advance, and the other three are remote database connections.

After filling in the server information, click the connection test to prompt that the connection is successful. If it fails, follow the prompts to check the problem. You can also check whether the network link is connected through the Ping tool.

Fill in the query statement and click execute to save the content that conforms to the

query statement to the memory database, and display the first ten contents in the newly pop-up interface.

Then add a combined text and select database. At this time, the option of using memory database can be checked. Select using memory database and set the column number to be displayed, as shown in Figure 6-13.

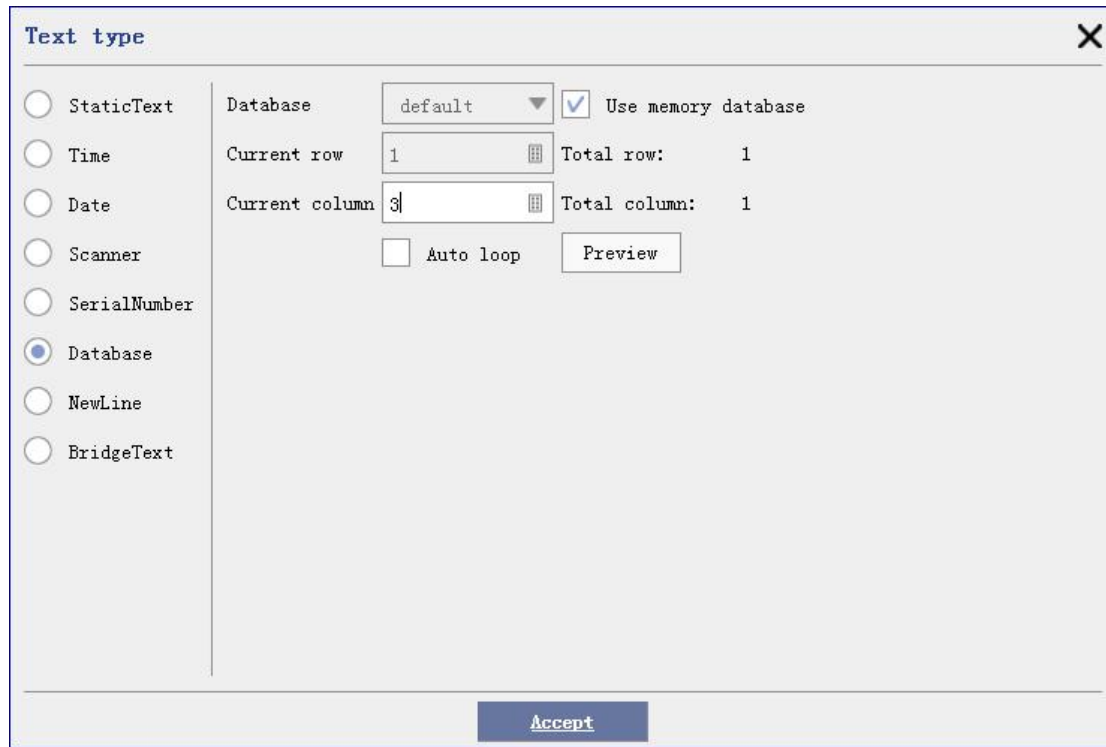


Figure 6-13

Click accept, the newly generated combined text will change according to the index value in the database record marking, which can be adjusted manually. After each marking, the index will be automatically increased by one until all content marking is completed.

7 Toolbar

Toolbar is the icons below the menu. As shown in figure 7-1.



Figure 7-1 Toolbar

7.1 Document operation

New: Same with [Chapter 2.1](#).

Open: Same with [Chapter 2.2](#).

Save: Save button will be enable after editing. And disable after save. If current document has not been saved, will pop up a save dialog.

7.2 Delete

Same as [Chapter 4.2](#).

7.3 Undo and redo

Same as [Chapter 4.3](#) and [Chapter 4.4](#).

7.4 Align



Left align: Align the left end of the selected marks to the far left of the selected area.



Horizontal center align: Align the horizontal center of the selected marker to the horizontal centerline of the selected area.



Right align: Align the right end of the selected marks to the far right of the selected area.



Top align: Align the top end of the selected marks to the far top of the selected area.



Vertical center align: Align the vertical center of the selected marker to the vertical centerline of the selected area.



Bottom align: Align the bottom end of the selected marks to the far bottom of the selected area.

7.5 View

Initial Size: Same as [Chapter 3.3](#).

Zoom in: Same as [Chapter 3.1](#).

Zoom out: Same as [Chapter 3.2](#).

7.6 Login


Login(CTRL+L): User can't edit any document when not login. Only can print the exist document. As shown in figure 7-2.

Figure 7-2 Login

Engineer can edit the document and changed some print parameters. And the administrator can changed all the setting of Kingmark.

7.7 Lock/Unlock

After choosen a or some marks can use Lock/UnLock function .

Lock is used for locking current mark, and can't move this mark by move mouse. This function is to avoiding move the marks already in right position. When user need to unlock, just click on  .

The locked mark can change property on the right side property panel including size and position.

8 Drawing bar and Property panel

Drawing bar located in the left of main screen. As shown in figure 8-1.




Figure 8-1 Drawing bar

Drawing bar is used for add a new mark into the edit zone. Including vector , text and barcode.

8.1 Vector



Click on  icon to insert a vector into edit zone. User must select a exist vector in the pop up dialog.

Property as shown in figure 8-2.

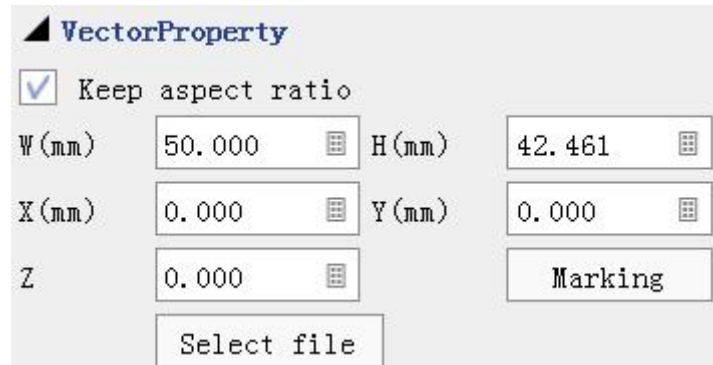


Figure 8-2 Property

General property including width, height, X, Y, Z and Marking control.

Width: The actual width of selected mark.

Height: The actual height of selected mark.

X and Y : The position of selected mark, base on the left-top.

Z: No use for now.

Marking control: Including close mark, use record and use coincident code. Enable close mark and the selected mark will not be marking and show in gray; Use record means the content of this mark will be saved in the database; Coincident check will effect when the record exist.

When insert a vector mark, a choose file dialog will popup as figure 8-3. User must choose a vector file. Single click on the filename will preview it and double click is a open.

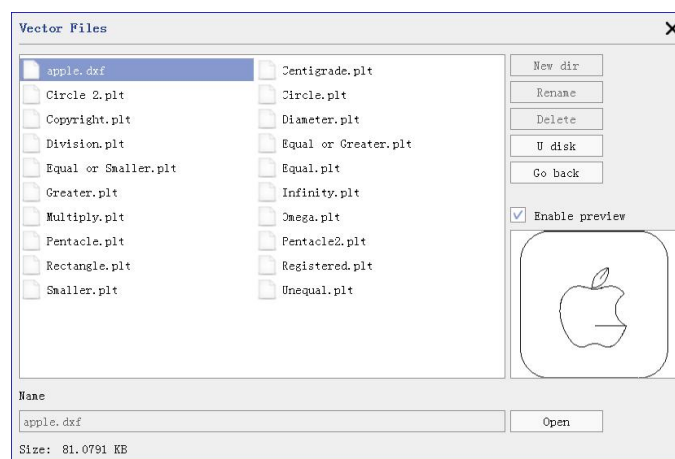



Figure 8-3 Choose

8.2 Static text

Click on  icon to insert a static text mark into edit zone. The property as shown in figure 8-4.

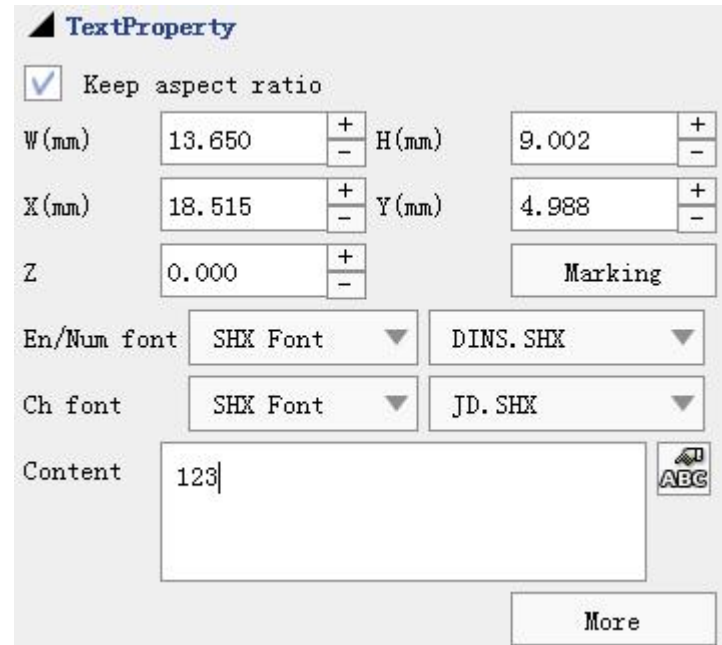


Figure 8-4 Static text property

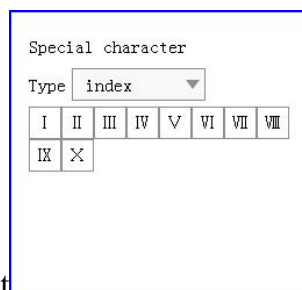
General property see [Chapter 8.1](#).

Special property including fonts, content, font size and so on.

Fonts including English/Number font and Chinese font, supports shx, ttf and dot point.

Content is the text to show, user can type in with soft keyboard or a use keyboard.

If need to type in speacil character, click  will pop up a special character



list, double click on the character to insert to the content.

Click more will pop up more property as shown in figure 8-5.

Font W(mm)	7.000	<div>+ -</div>
Font H(mm)	10.000	<div>+ -</div>
Space(mm)	1.000	<div>+ -</div>
Space base	Char bou... ▼	
<input type="checkbox"/> Bold(TTF)	<input type="checkbox"/> Italic(TTF)	
<input type="checkbox"/> Arc text		
Radius(mm)	20.000	<div>+ -</div>
Start angle	-180.000	<div>+ -</div>
Sweep angle	180.000	<div>+ -</div>
Center X(mm)	18.5152	<div>+ -</div>
Center Y(mm)	14.4910	<div>+ -</div>
Direction	Outward ▼	
Layout mode	Angle ▼	
Point type	None ▼	
Point Spcing(mm)	1.000	<div>+ -</div>

Figure 8-5 More

Font width and font height are the percentage of the mark.

Spacing need to work with **Spacing base** , as default Spacing base is font edge, means that the left character's right to the left of the right character. If it's auto, then spacing is useless, will be 0. If base on character center will be base on verital center of ever character.

You can set bold or italic to ttf font witch can't be use to shx font.

Check the arc text can convert current mark to arc mark. You can set up radius , start angle, distribution angle, center position, word direction and align mode. When align mode is char is useless.

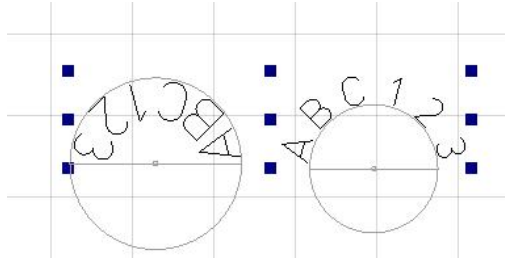


Figure 8-6 Left is outward and right is inward

You can also set the lattice mode, select points in the lattice type, and modify the spacing of points to a suitable value. Note that the first point and the last point of a stroke are reserved to a certain extent, and finally the lattice character as shown in Figure 8-7 will be generated.

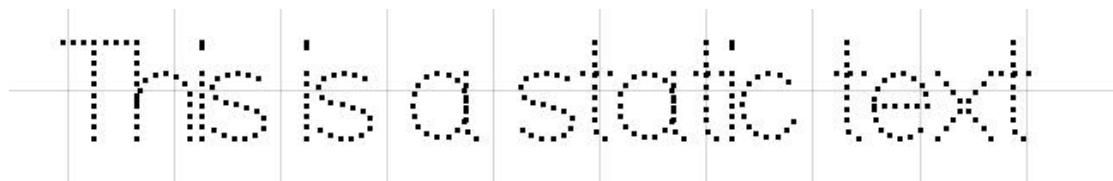



Figure 8-7

8.3 Compositetext

Click  to insert a compositetext mark into edit zone. The mark will be shown in magenta. Property of compositetext will be shown in figure 8-8.

CompositeTextProperty

☒ Keep aspect ratio

W(mm) 21.500 H(mm) 9.034

X(mm) 0.000 Y(mm) 0.000

Z 0.000 Marking

En/Num font SHX Font DINS. SHX

Ch font SHX Font JD. SHX

Align Left More

StaticText

Add Up

Delete Down

Edit Rename

Figure 8-8 Composite text property

General property is the same as [Chapter 8.1](#).

Text property is the same as [Chapter 8.2](#).

The spacial property of composite text including align and content list. Align is used for align the multi line of composite text; content list can add, delete ,edit, move up, move down, rename. Click on add button will shown a type dialog as shown in figure 8-9.

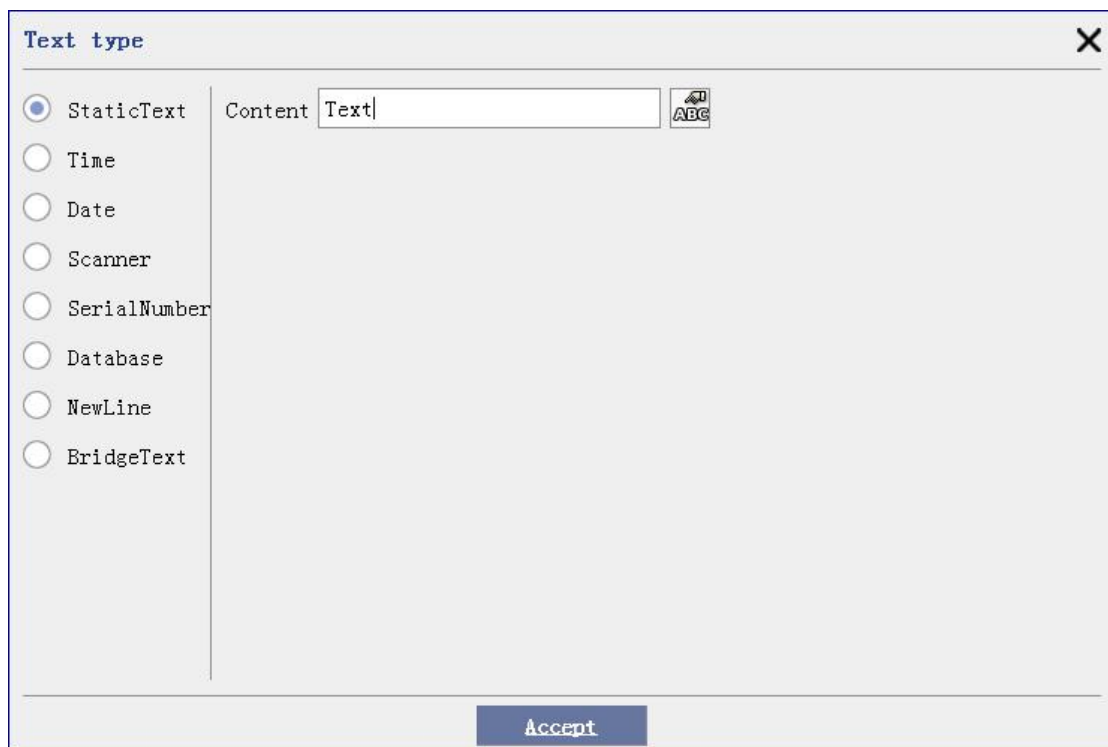



Figure 8-9 Type edit dialog

Compositetext type include static text, time, date, scanner, serial number, database and newline

8.3.1 Static Text

Static text interface see figure 8-9, can use soft keyboard or real keyboard, If you

want to type in special symbol you can click  to pop up double click to type in.

Special character

Type all

!	@	#	\$	%	^	&	*
()	_	+	-	=	{	}
[]	:	;	?	,	.	/

8.3.2 Time

Text type

☐ StaticText
 ☒ Time
 ☐ Date
 ☐ Scanner
 ☐ SerialNumber
 ☐ Database
 ☐ NewLine
 ☐ BridgeText

☒ Hour-24
 ☐ Hour-12
 ☐ Minute
 ☐ Second
 ☐ HH:MM:SS
 ☐ HH:MM
 ☐ Period

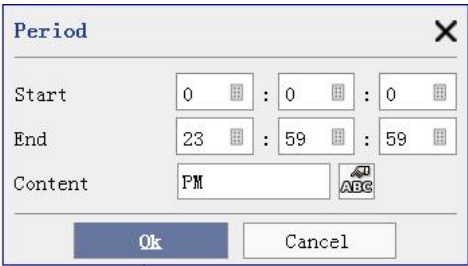
☒ Use zero leading

Accept

Figure 8-10 Time

Time type can be set to hout-24, hour-12, minute, second, hour:minute:second, hour:minute, period. Content will be set according to the system time. Zero leading to fill up a zero if current number is single digit.

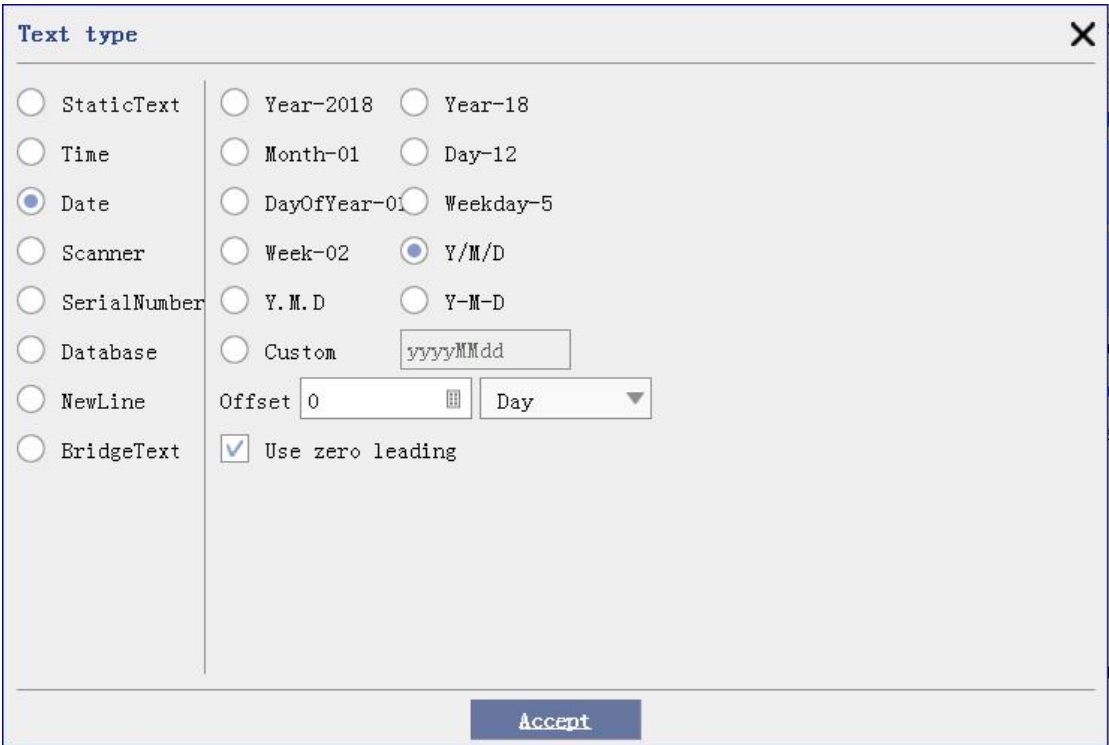
Select period then the right side will be useable. Change the period number can set the different time to show different content. Double click the list will pop up a dialog



A dialog box titled "Period" with a close button (X) in the top right corner. It contains three rows of input fields: "Start" with three numeric boxes (0, 0, 0) separated by colons; "End" with three numeric boxes (23, 59, 59) separated by colons; and "Content" with a text box containing "PM" and a small icon. At the bottom are "Ok" and "Cancel" buttons.

to change the start time, end time and content.

8.3.3 Date



A dialog box titled "Text type" with a close button (X) in the top right corner. It features a list of radio buttons on the left: StaticText, Time, Date (selected), Scanner, SerialNumber, Database, NewLine, and BridgeText. To the right of these are more radio buttons: Year-2018, Year-18, Month-01, Day-12, DayOfYear-01, Weekday-5, Week-02, Y/M/D (selected), Y.M.D, Y-M-D, and Custom. Below the Custom option is a text box containing "yyyyMMdd". Further down is an "Offset" section with a numeric box (0) and a dropdown menu (Day). At the bottom left is a checked checkbox labeled "Use zero leading". A large "Accept" button is at the bottom center.

Figure 8-11 Date

Date type can set long year, short year, month, day, day of year, weekday, week of year, Year/Month/Day, Year.Month.Day, Year-Month-Day. And set the offset days or months or years from today.

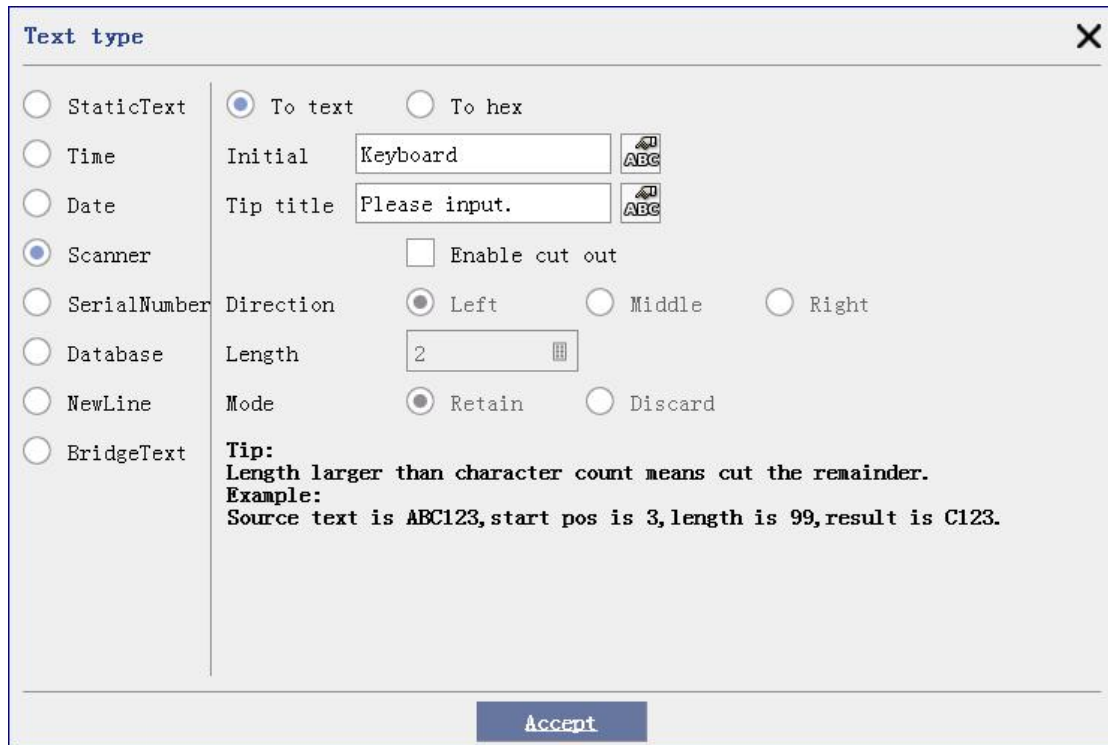
User can define the content of the date, double click the content on the right side



A small dialog box titled "Change" with a close button (X) in the top right corner. It contains a "Map to" label followed by a text box containing "2018" and a small icon. At the bottom are "Ok" and "Cancel" buttons.


will show up a dialog, then input the content.


8.3.4 Scanner



Text type [X]


☐ StaticText ☒ To text ☐ To hex

☐ Time Initial: 

☐ Date Tip title: 

☒ Scanner ☐ Enable cut out

☐ SerialNumber Direction: ☒ Left ☐ Middle ☐ Right

☐ Database Length: 

☐ NewLine Mode: ☒ Retain ☐ Discard

☐ BridgeText

Tip:
 Length larger than character count means cut the remainder.
Example:
 Source text is ABC123, start pos is 3, length is 99, result is C123.

Accept

Figure 8-12 Scanner

Scanner means when printing this mark must input the content, support keyboard and the scanner, press Enter to finish edit. Can choose show type such as text or hex (The content will be shown as number).。

8.3.5 Serial number

The screenshot shows a 'Text type' dialog box with a close button (X) in the top right corner. On the left is a list of text types: StaticText, Time, Date, Scanner, SerialNumber (selected), Database, NewLine, and BridgeText. The main area contains configuration options for the selected 'SerialNumber' type:

- Direction:** Radio buttons for 'Increase' (selected) and 'Decrease'.
- Repeat count:** A numeric input field with the value '1' and a grid icon.
- Step value:** A numeric input field with the value '1' and a grid icon.
- Format:** A dropdown menu currently set to 'Decimal'.
- Lead Zero:** A checked checkbox.
- Recycle:** A checked checkbox.
- Minimum:** A numeric input field with the value '1'.
- Maximum:** A numeric input field with the value '999999999'.
- Current:** A numeric input field with the value '1'.
- Digits:** A numeric input field with the value '9' and a grid icon.
- Reset time:** A numeric input field with the value '0' and a grid icon.

At the bottom center is an 'Accept' button.

Figure 8-13 Serial number

Serial number means a text change according to the fix rule when printing.

Increase/Decrease: Means current serial number is increase or decrease.

Repeat count: Means the print times before a serial number changed.

Step value: Means the serial number change value.

Format: Including decimal, hex lower, hex upper, 36-decimal lower, 36-decimal upper. Decimal valid character is “0-9”, hex lower is “0-9, a-f” and the upper is “0-9, A-F”, 36-decimal lower is “0-9, a-z” and the upper is “0-9, A-Z”.

Lead Zero: Indicates whether to use 0 to complete the digits when the current value digits are different from the set digits.

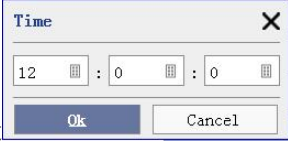
Recycle: When set up recycle, when the serial increase to de maximum or decrease to the minimum, printing will no stop and reset the serial number to minimum or maximum.

Minimum/Maximum: The number range.

Current: The current value of this mark.

Digits: The number of the length of this mark.

Reset time:Default 0,means not reset, if more than 0, can edit reset time in the

list , when system time arrive this time, serial number will reset to minimum or maximum.

8.3.6 Database



Figure 8-14 Database

Database function can choose a database file which has been import into laser machine. The database combobox will show all the database file. Choose a file and change the current row and column, the content will change at the same time. If auto loop has been check , when finish the last row printing will print the first row.

8.3.7 New line

New line is used between two compositetext to start a new line to show.

8.3.8 Bridge text

As shown in figure 8-15.

Text type [X]

☐ StaticText Source name

☐ Time ☐ Custom length

☐ Date Begin pos

☐ Scanner Length

☐ SerialNumber

☐ Database

☐ NewLine

☒ BridgeText

Tip:
 1. Source name can be find in entity list view.
 2. Newline is a character, for example, source data is
 ABC
 123
 total length is 7, result of start pos = 4, length = 3 is 123.

Accept

Figure 8-15 Bridge text

Bridge text is used for linking two marks. Entering the source mark name and get the content of source mark. User can setting the content if the source content is more than you want.

8.4 Barcode

Click to add a barcode to the edit area.

Barcode has one dimensional code and two dimensional code two types.

One dimensional code: Code128, Code39, Code93, Code11, CodaBar, C25Matrix, C25Inter, ExtendCode39, EAN128, EAN8, EAN13, UPCA, UPCE, ISBN。

Two dimensional code: QRCode, PDF417, DataMatrix。

One dimensional code property are the same.

BarcodeProperty

☒ Keep aspect ratio

W(mm) 30.300 H(mm) 15.000
 X(mm) -9.650 Y(mm) -2.000
 Z 0.000

Marking

SerialNumber

Add Up
 Delete Down
 Edit Rename

☐ Reverse Border 1

Encode Code128 Text

Narrow bar width(mm) 0.300
 Narrow bar height(mm) 15.000

Figure 8-16 One dimensional code property

Normal property as Line.

Reverse: Only effect in fill mode, can print a reverse content barcode.

Border: In reverse mode use to set the width of border.

Encode: Can choose different code type.

Narrow bar width(mm): Ever vertical line's width(Only effect on one dimensional code).

Narrow bar height(mm): Ever vertical line's height(Only effect on one dimensional code).

Text: Show text property page.

<input type="checkbox"/> Show text		
En/Num font	SHX Font ▼	DINS. SHX ▼
Ch font	SHX Font ▼	JD. SHX ▼
Space base	Char b... ▼	
Line space(mm)	3.500	⌵
Font W(mm)	2.450	⌵
Font H(mm)	3.500	⌵
Space(mm)	0.500	⌵
<input type="checkbox"/> Bold(TTF)	<input type="checkbox"/> Italic(TTF)	
X offset(mm)	0.000	⌵
Y offset(mm)	0.000	⌵

Figure 8-17 Text

After select show text will see the text show below the barcode. The params is the same as text page. User can change the printing property witch can be set different with layer and barcode fill.

Datamatrix property is shown below.

BarcodeProperty

☒ Keep aspect ratio

W(mm) 11.000 H(mm) 11.000

X(mm) 0.000 Y(mm) 0.000

Z 0.000 Marking

StaticText

Add Up

Delete Down

Edit Rename

☐ Reverse Border 1

Encode DataMatrix Text

Fill type Point Cell width(mm) 1.000

Count 1 Cell height(mm) 1.000

Cell margin(mm) 0.000

Figure 8-18 DataMatrix

ErrLevel: There are L、M、H、Q four types order by level.Increase error level will cause complication of barcode, and increase the fault tolerance.

Fill type: None、Point、Rectangle and Circle four types,as shown below.

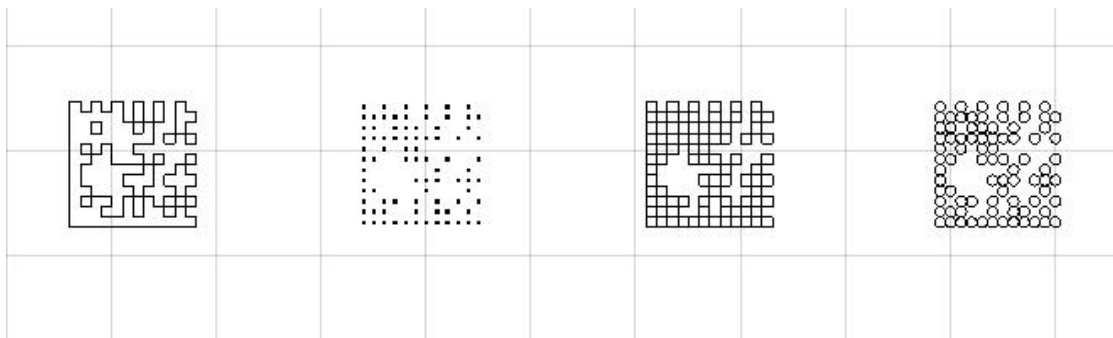



Figure 8-19 Left to right None、Point、Rectangle、Circle

Count: When use fill type can choose the count of fill, the more count set the more fill cell will be around the point.


Cell height,width,margin: Adjust the fill cell size.

PDF417 and QRCode is the same as Datamatrix.

8.5 Date

A quick mark of date. Click  icon to insert a date mark. This mark will be shown in dark yellow. And update the content after system time changed.

8.6 Time

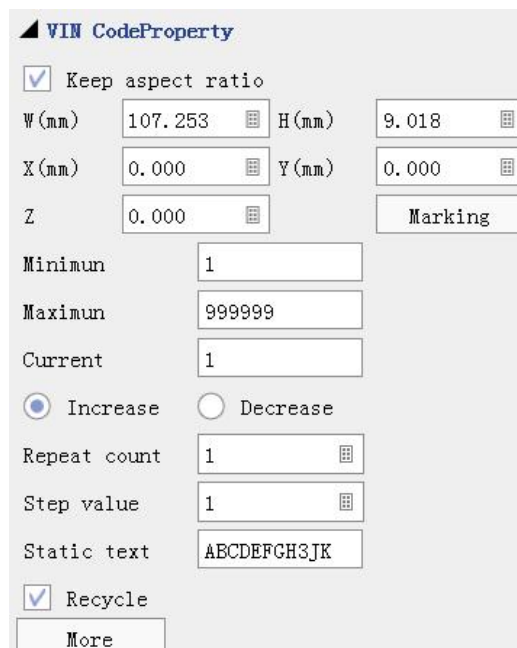
A quick mark of time. Click  icon to insert a time mark. This mark will be shown in dark yellow. And update the content after system time changed.

8.7 Serial number

A quick mark of serial number. Click  icon to insert a serial number mark. This mark will be shown in red.

8.8 VIN Code

VIN is short for Vehicle Identification Number. The property is shown in figure 8-18. This mark will be shown in blue.



VIN CodeProperty

☒ Keep aspect ratio

W (mm)	107.253	H (mm)	9.018
X (mm)	0.000	Y (mm)	0.000
Z	0.000	Marking	

Minimum: 1

Maximum: 999999

Current: 1

☒ Increase ☐ Decrease

Repeat count: 1

Step value: 1

Static text: ABCDEFGH3JK


☒ Recycle

More



Figure 8-20 VIN Code

Type in the vin code info in static text section and setting the serial number info, Kingmark will update it after marking and generate the check code automatically.

8.9 Point

Click  icon to insert a point mark. Just can set it's coordinate.

8.10 Control point

Click  icon to insert a control point. Control point is shown as  but will not be marked. Control point can be used as walk by point, or control io port, or delay time.

Control point property is shown as figure 8-21.

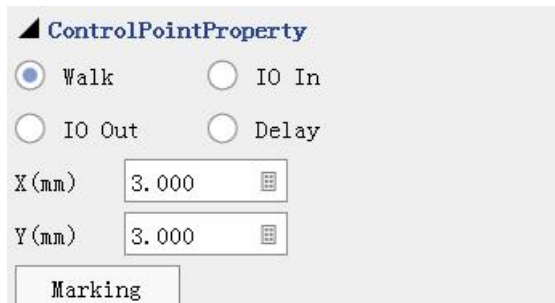


Figure 8-21

Walk: set the coordinate position of the control point. If the control point is reached during marking, the marking needle will go to the point empty, and then continue to mark the next mark.

IO In: after the control point is set as IO input, the program will pause marking when the control point is executed. The marking can not continue until the external control presses the engraving or the set IO port. At this time, the marking cannot continue through the start button of the interface.

IO Out: after setting the control point as IO output, the program will pause briefly after the control point is executed (because it is necessary to exit the marking mode to send IO signal, and then start marking again), and then output the IO port set, which is

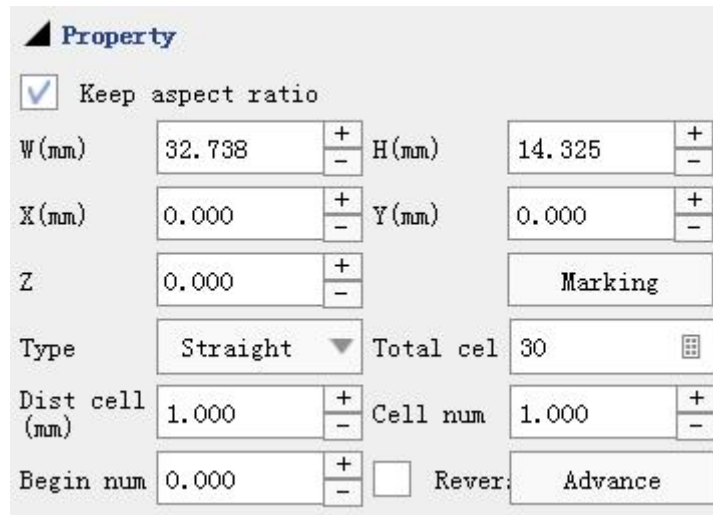
1000ms by default.

Delay: after setting the control point as delay, the program will automatically delay the specified time when it is executed to the control point, and then continue to mark.

In the editing area, you can see that although the control point is displayed as a picture, the actual working point is the vertex at the tip of the picture. You can also see the effect by directly modifying the coordinates of the control point through the attribute bar. Control points do not support zoom display.

8.11 Ruler

Click  icon to insert a Ruler mark. Ruler property is shown in figure 8-22.



Property

☒ Keep aspect ratio

W (mm)	32.738	<input type="button" value="+"/> <input type="button" value="-"/>	H (mm)	14.325	<input type="button" value="+"/> <input type="button" value="-"/>
X (mm)	0.000	<input type="button" value="+"/> <input type="button" value="-"/>	Y (mm)	0.000	<input type="button" value="+"/> <input type="button" value="-"/>
Z	0.000	<input type="button" value="+"/> <input type="button" value="-"/>	<input type="button" value="Marking"/>		
Type	Straight ▼		Total cel	30	<input type="button" value="⋮"/>
Dist cell (mm)	1.000	<input type="button" value="+"/> <input type="button" value="-"/>	Cell num	1.000	<input type="button" value="+"/> <input type="button" value="-"/>
Begin num	0.000	<input type="button" value="+"/> <input type="button" value="-"/>	<input type="checkbox"/> Rever:	<input type="button" value="Advance"/>	

Figure 8-22

Ruler can select straight ruler and round ruler, and can generate custom ruler by modifying the total number of grids and the distance of each grid, the value of each grid and the start value. Click the advanced button to display the interface shown in Figure 8-23.

Line wd(mm)	0.000 <input type="button" value="+"/> <input type="button" value="-"/>	Decimal	0 <input type="button" value="⏏"/>
Larger cell count	10 <input type="button" value="⏏"/>	Font name	SHX Font <input type="button" value="▼"/> DINS. SHX <input type="button" value="▼"/>
Larger height(mm)	10.000 <input type="button" value="+"/> <input type="button" value="-"/>	Ch Width(mm)	2.450 <input type="button" value="+"/> <input type="button" value="-"/>
<input checked="" type="checkbox"/> Show larger text		Ch Height(mm)	3.500 <input type="button" value="+"/> <input type="button" value="-"/>
Middle cell count	5 <input type="button" value="⏏"/>	Ch space(mm)	0.350 <input type="button" value="+"/> <input type="button" value="-"/>
Middle height(mm)	7.500 <input type="button" value="+"/> <input type="button" value="-"/>	Align	Align ce... <input type="button" value="▼"/>
<input type="checkbox"/> Show middle text		Angle	0.000 <input type="button" value="+"/> <input type="button" value="-"/>
smaller cell count	1 <input type="button" value="⏏"/>	Text offsetX(mm)	0.000 <input type="button" value="+"/> <input type="button" value="-"/>
smaller height(mm)	5.000 <input type="button" value="+"/> <input type="button" value="-"/>	Text offsetY(mm)	-1.000 <input type="button" value="+"/> <input type="button" value="-"/>
<input type="checkbox"/> Show smaller text			

Figure 8-23

You can change the details of the ruler's text display, such as font, etc., and cancel the text display.

9 Entity list

Entity list is the list on the top right of the main screen. As shown in figure 9-1.



Figure 9-1 Entity list

In entity list, will show all marks and layer in the edit area order by print order. Select or mutil-select marks, will be shown in entity list too.

Single select can move up or down the mark to change the print order. Default print order is the order adding the mark. If want to pass the obstacle can add a control point.

Double click on the name in the list or click on rename button will show a pop dialog, user can change the mark name as shown in figure 9-2.



Figure 9-2 Change mark name

10 Print param

Print parameter panel is in the right middle of main screen, below the entity list. As shown in figure 10-1.

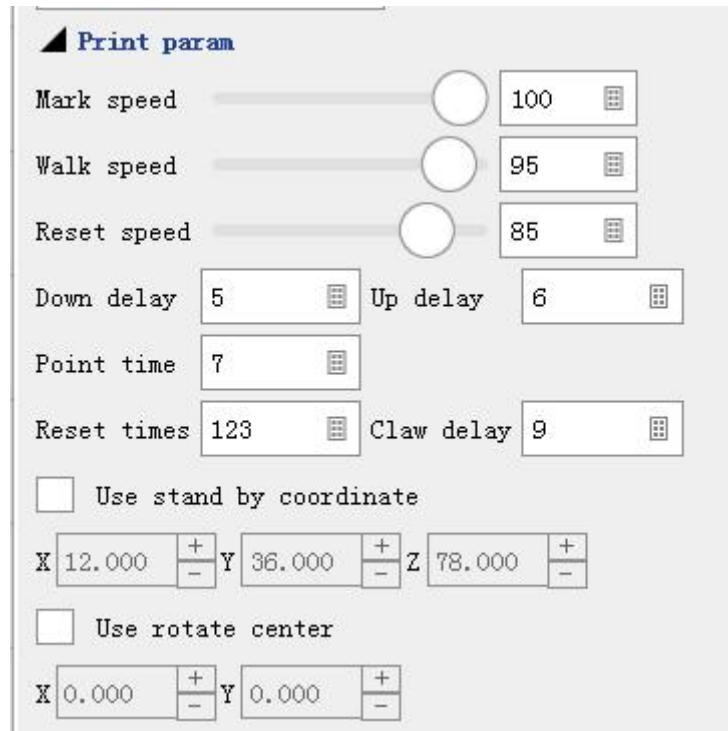


Figure 10-1 Print parameter

Marking speed: Including mark speed, walk speed and reset speed. Change there parameter will effect the speed of marking.

Delay: Including Down delay, up delay, point time. Down delay is the time before down pen, too small will cause a shallow line and too big will cause a deep point. Up delay is the time before up pen. Point time is used for marking point such as dot font or dot Barcode.

Reset times: Reset will fix the needle offset cause by needle touch the workpiece again and again. Default value is 200, means after 200 times marking will do a automatic reset. Setting 0 to close this function.

Claw delay: The time delay before release claw.

Standby coordinate: The point to start and finish marking. If there is no a standby

coordinate, stand by coordinate will be set 0,0, notice this 0,0 point doesn't means reset.

Use rotate center: It is used for external command to control the rotation center during rotation marking. If it is not enabled, it defaults to the upper left corner. After setting, according to the external rotation command mark, it will rotate according to the rotation center and the set angle to mark, the interface will not change, and the marking track will display the actual marking path track.

11 Needle Aim

As shown in figure 11-1.

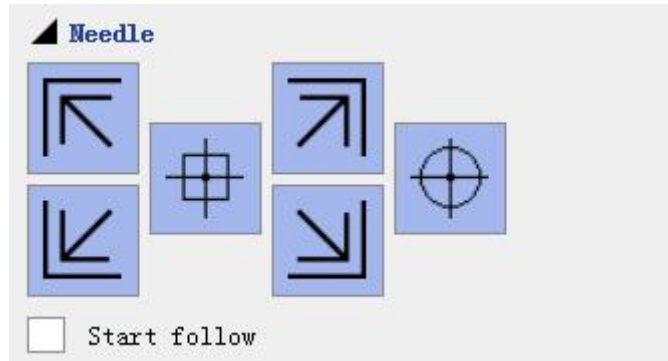


Figure 11-1 Needle aim

Needle aim can use after select mark. It's used for aim the position of the selected mark. User can choose lefttop, leftdown, righttop, rightdown and center. Among them, the center pin can only be used for single arc text, and other types of marks and multiple marks will prompt errors and cannot be used for pin alignment.

Check the start follow option, then select or move a mark, the needle will follow the mark and the choosen type. This the type is the last selected type, lefttop default. And uncheck it after finish.

12 Marking control

Marking control panel is the section below the edit zone. As shown in figure 12-1.

Mode	Contin...	Plan	10	Finish time(s):	2.698	Pre-Print...	Reset (F12)	Stop (Esc)	Print (F9)
Gap time	2000	Finished	10						

Figure 12-1 Marking control

Mode: Single and continuous.

Single: Click on print button or keyboard shortcut key F9 to start a print. After finish one time it will stop.

Continuous: Click on print button or keyboard shortcut key F9 to start a print. After finish one time it will sleep for the gap time and then start another marking until the finished times reach plan times.

Gap time: The spacing time between two marking. This time will not including claw delay and the reset time.

Plan: The total marking times. When reach this number will cause a stop.

Finished: The times of finish marking.

Finish time: The whole marking time of current marking work.

Pre-Print: Carry out a scanning operation of the scanning gun mark. After the preprocessing, the scanning of the scanning gun mark will not be triggered after the printing is started again. The shortcut key is F8.

Reset: Do a needle reset work. It has a 20 seconds overtime. The shortcut key is F12.

Stop: When Kingmark is doing marking user can click stop button to stop the marking work. The shortcut key is Esc.

Marking: Start a marking work. Shortcut key is F9.

13 Status bar

Status bar is the bar under the edit zone. As shown in figure 13-1.



Figure 13-1 Status bar

Status bar from left to right is version,current user,current document,marking status and system time.

14 Other

14.1 Record

Marking record is close on default, check the box to open it. As show in figure 14-1.

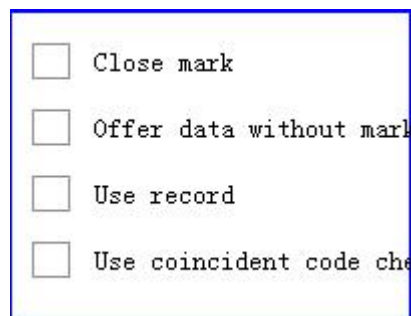


Figure 14-1 Marking record

When enable this function,after finish one marking work, Kingmark will save the content which has been enable this checkbox, and the time is the finish time.

14.2 Coincident code check

Coincident code check is close default. Need to enable record function then use it.Coincident code check function only can check the saved content in this document.

When enable this function and marking a already marking content, will show a message box to warning as shown in figure 14-2.

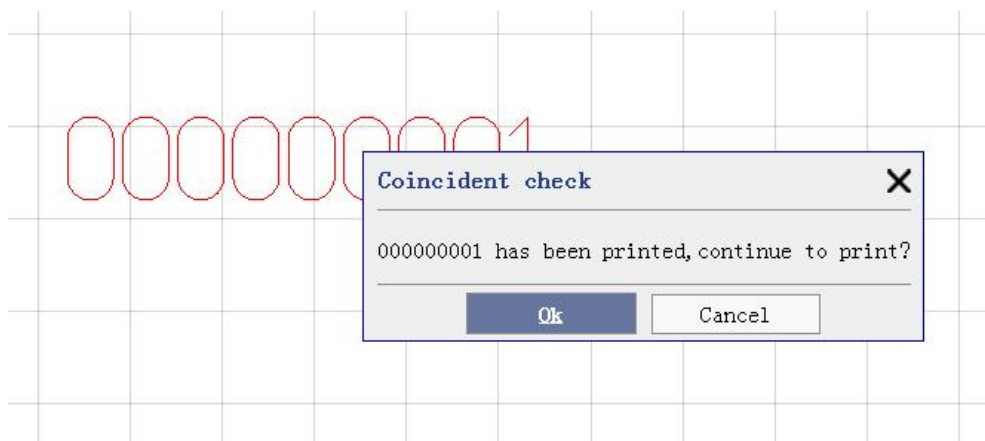


Figure 14-2 Coincident check