

# CNC Settings for HAAS (NGC and OGC)

## **Option 1 - HAAS NGC**

#### **Default CNC Settings for HAAS NGC**

#### Via the "Settings Button" in the --DISPLAY-- section of HAAS Controller

- Settings >> Network>> Wired Connection
  - a) Wired Network Enabled > On
  - b) Obtain AddressAutomatically > Off
  - c) IP Address = 192.0.2.4
  - d) Subnet Mask = 255.255.255.0
- 2) Settings >> Power Settings
  - a) Auto Power Off Timer = 0
- 3) Settings >> Miscellaneous
  - a) Machine Data Collect = 9000







\*Set values as shown below

- 1) Settings >> Network>> Wired Connection
  - a) Wired Network Enabled > On
  - b) Obtain Address Automatically > Off
  - c) IP Address = 192.0.2.4
  - d) Subnet Mask = 255.255.255.0

	Se	ettings	
ettings Networ	k Rotary User Po	sitions Alias Co	des
red Connection	Wireless Connection	Net Share Ha	as Connect
Wired Network Info	ormation		
Host Name	HaasCNC1131201	DHCP Server	*
Domain	THAGGINGTIDIEUL	IP Address	192.0.2.4
DNS Server		Subnet Mask	255.255.255.0
Mac Address	00:C0:08:88:C5:42	Gateway	eth0
DHCP Enabled	0FF	Status	UP
Brief Litabled	UI	Status	UP
	Name		Value
Wired Network En			> 0
Obtain Address A	utomatically		> 01
IP Address			192.0.2.4
Subnet Mask Default Gateway			255.255.255.0
DNS Server			



#### 2) Settings >> Power Settings

- b) Line 1 = Auto Power Off Timer = 7200
- c) Line 216 = Servo And Hydraulic Shutoff should = 1200

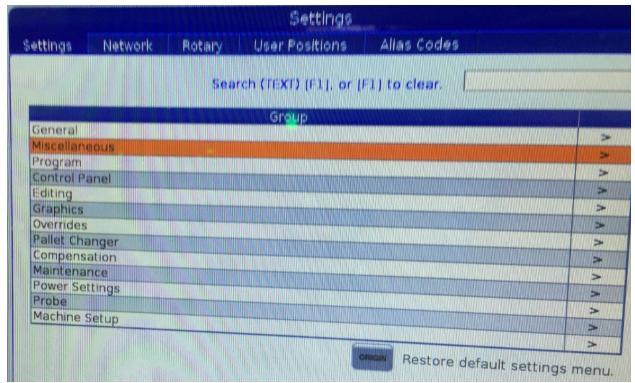
			Setting		
ettings	Network	Rotary	User Positions	Alias Codes	
		Sea	arch (TEXT) [F1]. or	[F1] to clear.	
			Group		
General					>
Miscellan	eous				>
Program					>
Control P	anel				>
Editing					>
Graphics					>
Overrides					 >
Pallet Ch					>
Compens					>
Maintena					>
Power Se Probe	nungs				
Machine	Setup				>
- iderinite	Jerah				>

			Settings			
Settings	s Network	Rotary	User Positions	Alias Codes		
	Group Listings	Sea	rch (TEXT) [F1], or [	F1) to clear.	Power Setting	js
	Group		Name		Value	Unit
1	Power Settings	Auto Powe	er Off Timer		0	Min
2	Power Settings	Power Off	At M30	>	Off	
196	Power Settings	Conveyor	Shutoff		30	Min
197	Power Settings	Coolant S	hutoff		5	Min
199	Power Settings	Display Of			0	Min
216	Power Settings	Servo And	Hydraulic Shutoff		1200	Sec
238	Power Settings	High Inter	sity Light Timer		10	Min
239	Power Settings	Worklight	Off Timer		1000	Min
267	Power Settings	Exit Jog M	ode After Idle Time		10	Min



#### 3) Settings >> Miscellaneous

d) Machine Data Collect = 9000





		Settings			
etting	s Network	Rotary User Positions	Alias Code	es i	
	Group Listings	Search (TEXT) [F1], or	(F1) to clear.	Miscellaneous	5
	Group	Name		Value	Uni
90	Miscellaneous	Max Tool Offsets To Display		200	
114	Miscellaneous	Conveyor Cycle		0	Min
115	Miscellaneous	Conveyor On-Time		2	Mir
117	Miscellaneous	G143 Global Offset		0.000	IN
118	Miscellaneous	M99 Bumps M30 Cntrs	>	On	
131	Miscellaneous	Auto Door	>	Off	
142	Miscellaneous	Offset Chng Tolerance		0.250	IN
143	Miscellaneous	Machine Data Collect		9000	
155	Miscellaneous	Load Pocket Tables	>	On	
156	Miscellaneous	Save Offset With Prog	>	Off	
242	Miscellaneous	Air Water Purge Interval			a area
243	Miscellaneous	Air Water Purge On-Time		5	Min
				0.500	Sec

Network cable should connect to the back of the Haas CNC Controller and the switch on the IRC5 Robot Controller or the network if a local network IP connection is required.





### Option 1a – HAAS NGC Factory Autodoor

Autodoor needs to be enabled in the CNC for the VBXC to be able to tell the CNC to open and close the door.

ettings	Network	Rotary User Positions	Alias Code	S	
G G	iroup Listings	Search (TEXT) [F1], or [	F1) to clear.	Miscellaneo	us
	Group	Name		Value	Un
90	Miscellaneous	Max Tool Offsets To Display		200	Í
114	Miscellaneous	Conveyor Cycle		0	Mir
115	Miscellaneous	Conveyor On-Time		2	Mir
117	Miscellaneous	G143 Global Offset		0.000	IN
118	Miscellaneous	M99 Bumps M30 Cntrs	>	On	
131	Miscellaneous	Auto Door	>	On	
142	Miscellaneous	Offset Chng Tolerance		0.250	IN
143	Miscellaneous	Machine Data Collect		9000	
155	Miscellaneous		>	Off	
156	Miscellaneous		>	Off	
242	and a second second descent with the first second	Air Water Purge Interval		5	Min
243	Miscellaneous	Air Water Purge On-Time		0.500	Sec
			Restore	default setting	s men



# Option 2a – HAAS OGC (Dispatcher: 9000 Program)

-DISPLAY-- section of HAAS Controller

- Parameter/Diagnostic Button
- Setting/Graphic Button



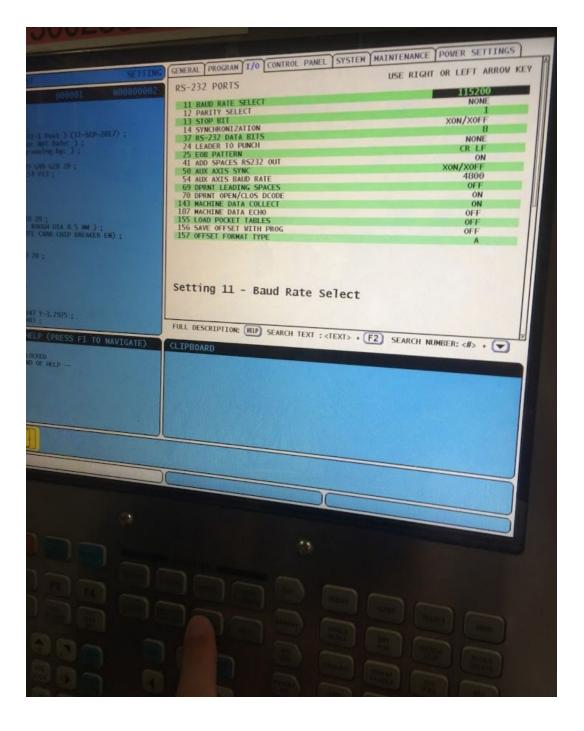
#### 1) Setting/Graphic >> I/O>> RS-232 Ports

0	Baud Rate Select	-	115200
0	Parity Select	-	NONE
0	Stop Bit	-	1
0	Synchronization	-	XON/XOFF
0	RS-232 Data Bits	-	8
0	Leader to Punch	-	NONE
0	EOB Pattern	-	CR LF
0	Add Spaces RS232 Out	-	ON
0	AUX Axis Sync	-	XON/XOFF
0	AUX Axis Baud Rate	-	4800
0	DPRNT Leading Space	-	OFF
0	DPRNT Open/Clos DCODE	-	ON
0	Machine Data Collect	-	ON
0	Machine Data Echo	-	OFF
0	Load Pocket Tables	-	OFF
0	Save Offset with Prog	-	OFF

Offset Format Type
A



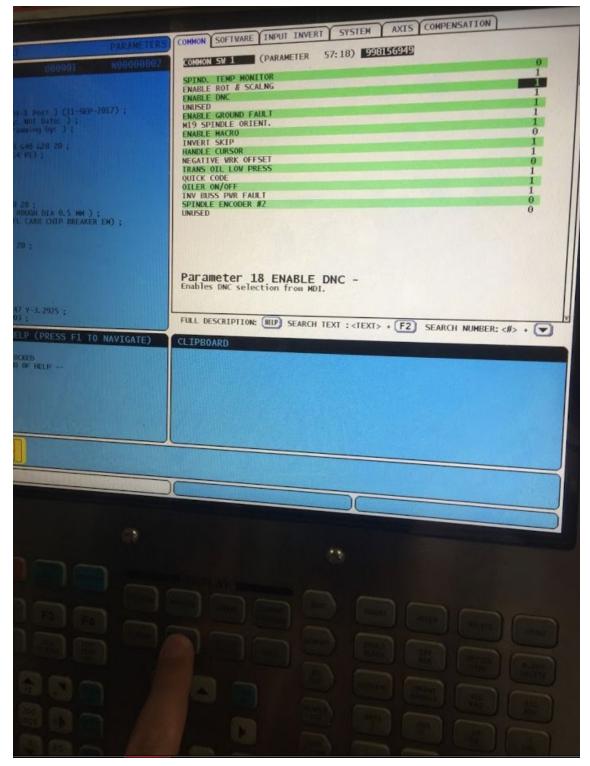
- 2) Parameter/Diagnostic
  - Go to Parameter 57:18
  - Enable DNC
- 3) Setting/Graphic >> I/O>> RS-232 Ports



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#### 4) Parameter/Diagnostic





# Option 2b – HAAS OGC (DNC Sync)

-DISPLAY-- section of HAAS Controller

- Parameter/Diagnostic Button
- Setting/Graphic Button



#### 1) Setting/Graphic >> I/O>> RS-232 Ports

0	Baud Rate Select	-	19200
0	Parity Select	-	NONE
0	Stop Bit	-	1
0	Synchronization	-	XON/XOFF
0	RS-232 Data Bits	-	8
0	Leader to Punch	-	NONE
0	EOB Pattern	-	CR LF
0	Add Spaces RS232 Out	-	ON
0	AUX Axis Sync	-	XON/XOFF
0	AUX Axis Baud Rate	-	4800
0	DPRNT Leading Space	-	OFF
0	DPRNT Open/Clos DCODE	-	ON
0	Machine Data Collect	-	ON
0	Machine Data Echo	-	OFF
0	Load Pocket Tables	-	OFF
0	Save Offset with Prog	-	OFF
0	Offset Format Type	-	А



- 2) Parameter/Diagnostic
  - Go to Parameter 57:18
  - Enable DNC

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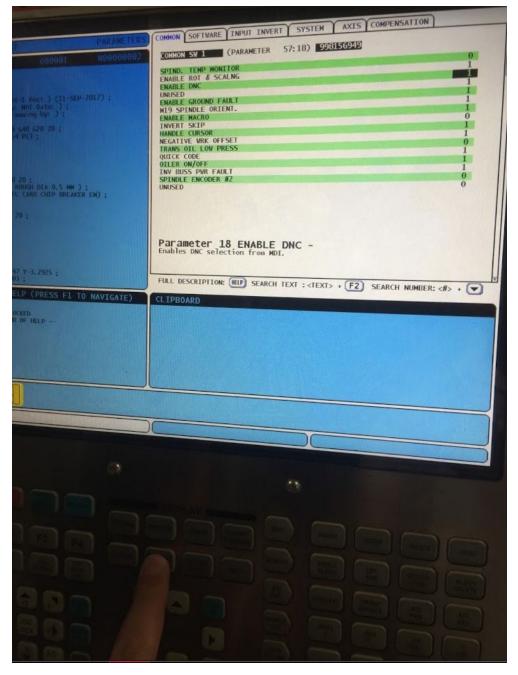
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3) Setting/Graphic >> I/O>> RS-232 Ports

RS-232 PORTS	USE RIGHT OR LEFT ARROW KEY
11 BAUD RATE SELECT	19200
11 BAUD RATE SELECT 12 PARITY SELECT	NONE
13 STOP BIT 14 SYNCHRONIZATION	
37 RS-232 DATA BITS	8 10000
24 LEADER TO PUNCH	NONE NONE
25 EOB PATTERN 41 ADD SPACES RS232 OUT	CR LF
DU AUX AXIS SYNC	XON/XOFF
54 AUX AXIS BAUD RATE	4800
	UFF ON
145 MAUHINE DATA COLLECT	<b>NEE</b>
187 MACHINE DATA ECHO 155 LOAD POCKET TABLES 156 SAVE OFFSET WITH PROG	OFF
155 LUAD PUCKET TABLES	OFF
Setting 11 - Baud Rate S	elect
Setting 11 - Baud Rate S FULL DESCRIPTION: HELP SEARCH TEXT :	elect <text> + F2 SEARCH NUMBER: &lt;#&gt; + 💌</text>
Setting 11 - Baud Rate S FULL DESCRIPTION: (HLP) SEARCH TEXT : POSITION: MACHINE	A elect <text> + F2 SEARCH NUMBER: &lt;#&gt; + ACTIVE TOOL</text>
Setting 11 - Baud Rate S FULL DESCRIPTION: IND. SEARCH TEXT : POSITION: MACHINE (IN)	A elect <text> + F2 SEARCH NUMBER: &lt;#&gt; + ACTIVE TOOL LOAD AX 12 - P4 I18 AX</text>
Setting 11 - Baud Rate S FULL DESCRIPTION: HEP SEARCH TEXT : POSITION: MACHINE (IN) X -17.5314	A elect <text> + F2 SEARCH NUMBER: &lt;#&gt; + ACTIVE TOOL IZ - P4 I18 O% LOAD 39 LIFE 25%</text>
Setting 11 - Baud Rate S FULL DESCRIPTION: HEP SEARCH TEXT : POSITION: MACHINE (IN) X -17.5314 Y -9.9996	A elect <text> + F2 SEARCH NUMBER: &lt;#&gt; + A ACTIVE TOOL IZ - P4 II8 LOAD 39 LIFE 25%</text>
Setting 11 - Baud Rate S     FULL DESCRIPTION: HEP SEARCH TEXT :     POSITION: MACHINE     (IN)     X -17.5314     Y -9.9996     Q.0000	elect <text> + F2 SEARCH NUMBER: &lt;#&gt; + A A A A A A A A A A A A A</text>
Setting 11 - Baud Rate S     FULL DESCRIPTION: HELP SEARCH TEXT :     POSITION: MACHINE     (IN)     X -17.5314     Y -9.9996     Q 0.0000     Q 0.0000	elect <text> + F2   SEARCH NUMBER: &lt;#&gt; + *     LOAD   ACTIVE TOOL     12   - P4   T18     LOAD   12   - P4   T18     LOAD   51%   0%   TOOL TYPE NOT SET</text>
Setting 11 - Baud Rate S     FULL DESCRIPTION: HELP SEARCH TEXT :     POSITION: MACHINE     (IN)     X   -17.5314     Y   -9.9996     Q   0.0000	A elect <text> + F2 SEARCH NUMBER: &lt;#&gt; + ACTIVE TOOL 12 - P4 T18 LOAD 0% 6% 51% 0%</text>
Setting 11 - Baud Rate S     Full description: HELP SEARCH TEXT :     POSITION: MACHINE     (IN)     X -17.5314     Y -9.9996     Q 0.0000     Q 0.0000	elect <text> + F2   SEARCH NUMBER: &lt;#&gt; + *     LOAD   ACTIVE TOOL     12   - P4   T18     LOAD   12   - P4   T18     LOAD   51%   0%   TOOL TYPE NOT SET</text>
Setting 11 - Baud Rate S     Full description: HELP SEARCH TEXT :     POSITION: MACHINE     (IN)     X -17.5314     Y -9.9996     Q 0.0000     Q 0.0000	elect <text> + F2   SEARCH NUMBER: &lt;#&gt; + *     LOAD   ACTIVE TOOL     12   - P4   T18     LOAD   12   - P4   T18     LOAD   51%   0%   TOOL TYPE NOT SET</text>
Setting 11 - Baud Rate S     Full description: HELP SEARCH TEXT :     POSITION: MACHINE     (IN)     X -17.5314     Y -9.9996     Q 0.0000     Q 0.0000	elect <text> + F2   SEARCH NUMBER: &lt;#&gt; + *     LOAD   ACTIVE TOOL     12   - P4   T18     LOAD   12   - P4   T18     LOAD   51%   0%   TOOL TYPE NOT SET</text>
Setting 11 - Baud Rate S     Full description: HELP SEARCH TEXT :     POSITION: MACHINE     (IN)     X -17.5314     Y -9.9996     Q 0.0000     Q 0.0000	elect <text> + F2   SEARCH NUMBER: &lt;#&gt; + *     LOAD   ACTIVE TOOL     12   - P4   T18     LOAD   12   - P4   T18     LOAD   51%   0%   TOOL TYPE NOT SET</text>



#### 4) Parameter/Diagnostic





### Prove out CNC programs

#### Wash program for automatic chip removal, part & vise cleaning

#### Has the wash program been customized for this system and vise positions?

81004 – Wash Program, cleaning the vises

Run program and validate washing happens as expected

- please implement this program with CAUTION
- use coordinates and vise positioning for this system to thoroughly clean your vises to prevent loading and sensor issues
- chip fan is not required, but is shown in example as an option... can cause chips to fly around and cause more issues, every process and material acts a bit different, tweaking might be necessary for best performance

#### Table Positioning for VBX Load and Unload

#### Have the table load programs been customized for this system and vise positions?

Table load programs can be finalized during vise calibration but should be tested and customized in advance of setup.

**81016** – Vise Table Load Position (this is a routine called by the VBX to position the table for vise load & unload)

• This program should be used for Table Load for vise 1, but ideally it's also used for vise 2 as the robot should be able to reach both vises with one table position, this will reduce cycle time.

**81017** – Vise Table Load Position (alternate 1)

**81018** – Vise Table Load Position (alternate 2)

Files for communicating with the VBX

- 9000 **Dispatcher** for VBX communication subroutine
- 9001 Op Result for VBX communication subroutine
- 9002 Vise Open/Close command subroutine
- 9003 Vise Pressure control subroutine
- 9004 VBX routine for the VBX Dispatcher
- 9005 VBX routine for the VBX Dispatcher
- 9006 VBX routine for the VBX Dispatcher
- 9007 Vise test routine to check G-Code Vise control \*shows G-Code for vise open/close\*



#### Run Test Program for Vise Pressure and Open/Close Control

#### No modifications should be made to the test programs.

9007 - Vise test for open & close & pressure

Run program and step through M00, validating at each M00 that results match expectation. Follow directions or validation in parentheses in test program.

- Verify each vise opens and closes, per instructions
- Verify vise pressure changes occur by checking VBXC screen and Gauge on Air Input Panel, connected to PLC regulator

#### Run Part Milling Programs

#### Run part/op specific milling programs

Part specific milling programs should be written and tested as if the robot was loading the part. Any required settling being done by hand needs to be tested out with code instead.

When implementing program to run as part of a VBX operation program should end with an M99, but M30 can be used during prove out.