

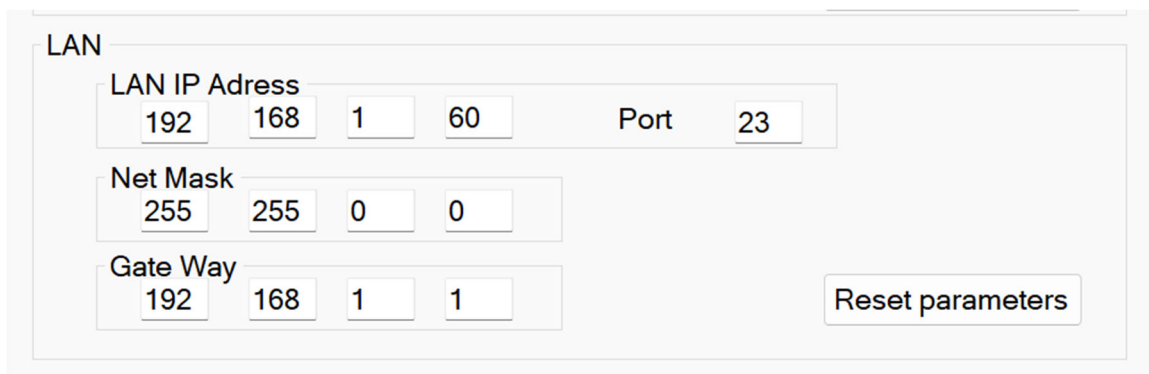
MB3 Controller Terminal Command Communication

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



LAN

LAN IP Address
192 168 1 60 Port 23

Net Mask
255 255 0 0

Gate Way
192 168 1 1

Reset parameters

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 No.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] Bypass 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

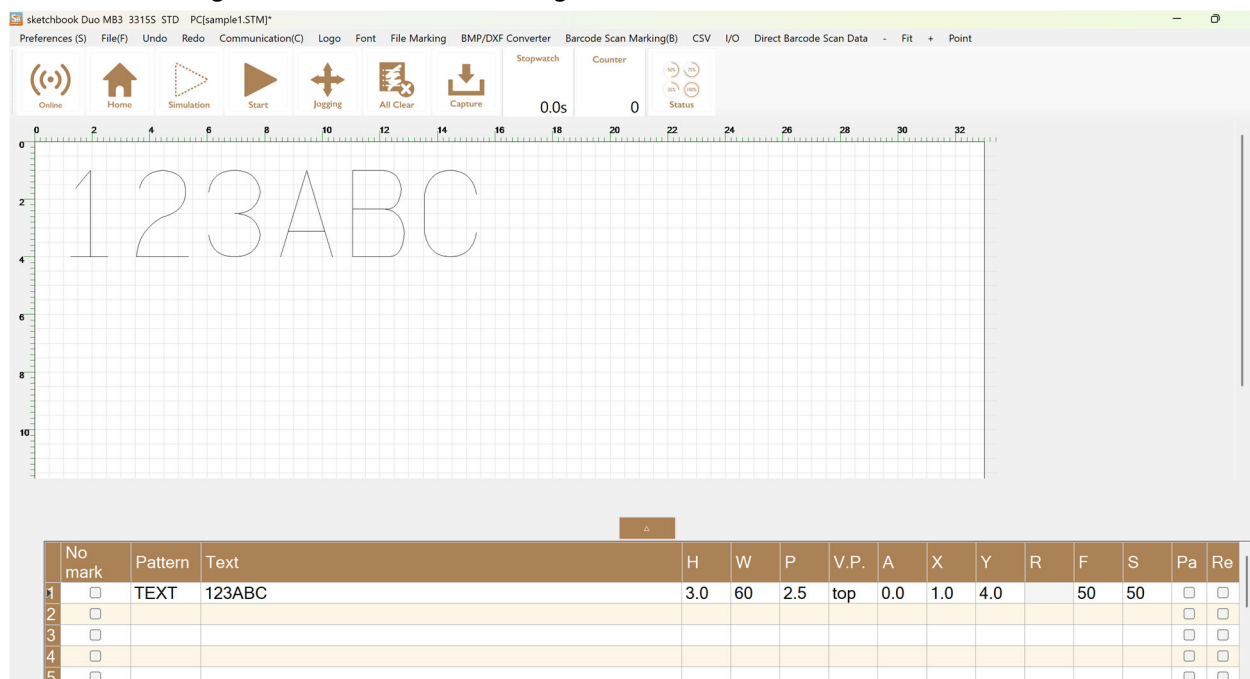
After configuring the communication settings, send a simple command such as 1. Return Home (@home/r/n) for testing.

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.



```

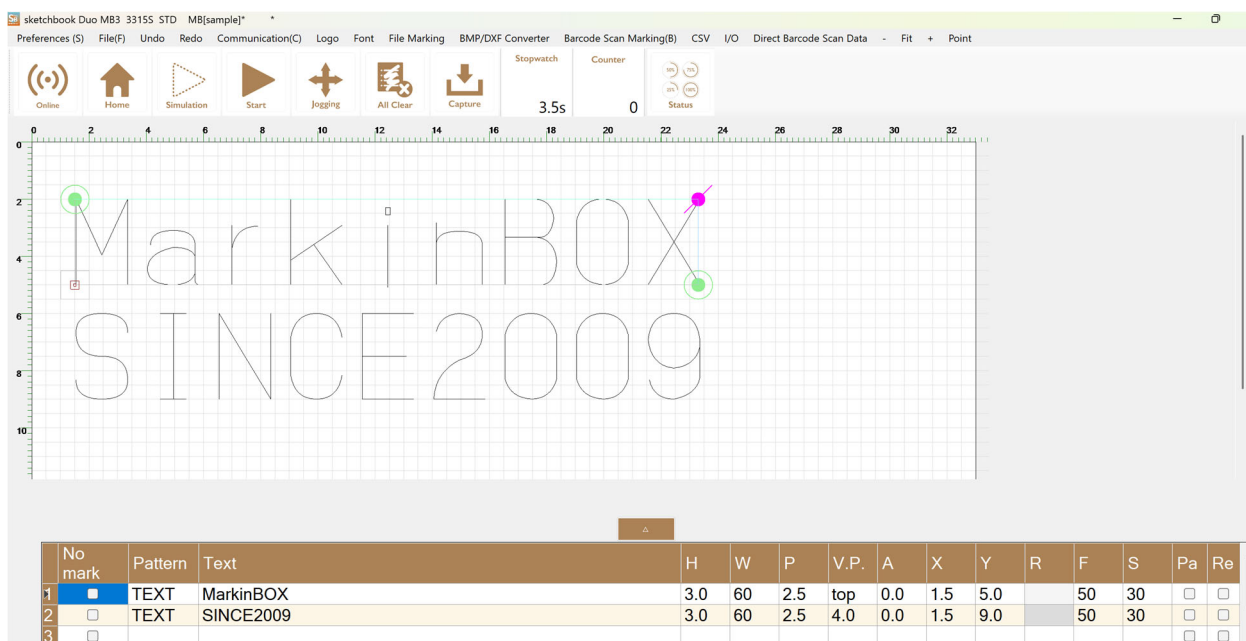
@home
@ACK
@f rfile"1:FILE/001.txt"
000000bc 188 bytes
//sample1
//#Serial,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E,0,1000,001,1,1,MAX,8:30,E
TEXT,F1,H3.0,W60,x1.000,y4.000,A0.00,p2.500,f50,s50,"123ABC"
  
```

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.



```

1 @f_rfile"1:FILE/002.txt"
2 00000100 256 bytes
3 //sample2
4 //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"

```

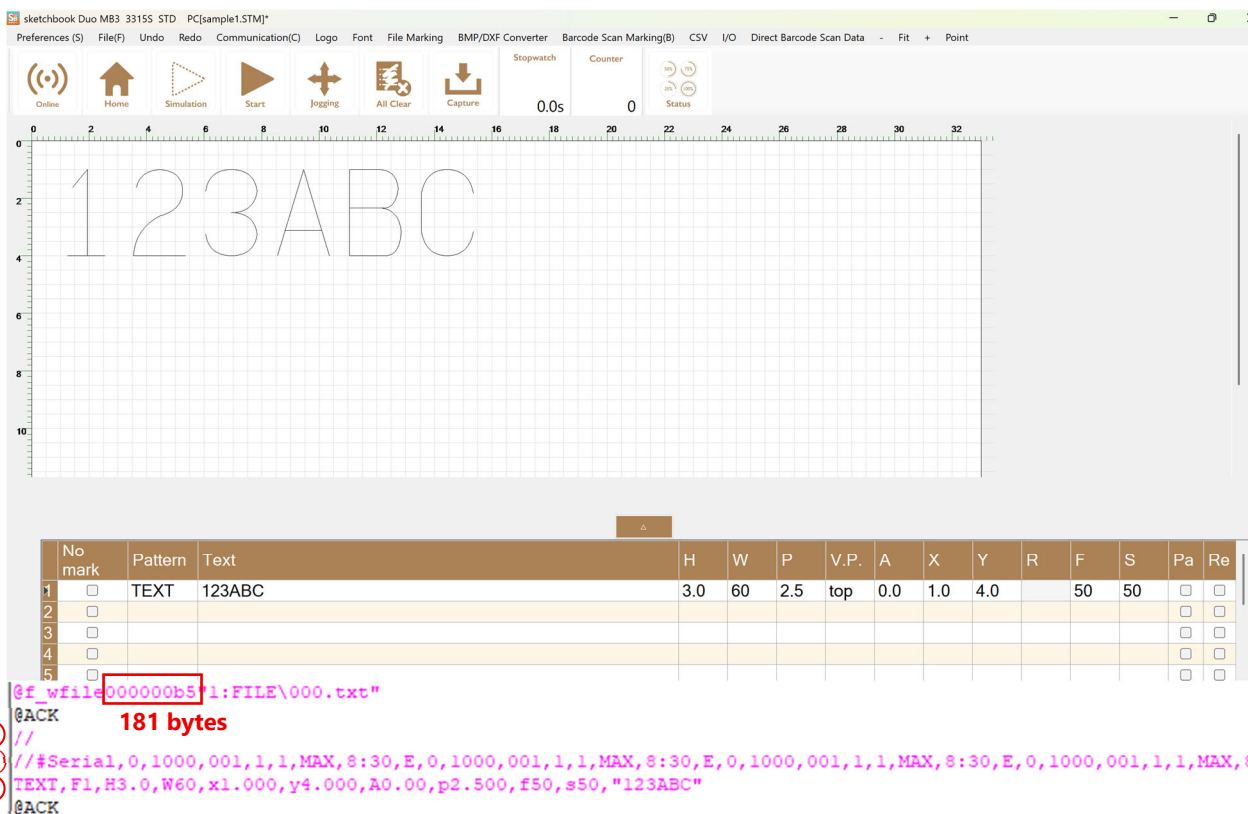
- ① 9 bytes + CRLF = 11 bytes
- ② 113 bytes + CRLF = 115 bytes
- ③ 63 bytes + CRLF = 65 bytes
- ④ 63 bytes + CRLF = 65 bytes **Total 256 bytes**

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.



The screenshot shows the MarkinBOX software interface. The main window displays a grid with the text "123ABC" in a large, outlined font. Below the grid is a table with the following columns: No mark, Pattern, Text, H, W, P, V.P., A, X, Y, R, F, S, Pa, Re. The table contains one row of data for the marking of "123ABC".

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	☐	☐

```

1 @f_wfile000000b5"1:FILE\000.txt"
2 @ACK 181 bytes
3 //
4 //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"
5 @ACK

```

- 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).

```

① @f_wfile00000046"1:FILE\000.txt"
  @ACK
  70 bytes
  //
  //
  ③ TEXT,F1,H3.0,W60,x1.000,y4.000,A0.00,p2.500,f50,s50,"123ABC"
  @ACK
  
```

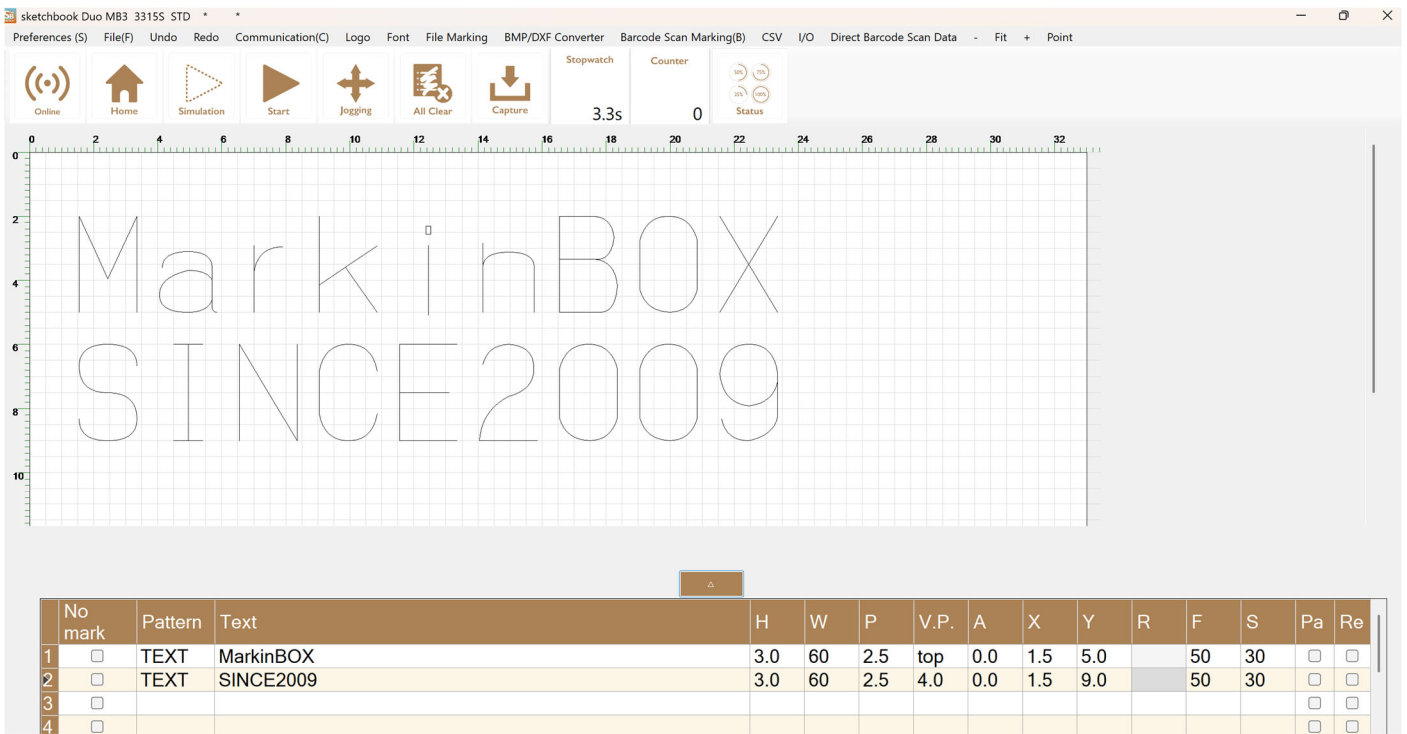
① 2 bytes + CRLF = 4 bytes

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	☐												☐	☐

```

① @f_wfile000000fd"1:FILE\001.txt" 253 bytes
  @ACK
  //TEST
  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
  ③ TEXT,F1,H3.0,W60,x1.500,y5.000,A0.00,p2.500,f50,s30,"MarkinBOX"
  ④ TEXT,F1,H3.0,W60,x1.500,y9.000,A0.00,p2.500,f50,s30,"SINCE2009"
  @ACK
  
```

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 //
③ TEXT,F1,H3.0,W60,x1.500,y5.000,A0.00,p2.500,f50,s30,"MarkinBOX"
④ TEXT,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

7. 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.