# X15-200 USER MANUAL





### 5/1/14 R0103

This manual covers the setup and configuration of the kitten motion controller connected to the control using Mach3.

Formatting Overview:

- Menus, options, icons, fields, and text boxes on the screen will be bold (e.g. the **Help** icon).
- Clickable buttons will be bold and within brackets (e.g. the [**OK**] button).
- Directory names, commands, and examples of editing program files will appear in Courier New font

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## X15-200

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#### 1 TURNING ON THE CONTROL

To turn on the control press the power button near the bottom on the right side of the control.



FIGURE 1 - POWER BUTTON

#### 2 CONTROL COMPONENTS

#### 2.1 Operator Panel (X15-10-02, Standard)

This is the standard operator panel for the X15-200. The green button is a cycle start button which starts a file and the small red button is a feed hold which will pause a running G-Code file. The red Emergency Stop button stops the whole system and prevents any movement.



FIGURE 2 - STANDARD OPERATOR PANEL

#### 2.2 Operator Panel (X15-10-01, Optional)

This operator panel has more functionality, giving jog and feed rate control.



FIGURE 3 - OPERATOR PANEL

The jog buttons can be used to move the axes manually. Use the Axis Selector to choose which axis to jog. If the Axis Selector is in the off position, the jog buttons are disabled (See Figure 4).



FIGURE 4 - JOG BUTTONS AND AXIS SELECTOR

Note: If the jog buttons do not work, make sure that the Axis Selector on the pendant is turned off.

To change the jogging speed or the jog increments adjust the Jog Selector. The selections labeled Step Jog control which predefined step or increment the system moves each time a jog key is pressed. The system can jog 1 through 10,000 10,000ths of a unit by selecting X1 through X10,000. See Figure 5 below.



FIGURE 5 - JOG SELECTOR

To jog continuously rather than incrementally, turn the Jog Selector over into the Continuous Jog section. The machine can jog at the full jog rate (100%) or slow it down to 2%.

The Feedrate Selector can adjust the feed rate override from 0% all the way to 130%. It can be used to slow the machine while running a program. Also, in step jog mode the speed of the axis is regulated by the feed rate Selector.



FIGURE 6 - FEEDRATE SELECTOR

The green button is a cycle start button which starts a file and the small red button is a feed hold which pauses the file.



FIGURE 7 - CYCLE START AND FEED HOLD BUTTONS

The red Emergency Stop button stops the whole system and prevents any movement.

#### 2.3 Pendant (X15-20-01, Optional, only with X15-10-01)

The pendant is mounted on the right side of the control near the operator panel. See Figure 8 below.



FIGURE 8 - PENDANT

To use the pendant switch the Axis Selector (3) to the desired axis. The pendant will not work if the Axis Selector is in the OFF position. While holding down the enable button (1), rotate the hand wheel (2, also called the MPG) and the selected axis will move. Change axes by switching the Axis Selector to a different axis. The speed can be adjusted using the Jog Selector (4).



FIGURE 9 – AXIS SELECTOR

The Jog Selector on the pendant switches between either 0.0001 or 0.001 inch increments. Each click of the MPG will move the selected increment. However, if the Jog Selector is on V then the MPG is in velocity mode. In velocity mode the axis moves as long as the MPG is turning and the speed of the axis is regulated by the speed of the hand wheel. In other words, turning the hand wheel very fast will make the axis move very quickly.



FIGURE 9 - JOG SELECTOR

When the pendant is not in use, make sure to turn the Axis Selector to OFF. Otherwise the operator panel jog functionality will be disabled.

#### 2.4 Keyboard and Mouse

The control uses a standard wireless mouse and keyboard.



#### 2.5 External USB Port

On the right side of the keyboard tray there is a USB port. Use this for transferring programs, files, or any other data to and from the control.



FIGURE 11 - USB PORT

#### 3 COMPUTER PORT DIAGRAM

Below is a picture of all the different ports on the control with a brief description of each. The ports are located on the back of the control on the left side looking at it from the front. They are covered with a metal shade.



FIGURE 12 - COMPUTER PORTS

#### 1. Power Cable

110VAC-220VAC power for the control.

#### 2. Ethernet Port

The port is used to connect to local Ethernet networks and motion controllers.

#### 3. USB Ports

These ports are used for the keyboard and mouse (the Dell wireless dongle shown), file transfer, and more.

#### 4. Wireless Internet (now shown)

The control has built in wireless internet capability.

#### 4 SPECIFICATIONS

Below is the specification for a standard X15-200 CNC control.

ltem	Specification
Power Source	AC 100VAC – 240VAC 50/60 Hz
Max Power Consumption	130W
Computer	All-In-One PC
Operating System	Windows 7
Processor	Intel® Celeron® Dual-Core 2.4GHz
Ram	4 GB
Hard Drive	500 GB
I/O Ports	
Ethernet LAN (RJ45)	1
USB Ports	3 (2 Available)
6 Channel Audio I/O	1
Monitor	20" Color LCD
Camera	1
Keyboard	Wireless
Power Supply	5VDC, 12VDC, & VDC
Enclosure	
Dimensions	25.5"(W) X 17.5"(H) X 12"(D)
Material	Steel, Powder Coated
Operator Interface	
X15-20-01 Pendant (Optional)	Hand-wheel & Selector Switches
X15-10-02 Operator Panel	Emergency Stop, Cycle Start, Feed Hold
X15-10-01 Operator Panel (Optional)	Jog Buttons, Selector Switches, Emergency Stop, Cycle Start, Feed Hold

TABLE 1 - SPECIFICATION FOR A STANDARD X15-200 CNC CONTROL

#### 5 APPENDIX

#### 5.1 Warranty Information

MachMotion guarantees all products to be free from manufacturer defects for a period of one year from the date of purchase. Products which prove to be defective under normal conditions and proper use, during the warranty period, will be repaired or exchanged free of charge. For warranty service the customer must contact MachMotion for an RMA number and then return the defective product to MachMotion. If a product is sent to MachMotion without an RMA number, the product may be misdirected or delayed. When a product or part is exchanged, any replacement item becomes the customer's property and the replaced item becomes MachMotion's property.

If the defect is found to be caused by improper use or installation, the warranty is void. Otherwise the product will be repaired or exchanged and returned to the address located on the Product Return/Repair Form.

MachMotion will cover ground shipping cost for the replacement/repaired product being returned to the customer. MachMotion does offer expedited shipping at the customer's expense.

If a replacement product is needed quickly, a replacement can be sent immediately. In this case the customer will be charged for the replacement part at the time of the order and be refunded that charge when the defective component is returned to MachMotion, assuming the defective item falls under the warranty guidelines. MachMotion will issue a refund within two work weeks after receiving the faulty component.

#### **5.2 Additional Resources**

Additional manuals and resources can be found at MachMotion.com

The Mach Motion Team <u>http://www.machmotion.com</u> 14518 County Road 7240, Newburg, MO 65550