

Keypad Button Functions for Offline GRBL Controller (Arduino Nano + 3018 Pro CNC)

This document summarizes the functions of the 4x4 keypad used in the offline GRBL controller project.

Numeric Keys

Button	Function
1	Move Z axis up by Zstep at current Feedrate
2	Move Y axis forward (positive Y) by XYstep at current Feedrate
3	Increase Feedrate ($\times 10$)
4	Move X axis left (negative X) by XYstep at current Feedrate
5	Increase XYstep by +1
6	Move X axis right (positive X) by XYstep at current Feedrate
7	Move Z axis down (negative Z) by Zstep at current Feedrate
8	Move Y axis backward (negative Y) by XYstep at current Feedrate
9	Decrease Feedrate ($/10$)
0	Decrease XYstep by -1

Letter Keys (Special Functions)

Button	Function
A	Run test.gcode file from SD card and stream to GRBL
B	List files from SD card (first 3 shown on LCD)
C	Reserved (currently unused)
D	Reserved (currently unused)

Other Keys

Button	Function
*	No special function assigned (customizable)
#	No special function assigned (customizable)

Step and Feedrate Adjustments

Defaults:

- XYstep: 10
- Zstep: 1
- Feedrate: 1000

Modifiers from lettered keys in code:

- 17 (A): Increase XYstep $\times 10$
- 18 (B): Decrease XYstep $\div 10$
- 19 (C): Increase Zstep $\times 10$
- 20 (D): Decrease Zstep $\div 10$

Summary

- Numbers (1–9,0): Move axes or adjust step/feedrate.
- A/B: SD card operations.
- C/D: Reserved for future use.
- */#: Free for custom functions.