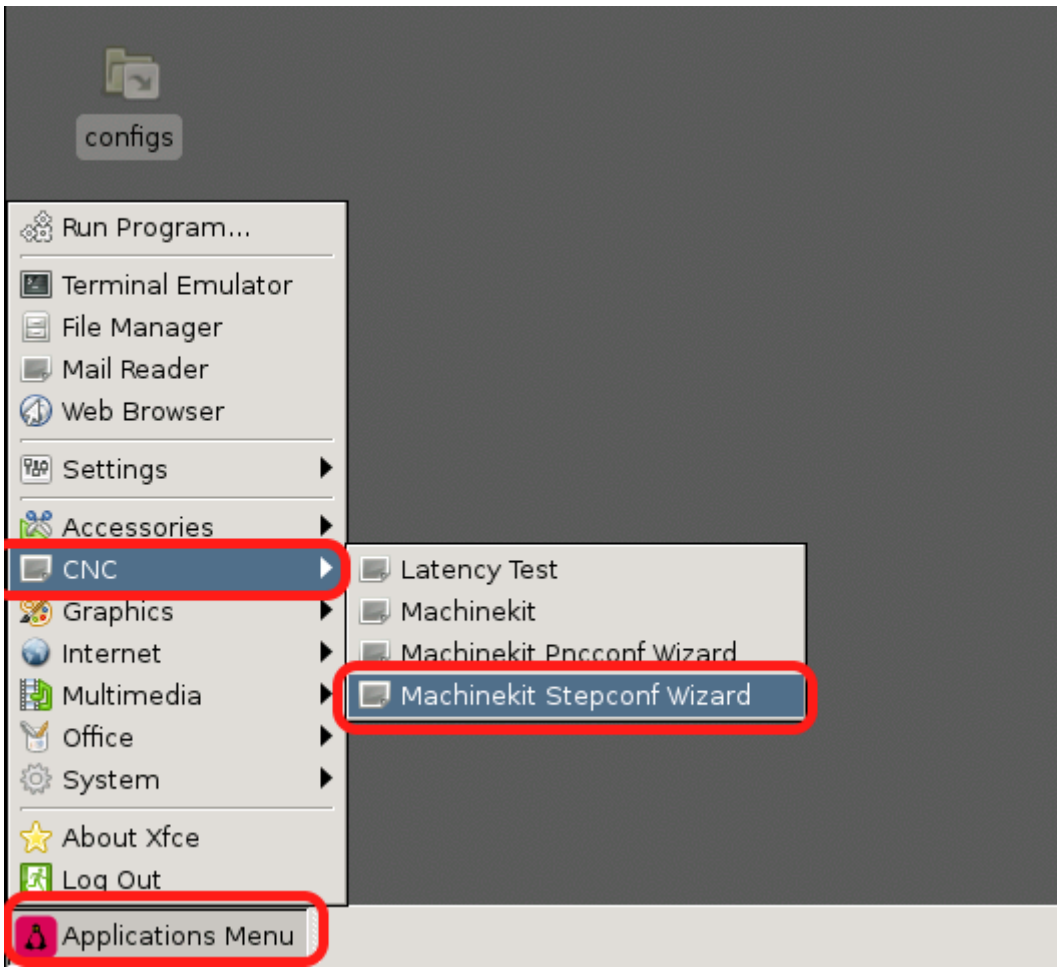
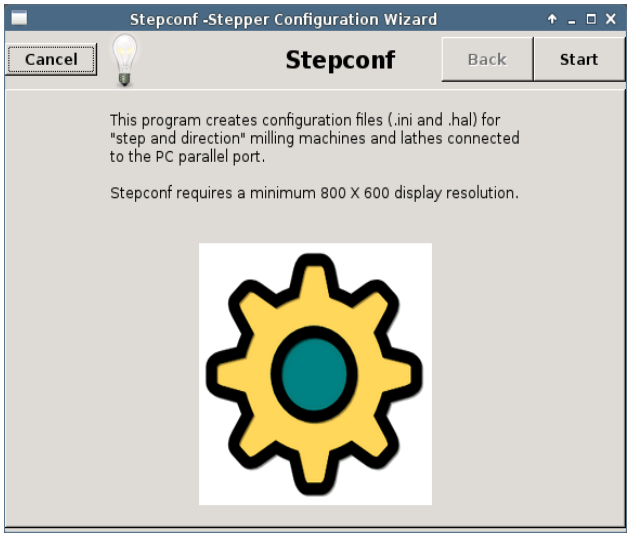
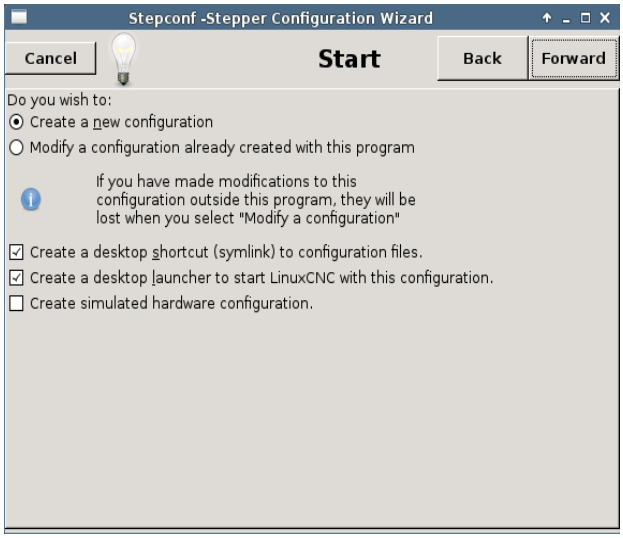
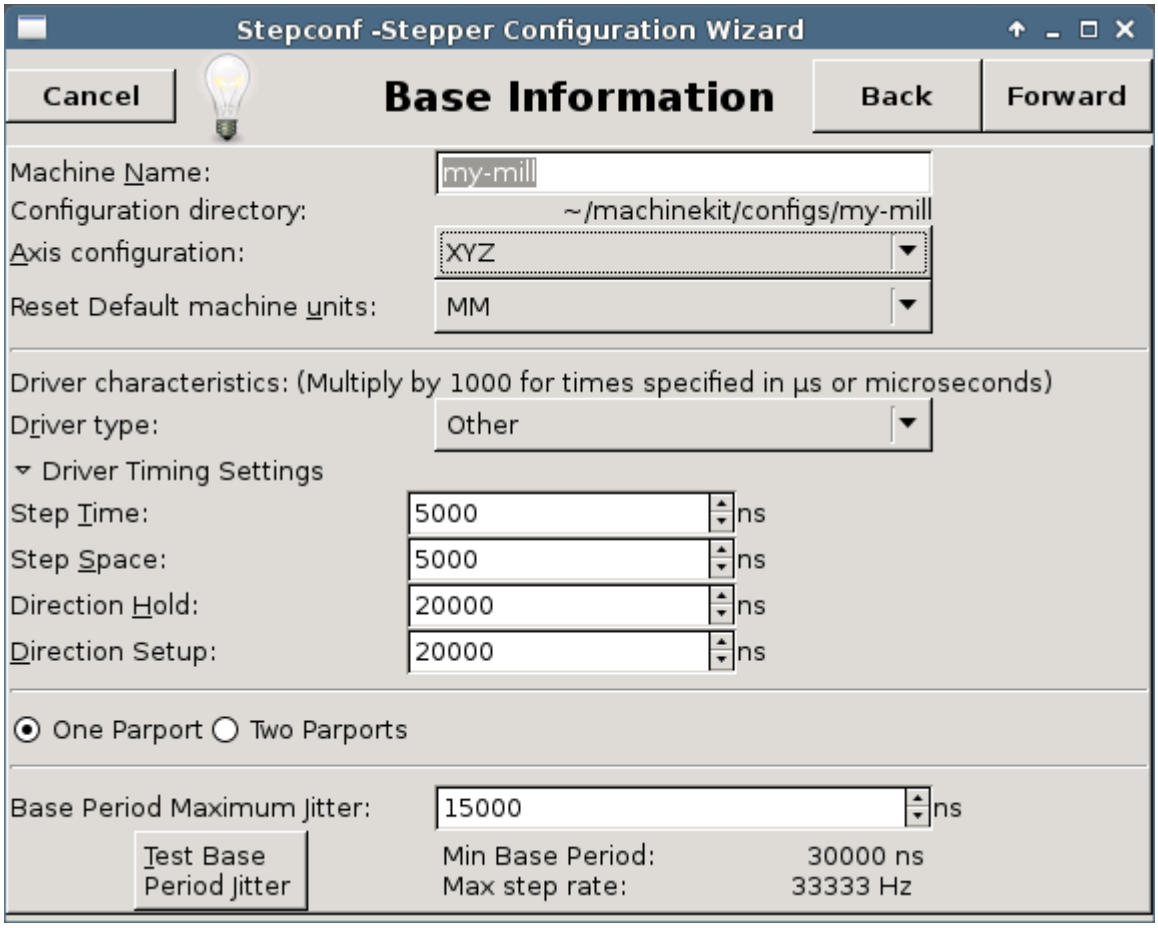
HOWTO

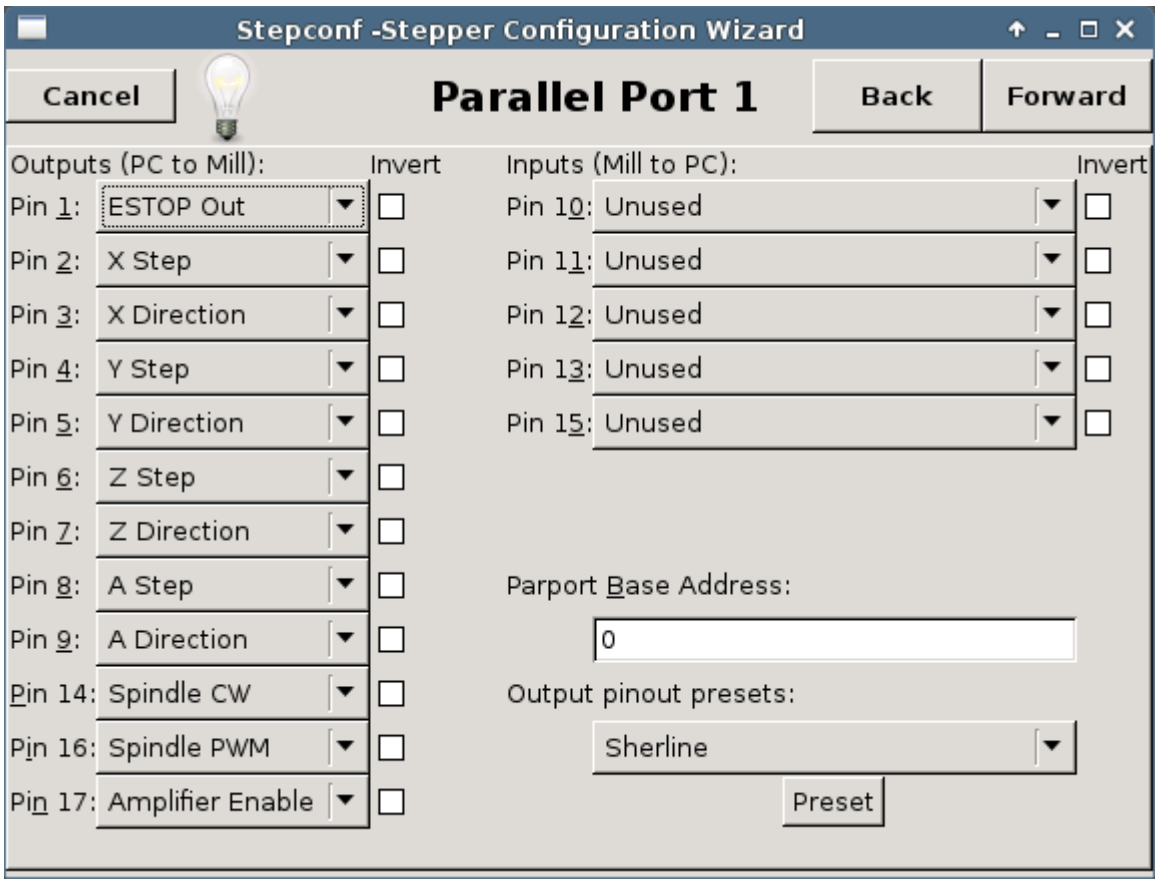
use the GPIO driver
with Machinekit / LinuxCNC

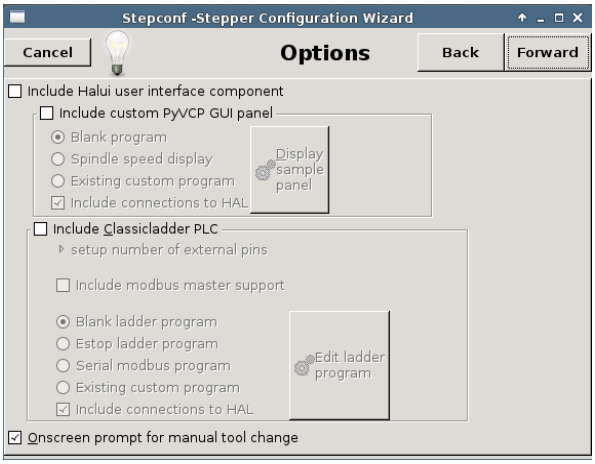


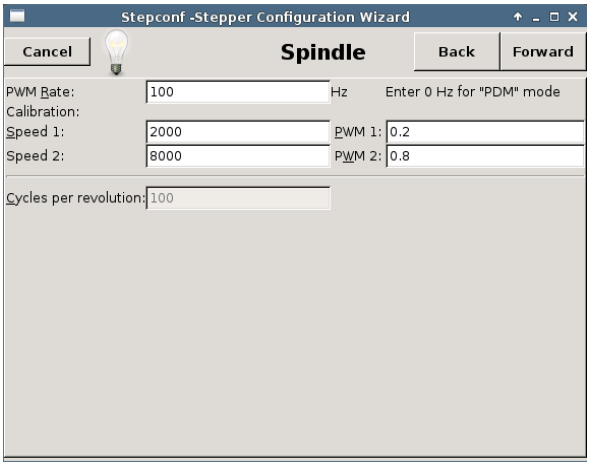

Stepconf -Stepper Configuration Wizard
Cancel
Stepconf
Back
Start
This program creates configuration files (.ini and .hal) for "step and direction" milling machines and lathes connected to the PC parallel port.
Stepconf requires a minimum 800 X 600 display resolution.

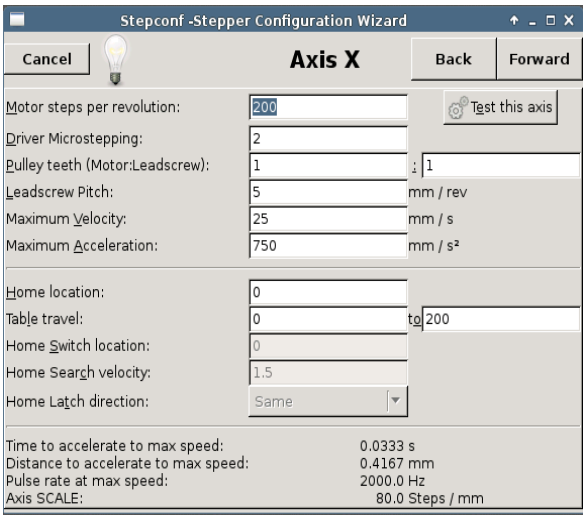

Stepconf -Stepper Configuration Wizard
Cancel
Start
Back
Forward
Do you wish to:
Create a new configuration
Modify a configuration already created with this program
If you have made modifications to this configuration outside this program, they will be lost when you select "Modify a configuration"
Create a desktop shortcut (symlink) to configuration files.
Create a desktop launcher to start LinuxCNC with this configuration.
Create simulated hardware configuration.

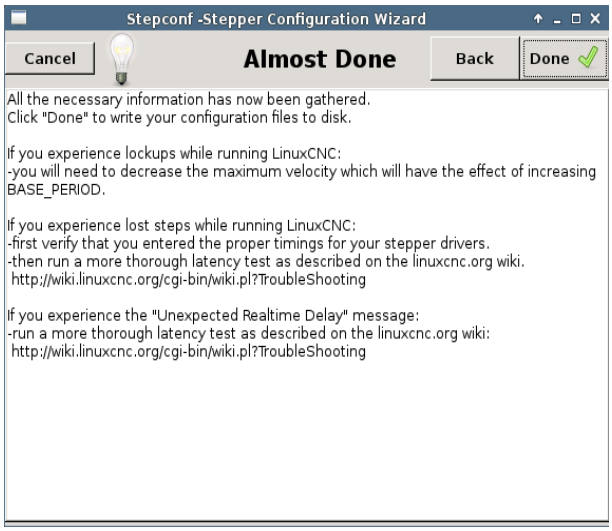

Stepconf -Stepper Configuration Wizard
Cancel
Base Information
Back
Forward
Machine Name:
my-mill
Configuration directory:
~/machinekit/configs/my-mill
Axis configuration:
XYZ
Reset Default machine units:
MM
Driver characteristics: (Multiply by 1000 for times specified in µs or microseconds)
Driver type:
Other
Driver Timing Settings
Step Time:
5000
ns
Step Space:
5000
ns
Direction Hold:
20000
ns
Direction Setup:
20000
ns
One Parport
Two Parports
Base Period Maximum Jitter:
15000
ns
Test Base Period Jitter
Min Base Period:
30000 ns
Max step rate:
33333 Hz

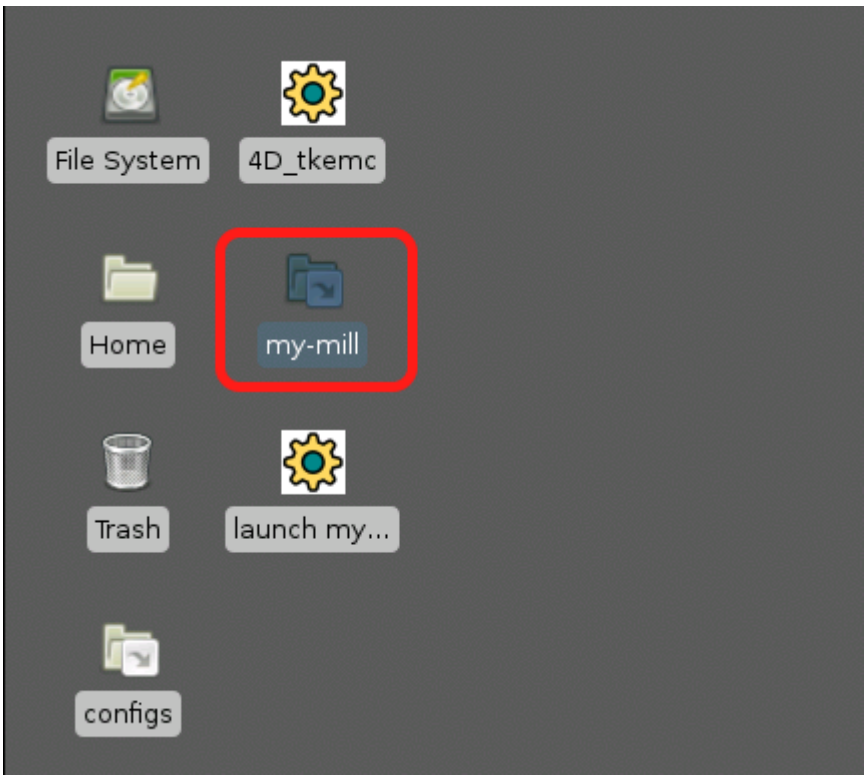

Stepconf -Stepper Configuration Wizard
Cancel
Parallel Port 1
Back
Forward
Outputs (PC to Mill):
Invert
Pin 1: ESTOP Out
Pin 2: X Step
Pin 3: X Direction
Pin 4: Y Step
Pin 5: Y Direction
Pin 6: Z Step
Pin 7: Z Direction
Pin 8: A Step
Pin 9: A Direction
Pin 14: Spindle CW
Pin 16: Spindle PWM
Pin 17: Amplifier Enable
Inputs (Mill to PC):
Invert
Pin 10: Unused
Pin 11: Unused
Pin 12: Unused
Pin 13: Unused
Pin 15: Unused
Parport Base Address:
0
Output pinout presets:
Sherline
Preset

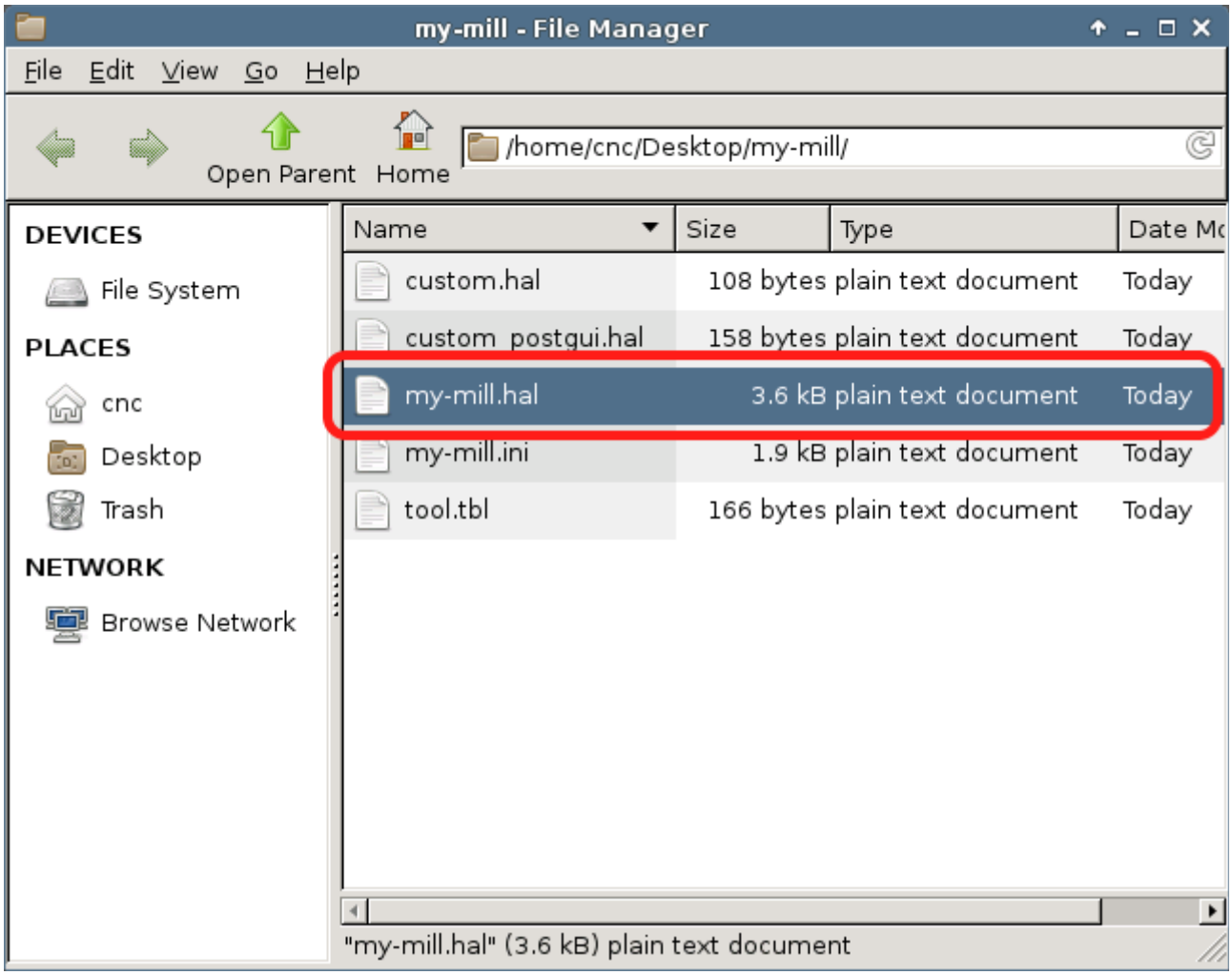

Stepconf -Stepper Configuration Wizard
Cancel
Options
Back
Forward
Include Halui user interface component
Include custom PyVCP GUI panel
Blank program
Spindle speed display
Existing custom program
Include connections to HAL
Display sample panel
Include Classicladder PLC
setup number of external pins
Include modbus master support
Blank ladder program
Estop ladder program
Serial modbus program
Existing custom program
Include connections to HAL
Edit ladder program
Onscreen prompt for manual tool change


Stepconf -Stepper Configuration Wizard
Cancel
Spindle
Back
Forward
PWM Rate:
100
Hz
Enter 0 Hz for "PDM" mode
Calibration:
Speed 1:
2000
PWM 1:
0.2
Speed 2:
8000
PWM 2:
0.8
Cycles per revolution:
100

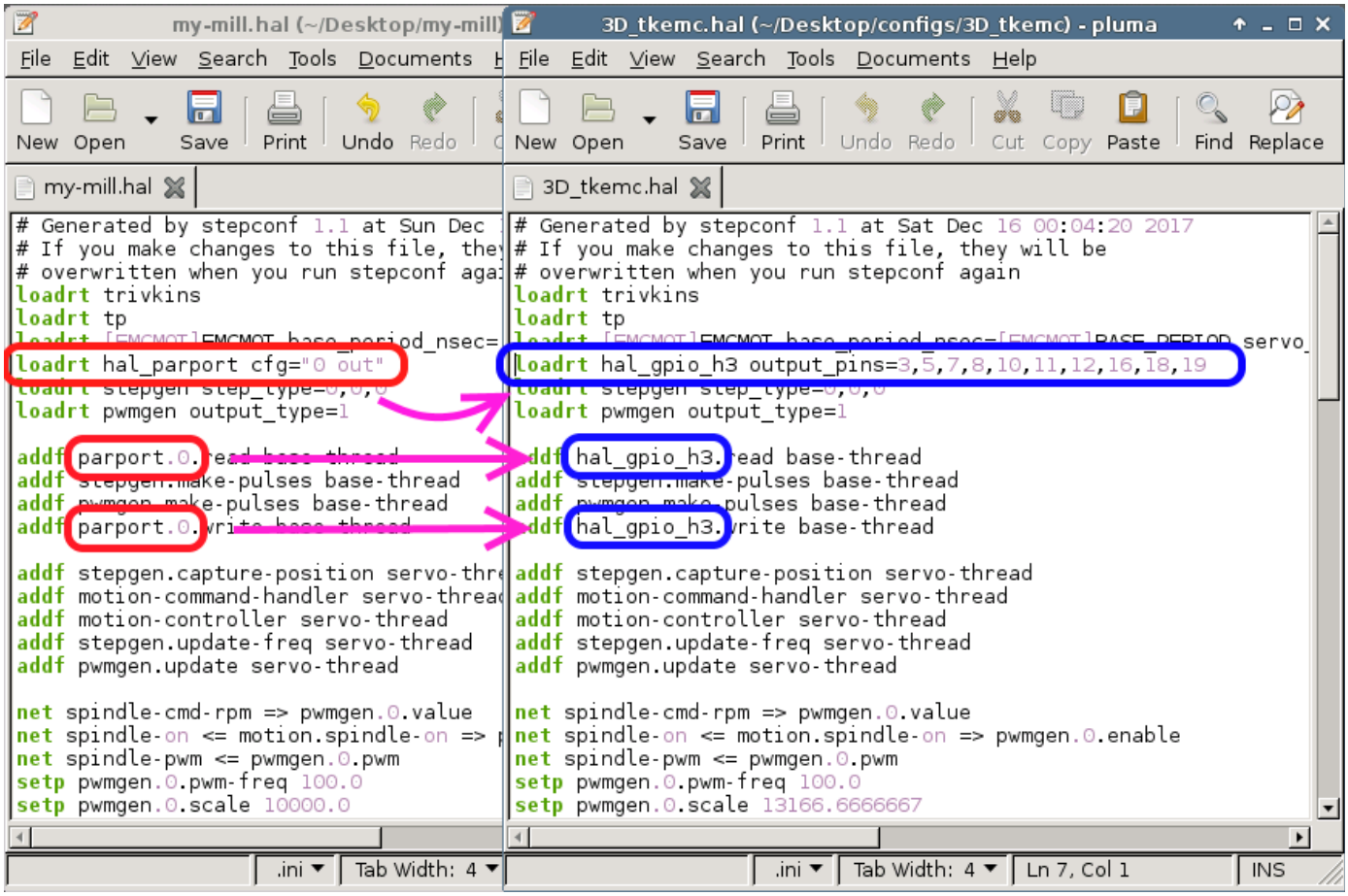

Stepconf -Stepper Configuration Wizard
Cancel
Axis X
Back
Forward
Motor steps per revolution:
200
Test this axis
Driver Microstepping:
2
Pulley teeth (Motor:Leadscrew):
1
1
Leadscrew Pitch:
5
mm / rev
Maximum Velocity:
25
mm / s
Maximum Acceleration:
750
mm / s²
Home location:
0
Table travel:
0
to 200
Home Switch location:
0
Home Search velocity:
1.5
Home Latch direction:
Same
Time to accelerate to max speed:
0.0333 s
Distance to accelerate to max speed:
0.4167 mm
Pulse rate at max speed:
2000.0 Hz
Axis SCALE:
80.0 Steps / mm

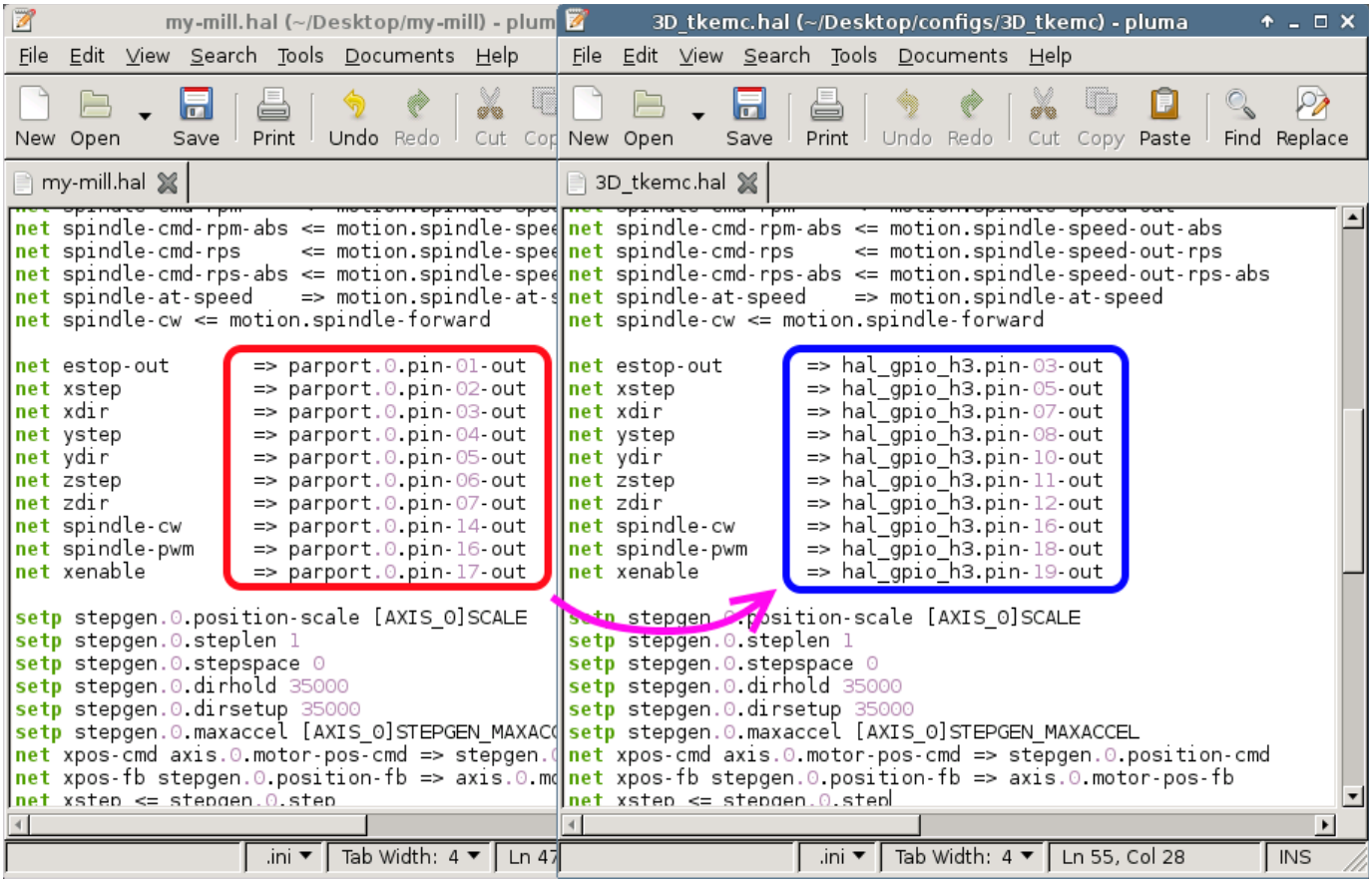

Stepconf -Stepper Configuration Wizard
Cancel
Almost Done
Back
Done
All the necessary information has now been gathered.
Click "Done" to write your configuration files to disk.
If you experience lockups while running LinuxCNC:
-you will need to decrease the maximum velocity which will have the effect of increasing BASE_PERIOD.
If you experience lost steps while running LinuxCNC:
-first verify that you entered the proper timings for your stepper drivers.
-then run a more thorough latency test as described on the linuxcnc.org wiki.
http://wiki.linuxcnc.org/cgi-bin/wiki.pl?TroubleShooting
If you experience the "Unexpected Realtime Delay" message:
-run a more thorough latency test as described on the linuxcnc.org wiki:
http://wiki.linuxcnc.org/cgi-bin/wiki.pl?TroubleShooting


File System
4D_tkemc
Home
my-mill
Trash
launch my...
configs


my-mill - File Manager
File Edit View Go Help
Open Parent
Home
/home/cnc/Desktop/my-mill/
DEVICES
File System
PLACES
cnc
Desktop
Trash
NETWORK
Browse Network
Name
Size
Type
Date Mc
custom.hal
108 bytes plain text document
Today
custom_postgui.hal
158 bytes plain text document
Today
my-mill.hal
3.6 kB plain text document
Today
my-mill.ini
1.9 kB plain text document
Today
tool.tbl
166 bytes plain text document
Today
"my-mill.hal" (3.6 kB) plain text document

hal_parport > hal_gpio_h3
parport.0 > hal_gpio_h3





Orange Pi (H3 SoC) GPIO - pinout