

## ***iMach3 Pro Pendant***



## Features

### Control Mode

- Control signals include: Start, Stop, Hold, and Rewind, Spindle on/off and Jog on/off.
- Build-in highly reliable Emergency stop mushroom switch: Push to shut off, Twist to reset to ON.
- E-stop switch sends E-stop signal to Mach3 application.

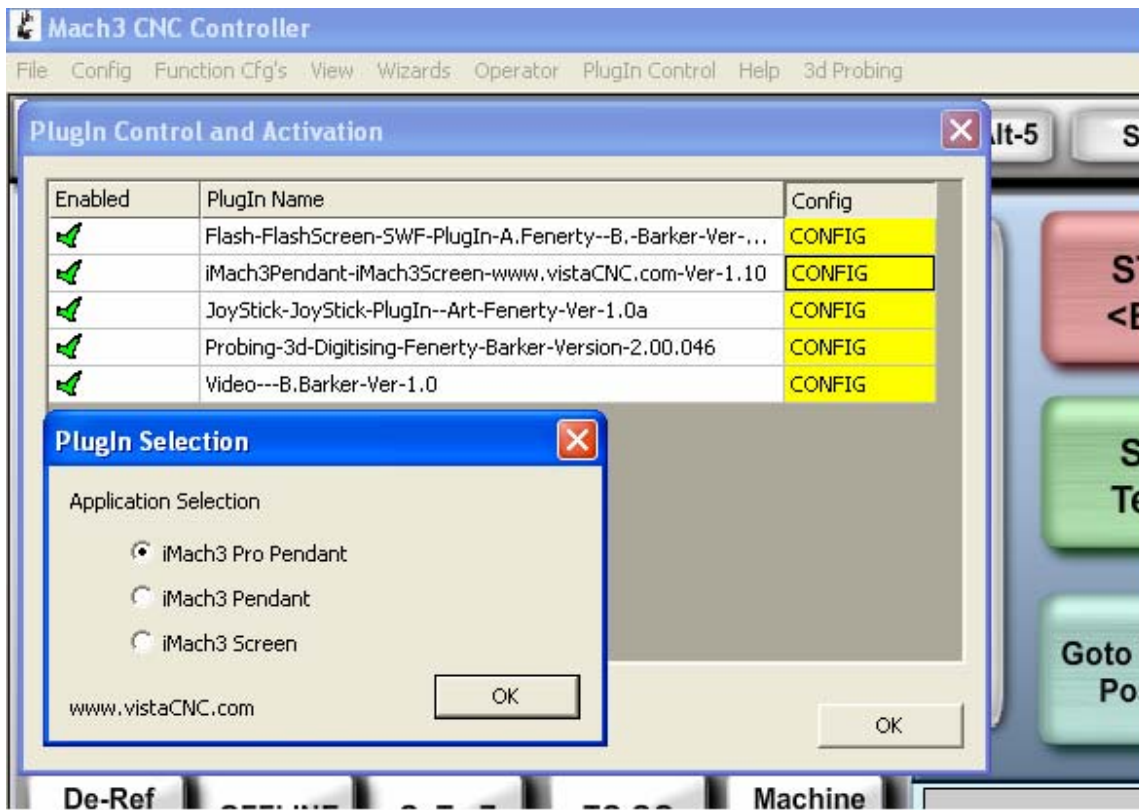
### Jogging Mode

- Step, Velocity and Continuous jogging through MPG.
- Instant jogging mode change between Step MPG and Velocity MPG, with releasing or pressing a pushbutton switch.
- Instant jogging mode change between Continuous MPG and Velocity MPG using a pushbutton switch.
- Step MPG with any step size, starting from 0.0001.
- Velocity jogging providing axis movement with 0 to 100% of rapid speed, depending on how fast the hand wheel is turned.
- Continuous jogging creating constant speed axis movement, independent on the speed the hand wheel is turned.
- Feed rate and spindle speed adjustment on the fly through MPG.
- 4 axis selection through rotary switch.
- LEDs for jogging mode, control mode and axis selection indicator.
- Directly connect to PC through iMach3 Pro Printer Port Card interface.
- Or connect to general break-out board.
- Molded rubber sides providing an extra grip.
- Protection boot (optional).



## PlugIn Installation and Configuration

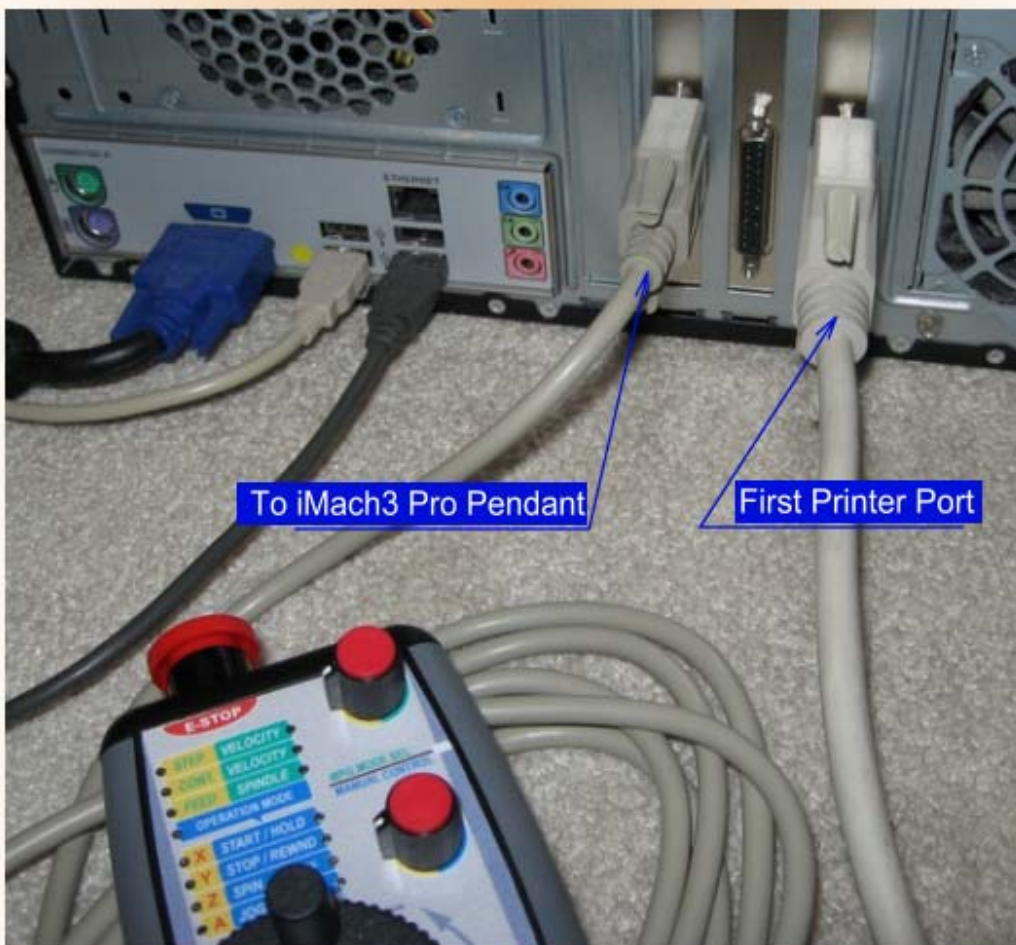
- Download iMach3Pendant from [www.vistacnc.com](http://www.vistacnc.com) download page.
- Double click the file, and iMach3Pendant.dll plugIn will be installed to the PC.
- Start Mach3 application.
- From menu, select config, then config plugins.
- Enable iMachPendant.
- Click CONFIG next to iMachPendant plugIn.
- Select iMach3 Pro Pendant.
- Click OK.



## Connection

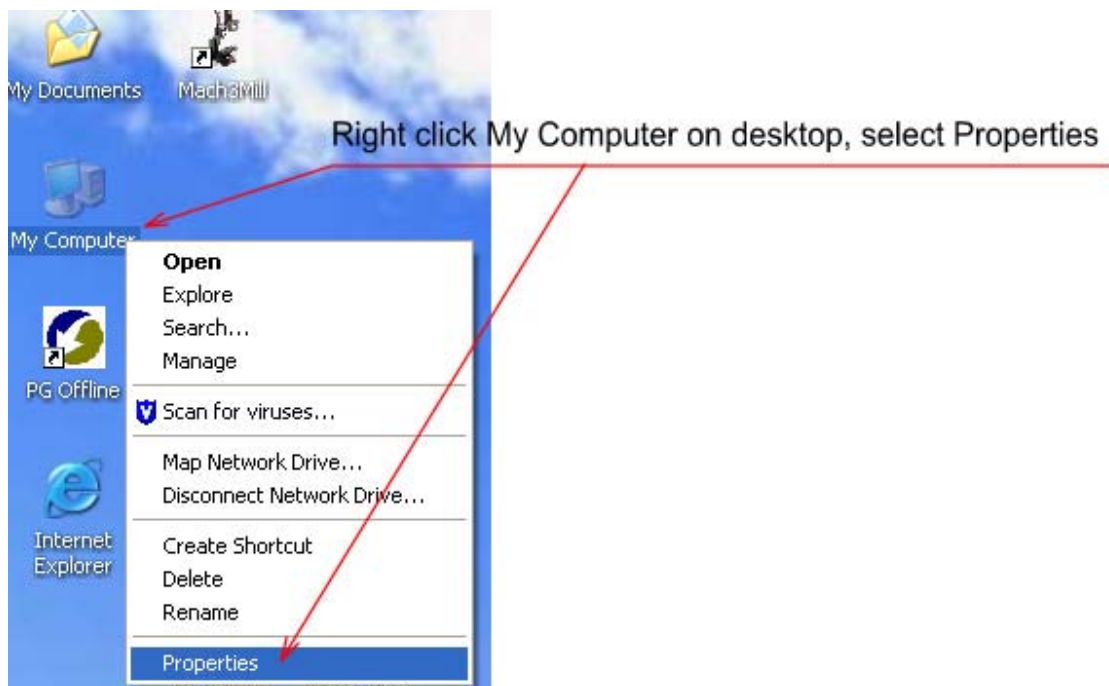
Directly connect to PC through iMach3 Pro Printer Port Card:

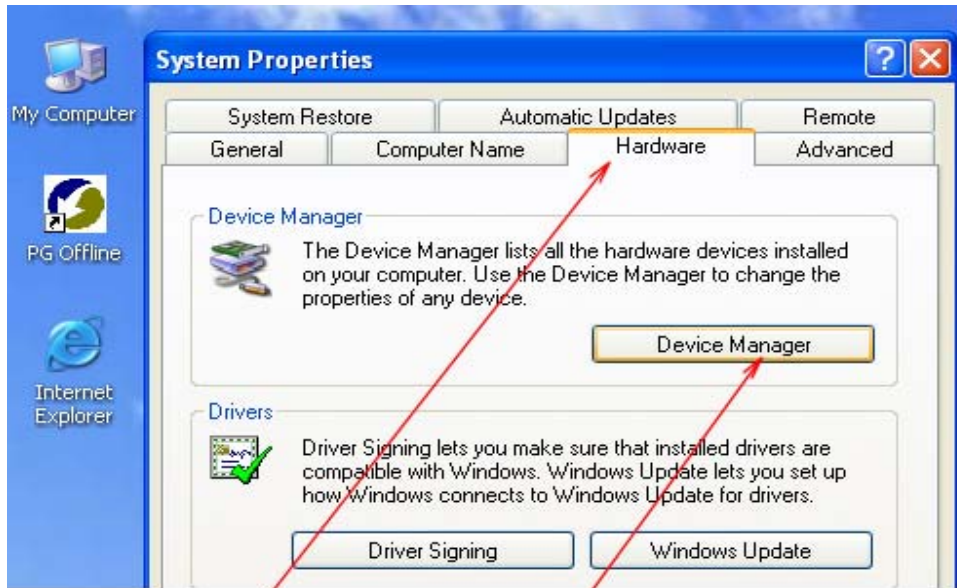
For more information about iMach3 Pro Printer Port Card, check [www.vistacnc.com](http://www.vistacnc.com) printer port card



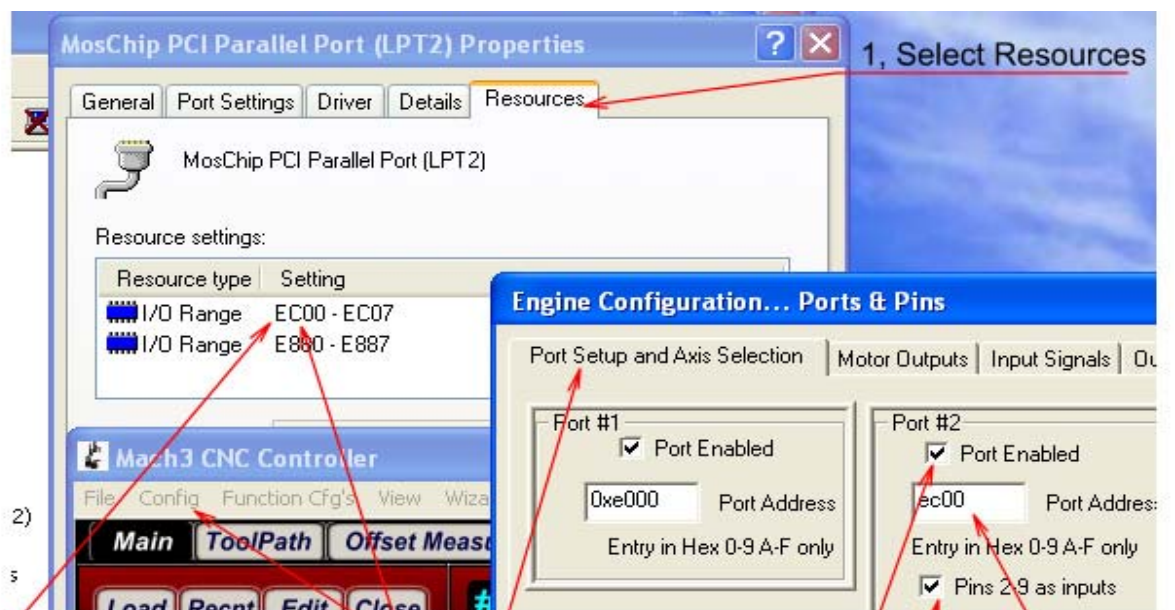
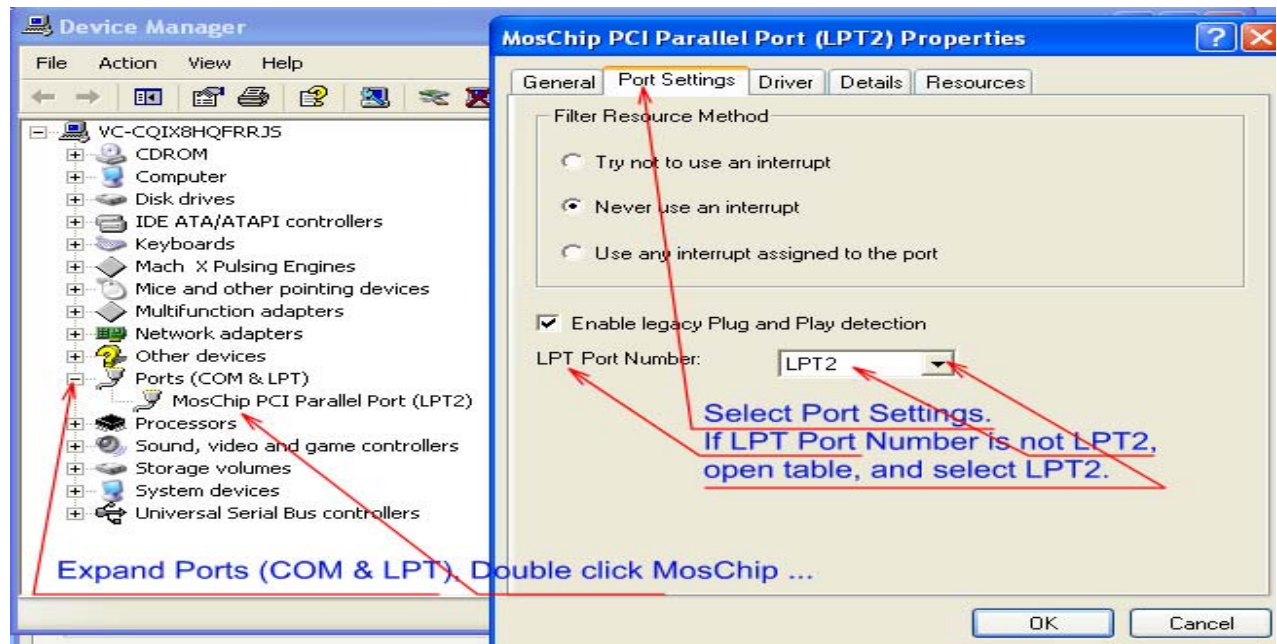
## Setup

Find printer port address and configure port, when using iMach3 Printer Port Card





Select Hardware, then Device Manager



## Configure Signal Pins

### MPG pin Setup

**MPG Pin setup**

**Engine Configuration... Ports & Pins**

Port Setup and Axis Selection | Motor Outputs | Input Signals | Output Signals | Encoder/MPG's | Spindle Setup | Mill Options

Signal	Enabled	A -Port #	A -Pin #	B -Port #	B -Pin #	Counts/Unit	Velocity
Encoder1		2	8	2	9	1.000000	100.000000
Encoder2		2	8	2	9	1.000000	100.000000
Encoder3		2	8	2	9	1.000000	100.000000
Encoder4		2	9	2	8	1.000000	100.000000
MPG #1		2	2	2	3	1.000000	100.000000
MPG #2		2	8	2	9	4.000000	80.000000

### Input Signal Pin Setup (OEM Trig # 11, 12, 13, 14, and 15 are used)

**Input signal Pin setup**

**Engine Configuration... Ports & Pins**

Port Setup and Axis Selection | Motor Outputs | Input Signals | Output Signals | Encoder/MPG's | Spindle Setup | Mill Options

Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
OEM Trig #9		0	0			0
OEM Trig #10		0	0			0
OEM Trig #11		2	4			0
OEM Trig #12		2	5			0
OEM Trig #13		2	6			0
OEM Trig #14		2	7			0
OEM Trig #15		2	8			0
Timing		0	0			0
Jog X++		0	0			0
Jog X--		0	0			0

Port2 Pin 9 s used for E-Stop

### E-Stop signal Pin setup

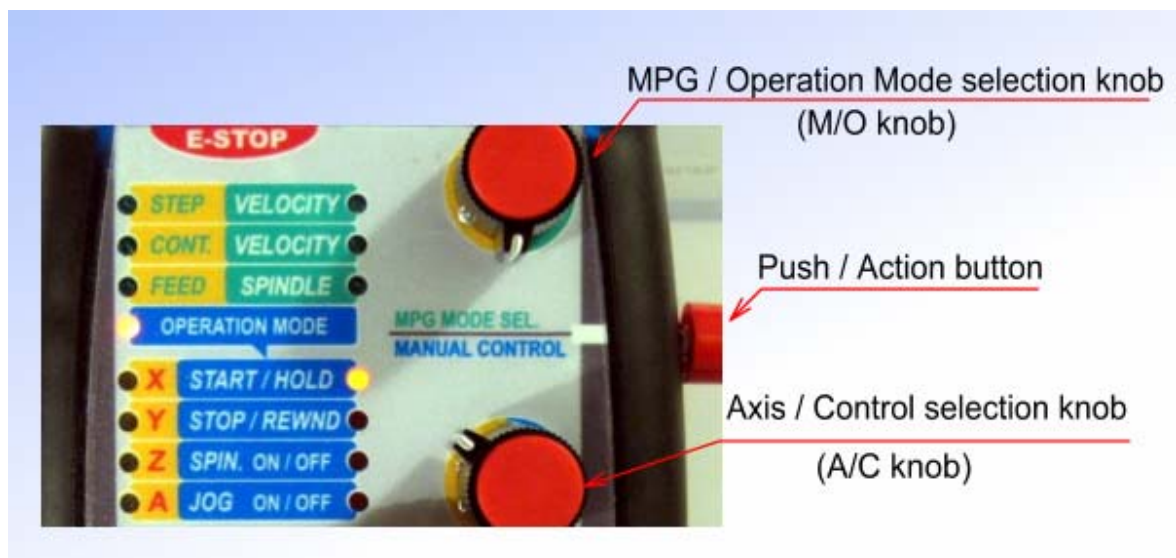
Engine Configuration... Ports & Pins

Port Setup and Axis Selection | Motor Outputs | Input Signals | Output Signals | Encoder/MPG's | Spindle Setup | Mill Options

Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
Input #3		0	0			0
Input #4		0	0			0
Probe		0	0			0
Index		0	0			0
Limit Ovrld		0	0			0
EStop		2	9			0
THC On		0	0			0

## Functions and Operations

### Operation Mode



- Turn MPG / Operation Mode selection knob (M/O knob) to operation mode position.
- Use Axis / Control selection knob (A/C knob) to select controls.
- Double click Push / Action button to activate selected control.

### Example:

When knobs are in above picture position and if program has not started, double clicking Push / Action button will start the program, just like clicking the start button on the screen. If program is running, double clicking the button will put program on hold, like pressing the hold button. If double clicking again, the program will start to run again.

- Double click push button means “press, release, and press, release again” the side mounted push button.

- Using double click method is to prevent from any action caused by accidentally hitting the push button.
- The effective interval of two clicks is from 0.5 second to 1 second.

## Jogging Mode



- Turn MPG / Operation Mode selection knob (M/O knob) to STEP MPG, CONT MPG or FEED MPG.
- Use Axis / Control selection knob (A/C knob) to select Axis.
- Press Push / Action Button to select Velocity MPG, or Spindle MPG.

### Example:

When knobs are in above picture position, pressing push button will put pendant in Velocity MPG mode and Velocity LED is on. When releasing the button, Pendant will go to STEP mode and Step LED will be turned on.

- MPG mode change happens instantly after pressing and releasing the push button.
- During the MPG mode change, hand wheel does not need to be stopped. PlugIn will automatically adjust the MPG mode and jogging speed.

**Step MPG:** One step per MPG detent. Step size is set up in Mach3 Screen. It accepts any step size.

**Velocity MPG:** Provides axis movement with 0 to 100% of maximum rapid speed, depending on how fast the hand wheel is turned.

**Cont.** Moves axis with constant, selected speed toward positive direction or negative direction when turning MPG in the clockwise direction or counter clockwise direction. The axis movement is independent to the speed the MPG is turned.

**Feed:** Changes feed rate up or down when turning MPG in the clockwise direction or counter clockwise direction. Feed rate can be changed when machine is cutting.

**Spindle:** Changes spindle speed up or down when turning MPG in the clockwise direction or counter clockwise direction. Spindle speed can be changed when machine is cutting.

## Examples

1. Press the side push button, use velocity MPG to move work piece near the target location, then release the push button to change to step MPG mode for accurate movement.
2. Use Cont. mode for a flat cutting, then pressing push button to change to Velocity mode to quickly move work piece to another position, release the button to Cont. mode for next around cutting.

## Specifications

- Work with Mach3 R2.63 and above.
- Work with Mach3 standard screen (including flash screen) and custom screen.
- 36 PPR MPG.
- 36 detents per Rev.
- Ball bearing wheel.
- 200,000 cycle life.
- Emergency stop switch cap size: 0.945"
- E-stop switch current/voltage rating: 2A 36VAC / 24VDC
- $\varnothing$ 0.24", 10', 15 conductors cable (expandable) with VGA Male connector.
- iMach3 Pro Printer Port Card connection ready.
- Size (over all) 4.8"(L) x 3.5"(W) X 2.4"(H)