

## *iMach<sup>III</sup> M2 Mach4 CNC Control Pendant*



## PREFACE

Any machine tool, including computer-controlled machine tool, is potentially dangerous. VistaCNC LLC accepts no responsibility for any damage or injury caused by its use. It is your responsibility to ensure that you understand the machine you are using and the procedures for safety operations.

If you are in any doubt, you must seek guidance from a professionally qualified expert rather than risk injury to yourself or to others.

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## WARNING

E-STOP button in iMach<sup>III</sup> M2 CNC Control Pendant only provides Emergency STOP signal to Mach4 CNC application.

For further protection in CNC operation, other emergency protection methods may be needed.

## FEATURES

- Plug n' Play USB connection and controls.
- 4 axis Step and Continuous mode jogging.
- Feed rate and Spindle speed change.
- Axis Zeroing
- Program Cycle Start/Stop, Spindle control buttons.

## PLUGIN and FW

Download the latest Mach4 M2 Plugin package from [www.vistacnc.com](http://www.vistacnc.com) download page and unzip the package.

The package includes following files:

- This manual
- **M2pendant.m4pw** --- M2 pendant Mach4 PlugIn file 1
- **M2pendant.sig** --- M2 pendant Mach4 PlugIn file 2
- Pendant FW update procedure --- pendant firmware upgrade procedure
- Pendant FW Loader --- tools for FW upgrade
- **M2\_Mach4\_FW\_v1.hex** --- FW for Mach4

**Move** 2 PlugIn files to Mach4 Plugins directory.

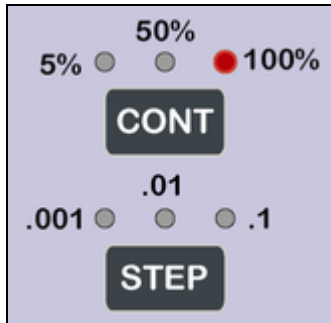
**Refer to** “VistaCNC Pendant FW update procedure” to upgrade the pendant firmware (FW) to Mach4 if the pendant was preinstalled or used with other CNC application, or a newer FW version is available.



## CONNECTION and START

- Directly plug the USB cable into any USB port on the PC.
- Start Mach4 application.

## FUNCTIONS and OPERATIONS

### 1. Jog mode selection



Press CONT button  to select Continuous jogging mode. Press STEP button  to select Step jogging mode.

In CONT jogging mode, lit LED indicates what Slow Jogging Rate (SJR) is selected.



Press CONT button to cyclically set Jog Rate% (JR%) to 5%, 50% or 100%.

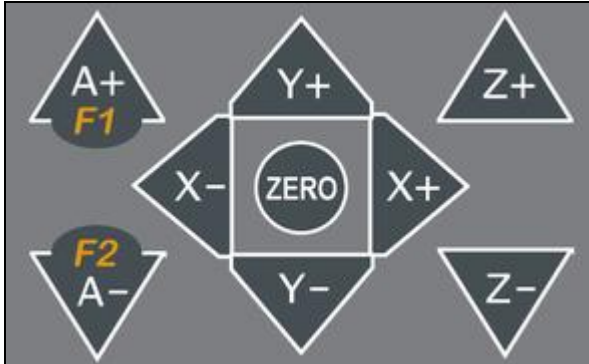
If JR% is set through Mach4 screen or other tools, 5% LED will flash when JR% is less than 5%, 50% LED will flash when JR% is between 5% and 50%, and 100% LED will flash when JR% is between 50% and 100%.

In STEP jogging mode, lit LED indicates what step size is selected.

Press STEP button to cyclically set step size to 0.001, 0.01 or 0.1

If step size is set through Mach4 screen or other tools, .001 LED will flash when step size is less than 0.001, .01 LED will flash when step size is between 0.001 and 0.1, but not 0.01, and .1 LED will flash when step size is larger than 0.1.

## 2. Jogging and axis zeroing



In STEP mode, press and release jogging button to move selected axis one step with selected step size.

In CONT mode, press an axis button to start to move selected axis at JR% rate and release the button to stop the axis movement.

### Zero X axis,



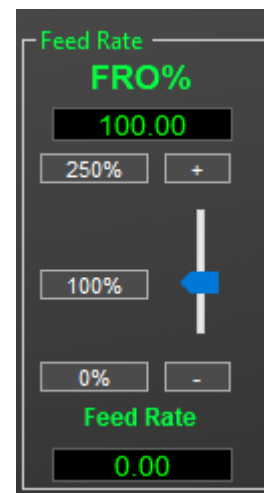
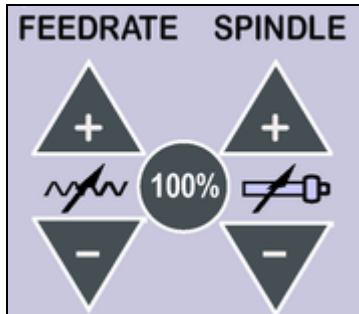
While pressing and holding the Enable Button, press and release the ZERO button



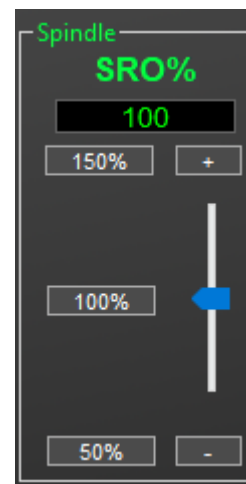
to enable zeroing, then within 1 second, press X+ or X- to zero X axis.

Apply the same to zero other axes.

### 3. FRO and SRO change



Press FEEDRATE + button to increase Feed Rate Overridden (FRO) 5% each time. Press FEEDRATE - button to decrease FRO 5%.



Press SPINDLE + button to increase Spindle Rate Overridden (SRO) 5% each time. Press SPINDLE - button to decrease SRO 5%.

Reset FRO or SRO to 100%,



While pressing and holding the Enable Button



to enable reset, then within 1 second, press FEEDRATE + or FEEDRATE - to reset FRO to 100%.

Apply the same to reset SRO to 100%.

## 4. Operation controls, function buttons and screen selection



### 4.1 START / HOLD button



- While pressing and holding the Enable Button, press and release START/HOLD button to cycle start the program if the program is not running or is in Feed Hold, or feed hold the program if the program is running.
- When program enters Cycle Start state, 6 LEDs in Jogging Mode flash one by one.
- When program enters Feed Hold state, all 6 LEDs flash twice in the first half second and stop flashing in the next half second.



### 4.2 STOP / REW button



- While pressing and holding the Enable Button, press and release STOP/REW button to stop the program if the program is running, or rewind the program if the line of the program is not zero, or stops any axis movement.

### 4.3 SPINDLE button




- While pressing and holding the Enable Button , press and release SPINDLE button to start the spindle if the spindle is off, or stop the spindle if the spindle is on.


## 5. E-Stop switch button

### 5.1 E-Stop switch button



- Press E-STOP switch button  to send out E-Stop signal to Mach4 application and activate Emergency Mode in Mach4 application.



- While pressing the Enable Button , press and release the E-STOP button to exit Emergency mode.
- When in Emergency Mode, 6 LEDs in Jogging Mode flash at ½ second rate.

## SPECIFICATIONS

- Work with Mach4 4.2.0.0 and above.
- Shipped with 10' High Speed USB cable. Extendable to 15' with extension cable, or to 45' with USB hub cables.
- Size (over all) 4.7"(L) x 3.1"(W) X 1.0"(H)