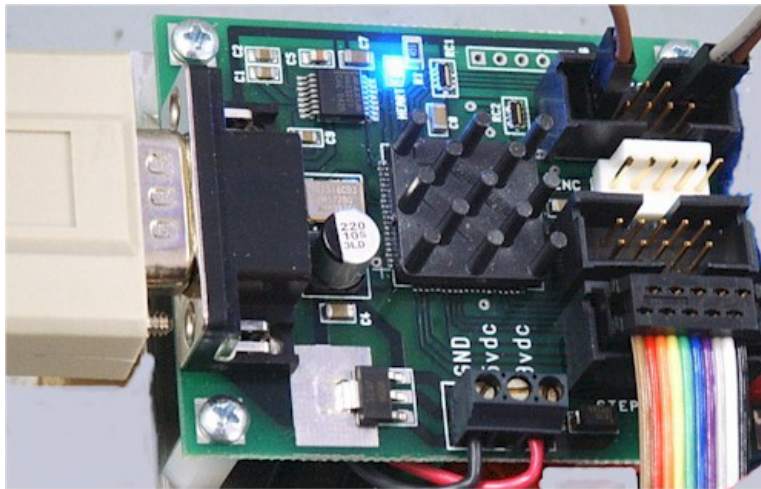


## Trouble shooting the DeskCNC controller:

### Checking for a functional card.

- 1) Unplug/Disconnect all connections to the I/O and step and direction pins/terminals.
- 2) Apply regulated 5vdc to the +5 and gnd terminals. **CHECK FOR CORRECT POLARITY WITH A VOLTMETER.** If necessary, use a battery to verify + and – on your voltmeter.
- 3) If using the 9-12 vdc unregulated terminal, verify the 9-12vdc polarities, then check the voltage at the +5v terminal. If power is correctly connected, the +5 will show 5v to ground.
- 4) With power applied, the **blue LED should be rapidly flashing.**
- 5) Replace/connect the I/O and step and direction connections. If replacement of any of these causes the flashing light to go out or stop flashing, the connection is probably wired wrong, and should not be left connected with power applied.
- 6) If the controller LED does not flash when power is applied, double check that 5 vdc is present at the +5vdc terminal.
- 7) If the LED **comes on and stays on steadily**, continue troubleshooting below. The steady lit state indicates that the controller needs to be reprogrammed. This will normally occur automatically once the software recognizes the controller card.
- 8) If the **LED does not light** when power is applied in 4 above, the controller card is most likely defective. Contact your dealer to arrange for a replacement.



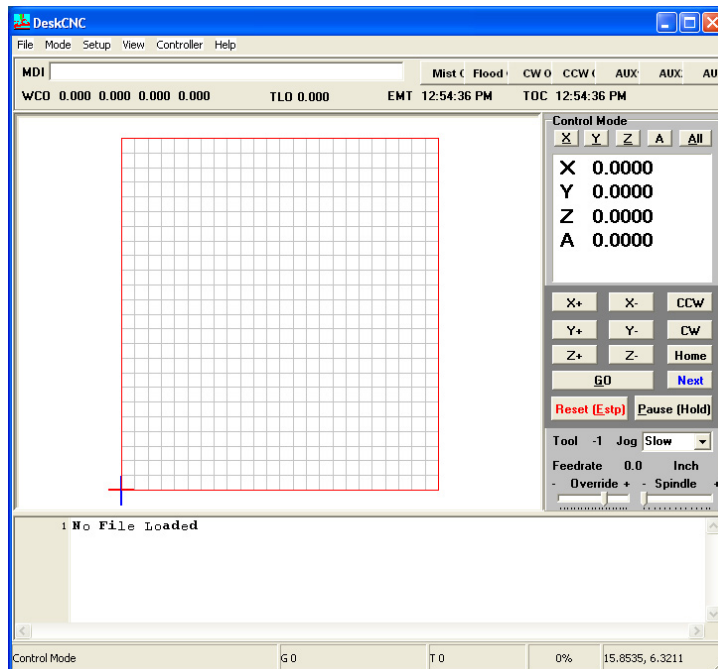
### Checking the Software interface to the card

- 9) If using the **serial port**, connect the serial cable from the controller board to your computer. The serial cable must be a 9 pin straight through cable assembly. Do not use a null modem or crossover cable. Each pin in one end of the cable must ring through to the corresponding pin on the other end of the cable.
- 10) Make sure the cable is plugged into both the controller board and into the computer.

## Trouble shooting the DeskCNC controller:

- 11) If using an **USB adaptor**, be sure to install the USB adaptor driver software **BEFORE** you plug the adaptor into the computer USB port.
- 12) Plug the USB adaptor cable into the computer, and plug the serial cable into both the adaptor and the DeskCNC controller card.
- 13) Start the DeskCNC software
- 14) The blue LED will flicker briefly to indicate that it is in communication with the software.
- 15) If the light was on steady when the controller was powered up, or if the software has been updated, the controller may automatically update the on-board firmware. This is shown by a screen display with a status bar indicating reprogramming progress. **DO NOT INTERRUPT THIS PROCESS.** It may take up to a minute to complete. During this time the blue LED may flicker, but will most likely remain lit in a steady state until complete, then start to flash rapidly to indicate that the controller is functioning correctly.
- 16) Under normal conditions, the controller will be recognized and the DeskCNC software will open in Machine Mode. Machine Mode has a Grid in the upper mid to left section of the screen, Digital position displays appear in the upper right portion of the screen with screen buttons and controls immediately below. At the bottom of the screen is the editor window, which shows the text of a G-code program after it is loaded.
- 17) Press (left click) the red Reset (Estop) button to change the buttons from disabled (gray color) to active (black colored text). At the bottom left of the screen, the status bar will show the message “Control Mode”.

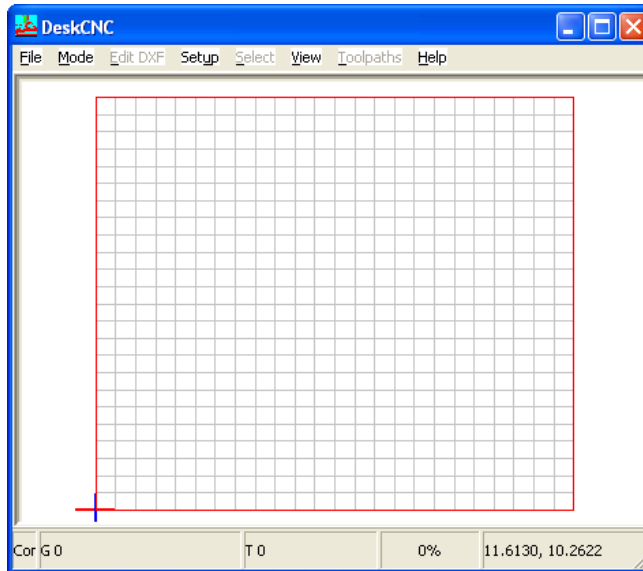
### Machine Mode



## Trouble shooting the DeskCNC controller:

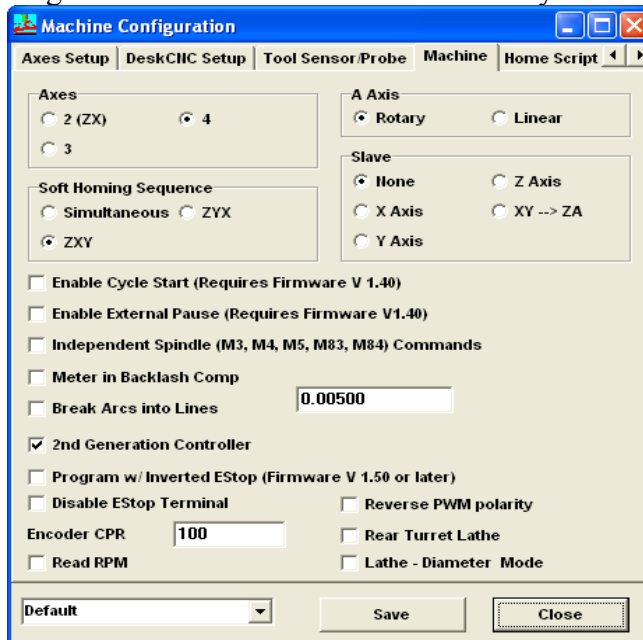
- 18) If the software opens in CAM mode, only a grid will appear on the screen, the digital position readouts and machine controls will not be displayed. This occurs if the controller is not powered, if the serial cable is missing or disconnected, or if the software does not detect the controller.

### Cam Mode



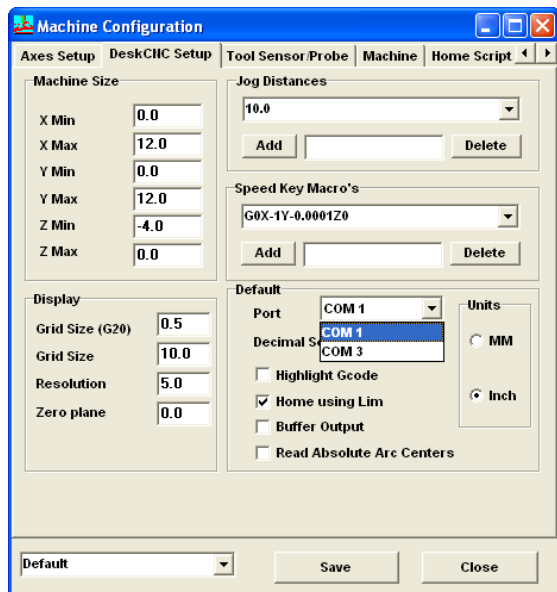
### Troubleshooting when the Controller is not recognized:

- 19) If the controller is not recognized, click Setup-Machine Setup on the CAM menu.  
20) Use the triangle button at the top right of the Machine Setup dialog to move to the Machine Tab.  
21) Check 2<sup>nd</sup> generation Controller if it is not already checked



## Trouble shooting the DeskCNC controller:

- 22) Click Save
- 23) The software will attempt to establish communications with the controller card.
- 24) If the controller is not recognized, it may be necessary to exit the DeskCNC software and turn off power to the DeskCNC controller.
- 25) Re-power the controller
- 26) Restart the software.
- 27) If the software again starts in CAM mode, return to Machine Setup and click on the DeskCNC Setup Tab.
- 28) Click the triangle next to the Port data entry box and Select the correct port for you machine if it is not shown already.



- 29) Click Save
- 30) The software will attempt to establish communications with the controller card.
- 31) If the controller is still not detected, setup the software on another computer and test the same way to determine if the problem is the serial port or the computer.
- 32) If a USB to serial adaptor is in use, or if none of the above solves the problem, Exit the DeskCNC software and power down the DeskCNC controller.
- 33) Open the DeskCNC.ini file in Notepad and change the line Port=1 to Port=0. (The DeskCNC.ini file default location is in the folder c:\Program Files\DeskCNC\)
- 34) After changing the Port=0 , Save the file and exit Notepad.
- 35) Restart the DeskCNC software, but not the controller.
- 36) Click Setup-Machine Setup and change to the DeskCNC setup tab.
- 37) Click the triangle next to port again and see if any additional ports are listed. In many cases the USB port is mapped to COM4 or another number and can only be detected by this reset procedure.
- 38) After selecting the correct port, click Save.

### **Trouble shooting the DeskCNC controller:**

- 39) The software will attempt to reconnect, but since the controller is not powered, cannot. After this process is finished, exit the DeskCNC software.
- 40) Power the DeskCNC controller.
- 41) Start the DeskCNC software.
- 42) The controller should be recognized and the software should now start correctly in disabled machine mode, awaiting the first press of the E-stop button.

### **Reprogramming the DeskCNC controller.**

In rare cases, it may be necessary to reprogram the DeskCNC controller firmware. This can be needed if for instance the controller is powered down or disconnected during automatic programming, or if it becomes corrupted in another way. The firmware may be corrupted to the point that it cannot automatically reprogram itself.

To manually force reprogramming of the firmware:

- 1) Disconnect all connections to e-stop, limits, I/O, and step and direction circuits.
- 2) Place a jumper between the start pin and ground. This can be accomplished by inserting a small screwdriver between the two adjacent pins in the connector. Be careful that the pins are not bent or damaged in the process. If a cycle start button is installed, press and hold it during power up.
- 3) Power up the controller card.
- 4) The blue light will come on and stay lit steadily.
- 5) Start the DeskCNC software
- 6) The controller software will automatically start to reprogram the firmware as indicated by a status bar in the middle of the screen.
- 7) Remove the jumper before the reprogramming is completed, or release the cycle start button.
- 8) The software will complete the firmware reprogramming and start up in disabled Machine mode as described in the earlier section.