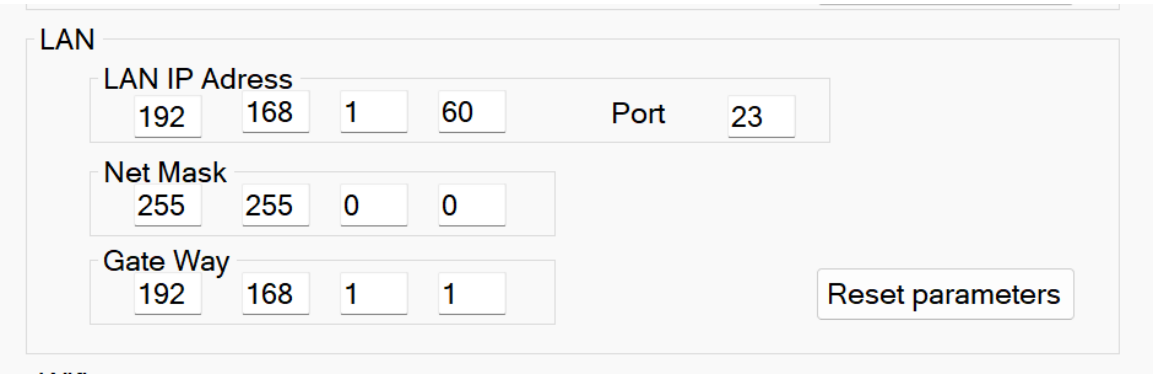
MB3 Controller Terminal Command Communication

Terminal commands can be transmitted directly to the MB3 controller via TCP/IP without using the sketchbookDuo software.

1. Pre-settings

Connect the MB3 controller to sketchbookDuo via USB. Open “Settings” → “Communication” and set the LAN IP address. After changing the IP address, press OK to confirm, and reset the MB3 controller's power.

Default settings



2. Command Packets

*/r/n indicates a carriage return and line feed (CRLF) control code.

	Function	Command Packets	Response
1	Return Home	@home/r/n	@ACK @NACK
2	Start Marking	@start000/r/n 000 → File No. (000-255) *000 means the current marking data.	@ACK @NACK (incl. no data)
3	Pause	@pause/r/n	
4	Stop Marking	@stop/r/n	@ACK
5	Alarm Reset	@CLR/r/n	@ACK
6	Write Marking File	No.1 @f_wfile00000000"1:FILE¥000.txt"/r/n No.2 ///r/n No.3 ///r/n N0.4 TEXT,F,H,W,x,y,A,p,f,s,” “/r/n No.1: 00000000 → Enter the total byte count from No.2 to No.4 using an 8-digit hexadecimal number. *Base 16 000 → File No. (000-255) *000 means the current marking data. No.2 : File name No.3 : Serial information	@ACK @NACK

		No.4: Marking content TEXT (Pattern) - [TEXT] Standard marking, Logo, [text] Vertical marking - [ARC] Convex arc, [arc] Concave arc - [RECT] Rectangle, [TRY] Triangle, [LINE]Line, [CIR] Circle, [OVAL] Oval - [QR] QR code, [DM] Data Matrix - [DRW] DXF, BMP - [BYP] Bypas F（Font Type） - [F1] TC font, [F2] TC Elegant font, [F3] 5x7 font、[FP] PC font H(Height), W(Width), x(X position), y(Y position), A(Angle), P(Pitch), f(Force), s(Speed), " "(Text) e.g.: Standard, TC font, 5mmH, 60%W, X1mm, Y10mm, No angle, Pitch 4.5mm, Force30, Speed50, ABC TEXT,F1,H5.0,W60,x1.000,y10.000,A0.00,p4.500,f30,s50,"ABC"	

7	Read Marking File	@f_rfile"1:FILE/000.txt"/r/n
		000 → File No. (000-255)
		*000 means the current marking data.
			//File name
			//Serial Info
			TEXT,F,H,W,x,y,A,p,f,s,"text"
			@NACK (incl. no data)

3. Communication Test

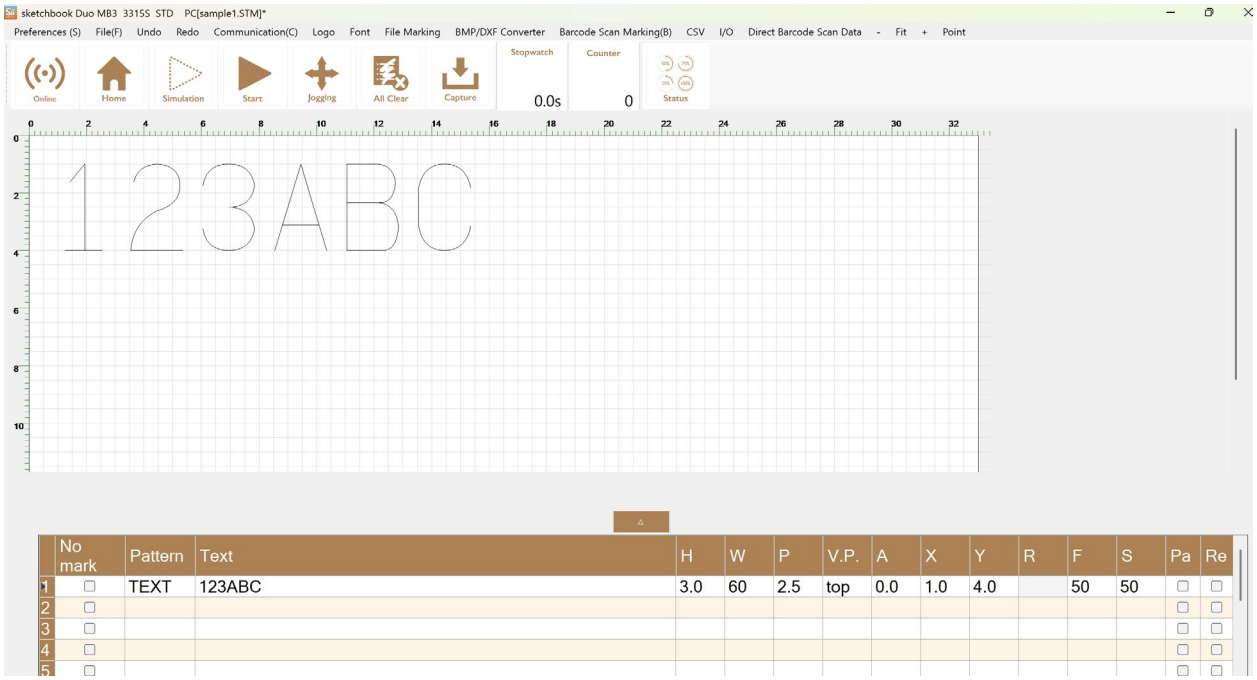
After configuring the communication settings, send a simple command such as 1. Return Home (@home/r/n) for testing.

4. File Read Test

Use sketchbookDuo to create the marking data and save the file on the MB3 controller. Then send the 7. Read Marking File command (@f_rfile"1:FILE/000.txt"/r/n) and confirm that the saved file is loaded correctly.

Example 1: Single Field

Save the following data to File 1 and read using command 7.



	No mark	Pattern	Text	H	W	P	V.P.	A	X	Y	R	F	S	Pa	Re
1	☐	TEXT	123ABC	3.0	60	2.5	top	0.0	1.0	4.0		50	50	☐	☐
2	☐													☐	☐
3	☐													☐	☐
4	☐													☐	☐
5	☐													☐	☐

```
@home
@ACK
@f_rfile"1:FILE/001.txt"
000000bc  188 bytes
①//sample1
②//#Serial,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E
③TEXT,F1,H3.0,W60,x1.000,y4.000,A0.00,p2.500,f50,s50,"123ABC"
```

Note: Include the 2 bytes for carriage return (CR) and line feed (LF) for each command when calculating the total byte count.

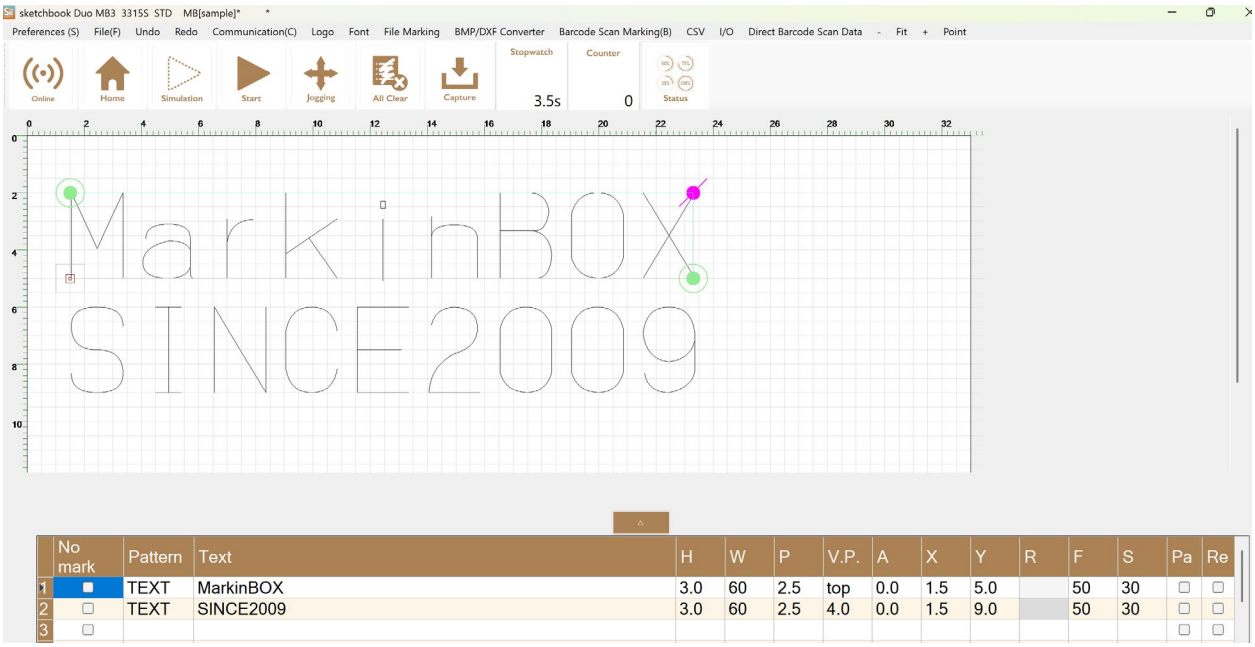
① 9 bytes + CRLF = 11 bytes

② 113 bytes +CRLF = 115 bytes

③ 60 bytes + CRLF = 62 bytes Total 188 bytes

Example 2: Double Field

Save the following data to File 2 and read using command 7.



	No mark	Pattern	Text	H	W	P	V.P.	A	X	Y	R	F	S	Pa	Re
1	☐	TEXT	MarkinBOX	3.0	60	2.5	top	0.0	1.5	5.0		50	30	☐	☐
2	☐	TEXT	SINCE2009	3.0	60	2.5	4.0	0.0	1.5	9.0		50	30	☐	☐
3	☐													☐	☐

```
@f_rfile"1:FILE/002.txt"
00000100
//sample2
//#Serial,0,1000,001,1,1,MAX,8:30,D,0,1000,001,1,1,MAX,8:30,D,0,1000,001,1,1,MAX,8:30,D,0,1000,001,1,1,MAX,8:30,D
TEXT,F1,H3.0,W60,x1.500,y5.000,A0.00,p2.500,f50,s30,"MarkinBOX"
TEXT,F1,H3.0,W60,x1.500,y9.000,A0.00,p2.500,f50,s30,"SINCE2009"
```

256 bytes

① 9 bytes + CRLF = 11 bytes

② 113 bytes + CRLF = 115 bytes

③ 63 bytes + CRLF = 65 bytes

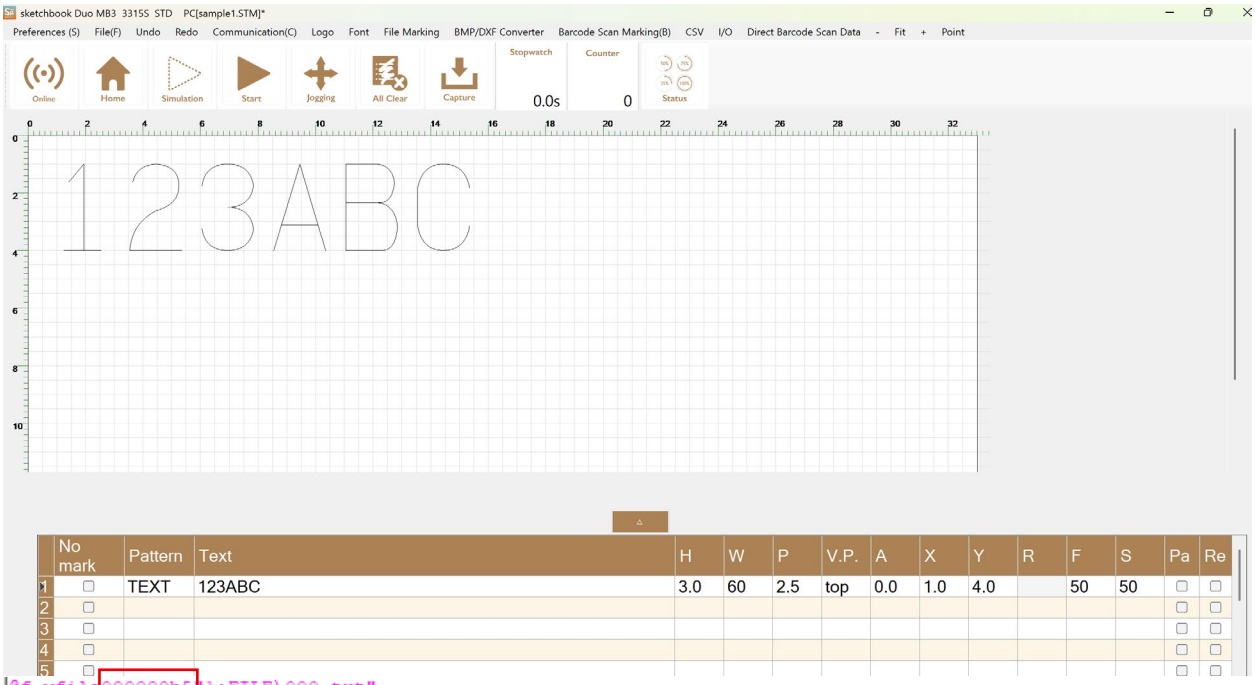
④ 63 bytes + CRLF = 65 bytes Total 256 bytes

5. Write Marking File

Send write commands 6. (@f_wfile00000000"1:FILE¥000.txt"/r/n and No2-No.4) and confirm the @ACK response. Then, use 2. Start Marking (@start000/r/n) to start the marking.

Example1: Single Field

Send the following data without specifying a file.



No mark	Pattern	Text	H	W	P	V.P.	A	X	Y	R	F	S	Pa	Re
1	TEXT	123ABC	3.0	60	2.5	top	0.0	1.0	4.0		50	50		
2														
3														
4														
5														

```
@f_wfile000000b5"1:FILE\000.txt"
@ACK
//
//#Serial,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E
TEXT,F1,H3.0,W60,x1.000,y4.000,A0.00,p2.500,f50,s50,"123ABC"
@ACK
```

181 bytes

① 2 bytes + CRLF = 4 bytes

② 113 bytes + CRLF = 115 bytes

③ 60 bytes + CRLF = 62 bytes Total 181 bytes

Alternative:

For text only, you may omit ② (serial info).

```
@f_wfile00000046"1:FILE\000.txt"
@ACK
//
//
TEXT,F1,H3.0,W60,x1.000,y4.000,A0.00,p2.500,f50,s50,"123ABC"
@ACK
```

70 bytes

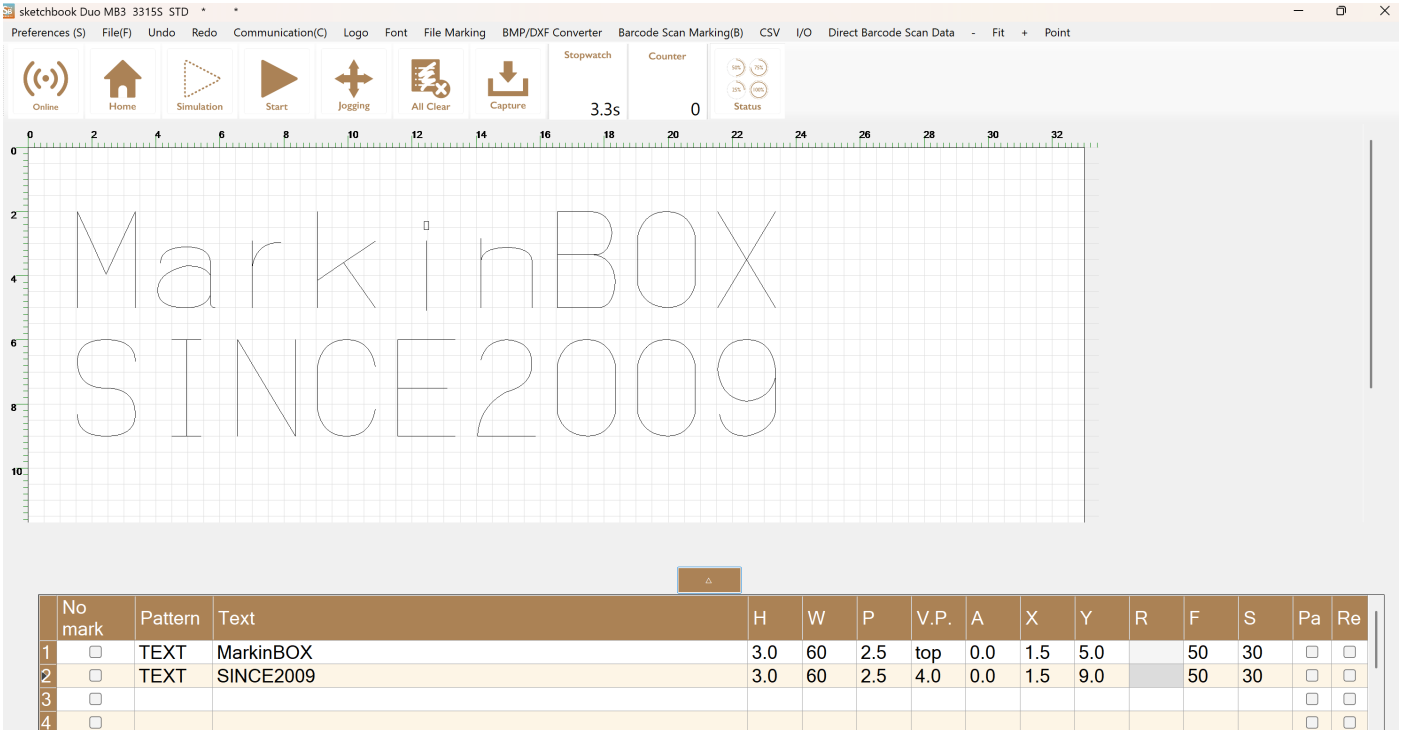
① 2 bytes + CRLF = 4 bytes

② 2 bytes + CRLF = 4 bytes

③ 60 bytes + CRLF = 62 bytes Total 70 bytes

Example1: Double Fields

Send the following data with File No. "001", File Name "TEST".



	No mark	Pattern	Text	H	W	P	V.P.	A	X	Y	R	F	S	Pa	Re
1	☐	TEXT	MarkinBOX	3.0	60	2.5	top	0.0	1.5	5.0		50	30	☐	☐
2	☐	TEXT	SINCE2009	3.0	60	2.5	4.0	0.0	1.5	9.0		50	30	☐	☐
3	☐													☐	☐
4	☐													☐	☐

```
@f_wfile000000fd"1:FILE\001.txt"
@ACK
//TEST
//#Serial,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E
TEXT,F1,H3.0,W60,x1.500,y5.000,A0.00,p2.500,f50,s30,"MarkinBOX"
TEXT,F1,H3.0,W60,x1.500,y9.000,A0.00,p2.500,f50,s30,"SINCE2009"
@ACK
```

253 bytes

① 6 bytes + CRLF = 8 bytes

② 113 bytes + CRLF = 115 bytes

③ 63 bytes + CRLF =65 bytes

④ 63 bytes + CRLF =65 bytes Total 253 bytes

Alternative:

For text only, you may omit ② (serial info).

```
@f_wfile0000008e"1:FILE\001.txt"  142 bytes
@ACK
①//TEST
②//
③TEXT,F1,H3.0,W60,x1.500,y5.000,A0.00,p2.500,f50,s30,"MarkinBOX"
④TEXT,F1,H3.0,W60,x1.500,y9.000,A0.00,p2.500,f50,s30,"SINCE2009"
@ACK
```

① 6 bytes + CRLF = 8 bytes

② 2 bytes + CRLF = 4 bytes

③ 63 bytes + CRLF =65 bytes

④ 63 bytes + CRLF = 65 bytes Total 142 bytes

6. Status command

Function	Command	Response
Check Status	@inf/r/n	**V**,0,**S**,s,**E**,0,**W**,0,**SN**,1,**RP**,0,**RT**,1654,**X**,14100,**Y**,10100,**Z**,0,**A**,0,**N**,**2026/3/23 12:29:34**,**0000,0012**,**8100,108b**,**1,0,0,0** **V** – Version **S** – Status • E: Error • e: E-stop active • S: Marking • s: Paused • T: Simulation • t: Simulation paused • H: Homing • J: Jogging • r: Stopped file marking • R: Ready • I: Initializing **E** – Error No. **W** – Warning No. **SN** – Marking No. **RP** – Run program No. **RT** – Run time. **X, Y, Z, A** – Coordinate **N** – Normal mode or **E** – Emulation mode **YYYY/MM/DD HH:MM:SS** – Date Time **0000, 0000** – D-sub37 I/O info. **0000, 0000** – Marking head info. **0, 0, 0, 0** – Serial value from 1 to 4