

# sketchbook Duo Operation guide

## Contents

1. Explanation of the Home Screen.....	3	16. DXF Converter.....	18
2. How to Create Text Fields.....	5	17. Barcode Scan Marking.....	19
3. How to Execute Marking.....	5	18. CSV Marking.....	19
4. Explanation of Properties.....	6	19. Direct Barcode Scan Data.....	20
5. Arc Marking.....	7	20. Rotary Device.....	21
6. 2D Code Marking.....	9	21. D.I/O Monitor.....	21
7. Shape Marking.....	9	22. Password Settings.....	21
8. Bypass Setting (working around obstacles)...	9	23. Maintenance Settings.....	22
9. Serial Marking.....	10	24. Log (History of marking data).....	23
10. Calendar Marking.....	11	25. Update (Firmware Update).....	23
11. Font Editor and Logo Editor.....	12	Contact.....	24
12. Logo Marking.....	16	Appendix 1 D.I/O Diagram of the MB3 Controller for External Connections.....	25
13. Shift Marking.....	17	Appendix 2 RS232C D-Sub 9pin Connector Wiring .....	26
14. File Marking.....	17	Appendix 3 Alarm List.....	27
15. BMP Converter.....	17		



Thank you for choosing the Tocho product to meet your marking and traceability needs. This manual contains detailed information to help you use your marking device. Please read these instructions carefully and keep this document for future reference. As certain precautions for proper product usage are provided in the attached document titled "sketchbookDuo Startup guide," please be sure to also review that as well before operating the product.

TOCHO MARKING SYSTEMS, Inc.

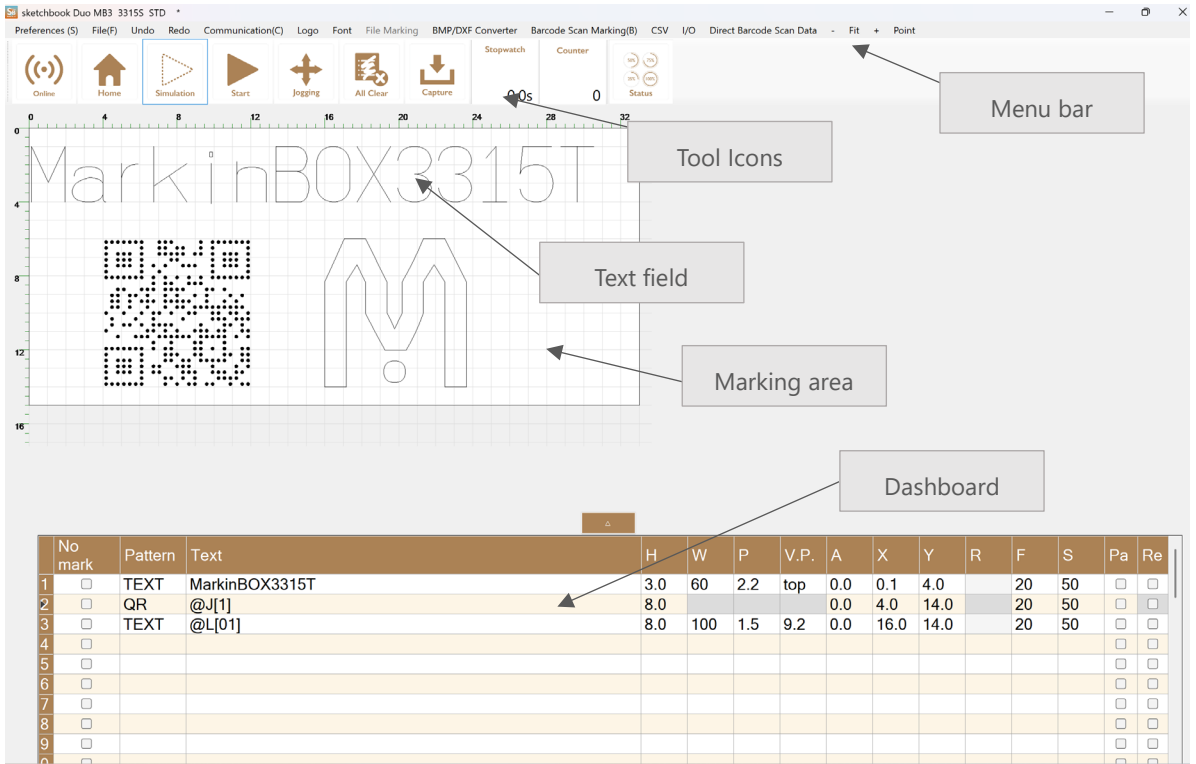
This is a translation of the original instruction in Japanese.

## Basic Specifications of sketchbookDuo

Marking methods	<ul style="list-style-type: none"> <li>- MB mode [Push the start/stop button on the marking head to start] *Saving data even after the power off.</li> <li>- PC mode [Click the start icon on the PC to start]</li> </ul>
Marking force setting	- 0 (no marking) – 99 (strong force)
Marking speed setting	- 1 (slow) – 99 (fast)
Default font setting	<ul style="list-style-type: none"> <li>- MB font (original font)</li> <li>- MB font Elegant font (original font)</li> <li>- 5×7 font (speed prioritized)</li> <li>- PC font (outline type)</li> </ul>
Number of characters in a text field	- Up to 50 characters (half-width alphanumeric characters)
Number of text fields in a file	- Up to 50 fields
Number of files in the marking device	- Up to 255 files
Characters in 2D codes (DM, QR)	- 0-9, A-Z, a-z, and various symbols
Number of characters in 2D codes (DM, QR)	- Up to 80 characters
Number of serial settings in a file	- Up to 4 serial settings
Number of digits of serial characters	- Up to 8 digits, 1 – 99999999
Digits for calendar marking	<ul style="list-style-type: none"> <li>- Year : 4, 2 or 1 digit(s)</li> <li>- Month : 2 or 1 digit(s)</li> <li>- Day : 2 or 1 digit(s)</li> <li>- Time : hour 2 digits, minutes 2 digits, seconds 2 digits</li> <li>- Julian date : 3 digits</li> </ul>
Shift marking	- 24 hours, up to 5 shifts
Number of logos in the marking device	- Up to 31 logos
Convertible DXF data types	Please note that this may vary depending on the CAD software and configuration.
Types of bitmap (BMP) marking	<ul style="list-style-type: none"> <li>- Fill</li> <li>- Outline</li> </ul>
User-level setting with passwords	<ul style="list-style-type: none"> <li>- Administrators (full functions)</li> <li>- Operators (limited functions)</li> </ul>







It is marked with **"\*MB3"** in its headings, which are features exclusive to MarkinBOX3.

# 1. Explanation of the Home Screen



## 1) Explanation of the Tool Bar

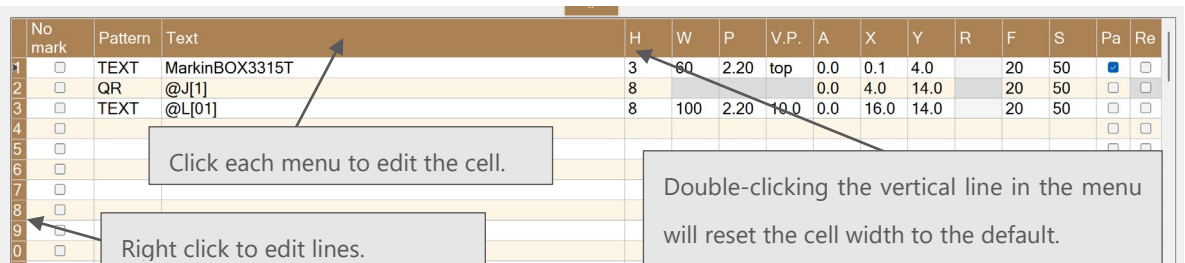
	<p>Communication icon Allows the user to choose online or offline modes.</p>
	<p>Home icon Returns the pin back to the original position.</p>
	<p>Simulation icon Allows the user to perform a marking simulation. After clicking this icon, press the start/stop button for the marking head to run a simulation. To end the simulation, either click this icon or press and hold down the start/stop button for the marking head.</p>
	<p>Start icon MB mode : Send marking data. Press the start/stop button for the marking head to start a marking process. PC mode : Start a marking process.</p>

 <p>Jogging</p>	<p>Jogging icon</p> <p>Allows the user to move the pin to a desired position while visually observing it.</p>
 <p>All Clear</p>	<p>Clear icon</p> <p>Deletes the current data and creates a new file. The saved temporary data in the marking device is also deleted in the MB mode.</p>
 <p>Capture</p>	<p>Capture icon</p> <p>Retrieve the data marked last time on the marking device.</p>
<p>Stopwatch</p> 	<p>Stopwatch</p> <p>Show the marking cycle time.</p>
<p>Counter</p> 	<p>Counter</p> <p>Set the number of times to mark. Marking will stop when the set number is reached.</p>
 <p>Status</p>	<p>Status icon</p> <p>Show the current setting status.</p>

## 2) Explanation of the Dashboard

How to edit the dashboard

Shift key + click	Select an entire column.
Ctrl key + click	Select multiple columns.
Double click on a cell	Allows to directly enter data into cells.



Explanation of the Menu on the Dashboard

<b>No Mark</b>	Choose whether to perform no marking.	<b>Pattern</b>	View the text type.
<b>Text</b>	Edit text.	<b>H</b>	Edit the height of characters.
<b>W</b>	Edit the width of characters. *Set percentage on the height.	<b>P</b>	Edit the pitch.

<b>V.P.</b>	Edit the vertical pitch (in the direction of the Y-axis).	<b>A</b>	Edit angles.
<b>X</b>	Edit the value on the X-axis.	<b>Y</b>	Edit the value on the Y-axis.
<b>R</b>	Edit radius when marking an arc.	<b>F</b>	Edit the marking force.
<b>S</b>	Edit the speed.	<b>Pa.</b>	Choose whether to enable or disable the pause function.
<b>Re</b>	Choose the reverse mode (marking in the reverse direction).		

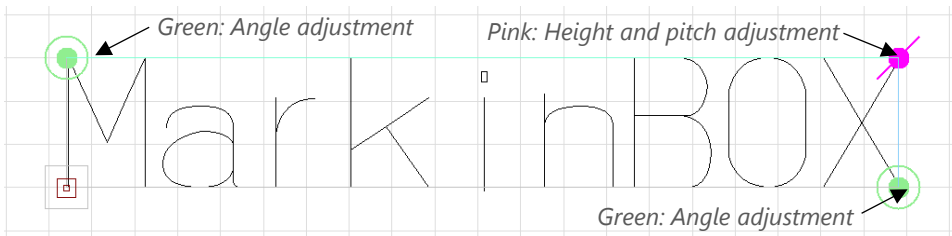
**2. How to Create Text Fields**

- 1) Click and draw in the marking area.
- 2) After creating the text field, select "TEXT" icon.
- 3) On the text screen, enter text and press the "OK" button or the "Enter key" to confirm.

**Tip: Over the marking area**

*If the field turns red, it indicates that the marking field has moved outside the marking area. Adjust the XY coordinates or modify the character height or pitch until it turns blue. The field can also be swiped.*

**Explanation of the field corners.**



**3. How to Execute Marking**

**- MB mode**







- 1) Go to "Preferences" → "Settings" → "Marking Mode", then select "MB Mode" and confirm by clicking the "OK" button.
- 2) Click the "Start Icon" on the toolbar to send the marking data to the marking device.
- 3) Press the "Start/Stop Button" on the marking head to start marking. Marking data is saved in flash memory, allowing you to continue marking even after the power is turned back on.


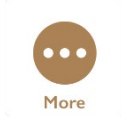
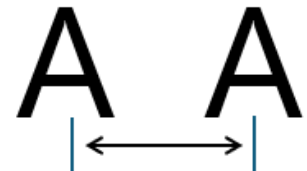
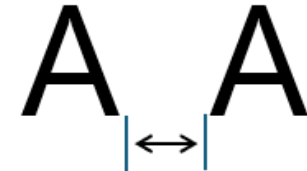
- PC mode

- 1) Go to "Preferences" → "Settings" → "Marking mode", then select "PC Mode" and confirm by clicking the "OK" button.
- 2) Click the "Start icon" on the toolbar to start marking.

**4. Explanation of Properties**

Double-click or right-click on a text field and select "Property" to display the property screen. The character height, marking force/speed, XY coordinates, font selection, and other settings, such as the serial number and date marking, can be set on the properties screen.

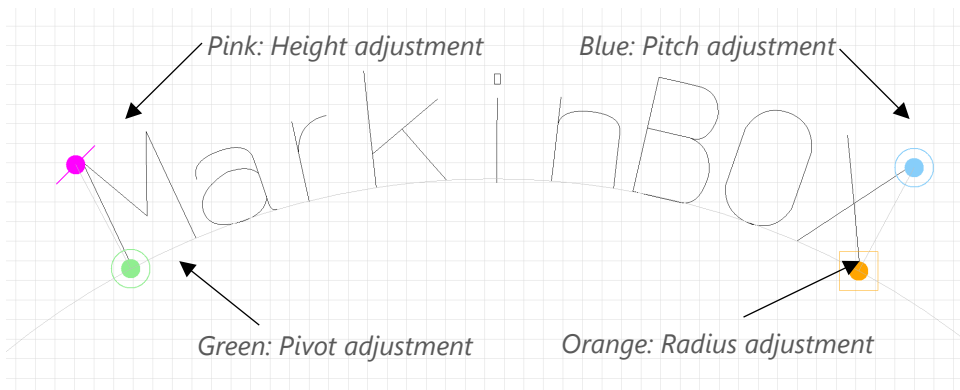
	<p>Character height and width icon</p> <p>Set the character height, width, pitch, and angle.</p> <ul style="list-style-type: none"> <li>- Width: Set as a percentage on the character height.</li> <li>- Pitch: Pitch fonts is the center-to-center of characters. Proportional fonts is the space between characters.</li> </ul>
	<p>Marking force and speed icon</p> <ul style="list-style-type: none"> <li>- Easy settings: Set text quality by selecting a marking force and speed automatically.</li> <li>- Advanced settings: Set any desired marking force (0-99) and speed (1-99).</li> </ul>
	<p>Jogging icon</p> <p>Allows to coordinate the X-axis and Y-axis position, and angle.</p> <ul style="list-style-type: none"> <li>- Jogging icon: Set the point while visually watching the movement of the pin.</li> <li>- Reference point: Allows to change reference point coordinates.</li> </ul>
	<p>Font style icon</p> <ul style="list-style-type: none"> <li>- TC font: Original font (default).</li> <li>- TC Elegant font: Original font suitable for decorative products.</li> <li>- 5x7 font: A dot font made up of 7 dots vertically and 5 dots horizontally.</li> <li>- PC font: Fonts available in Windows. Choose the font type from "Preferences" → "Font" → "PC". It will be the outline format.</li> </ul>
	<p>Calendar icon</p> <p>Set the date or shift marking tasks (refer to the relevant sections below).</p>
	<p>Serial icon</p> <p>Set the serial numbers tasks (see the relevant section below).</p>

	<p>Logo icon</p> <p>Allows to mark logos that have been created on the Logo editor (see the relevant section below).</p>
	<p>More icon</p> <ul style="list-style-type: none"><li>- Mirror: Turn on to mark mirror characters.</li><li>- Pause: Turn on to pause the marking process at each text field. This will pause the process at the start position. Push the start/stop button resume the marking process.</li><li>- Reverse: Turn on to mark in the reverse direction, which will shorten the time.</li></ul>
<p><b>Pitch font</b></p> <p><b>Proportional font</b></p>	<p>Pitch Font</p>  <p>Adjust the center of the letters.</p> <p>Proportional font</p>  <p>Adjust the space between the letters.</p>

**5. Arc Marking**

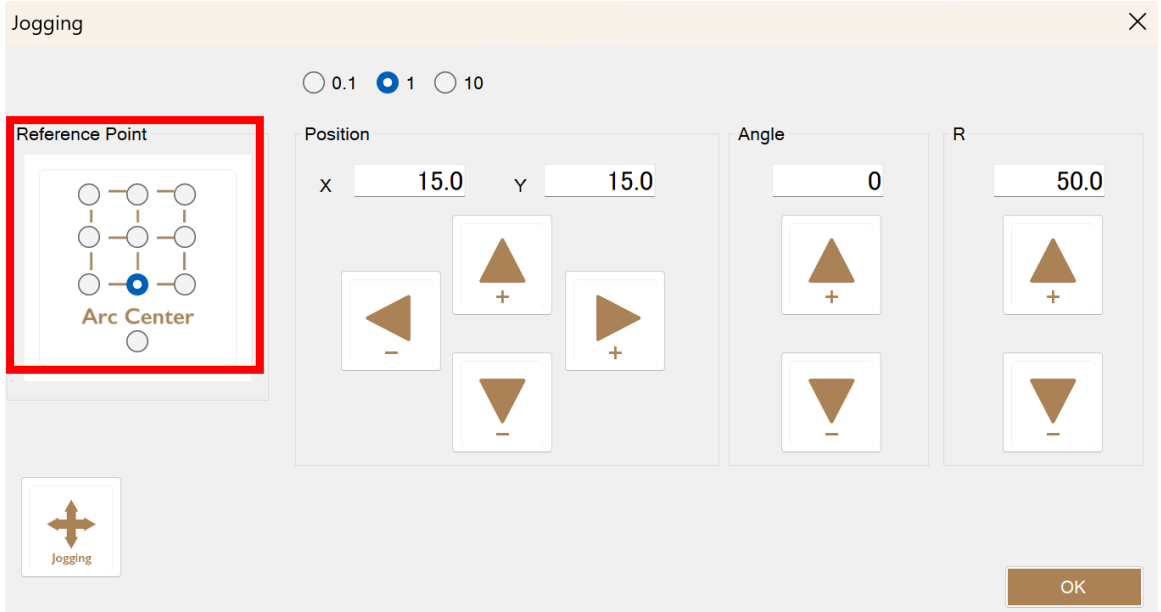
- 1) Click and draw in the marking area.
- 2) After creating the text field, select "Convex Arc" or "Concave Arc" icon.
- 3) On the text screen, enter text and press the "OK" button or the "Enter key" to confirm. If the field turns red, it indicates that the marking field has moved outside the marking area. Adjust the XY coordinates or modify the character height or pitch until it turns blue.

**Explanation of the field corners.**

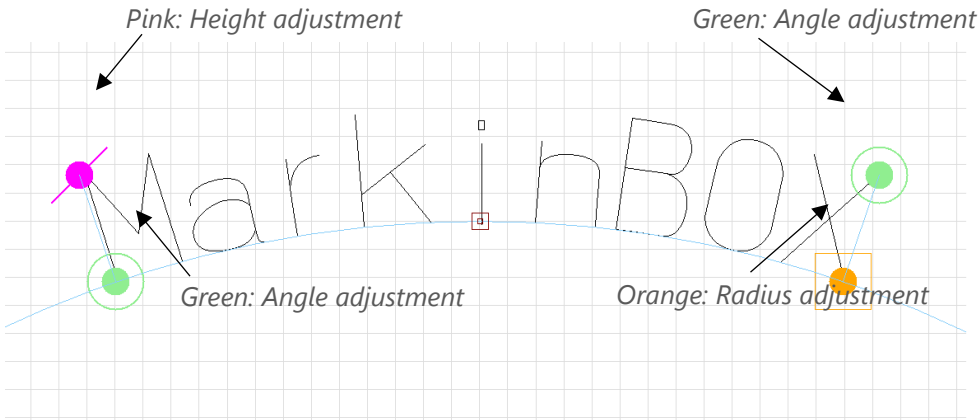


**Tip 1: Use the Reference Point**

Right-click on the field, select "Property," → "Jogging," and set the reference point to the bottom-center of the text with the angle to 0 to adjust the field based on the center of the text. **\*The Reference Point reset to the Arc Center after sending data, including the File Marking.**



After moving the reference point out from the "Arc Center", the field corners become as follows.



**Tip 2: ARC 3-point setting**

Right-click on the field, select "3 point setting", and click the three points of the start point, center point, and end point in the preview screen to automatically create an arc.

## 6. 2D Code Marking

- 1) Click and draw in the marking area.
- 2) After creating the text field, select "QR code" or "Data Matrix" icon.
- 3) On the text screen, enter text and press the "OK" button or the "Enter key" to confirm.

### Tip 1: Field link



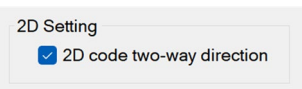
Set to link the text field to a 2D code. Select the text field to link. Create a text field first and select the field to set up a link.

### Tip 2 : Dimensions



Choose the dimensions for Data Matrix. Choose a proper dimension depends on the number of characters.

### Tip 3: Two-way direction



"Go to "Preferences" → "Settings", set the two-way direction.

## 7. Shape Marking

- 1) Click and draw in the marking area.
- 2) After creating the text field, select "Shapes" icons.
- 3) Edit the properties.
- 4) After editing, click the Start icon and start marking.

## 8. Bypass Setting (working around obstacles)

This function allows you to program pin movement paths. It is effective for avoiding obstacles and marking a dot in exactly the desired locations.

- 1) Click and draw in the marking area.
- 2) After creating the text field, select "Bypass" icon.
- 3) Edit the pause time as an option (0-60 seconds) and click "OK" button to confirm.
- 4) An 'Square' mark will appear in the marking area.

### Tip: Set the force

A dot will be marked with force. No dot will be marked at the force 0.

### 9. Serial Marking

- 1) While being connected to the marking device, click and draw in the marking area.
- 2) After creating the text field, select "Text" icon.
- 3) On the text screen, click the "Serial" icon and select from "Serial 1" to "Serial 4".
- 4) Edit each item in the screen below and confirm by clicking the "OK" button.
- 5) Once confirmed, a symbol will appear in the text field. @S[N] is the symbol. \*N indicates the serial number from 1 to 4.

Serial Number
✕

Current number

Update

Settings

Start	End	Style	Repeat	Skip	Reset
<input style="width: 80%; border: 1px solid #ccc;" type="text" value="1"/>	<input style="width: 80%; border: 1px solid #ccc;" type="text" value="999"/>	<input style="width: 80%; border: 1px solid #ccc;" type="text" value="001"/>	<input style="width: 80%; border: 1px solid #ccc;" type="text" value="1"/>	<input style="width: 80%; border: 1px solid #ccc;" type="text" value="1"/>	<input style="width: 80%; border: 1px solid #ccc;" type="text" value="MAX"/>

OK

Current number		
	e.g.1	Showing the current number. And enter the start number. e.g.1 Click the "Update" button after resetting the number.
Settings		
Start	e.g. 1	Enter the minimum number after resetting the number.
End	e.g. 999	Enter the maximum number up to 8 digits.
Style	001	Mark with 0 such as 001,002,003.
	1...	Mark without 0 aligned to the left, such as 1, 2..., 3...
	...1	Mark without 0 aligned to the right, such as 1, ...2, ...3.
	A,B,C...	Mark counted alphabet characters such as A, B..., and Z.
Repeat		Set this value to make serial marking repetitively, e.g., 001, 001, 002, 002... The maximum number of repetitions that can be set is 20.
Skip		Set this value to make serial marking with skips, e.g., 001, 003, 005... The maximum number of skips that can be set is 10.
Reset	MAX	The number will be reset when the maximum number is reached.
	YEAR	The number will be reset when the year changes (on January 1st).
	MONTH	The number will be reset when the month changes (on the first day of each month).
	DAY	The number will be reset when the date changes (at 24:00 each day).
	TIME	The number will be reset at a specified time.

	SHIFT	The number will be reset at a specified shift.
	STOP	The marking will be stopped after the maximum number is reached. When it is stopped, an alarm will be displayed.

**Tip: How many serial numbers are set in a field and file.**

Setting more than 2 serial numbers is not allowed in a single field. Create a different field to set more than 2 serial numbers. Up to 4 serial numbers are available in a file.

## 10. Calendar Marking

- 1) Go to "Preferences" → "Calendar" while being connected to the marking device. Enter a single-digit-indication character for DAY, MONTH, and YEAR, and confirm by clicking the "ok" button.
- 2) Click and draw in the marking area.
- 3) After creating the text field, select "Text" icon.
- 4) On the text screen, click the "Calendar" icon and select the calendar format, then confirm by clicking "Ok" button.
- 5) Once confirmed, a symbol will appear in the text field. @C[N] is the symbol. \*N indicates the calendar symbol.

Year	YYYY	Mark year in 4 digits, e.g., 2025, 2026.
	YY	Mark year in the last 2 digits, e.g., 25, 26.
	Y	Mark year in the last 1 digit, e.g., 5, 6, or by using another symbol. Go to "Preferences" → "Calendar," and enter the symbol in the "Year" blocks.
Month	MM	Mark month using 2 digits, e.g. 01, 02.
	M	Mark month in the last 1 digit, e.g., 1, 2, or by using another symbol. Go to "Preferences" → "Calendar," and enter the symbol in the "Month" blocks.
Date	DD	Mark day using 2 digits, e.g. 01, 02.
	D	Mark day in the last 1 digit, e.g., 1, 2, or by using another symbol. Go to "Preferences" → "Calendar," and enter the symbol in the "Day" blocks.
	JJJ	Mark Julian date which will be displayed dates using the numbers 001 to 365.
	jjj	Mark Julian date which will be displayed dates using the numbers 1 to 365.
Time	hh	Mark hours using 2 digits, e.g. 01, 12.
	mm	Mark minutes using 2 digits, e.g. 01, 30.
	ss	Mark seconds using 2 digits, e.g. 01, 30.

Week	US	Mark week using 2 digits, e.g. 01, 52. The week starts on Sunday.
		Mark week using 1 digit, e.g. 1, 52. The week starts on Sunday.
	EU	Mark week using 2 digits, e.g. 01, 52. The week starts on Monday.
		Mark week using 1 digit, e.g. 1, 52. The week starts on Monday.

### 11. Font Editor and Logo Editor

This function allows you to create the fonts and logos that can be registered in the marking device. The fonts and logos registered in the marking device can be saved as ASCII code or saved in a file, which means you can mark without connecting to a PC, such as via serial communication or file marking.

**Tip: How to delete logos and fonts**

Since the fonts and logos registered in the marking device are saved in a specified font file, you cannot delete them individually. Instead, you can overwrite it. Therefore, if you want to remove them from the marking device, you need to initialize the font file. Since you can copy the font file itself, we recommend saving the original font file before initializing it.

#### Common display for Font editor and Logo editor

The screenshot shows the 'Font Edit' window with the following components labeled:

- Menu bar:** Located at the top left, containing 'File', 'Font file', and 'Font edit'.
- Scroll bar for saved data:** Located at the top right, next to the saved data list.
- Saved data list:** A grid of characters corresponding to hex codes from 0x20 to 0x3F, including symbols like !, ", #, \$, %, &, ' and digits 0-9.
- Edit area:** A large grid where a blue circle is being drawn. It includes a coordinate display '(X=240, Y=5)' and options for 'Color', 'Line', and 'Dot(5x7 dot)'. A zoom control is also present.
- Group list:** A table on the right side showing a list of groups with their points and coordinates.
- Scroll Bar for browsed data:** Located below the group list, with controls for zooming and axis movement.

Group	Point	x	y
1	G		
2	S	190	370
3	C	330	370
4	S	370	285
5	C	370	195
6	S	370	100
7	C	330	10
8	S	190	10
9	C	50	10
10	S	10	100
11	C	10	195
12	S	10	285
13	C	50	370
14	S	210	370
- 2	E		

### How to create a new logo

- 1) Open "Logo" on the menu bar.
- 2) Click a space in the "Saved data List" and specify the logo number (1-31).
- 3) Click the "Browse" button in the center to load BMP draft data.
- 4) Click the "Magnifying glass" icon in the center to show or hide the draft data.
- 5) Use the scroll bars on the left, right, and bottom of the edit area to adjust the zoom and position of the draft data.
- 6) Make sure that Group 1 is selected in the group list, and click the "Start" button to trace it in the edit area.

	Group	Point	x	y
▶ -	1	G		
1		S	376	191
2		C	271	186
3		S	166	180
4		C	150	263
5		S	134	347
6		C	214	399
7		S	294	451

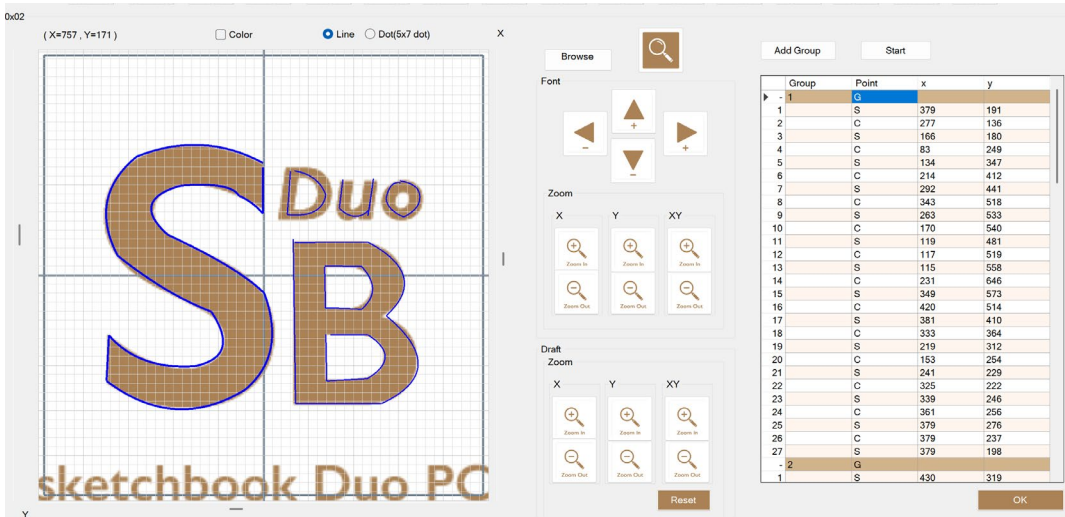
A group is a section that can be drawn in a single stroke. To proceed to the next group, click "Add Group" in the group list and click the "Start" button to trace the line. Finally, click the "End" button.

	Group	Point	x	y
-	1	G		
1		S	85	85
2		C	137	48
3		S	190	10
4		C	190	190

G	Group
S	Start point
C	Center point
E	End point
	Unable to create points under E.

	Group	Point	x	y
1	S		519	219
2	C		514	243
3	S		508	267
4	C		526	267
5	S		544	268
6	C		554	243
7	S		565	217
8	C		561	248
9	S		556	280
▶ 7	G		613	225
2	C		599	236
3	S		584	248
4	C		591	258
5	S		599	269
6	C		618	259
7	S		638	249
8	C		624	235
9	S		610	221
-	8	E		

- 7) To create or edit a curve into a straight line, click on the line in the editing area, use the mouse to draw the center point, or expand G in the group list and enter the coordinates directly (maximum values: X: 370, Y: 370).



- 8) After creating the logo, save it by selecting "Logo edit" → "Save as" on the menu bar.
- 9) Send the logo file to the marking device by selecting "Logo file" → "Upload logo file" on the menu bar. After completing the update, turn off the power and back on.

### How to modify a logo

- 1) Click on the logo you want to edit in the "Saved data list" and load it into the editing area.
- 2) You can edit it directly in the editing area or edit a group from the group list by right-clicking on the numbers on the left side.
- 3) After creating it, save it by selecting "Logo edit" → "Save" on the menu bar.
- 4) Send the logo file to the marking device by selecting "Logo file" → "Upload logo file" on the menu bar. After completing the update, turn off the power and back on.

### How to create a new font

- 1) Open "Font" from the menu bar.
- 2) Click a space in the "Saved data List" and enter the new font name. Example: \*
- 3) Click the "Original font" button in the center and select a font to display the draft font.
- 4) Click the "Magnifying Glass" icon in the center to show or hide the draft font.
- 5) Use the scroll bars on the left, right, and bottom of the edit area to adjust the zoom and position of the draft data.
- 6) Make sure that Group 1 is selected in the group list, and click the "Start" button to trace

it in the edit area.

Add Group Start

	Group	Point	x	y
- 1	G			
1	S		376	191
2	C		271	186
3	S		166	180
4	C		150	263
5	S		134	347
6	C		214	399
7	S		294	451

A group is a section that can be drawn in a single stroke. To proceed to the next group, click "Add Group" in the group list and click the "Start" button to trace the line. Finally, click the "End" button.

Add Group End

	Group	Point	x	y
- 1	G			
1	S		85	85
2	C		137	48
3	S		190	10
4	C		190	190

G	Group
S	Start point
C	Center point
E	End point
	Unable to create points under E.

0x2A (X=283, Y=10)  Color  Line  Dot(5x7 dot)

Original font Browse

Font

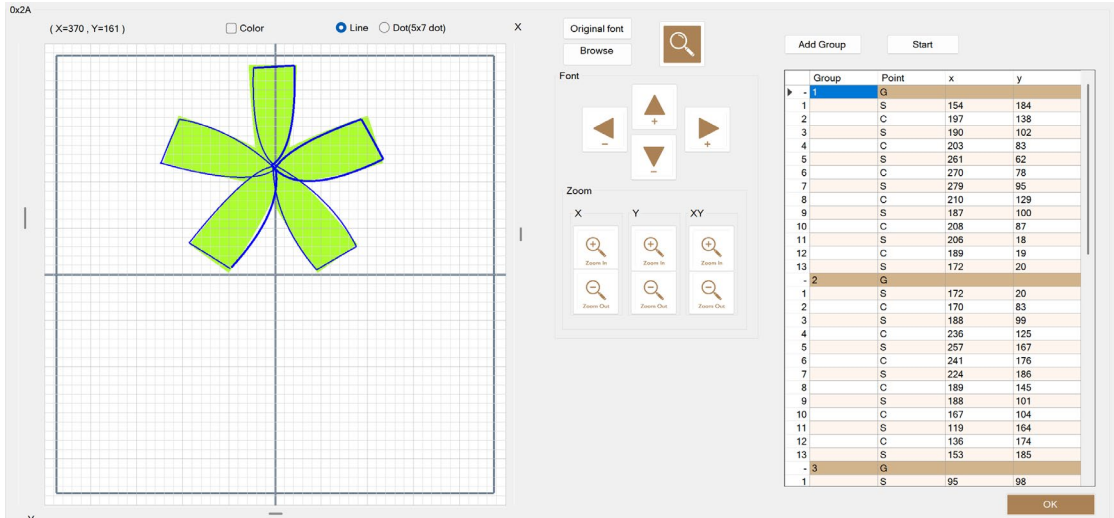
Zoom X Y XY

Add Group Start

	Group	Point	x	y
- 1	G			
1	S		135	172
2	C		161	137
3	S		188	102
4	C		226	92
5	S		265	82
- 2	G			
1	S		188	19
2	C		188	60
3	S		188	101
4	C		213	138
5	S		239	176
- 3	G			
1	S		107	74
2	C		146	88
3	S		185	102
- 4	E			

OK

To create or edit a curve into a straight line, click on the line in the editing area, use the mouse to draw the center point, or expand G in the group list and enter the coordinates directly (maximum values: X: 370, Y: 370).



- 7) After creating the font, save it by selecting "Font edit" → "Save as" on the menu bar.
- 8) Send the font file to the marking device by selecting "Font file" → "Upload font file" on the menu bar. The saved font files in the marking device are in the following location.  
After completing the update, turn off the power and back on.

1	TC font *Default
2	TC Elegant font
3	5x7 Font

### How to modify a font

- 1) Click on the font you want to edit in the "Saved data list" and load it into the editing area.
- 2) You can edit it directly in the editing area or edit a group from the group list by right-clicking on the numbers on the left side.
- 3) After creating it, save it by selecting "Font edit" → "Save" on the menu bar.
- 4) Send the logo file to the marking device by selecting "Font file" → "Upload font file" on the menu bar. After completing the update, turn off the power and back on.

### 12. Logo Marking







- 1) Click and draw in the marking area.
- 2) After creating the text field, select the "Logo" icon. \*MP mark.
- 3) Choose the logo you created in advance on the logo list and import it. @L[nn] is the symbol. \*nn indicates the logo number.
- 4) The selected logo will be shown in the marking area. Then edit the parameters in the properties. Click on the "Start" icon to mark.

### 13. Shift Marking

- 1) While connected to the marking device, go to "Preferences" → "Calendar." In the shift section, enter the marking symbol (a single character) along with the start and end times for the shift, and confirm by clicking the "OK" button.
- 2) Click and draw in the marking area.
- 3) After creating a field, select "Text" → "Calendar" → "Shift."
- 4) Press the "OK" button to confirm. After confirmation, the shift symbol will be shown in the text field of the marking area. @C[S] is the symbol.

### 14. File Marking

While connected to the marking device, go to "File Marking" on the menu bar. Up to 255 files can be stored in the marking device.

 <p>Send File</p>	<p>Send a file icon Send a file to the marking device. A maximum of 10 characters can be added to the file name.</p>
 <p>Read File</p>	<p>Retrieve a file icon Retrieve a file from the marking device.</p>
 <p>Delete Files</p>	<p>Delete a file icon Delete a file in the marking device.</p>
 <p>Send All Files</p>	<p>Send multiple files icon Send multiple selected files to the marking device.</p>
 <p>Read All Files</p>	<p>Retrieve all files icon Retrieve all files being stored in the marking device. It also functions as a refresh button if the saved files are not displayed correctly.</p>
 <p>Delete All Files</p>	<p>Delete all files icon Deletes all files being stored in the marking device.</p>

### 15. BMP Converter

This function allows you to convert bitmap (BMP) data into the device's file format and mark the logo. Go to "BMP/DXF Converter" on the menu bar.

- 1) Open "Conversion" on the menu bar and select BMP.
- 2) The BMP data will be displayed in the area on the left. Adjust the scale, reset, and trim 4 sides (right, left, up, down) as necessary, then confirm the image.
- 3) Check the preview screen on the right, choose "Outline" or "Fill," and adjust the dot density and contrast.
- 4) Click "Edit" on the menu bar, select "Save" with the file name, and close the screen by clicking the "OK" button.
- 5) Click and draw in the marking area.
- 6) After creating the text field, select the "DXF & BMP" icon and choose the BMP data you saved.
- 7) Press the "Start/Stop" button on the marking head to start marking.

**Tip 1: Extension after conversion**

Outline →.MBD    Fill →.MDO

**Tip 2: File saving**

The BMP data can be saved to the device's file (1-255), and you can mark the file even without connecting to a PC.

## 16. DXF Converter

This function allows you to convert DXF data into the device's file format and then mark the logo.

- 1) Go to "BMP/DXF Converter" on the menu bar.
- 2) Open "Conversion" on the menu bar and select the DXF data.
- 3) After conversion, the DXF data will be displayed on the preview screen on the right. After reviewing, click "Edit" on the menu bar, select "Save" with the file name, and close the screen by clicking the "OK" button.
- 4) Click and draw in the marking area.
- 5) After creating the text field, select the "DXF & BMP" icon and choose the DXF data you saved.
- 6) Press the "Start/Stop button" on the marking head to start marking. **\*Please note that the DXF data that can be converted will vary depending on the CAD software and the data structure.**

**Tip 1: Extension after conversion**

DXF →.MBD

**Tip 2: File saving**

The DXF data can be saved to the device's file (1-255), and you can mark the file even without connecting to a PC.

### 17. Barcode Scan Marking

This function allows you to transfer scanned data from the barcode reader and mark text.

- 1) Connect the barcode reader to a PC with sketchbookDuo installed.
- 2) Create a text field and send the data to the marking device by clicking the "Start" icon.
- 3) Go to "Barcode Scan Marking" on the menu bar.
- 4) In "Field No," select a text field number that has been created beforehand.
- 5) In "Scan Digits," choose the correct number of digits contained in the barcode that will be scanned to perform marking accurately. If there is no need to specify the number of digits, select "No setting."
- 6) While making sure that the cursor is placed within the text field, start the scanning process using the barcode reader.
- 7) The characters to be marked will be automatically transferred to the text field and start the marking process.

**Tip: Clear marked data off each marking.**

*Check this box if you want to clear the marking data each time. If unchecked, the last barcode read data will be repeatedly marked.*

**Note: When Creating Default Data...**

*Set the Reference Point to the lower-left position (default), or create the default data to match the number of digits used for scanning.*

### 18. CSV Marking

This function allows you to transfer any Excel file being used as a database as a CSV file and mark text.

- 1) Save Excel data as a CSV file (where values are separated by commas). Set up the data so that the columns (A, B, C...) contain Field No. 1, Field No. 2, Field No. 3..., while the rows (1,2,3...) contain the data sets in the order in which they should be marked.

	A	B	
1	Made in Japan	Jan, 2025	A0001
2	Made in Japan	Jan, 2025	A0002
3	Made in Japan	Jan, 2025	A0003
4	Made in Japan	Jan, 2025	A0004
5	Made in Japan	Jan, 2025	A0005
6	Made in Japan	Jan, 2025	A0006
7	Made in Japan	Jan, 2025	A0007
8	Made in Japan	Jan, 2025	A0008
9	Made in Japan	Jan, 2025	A0009
10	Made in Japan	Jan, 2025	A0010
11	Made in Japan	Jan, 2025	A0011
12	Made in Japan	Jan, 2025	A0012
13	Made in Japan	Jan, 2025	A0013
14	Made in Japan	Jan, 2025	A0014
15	Made in Japan	Jan, 2025	A0015
16	Made in Japan	Jan, 2025	A0016
17	Made in Japan	Jan, 2025	A0017
18	Made in Japan	Jan, 2025	A0018
19	Made in Japan	Jan, 2025	A0019

- 2) Create a text field and send the data to the marking device by clicking the "Start" icon
- 3) Click the "Browse CSV file" and browse the CSV file that has been created beforehand.
- 4) After browsing the data, the CSV data will be automatically transferred to the text field. Click the "Start marking / Stop marking" button then press the start/stop button on the marking head.

**Note: When Creating Default Data...**

*Set the Reference Point to the lower-left position (default), or create the default data to match the number of digits used for transferring.*

**Re-mark the marked text**

- 1) Click the "Start marking / Stop marking" button to stop the CSV marking.
- 2) Click the number that you want to re-mark, then choose the "Re-mark".
- 3) Click the "Start marking / Stop marking" button to start the CSV marking.

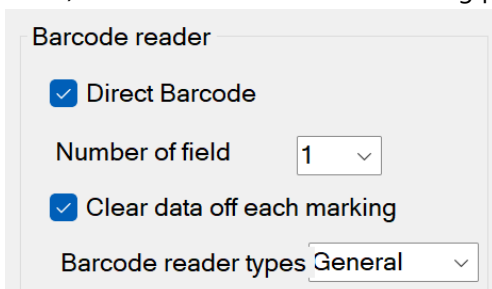
**Skip the line**

- 1) In the process of the CSV marking, click the number you want to move the line. \*Choose unmarked text.
- 2) Press the start/stop button on the marking head.

**19. Direct Barcode Scan Data \*MB3**

This function allows you to insert the USB barcode reader directly into the MB3 controller and mark the data it reads. Unlike the Barcode Scan Marking in the previous chapter, a PC connection is not required.

- 1) Create the text field and send it to File1 from the "File Marking" on the menu bar.
- 2) Go to "Preferences" → "Settings" on the menu bar.
- 3) In the "Barcode reader" settings, check the "Direct barcode" and "Clear data off each marking" boxes.
- 4) Scan barcode and start marking pressing the Start/Stop button on the marking head.



Number of fields	Scannable from 1 to 5 fields	
Clear data off each marking	Check this box if you want to clear the marking data each time. If unchecked, the last barcode read data will be repeatedly marked.	
Barcode reader types *Recommended operating current: 200 mA or less	Choose "General" usually. The barcode reader must be equipped with both the USB COM Port and USB HID (Keyboard) functions, and the <b>USB HID mode</b> must be turned on when used. Also, the <b>Enter key barcode (CR, LF)</b> must be enabled.	
Capturable barcode type	1D	Code 128, Code 39, Code 2of5 Interleaved, UPC-A, UPC-E, EAN8, EAN13, EAN14/GS1-128, JAN 7, JAN 12
	2D	QR code, Data Matrix

**Note: When Creating Default Data...**

*Set the Reference Point to the lower-left position (default), or create the default data to match the number of digits used for scanning.*

**20. Rotary Device**

**MB S-Rotary**

S-Rotary device is necessary (option).

- 1) Go to "Preferences" → "Cylinder" and choose "S-Rotary" icon.
- 2) Enter the digits between 1 to 10 that you like to mark continuously. \*Max 10 digits.
- 3) Enter the interval between 1 to 60 sec. that you like to pause after each marking \*Max 60 sec.
- 4) Confirm by clicking "OK" button.
- 5) Create a text field and start the marking process.

**21. D.I/O Monitor \*MB3**

This function allows you to simulate the operation of the MB3 controller when use a connectivity with an external device such as a PLC through a D-Sub37-pin connector. Go to "I/O" on the menu bar and then check the "Simulation Mode" box. This will activate the button, that you can press to check the D.I/O operation of the MB3 controller. For more details on wiring information, refer to the D.I/O diagram of the MB3 Controller for External Connections in Appendix.

**22. Password Settings**

This function allows you to change the password, add a new user, or manage user permissions. The following steps show how to add a new user:

- 1) Go to "Preferences" → "Password" on the menu bar.
- 2) Enter a "Username," and password," select a "Level," and click the "Add" button.
- 3) After clicking the "OK" button, restart the SketchbookDuo and log in with the new user.

Administrator	Same functions as default.
Operator	Only start marking. However, the following options can add. - Edit the field. - Edit the file marking

### 23. Maintenance Settings

This function allows you to remind the user to perform maintenance by counting the marking times. It helps to know the replacement timing for the pin, pin holder, and other components at occasional intervals. To set the maintenance cycle, go to "Preferences → Maintenance.

Solenoid number of vibrations	
Total number of characters	Total marked number of characters by now.
Number of characters	Total marked number of characters after reset.
Number of set character	Set number of characters
Total number of vibrations	Total marked number of vibrations by now. *The maximum number is 4,294,967,295 times, and if this value is exceeded, it will be reset to 0.
Number of vibrations	Total marked vibrations after reset.
Message Option	
Show message	Yes → Show the message
	No → Not show the message.
Output Option	No Alarm → Continue marking after showing the message.
	Alarm → Stop marking after showing the message.

#### e.g. How to display the message and stop marking.

- 1) Check "Yes" under "Message Option."
- 2) Enter the desired number in "Number of set characters" where you want to stop the marking.
- 3) Check "Alarm" box under "Output Option".  
\*The pin will stop automatically when the character number is reached.
- 4) When the set number of times is achieved during marking, click the "OK" button on the error message.
- 5) Return to "Maintenance," click the "Reset" button, and re-enter the set number of

characters.

### 24. Log (History of marking data)

This function allows you to download the marking data from the marking device. Go to "Preferences" → "Log" on the menu bar.

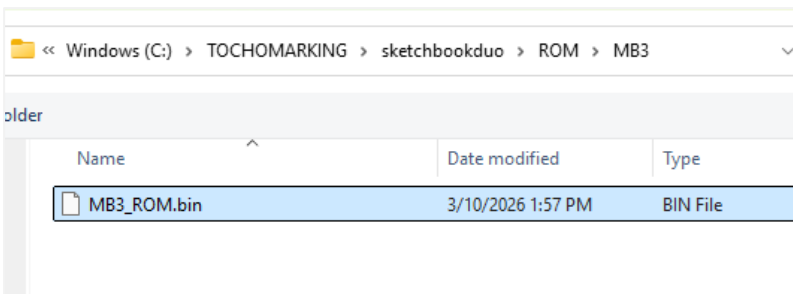
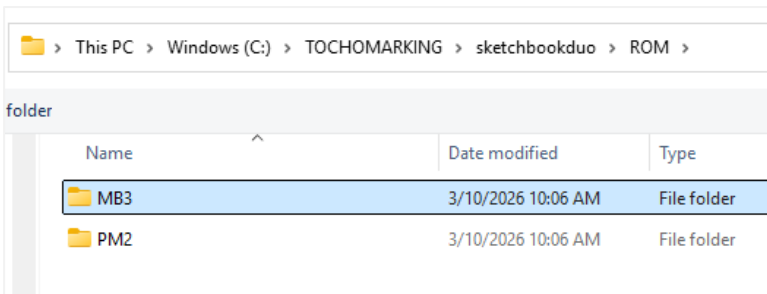
File	Load	Load the saved CSV data.
	Save	Save the retrieved data into the CSV file.
Download the log	Retrieved marking data from the marking device. It takes time depending on the volume of data. The contents include the date, time, and marked text.	
Clear the log	Clear the data in the marking device.	

### 25. Update (Firmware Update)

Update the firmware for the marking device. Go to "Preferences" → "Update" on the menu bar.

- 1) While the marking device is connected to the USB cable, choose the firmware by clicking the "Browse" button and click the "OK" button.

e.g., MB3

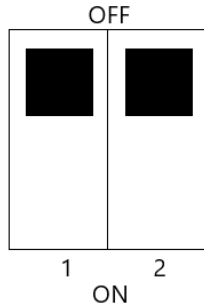


- 2) Turn off the power once, then change the DIP switch on the marking device to "Update

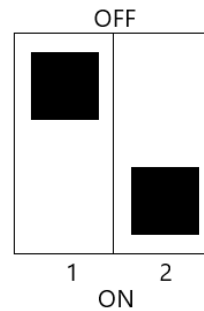
mode" [No.1: OFF, No.2: ON)]. After changing the DIP switch, turn on the power back.

**MB3**

**[Normal mode]**

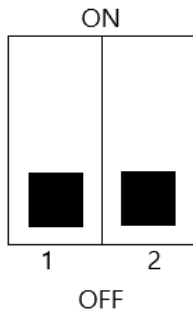


**[Update mode]**

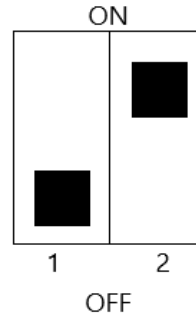


**PM2**

**[Normal mode]**



**[Update mode]**



- 3) Follow the steps on the screen to start the update (takes about 90 seconds).
- 4) During the update, all the LEDs on the marking device will turn off, but the progress bar will be displayed on the PC screen. Please don't turn off the power or disconnect the USB cable from the PC.
- 5) After the update, turn off the power, change the dip switch back to "Normal mode", and turn on the power back.

**Contact**

Please contact our distributor if you have an inquiry for operation and malfunction.

Manufacturer information:

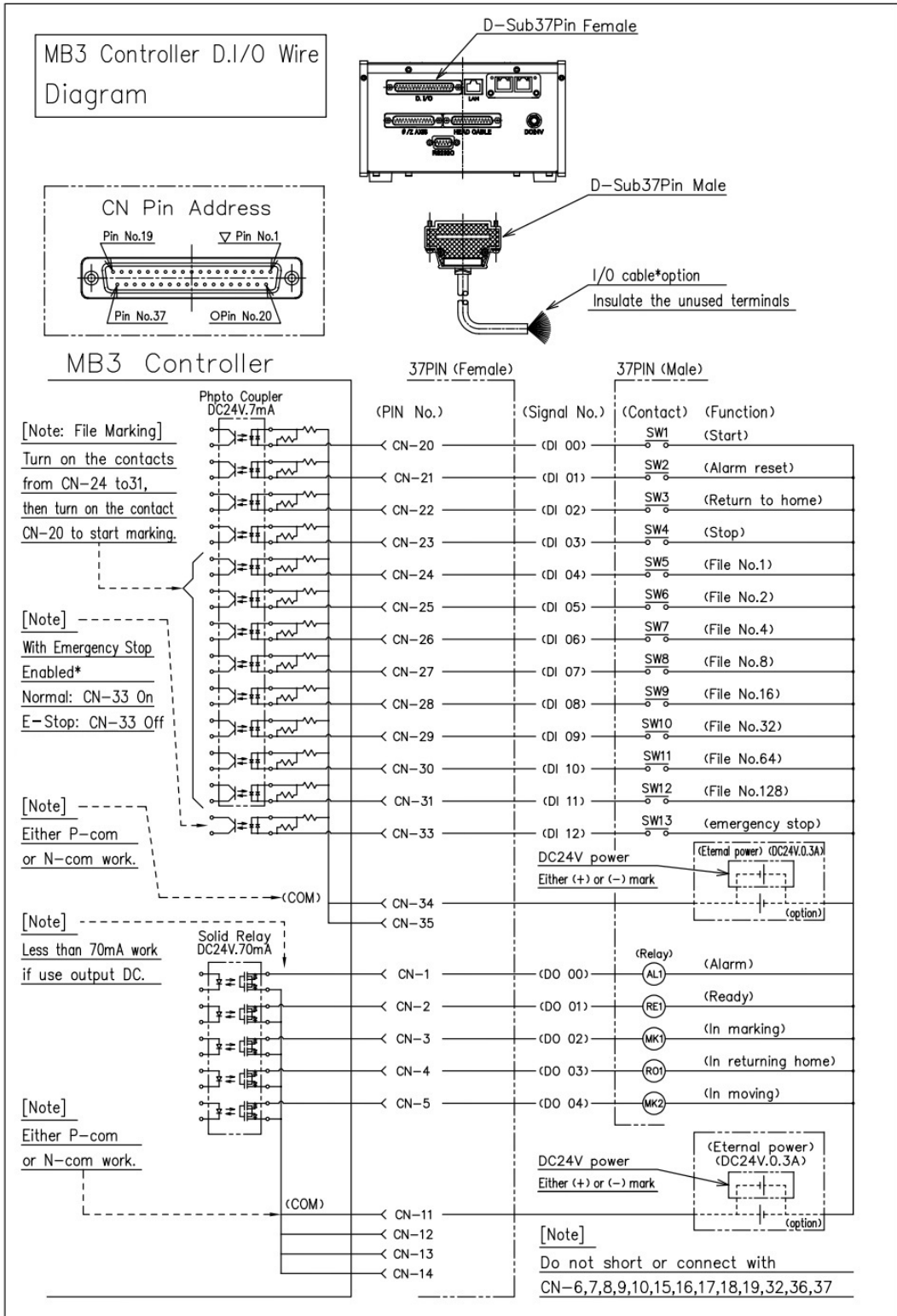
Company : TOCHO MARKING SYSTEMS, Inc.

Address : 87-378 Yachimata-Ro, Yachimata, Chiba, Japan 289-1144

Tel : +81-43-308-4301 Fax : +81-43-308-4302

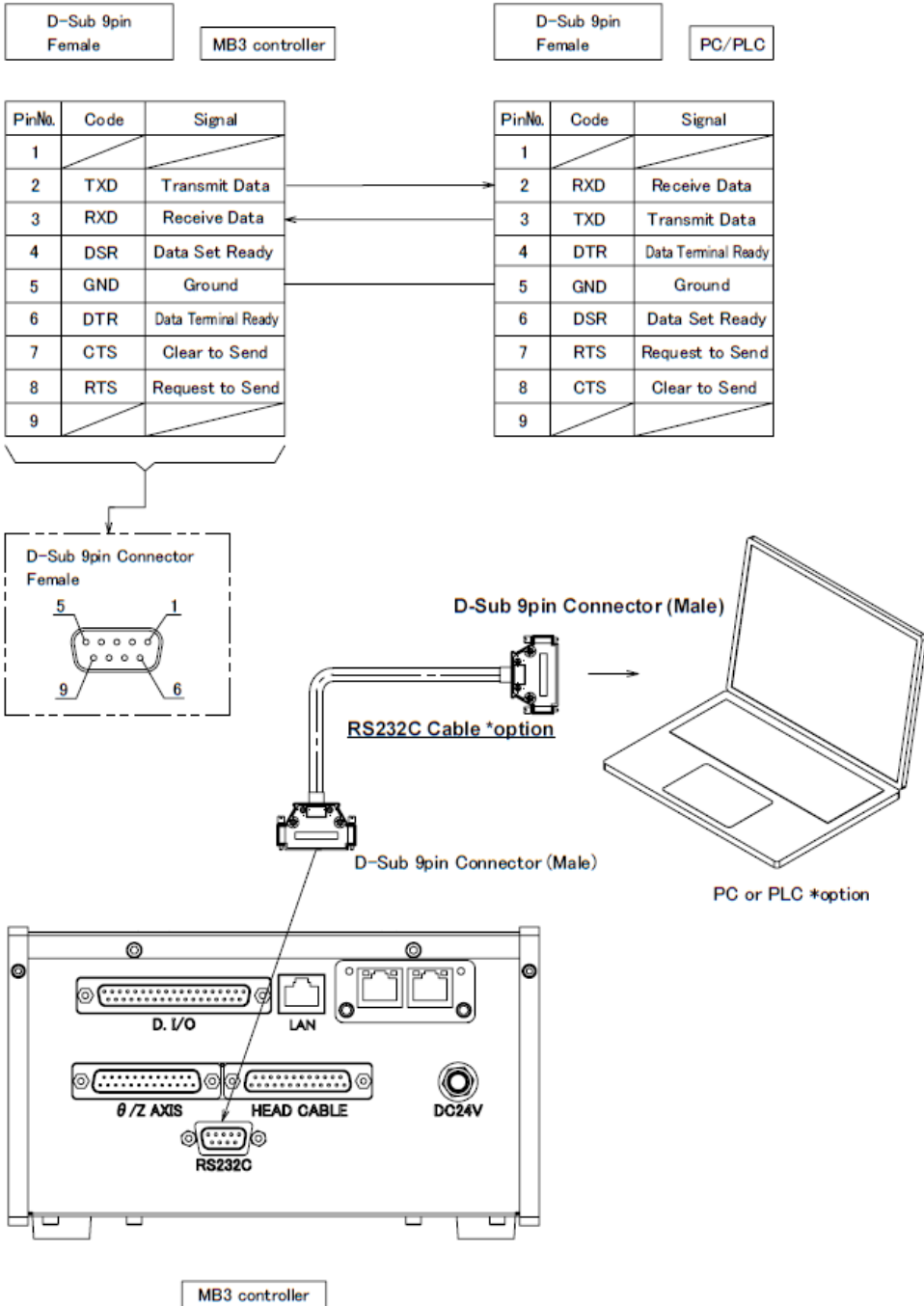
URL : <http://www.tokyo-chokoku.co.jp>

Appendix 1 D.I/O Diagram of the MB3 Controller for External Connections



Appendix 2 RS232C D-Sub 9pin Connector Wiring

RS232C D-Sub 9pin Connector Wiring Diagram



**Appendix 3 Alarm List**

No.	Description	Support
3	Driver IC	Contact distributor due to the PCB issues.
4	SYSTEM File Err	Contact distributor due to the PCB issues.
5	eMMC Err	Contact distributor due to the PCB issues.
6	eMMC Err	Contact distributor due to the PCB issues.
7	eMMC Err	Contact distributor due to the PCB issues.
8	eMMC Err	Contact distributor due to the PCB issues.
9	eMMC Err	Contact distributor due to the PCB issues.
10	Return-to-home position error	XY axis or sensors error.
11	Selected file no.0 at D.I/O.	Select a file other than 0 at D.I/O.
12	No existing the file.	Select the correct file with data.
15	X axis return-to-home position error	X axis or sensor error.
16	Y axis return-to-home position error	Y axis or sensor error.
17	Z axis return-to-home position error	Z axis or sensor error.
18	A axis return-to-home position error	A axis or sensor error.
50	Found non-numeric character in the dashboard.	Enter the correct alphanumeric.
51	Over digits error	Reenter by less than limits.
52	Over characters error	Reenter by less than limits.
53	File name error	Reenter with the correct alphanumeric.
54	No existing the file.	Select the correct file.
56	File size error	Set the BMP file to less than 1686 bytes.
57	No existing the object in the file,	Resend the file due to the communication error.
59	No MB2 serial data	RS232C command [01] error.
155	Font memory overflow	Exceeded the font storage. Delete the fonts.
158	Font Err	Reset the saved font.
300	Missing @x[.].	Add the ] symbol at the command end.
301	File number @L[] 1-31 error	Reenter logo No. in 1-31.
302	Format error for @c[.].	Reenter with the correct format.
305	Format error in @S[]	Reset the correct format for the serial settings.
307	CSV marking is finished or the data is not set up.	Not finished correctly or set up the data correctly.
312	Finished the serial number marking,	Ended the serial marking. reset the number.
313	Reached out the limit of the solenoid.	Reset the number for the maintenance function.
314	Reached out the marking count.	Reset the number for the maintenance function.

Tocho Marking Systems, Inc.

87-378 Yachimata-Ro, Yachimata, Chiba, Japan 289-1144

Tel : +81-43-308-4301