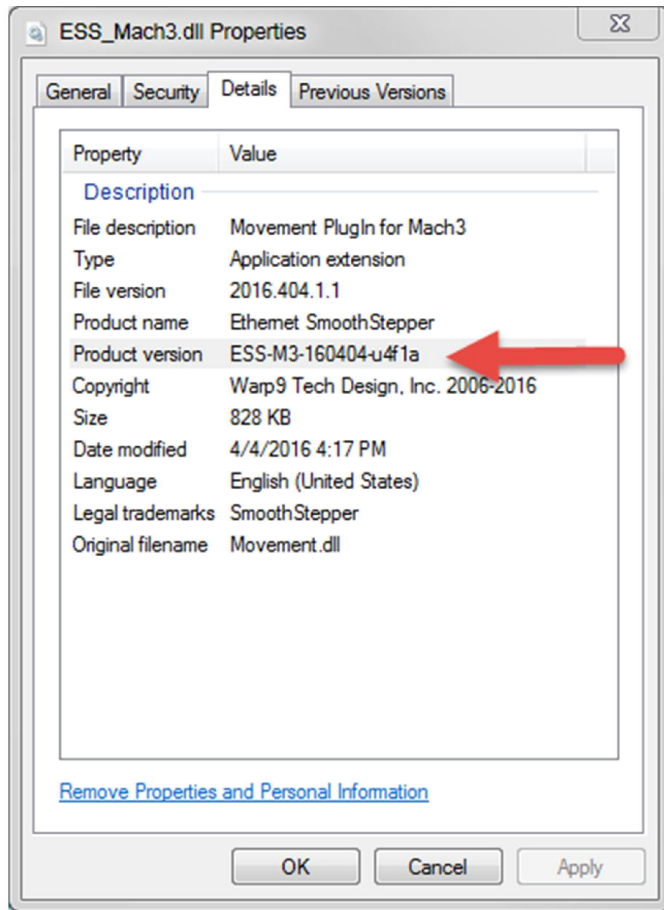
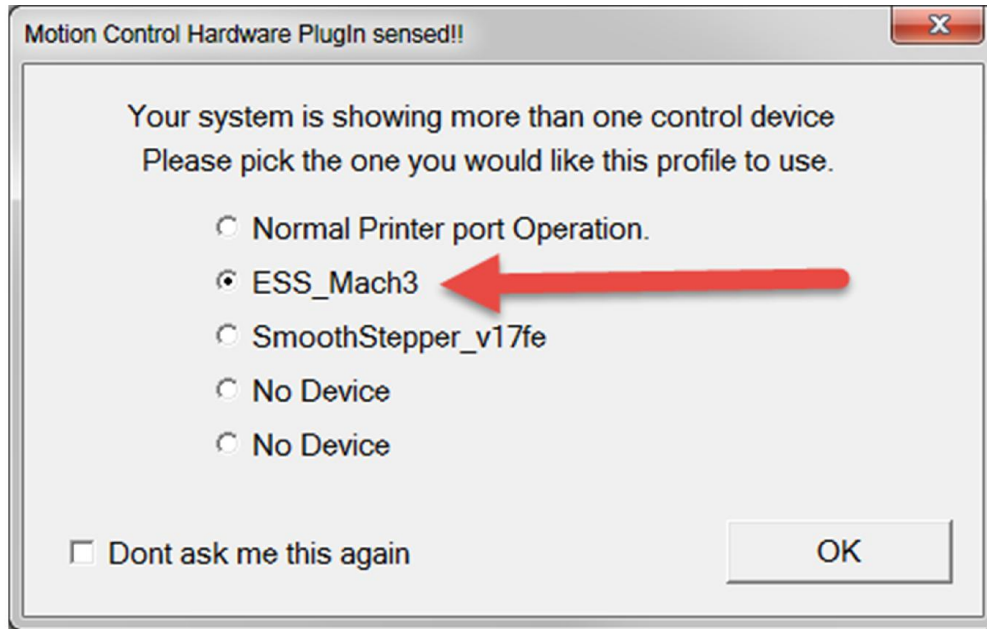


Change Log for ESS Mach3 plugin: ESS_Mach3_160404_u4f1a 2016-04-04

1A) The plugin itself will have a new filename format: ESS_Mach3.dll If you want to see which version of the plugin it is, you can find out by Right clicking on it and looking at Properties -> Details -> Product Version or looking in Mach3 at the plugin details.

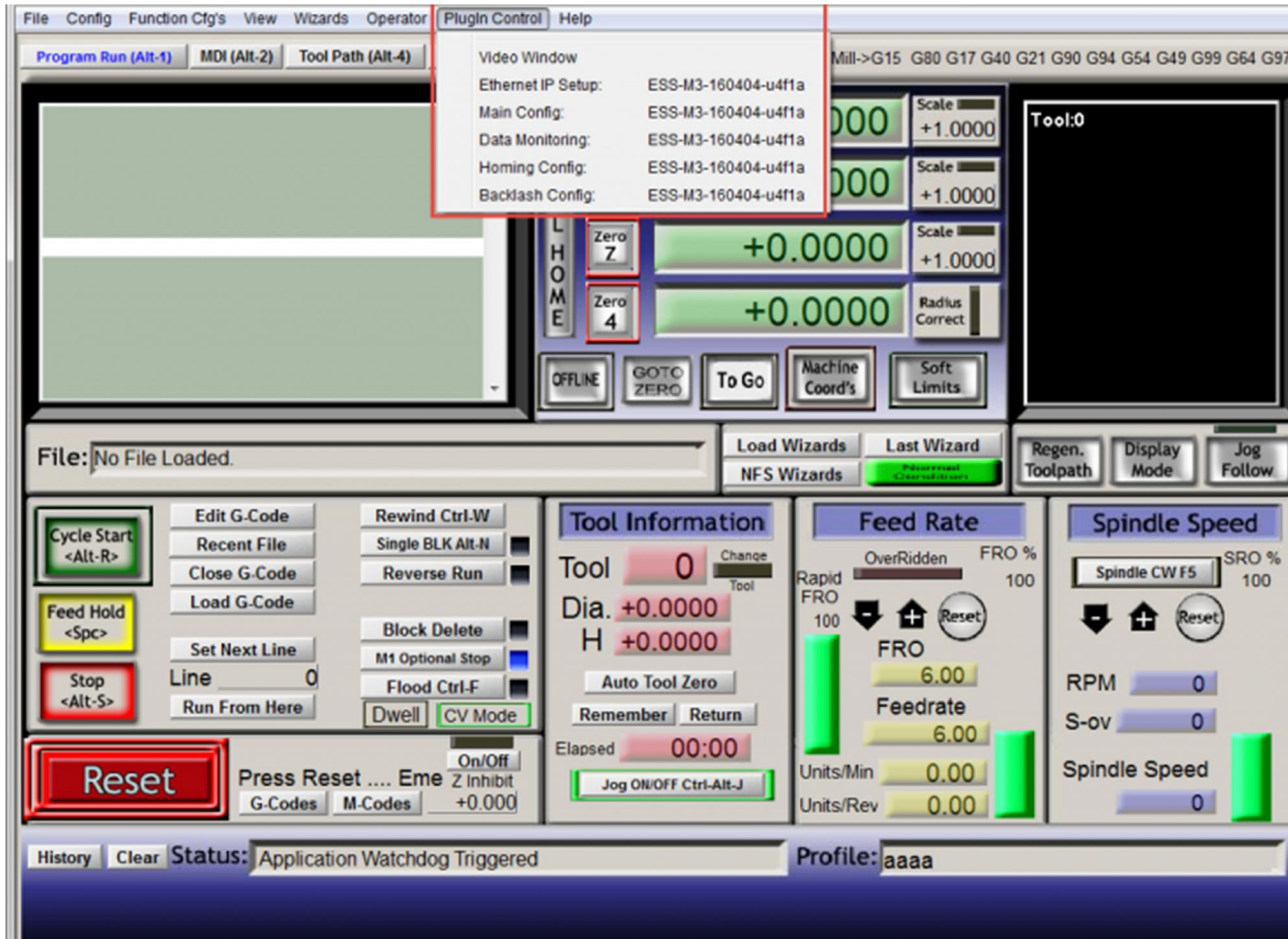


1B) Part of the reason for this is to match the Mach4 setup where only ONE ESS plugin file should be in the folder at a time.

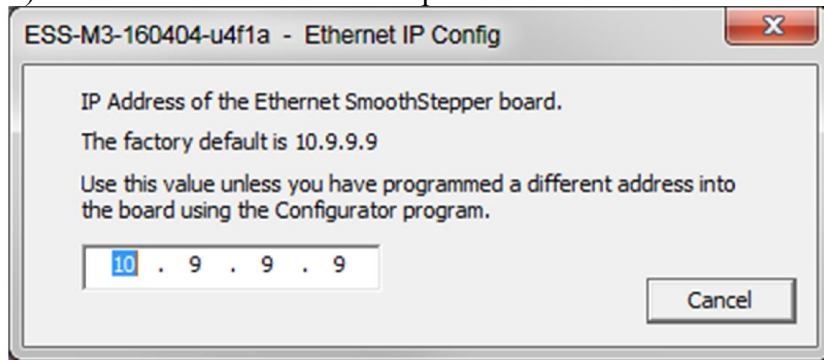


1C) The version now has a date code in it YYMMDD: ESS_Mach3_160404_u4f1a

2) Modified the plugin control tab to be a lot cleaner and use the new version format.



3) Modified the Ethernet IP setup to show the correct IP and hide a bunch of unused fields.



4) Modified a bunch of error/warning/info message boxes to clearly state what the issue is or tell you what you should do to fix the problem. This will be very noticeable if you create a new profile.

5) Self-documented a bunch of stuff on the Main Config tab for the ESS.

Main Config: ESS-M3-160404-u4f1a

Please visit 'Warp9TD.com' and go to 'FAQ Mach3' for help with this window's settings.

Controller Frequency The Controller Frequency controls how many times per second the velocity is updated when outputting pulses.

At 250 Hz, up to 4 seconds of data can be queued up. Each doubling of frequency halves the buffer length, so at 500 Hz, 2 seconds can be buffered, 1 kHz, 1 second, etc.

Max Step Frequency

- X-axis
- Y-axis
- Z-axis
- A-axis
- B-axis
- C-axis
- Spindle

Output Mode

- | Step and Direction | CW/CCW | Quadrature |
|---------------------------------------|--------------------------|--------------------------|
| X <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Y <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Z <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Watchdog

If the PlugIn fails to communicate with the device within the amount of time listed below, an EStop will be triggered in the device.

The time is in seconds and is rounded to the nearest tenth of a second. Max value is 3.1 seconds.

Feed Hold

- Controlled By Mach
- Controlled By SmoothStepper

IsMoving

Output Number for the IsMoving signal

Debug

- Enable Logging of Plugin Timing
- Disable "Ran out of data" error

Spindle

Relay or None

PWM

Base Hz

Step and Dir

Pulse Width (us)

CW / CCW

Quadrature

Spindle Index Prescale Max of 4096. Set to 1 for no prescale (default)

Miscellaneous

- De-Reference Axes in EStop
- Don't Report Port and Pin Warnings
- THC Mode

Number of Data Points Mach Should Pre-Calculate

Homing

- Support Multi-Axis (but G28.1 will not work right)
- Single Axis at a time

XY PWM Velocity Output

Output Number for the XY Velocity PWM signal. This will be a 130 kHz signal that has a PWM duty cycle equal to current XY Velocity / requested Feedrate. This is not for lasers. You will need to assign a pin and port for the Output # you choose.

Port 2 Pins 2 through 9 Direction

Port 3 Pins 2 through 9 Direction

Noise Filtering of Inputs (This is the only place that effects debouncing on the ESS)

An input must be stable for the specified amount of time in microseconds before it will be considered valid. Values will be assigned to groups of similar signals. The specified values will be rounded to the nearest multiple of about 1.43 microseconds. To disable filtering for a given groups of inputs, use a value of 0.0 microseconds.

- Encoders/MPGs (includes A, B, Index, and timing)
- Miscellaneous (Miscellaneous covers all other inputs)

- Probe
- EStop
- Jog
- Limits
- Home

M11Px/M10Px Commands

Output Mode

Output Mode (normal default mode)

M11Px/M10Px Gates Spindle Output

Output Number to use for M11P#/M10P#:

Input Mode

Input Mode

M10 OEM Trigger #:

M11 OEM Trigger #:

Dwell time associated with M11/M10 Commands

M11

Dwell selected in this config Delay: milliseconds

Dwell selected Via User DRO User DRO #:

M10

Dwell selected in this config Delay: milliseconds

Dwell selected Via User DRO User DRO #:

Spindle (or laser) PWM Proportional to XY Feed Rate

Enable This is output on the Spindle Step Pin. When enabled, the spindle PWM is a function of the XY Feed Rate.

The mapping function is a table in the specified file located in the Plugins folder of the Mach directory. See our website's 'FAQ Mach3' for a sample file.

Mapping Function Filename:

* Added a thing at the top to visit the FAQ page for more information

* Added XY PWM Velocity Output

6) Added Expansion Port support for the ESS in Mach3.