1. Shape of front



**** Both rapid & shift button can work connecting with each button It doesn't work alone.****

2. Each button's function

Button	Function	Button	Function
RESET	RESET and Release RESET	A+ ZeroA	A axis Move (Rapid+) A Axis Rapid Move (Shift+) A Axis Zero Set
START	Work Start	Y+ ZeroY	Y axis Move (Rapid+) Y Axis Rapid Move (Shift+) Y Axis Zero Set
RAPID	Rapid Move	Z+ ZeroZ	Z axis Move (Rapid+) Z Axis Rapid Move (Shift+) Z Axis Zero Set
HOME	Move Machine Origin	X+ ZeroX	X axis Move (Rapid+) X Axis Rapid Move (Shift+) X Axis Zero Set
REWIND	Return to Program Start Position	X- F Rst	X axis Move (Shift+) Feed Rate 100% Set
GotoZ	Move Work Origin	Y- Feed ∆	Y axis Move (Shift+) Feed Rate Increase
SHIFT	Select Extra Function	Z- ZeroAll	Z axis Move (Shift+) No Function
HOLD Jog 🗸	Pause / (Shift+) JOG Rate Decrease(1)	A- Feed ⊽	A axis Move (Shift+) Feed Rate Decrease
	Stop / (Shift+) JOG Rate Increase(1)	SPINDLE SPD ▽	Spindle Start/Stop (Shift+) Spindle RPM Decrease
T-ZERO	Set Tool Zero	FLOOD SPD A	Flood On/Off (Shift+) Spindle RPM Increase

(1) It is possible to modify jog speed in each axis.

(2) If you push the feed button in each axis alone, it transfers to set Jog Rate

(3) If you press "Rapid" and press Axis button, it moves to Maximum speed.

3. How to use

If it is connected with USB in computer, it perceives by keyboard and no need to do separate set-up or power supply.

Go into action Mach 3 and save attached mach3_1024_pendant.set in mach3 folder. After that run "load screen" as below.

() M	🛞 Mach3 CNC Controller								
<u>F</u> ile	Config	Function Cfg's	<u>V</u> iew	Wizards	Operator	Plug	ıln Co		
Pro	gram Ru	n Alt-1 MDI Al		d Screens		Alt5	Sett		
				Save Current Layout Bogon ToolPath					
			neg		ui				

Set up feed button in A axis as follows.



If you click A/U++ button, it will open window named "SetHotKey" you press A+ button in pendant this time.

Click A/U button \rightarrow Press A- in pendant \rightarrow Push OK

If so, the set-up will be finished.

System HotKeys Se	etup	e				×
Jog Hotkeys ScanCode X++ 39 Y++ 38 Z++ 33 AZH ++ 69 BZV ++ 49 CZW++ 122	X	ScanCode 17 0 14 tHotKey Press ar	External Bu Trigger # 1 -1 2 -1 3 -1 4 -3	Ittons - OEM C OEM Code	8 -1 9 -1 10 -1 11 -1 12 -1 13 -1 14 -1 15 -1	
System Hotkeys DRO Select 0 MDI Select 95 Load G-Code 0	canCode	Code List	ScanCode			OK

4. Modify Jog Rate & How to do Manual Jog in each axis.

You can find "JOG Rate" next to Rest Button in existing picture as below. This newly comes out to be checked out when changing Jog Rate in Pendant.



To modify Jog Rate,

If press "SHIFT" & push " $\bigcup_{00} \bigtriangledown$ " and can see to go down above Jog Rate. It decreases by 5 unit and decrease by 0.1 unit under 5.

It is same when increasing.



ZeroX after reducing adequately,

You can see it moves slowly than rapid transferring speed.

Push & Zerox at the same time and you can find it goes by rapid traverse rate. By doing adjusting "JOG Rate" like this, each axis can change transferring speed. On demanding moving rapidly, can do it if you use "rapid button" together.

If "Jog Rate " is 100.00 it can do rapid traverse without pressing "

5. Set Up Tool Zero in Z axis.

I explain it on condition that there is a Tool Zero Sensor and when it is equipped in No.13 Pin



Set "Probe" to Input Signal in the Config->Port & Pins If you used different pin, Input the right pin instead of 13 Press "Apply " \rightarrow Push "OK"

Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey	-
C Home	X	1	0	X	*	0	
nput #1	*	1	0	X	*	0	
nput #2	*	1	0	*	*	0	
nput #3	X	1	0	×	X	0	100
nput #4	×	1	0	X	*	0	
robe		1	13	4	×	0	
ndex	8 2	1	0	X	X	0	
imit Ovrd	X	1	0	X	X	0	
Stop	4	1	15	4	X	0	
THC On	*	1	0	X	X	0	-1
110.11	-		0	b.n	b.n	0	

Move to below the window in mach picture.

ontrol He	elp	
ings Alt6	Diagnostics Alt-7	Mi
ł	WorkOffset	G
d -	+1522.4900 -	

If the GND line doesn't contact with sensor, it shows the "Digitize" is turned off.

EJogX++	EJogY+	EJogZ+	EJogA+
EJogX	EJogY-	EJogZ-	EJogA-
Input 1	M1++Limit	M1Limit	M1Home
Input 2	M2 ++Limit	M2Limit	M2Home
input 3	M3++Limit	M3Limit	M3Home
Input 4	M4++Limit	M4Limit	M4Home
Digitize	M5++Limit	M5Limit	M5Home
Index	M6++Limit	M6Limit	M6Home
LimitOV	Torch On	Torch UP	Torch Dn
Emergency			

If the GND line contact with sensor, confirm the "Digitize" turns on. It is normal.



Click " Edit Button Scrip" in main mach picture.



And Auto Tool Zero button below will flicker. Click that.



If a new window shows up, Input the code below.

After measuring your Tool Sensor and if it is different,

Modify " Const PROBE_HEIGHT= 5" adequately.

HiddenScript,m1s - Mach3 VB Scipt Editor	
File Edit Run Debug BreakPoints	
Option Explicit	<u> </u>
Const PROBE_HEIGHT = 5 'Tool Sensor Height	
Const H_SPEED = 200 'Rapid Down Speed Const L_SPEED = 20 'Slow Down Speed	
dim stat as boolean Dim ZPorbeData As Long	
Code "G31 Z-500, F" & H_SPEED 'Rapid Down	
While isMoving() Wend 'Until it touches	
SetVar(2002,0) Code "G91 Z2,F200" '2mm up While isMoving() Wend	
Code "G31 Z-50, F" & L_SPEED 'Slow Down	
While isMoving() Wend	
SetDro(2,PROBE_HEIGHT) Code "G91 Z" & 10 - PROBE_HEIGHT & "F100" Tool Height 10mm set	
While isMoving() Wend	
	_
Ready Ln 28, Col 49	

If you want to do "the stop point(place)" differently,

The "10" in Code "G91 Z" & 10-PROBE_HEIGHT & "F100" is the place designates the height and it stops the point that it is changed if modifiy.

Set-up will be finished after saving.

7. Operational Test.

You put the sensor under Endmill,

Click "Auto Tool Zero " Button in main mach3 picture or click "T-Zero" in Pendant. If so, the Z axis senses by going down.

You can check out that the Endmill stops on 10mm in material after sensing.

