

VistaCNC P1A CNC Control Pendant for Mach4



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 insure 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 switch button in iMach^{III} P1A 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.
- 100 steps high precision MPG.
- Step, Velocity and Continuous mode jogging through MPG.
- Feed rate, Spindle speed, and Slow Jog rate change through MPG.
- Quick step size selection.
- 4 Axis selections.
- E-Stop with flash LEDs indicator.

PLUGIN and FW

Download the latest Mach4 P1A Plugin package from www.vistacnc.com download page and unzip the package.

The package includes following files:

- This manual
- **P1Apendant.m4pw** --- P1A pendant Mach4 PlugIn file 1
- **P1Apendant.sig** --- P1Apendant Mach4 PlugIn file 2
- Pendant FW update procedure --- pendant firmware upgrade procedure
- Pendant FW Loader --- tools for FW upgrade
- P1A_Mach4_FW_v1_1.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.
- Click Config from menu, select Config Plugins, and enable P1A Pendant.
- Close Mach4 application and restart Mach4 application.

FUNCTIONS and OPERATIONS

1. Axis, Step Size and Axis Zeroing

1.1 Axis selection

Turn axis selection knob to X, Y, Z, or A position to select an axis to jog.

1.2 STEP SIZE selection

Turn axis selection knob to STEP SIZE mode. Turn MPG few steps to cyclically select the step size. Selected step size displays on Mach4 Screen.

1.3 Axis zeroing

When Axis Selection knob is at X, Y, Z or A position, turn MPG few steps to zero selected axis.

2. MPG (Manual Pulse Generator) mode

Turn mode selection knob to select MPG mode.

2.1 STEP

In STEP mode, the selected axis moves 1 step at each MPG click (detent) with the step size currently in the system and with speed of step jogging rate.

2.2 VELOCITY mode

In VELOCITY mode, axis moves at 0 to 100% of maximum axis speed based on how fast the MPG wheel is turned.

2.3 CONTINUOUS mode

In C mode, axis moves at constant speed with Slow Jog Rate. The axis movement is independent to the speed at which the MPG is turned.

2.4 CONTINUOUS RATE mode

In C% mode, turning MPG changes the speed used in CONTINUOUS mode. The rate displays in Slow Jog Rate DRO (Digital Read Outs) on Mach4 Screen.

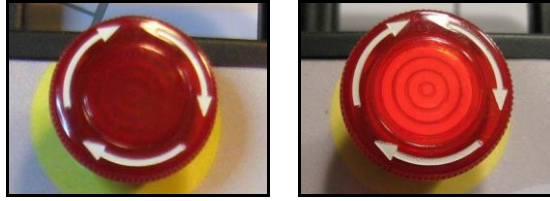
2.5 FEED RATE mode

In F% mode, turning MPG changes feed rate overridden (FRO) rate from 1% to 250 %. FRO rate can be changed when axes are moving.

2.6 SPINDLE SPEED mode

In S% mode, turning MPG changes spindle speed overridden rate from 1% to 250 %. Spindle speed can be changed when the spindle is running.

3. 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.
- When the button is pressed, the switch is locked down. Twist the button to reset it on.
- When the button is pressed and locked, the embedded LED flashes at $\frac{1}{4}$ second rate.
- When the button is released and Mach4 application is in Reset mode, the LED flashes at $\frac{1}{2}$ second rate.

SPECIFICATIONS

- 100 steps (clicks) per Rev MPG.
- MPG MTBF > 10000 hour.
- Shipped with 10' High Speed USB cable. Extendable to 15' with extension cable, and to 45' with USB hub cables.
- Size (over all) 6.1"(L) x 3.1"(W) X 2.7"(H)