

CNC8000 Quick Start Guide

I. Power Up

Make sure the red e-stop mushroom switch on the front panel is pushed in. Crank the main power switch on the back of the machine to ON. The control accepts defaults at power up automatically. Ignore the various system messages that scroll by. Wait for the main cnc screen.

Note: If a machine has multiple-boot capability and you want to change the boot choice, when the boot choice screen appears use the "V" key to move the highlight down or <Shift> "O" to move the highlight up. By default, the boot highlight locates itself on the same choice as the last session.

II. Pay code

After upgrade with a new Compact Flash card, the CNC8000 requires a new pay code. The CNC8000 puts up messages saying operation is disabled and a new pay code is required. A control requiring a new pay code flashes the machine control buttons continuously. The machine control buttons do not work. Call the Milltronics main number (952 442-1410). Tell the operator you need a pay code.

III. Loading a part program

Press F10 (Utility) -> F5 (FileUtil) to see the following screen:



In the CNC8000 files move from left to right. **Always.** The source directory -- where the files come from -- is always on the left and the destination directory -- where the files go -- is always on the right.

To change the source, use the F9 (Up Arrow) and F10 (Down Arrow) keys to move the highlight. Then **press F1 (Select)**. The selected source directory has a blue background.

To change the destination, press F8 (Right/Left Arrow) to bring focus to the right hand part of the screen. Use the F9 (Up Arrow) and F10 (Down Arrow) keys to move the highlight. Then **press F1 (Select)**. The selected destination directory has a blue background.

To choose a file to move from Source to Destination, press the F8 (Right/Left Arrow) to return focus to the left hand part of the screen. Use the F9 (Up Arrow) and F10 (Down Arrow) keys to move the highlight to the file. Then **press F1 (Select)**. The selected file has a blue background.

In the screenshot on the previous page, USB is the source directory, Parts is the destination directory, and the highlight is pointing at a file named sawtooth1.nc. The file sawtooth1.nc has not yet been selected.

When a file is selected, the F3 (Copy), F4 (Rename), and F5 (Delete) buttons become active. To copy the file from Source to Destination, **press F3 (Copy)**.

Oftentimes, an operator wants to save his tweaked and debugged part program for the next time he runs the part. To accomplish this turnaround on the CNC8000, press the F6 (Flip) button, reversing the source and destination directories.

IV. Network setup page

Press F7 (Paramtrs) -> F1 (Setup). A green "Supervisor Login" screen appears in the User Info area in the lower left part of the screen with "PROTO3" already filled in. Press <Enter> to accept "PROTO3" then enter "3" for the password. The setup parameter choices appear. Press F7 (Network) for network setup. The screen should look like this:

	Current	Target	Distance
X	+10.0000	+10.0000	+00.0000
Y	+10.0000	+10.0000	+00.0000
Z	+14.5650	+14.5650	+00.0000

Network Settings

SERVER INFORMATION:

SERVER: 10.110.40.99

SHARE NAME: ENGINE

USER NAME: PETERSTL

PASSWORD: *****

MACHINE INFORMATION:

DEVICE: eth0

TYPE: Static

MACHINE IP: 10.110.100.220

GATEWAY: 10.110.10.1

SUBNET MASK: 255.0.0.0

SERVER The IP address of the network server, for example "10.100.40.99" . This information is available from the server itself. On the server, from the Start menu, choose Run. Type "cmd" and <Enter>, which produces a DOS-style command prompt. At the prompt type "ipconfig" and <Enter>. The resulting list includes the IP address of the server.

SHARE NAME Name of the directory on the server where part programs are stored, designated for sharing with network clients (the CNC8000 is a network client). For example "VMPARTPROGRAMS" . The share name is available from the CNC7000 side in c:\autoexec.bat. Open autoexec.bat with a text editor to look at it. In the line that starts "net use ..." the last directory name is the share name.

USER NAME User name of any authorized network user. For example "JVENTURA" . Even if the shop network does not have user names and passwords, the CNC8000 network setup interface still requires a user name. Make something up.

PASSWORD User's password. For example "TheBody123" . Be careful to enter upper case and lower case letters correctly in passwords because passwords are often case sensitive. By default, the CNC sees letters entered at the front panel as upper case. To get a lower case letter, hold down <Shift> then <Space> then press the letter. Release <Shift> and <Space>, then repeat the sequence for the next lower case letter. Using an external keyboard, to get lower case letters, hold down <Shift> then press the letter. If a shop network does not have user names and passwords, no password entry is required. This field can be left blank.

***** MACHINE INFORMATION *****

DEVICE Toggle choices are "eth0", "eth1", and "--". Try "eth0" .

TYPE Toggle choices are "Static", "Dynamic", and "None" . Choosing Dynamic is sufficient unto itself because the machine requests a temporary IP address from the network DHCP server and no further information is needed. Assigning a static IP to the machine is the method used by many shops and requires further information.

MACHINE IP The static IP assigned to the machine. For example, "10.110.100.218" . The machine IP is available from the CNC7000 side in the c:\net\protocol.ini file in the line "IPAddressx= ..." . It is also available from the CNC8000 side at the Linux console. At the console prompt do "ip addr" and <Enter> to see data associated with each of network ports.

GATEWAY Ask the shop network person. An example would be "10.110.10.1" . The default gateway is also available from the shop network server. On the server, from the

Start menu, choose Run. Type "cmd" and <Enter>, which produces a DOS-style command prompt. At the prompt type "ipconfig" and <Enter>. The resulting list includes the default gateway.

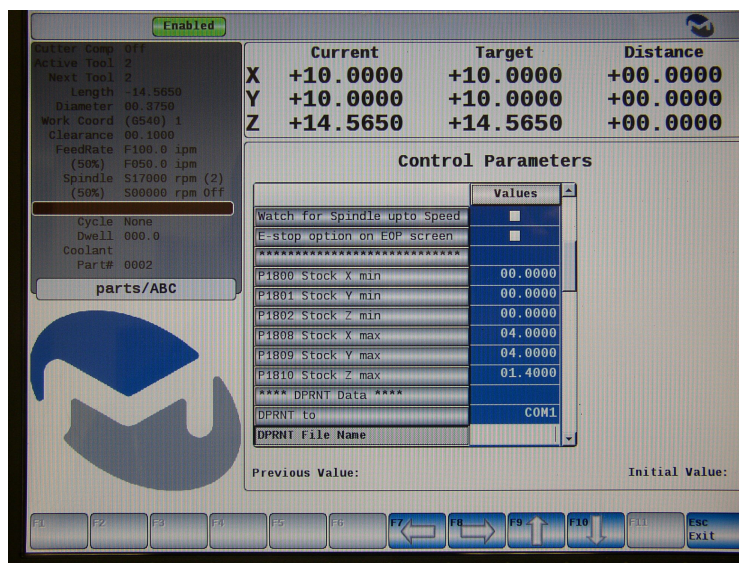
SUBNET MASK Ask the shop network person. An example would be "255.255.0.0" . . The subnet mask is also available from the shop network server. On the server, from the Start menu, choose Run. Type "cmd" and <Enter>, which produces a DOS-style command prompt. At the prompt type "ipconfig" and <Enter>. The resulting list includes the subnet mask.

After filling in fields in the network setup page, **press F1 (Save)** to save them. Escape back up to the main screen. Cycle power to allow the CNC8000 to see the network settings.

V. Solid model stock size

A. Default stock size in Control parameters

If a program (whether conversational or text) does not specify stock size, the CNC8000 defaults to the solid model stock size set in Control parameters. Press F7 (Paramtrs) -> F6 (Control). See picture below.



B. Stock size in a conversational program

The setup page (Event 0) of a conversational program contains six fields for entering the solid model stock size. See picture below.

	Current	Target	Distance
X	+10.0000	+10.0000	+00.0000
Y	+10.0000	+10.0000	+00.0000
Z	+14.5650	+14.5650	+00.0000

Event 0 of 3 in parts/ABC.CNV

Program Setup
Program name ABC

X Min 0 Y Min 0 Z Min -0.5
X Max 5 Y Max 2 Z Max 0

Work Coordinate 054 Subset ---

Setup Notes:
AN EXAMPLE CONVERSATIONAL PROGRAM
SHOWING HOW TO ENTER SOLID MODEL
STOCK SIZE

C. Stock size in a text program

Near the top of the program, insert a block of 9 lines as follows:

```
G10  
P1800=2.1  
P1801=1.  
P1802=.5  
P1808=-2.1  
P1809=-.5  
P1810=0  
G11  
G777
```

P1800 = X minimum.
P1801 = Y minimum.
P1802 = Z minimum.
P1808 = X maximum.
P1809 = Y maximum.
P1810 = Z maximum.

The G10 and G11 are wrappers around the sequence of parameter writes. The G777 refreshes the screen.

VI. How to make the console window go away

If for whatever reason you have called up the Linux console window -- it looks like a DOS window and command prompt -- and you want the console window to go away, type "exit" at the prompt.

VII. How to change the user image

The control looks first in the /ram directory for a file named user_image.jpg. If it does not find one, it uses the Milltronics logo. To customize the user image, put any .jpg image in the /ram directory, renamed as user_image.jpg. The control automatically scales the image to fit it into the user info window.

If there is already a file named user_image.jpg in the /ram directory, delete the old user_image.jpg before inserting the new one.

The File Utilities screen may be used to accomplish all these file manipulations. The /ram directory does not appear as a one of the available directory choices in File Utilities until login as supervisor with "PROTO3" and "3".

After a new user_image.jpg file has been inserted in the /ram directory, cycle power.