



Firefox



Mach3Mill  
DNL IB24

Motion Status & Config 15502169252@126.com

### Status

- ☒ nMotion Powered On
- ☐ Limit or Estop hit
- ☐ Probe Hit
- ☐ nMotion in Pause
- ☒ nMotion in Wait condition
- ☐ Interpolated move in progress
- ☐ Velocity move in progress
- ☐ Scan in progress

Firmware version: 3.60

### Outputs Enable

Selected for output enable

- |                                 |   |
|---------------------------------|---|
| <input type="checkbox"/> Out5EN | <input checked="" type="checkbox"/> Out9EN  |
| <input type="checkbox"/> Out6EN | <input checked="" type="checkbox"/> Out10EN |
| <input type="checkbox"/> Out7EN | <input checked="" type="checkbox"/> Out11EN |
| <input type="checkbox"/> Out8EN | <input checked="" type="checkbox"/> Out12EN |
|                                 | <input checked="" type="checkbox"/> Out13EN |
|                                 | <input checked="" type="checkbox"/> Out14EN |
|                                 | <input checked="" type="checkbox"/> Out15EN |
|                                 | <input checked="" type="checkbox"/> Out16EN |

All ins and outs are in Mach3

### Outputs->Mach Pins

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Out1 | <input checked="" type="checkbox"/> Out9  |
| <input checked="" type="checkbox"/> Out2 | <input checked="" type="checkbox"/> Out10 |
| <input checked="" type="checkbox"/> Out3 | <input checked="" type="checkbox"/> Out11 |
| <input checked="" type="checkbox"/> Out4 | <input checked="" type="checkbox"/> Out12 |
| <input checked="" type="checkbox"/> Out5 | <input checked="" type="checkbox"/> Out13 |
| <input checked="" type="checkbox"/> Out6 | <input checked="" type="checkbox"/> Out14 |
| <input checked="" type="checkbox"/> Out7 | <input checked="" type="checkbox"/> Out15 |
| <input checked="" type="checkbox"/> Out8 | <input checked="" type="checkbox"/> Out16 |

### Inputs->Mach Pins

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Pin1 | <input checked="" type="checkbox"/> Pin9  |
| <input checked="" type="checkbox"/> Pin2 | <input checked="" type="checkbox"/> Pin10 |
| <input checked="" type="checkbox"/> Pin3 | <input checked="" type="checkbox"/> Pin11 |
| <input checked="" type="checkbox"/> Pin4 | <input checked="" type="checkbox"/> Pin12 |
| <input checked="" type="checkbox"/> Pin5 | <input checked="" type="checkbox"/> Pin13 |
| <input checked="" type="checkbox"/> Pin6 | <input checked="" type="checkbox"/> Pin14 |
| <input checked="" type="checkbox"/> Pin7 | <input checked="" type="checkbox"/> Pin15 |
| <input checked="" type="checkbox"/> Pin8 | <input type="checkbox"/> Pin16            |

### Analog Config

☒ ABS ☐ Incremental

FRO%:

Internal

SRO%:

Internal

JOG%:

Internal

AdvanceSet

### Configs

Servo Cycle Time:

.002 Seconds per segment

0.001

Last position save

☒ PC save ☐ NVRAM

MPG Set

Min Step:

G Code Buffer Time(ms): 703

Spindle

Pulse per turn:

2

PWM Frequency:

2 KHz

### Homing

- ☐ No Homing
- ☐ Single Stage -H inputs
- ☒ Dual stage -H inputs

Home Switches

☐ X ☐ Y ☐ Z ☐ A

### Homing Pull Off

X Pull Off

1

Y Pull Off

1

Z Pull Off

1

A Pull Off

1

B Pull Off

1

C Pull Off

1

Five Axis Sel:

☐ B Axis

☒ C Axis

Device Connect

☒ USB

☐ EtherNet

nMotion IP Address:

127 . 0 . 0 . 1

Cancel

OK

Advance Setting

PWM Base



## General Logic Configuration

## G20,G21 Control

☐ Lock DRO's to setup units

## Tool Change

- ☒ Ignore Tool Change  
☐ Stop Spindle, Wait for Cycle Start.  
☐ AutoTool Changer

## Angular Properties

Unchecked for Linear

- ☒ A-Axis is Angular  
☒ B-Axis is Angular  
☒ C-Axis is Angular

## Pgm End or M30 or Rewind

- ☐ Turn off all outputs  
☐ E-Stop the system  
☒ Perform G92.1  
☐ Remove Tool Offset  
☒ Radius Comp Off  
☒ Turn Off Spindle

## M01 Control

- ☒
- Stop on M1 Command

## Serial Output

ComPort #  BaudRate   
☒ 8-Bit 1 Stop ☐ 7 Bit 2-Stop

## Program Safety

- ☐
- Program Safety Lockout

This disables program translation while the  
External Activation #1 input is activated.

## Editor

GCode Editor

Browse

## Startup Models

- ☐
- Use Init String on ALL "Resets"

## Initialization String

## Motion Mode

- ☒ Constant Velocity ☐ Exact Stop

## Distance Mode

- ☒ Absolute ☐ Inc

## IJ Mode

- ☐ Absolute ☒ Inc

## Active Plane of Movement

- ☒ X-Y ☐ Y-Z ☐ X-Z

## Jog Increments in Cycle Mode

Position 1	<input type="text" value="1"/>
	<input type="text" value="0.1"/>
	<input type="text" value="0.01"/>
	<input type="text" value="0.001"/>
Use 999 to indicate a Continuous Jog selection.	<input type="text" value="0.0001"/>
	<input type="text" value="1"/>
	<input type="text" value="0.1"/>
	<input type="text" value="0.01"/>
	<input type="text" value="0.001"/>
Position 10	<input type="text" value="0.0001"/>

## Shuttle/Wheel Setting

Shuttle Accel.

 Seconds

## Inputs Signal Debouncing/Noise rejection

Debounce Interval:  x 40us  
Index Debounce

## General Configuration

- ☐ Z is 2.5D on Output #6  
☒ Home Sw. Safety  
LookAhead  Lines  
☐ Ignore M calls while loading  
☐ M9- Execute after Block  
☐ UDP Pendent Control  
☐ Run Macro Pump  
☐ ChargePump On in EStop  
☒ Persistent Jog Mode.  
☒ FeedOverride Persist  
☐ No System Menu in Mach3  
☐ Use Key Clicks  
☐ Home Slave with Master Axis  
☐ Include TLO in Z from G31  
☒ Lock Rapid FRO to Feed FRO  
Rotational  
☐ Rot 360 rollover  
☐ Ang Short Rot on G0  
☒ Rotational Soft Limits

## Screen Control

- ☒ Hi-Res Screens  
☒ Boxed DRO's and Graphics  
☒ Auto Screen Enlarge  
☒ Flash Errors and comments.

- ☐ Disable Gouge/Concavity Checks  
☐ G04 Dwell in ms  
☒ Use WatchDogs  
☐ Debug This Run  
☒ Enhanced Pulsing  
☐ Allow Wave Files  
☐ Allow Speech  
☐ Set Charge Pump to 5Khz - Laser Stndby  
☐ Use OUTPUT20 as Dwell Trigger  
☐ No FRO on Queue  
 Turn Manual Spindle Incr.  
 Spindle OV increment

## CV Control

- ☐ Plasma Mode  
☐ CV Dist Tolerance  Units..  
☐ G100 Adaptive NurbsCV  
☐ Stop CV on angles >  Degrees

## Axis DRO Properties

- ☐ Tool Selections Persistent.  
☒ Optional Offset Save  
☒ Persistent Offsets  
☒ Persistent DRO's  
☐ Copy G54 from G59.253 on startup

OK

Flood Ctrl-F

Auto Tool Zero

Run From Here

Dwell

CV Mode

Remember

Return

Elapsed

00:00

On/Off

Units/Min



# Engine Configuration... Ports & Pins

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

Signal	Enabled	Step Pin#	Dir Pin#	Dir LowActi...	Step Low A...	Step Port	Dir Port
X Axis		2	6			1	1
Y Axis		3	7			1	1
Z Axis		4	8			1	1
A Axis		5	9			1	1
B Axis		0	0			0	0
C Axis		0	0			0	0
Spindle		14	0			0	0

OK

Cancel

Apply

On/Off

Z Inhibit

+0.000

Elapsed

00:00

Jog ON/OFF Ctrl-Alt-J

Units/Min

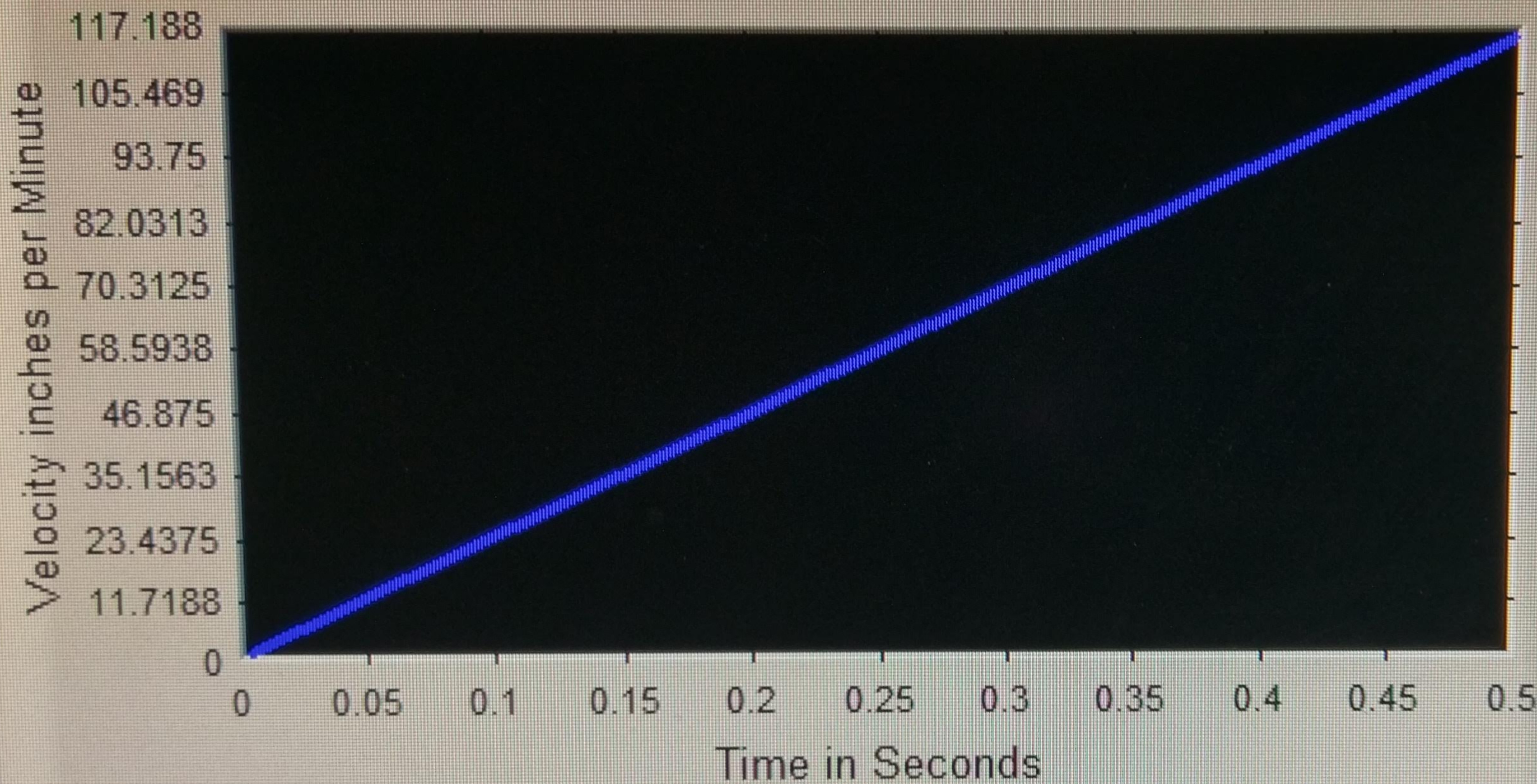
Units/Rev



Motor Tuning and Setup



### SPINDLE MOTOR MOVEMENT PROFILE



Velocity

Axis Selection

X Axis

Y Axis

Z Axis

A Axis

B Axis

C Axis

Spindle

Accel

SAVE AXIS SETTINGS

Steps per

Velocity  
In's or mm's per min.

Acceleration  
in's or mm's/sec/sec

G's

Step Pulse  
1 - 5 us

Dir Pulse  
0 - 5

1

120

4

0.0103607

0

0

Cancel

OK

Elapsed

00:00

On/Off

Z Inhibit

+0.000

Jog ON/OFF Ctrl-Alt-J

Units/Min

Units/Rev



## /////////////////Configuration Check Facility/////////////////

Any obvious errors are checked by this facility, passing does not mean you have no errors, but as more error possibilities are found, more checks will be added to this facility.

Currently, the most frequent tech-support errors are checked for.

## /////////////////LIMIT &amp; HOMING CHECK/////////////////

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

Input Pin not 10-13 or 15..

No Errors Found!

///////////////// End of Homing and Limits Check ///////////////////

## /////////////////OUTPUT Signals Check/////////////////

Pin for an Output found as not pins 1 - 9, 14, 16, or 17. Unless using ModBus, this is wrong.

/////////////////End of OUTPUT Signals Check/////////////////

///////////////// Digitising Probe ///////////////////

/////////End of Probe Check ///////////!.

/////////Motor Settings - Enabled Motors only are Checked/////////!.

A motor Step pin is set to a port other than 1 or 2, this is probably an error..

A motor Direction pin is set to a port other than 1 or 2, this is probably an error..

/////////Motor Settings - End of Motor Checks/////////!.

Checkup complete , please check any errors listed.

Thank you for checking your settings.....



12 Aug 1955  
 \* 150-7399 @ 400 m  
 MS1 MS-7399



## Motor Home/SoftLimits



Entries are in setup units.

Axis	Reversed	Soft Max	Soft Min	Slow Zone	Home Off.	Home N...	Auto Zero	Speed %
X		100.00	-100.00	1.00	0.0000			20
Y		100.00	-100.00	1.00	0.0000			20
Z		100.00	-100.00	1.00	0.0000			20
A		100.00	-100.00	1.00	0.0000			20
B		100.00	-100.00	1.00	0.0000			20
C		100.00	-100.00	1.00	0.0000			20

G28 home location coordinates

X	<input type="text" value="0"/>	A	<input type="text" value="0"/>
Y	<input type="text" value="0"/>	B	<input type="text" value="0"/>
Z	<input type="text" value="0"/>	C	<input type="text" value="0"/>

OK

OFFLINE