

(35150, 36900)

CNC Shark TM Instruction Manual

Version 1.0

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System Requirements

Hardware

The desktop or laptop computer that you are connecting to must have a USB 2.0 port to connect to the CNC Shark controller. If the computer is older it might have only a USB 1.0 port. If you have the USB 1.0 port, it will **NOT** allow the computer to fully communicate with the CNC Shark. If you are having trouble with the CNC Shark controller seeing the CNC Shark router system please consult your computer manual.

Software

The CNC shark controller can run on Windows XP and Vista machines. The Vista installations should not need any additional software. When using Windows XP, you will need to have the patches for “.NET 2.0 Frameworks” and “.NET 2.0 Frameworks Service Pack 1 (SP1)”.

If you do not already have these patches installed on your computer for Windows XP you can download them at the following web address. The download link will have both patches in one download for your Windows XP.

To obtain, copy this link into your browser:

<http://www.microsoft.com/downloads/details.aspx?familyid=0c1b0a88-59e2-4eba-a70e-4cd851c5fcc4&displaylang=en>

You can also go to Google.com and type into the search prompt “.net 2.0 framework sp1” and you should get a link to Microsoft similar to the one above.

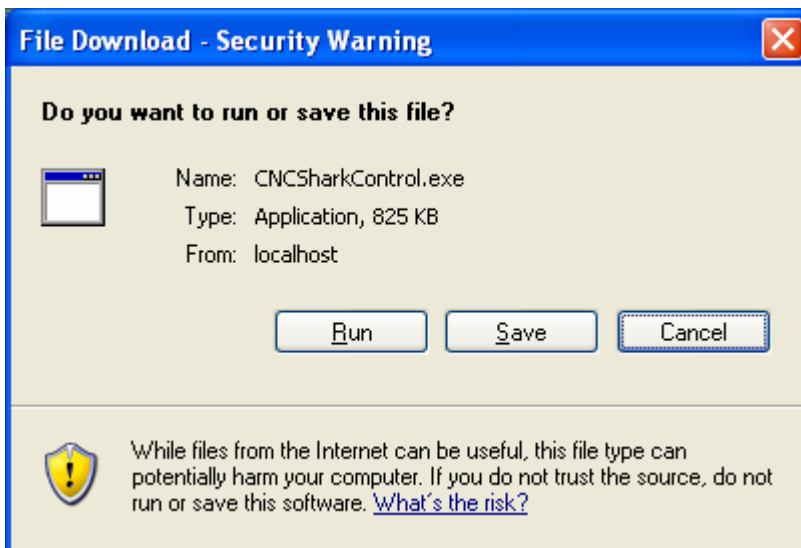
Downloading Software

Step 1: Go to Website

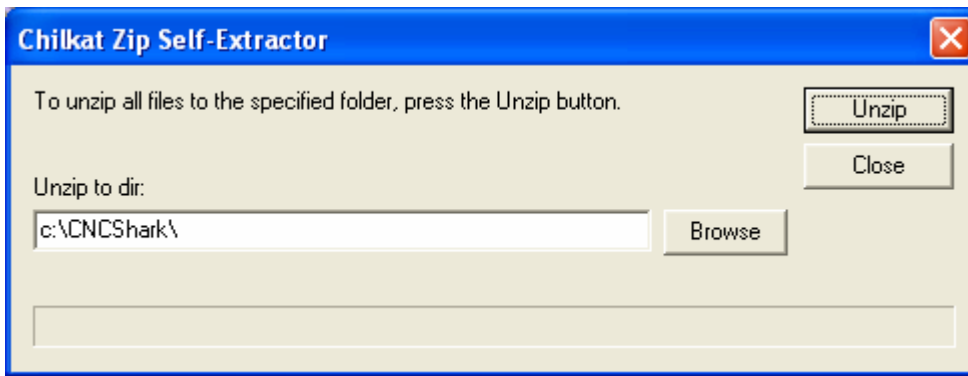
Open your web browser (e.g. Internet Explorer) and go to the website www.CNCShark.com Click on the “Downloads” section located on the right side of the website. The Downloads page will give you a list of software, tutorials, and videos to download. There will be future updates and also a copy of this entire manual will also be located on the downloads page. Click on the file labeled “CNCSharkControl.exe”.

Step 2: Run Install

The “CNCSharkControl.exe” file will include the CNC Shark Drivers and the control program for the CNC Shark. When you click on the download, the screen shown below should appear. Click on “Run” and it will download and begin the install.



The program will ask you to unzip to a specified folder. There is no need to change the folder location just click “Unzip” to start the process.



Now you have downloaded and installed the CNC Shark Control program. Next, you need to install the drivers.

Installing the Driver

Step 1: Plug in CNC Shark

First, turn on your computer. After Windows loads, plug in the rectangular end of USB cable into the corresponding USB port on your computer. If you are unsure of what a USB port is, refer to your computer's manual. Now, plug in the square end into the corresponding port on the CNC Shark control box. (The control box is the box with the fan on the top.) Insert the memory card into the slot next to the USB port on the CNC Shark control box.

Step 2: Begin New Hardware Wizard

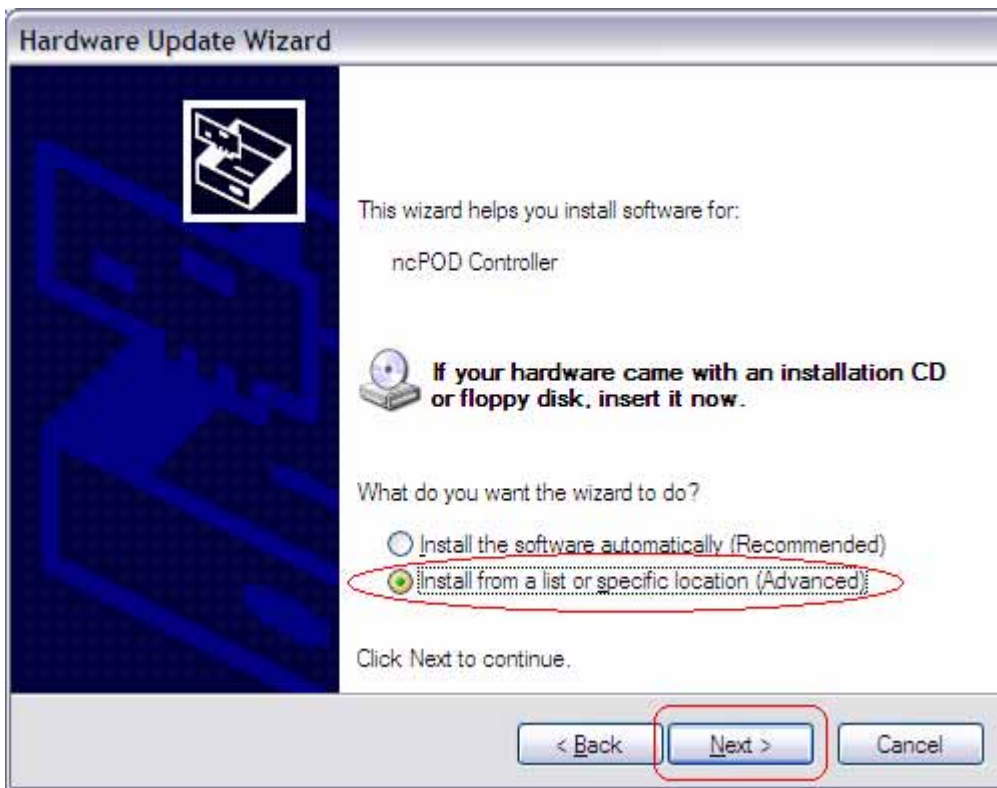
As soon as the USB cable is connected, Windows will automatically detect the new USB and begin the New Hardware Wizard. Below is a screen shot of the wizard for the driver installation. When the screen below appears in Windows and asks "Can Windows connect to Windows Update to search for the software?" Any of the three choices listed will work; however, the default option is the first option "Yes, this time only."



After clicking the circle next to “Yes, this time only”, the Next button will become enabled. Click the “Next” button to continue the wizard.

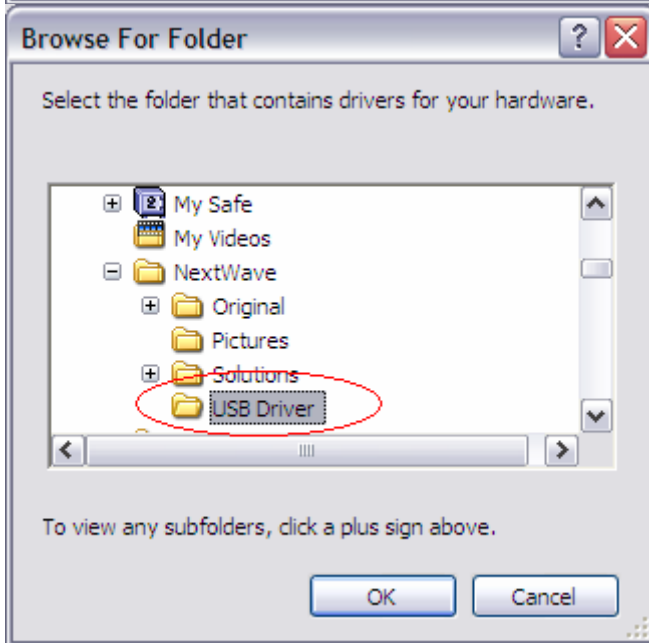
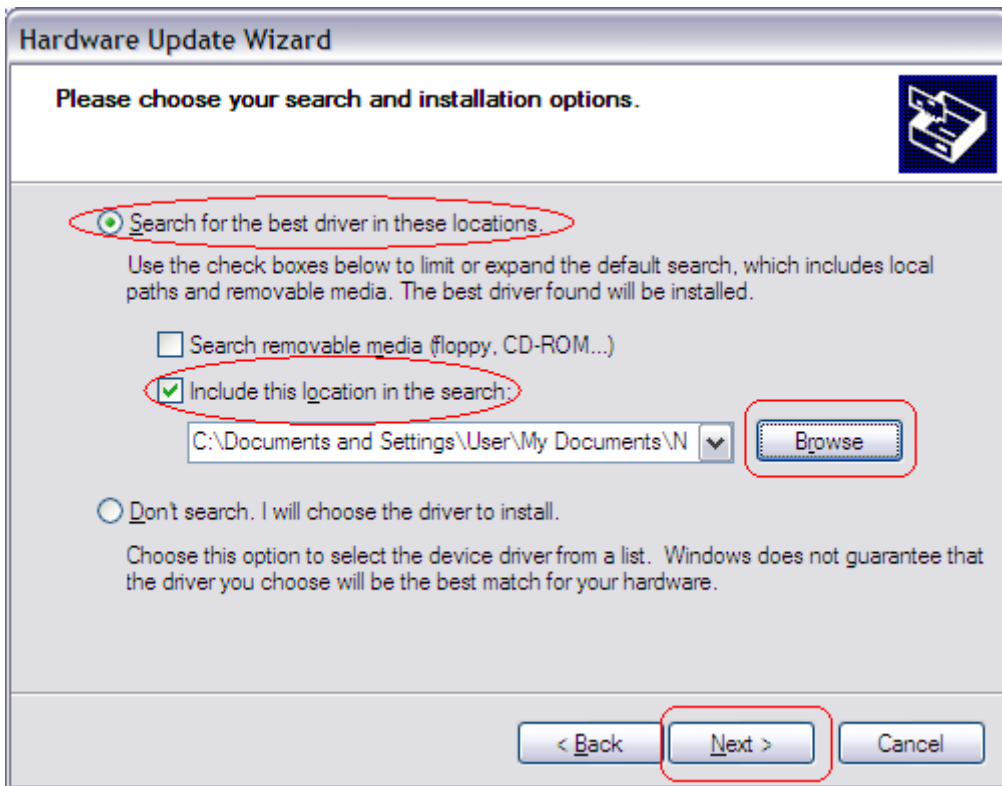


On the next screen that appears, you will be asked how you would like to find the driver. Click on the second option, “Install from a list or specific location (Advanced)” which allows you to find the driver in a specific location. Now, click the “Next” button.



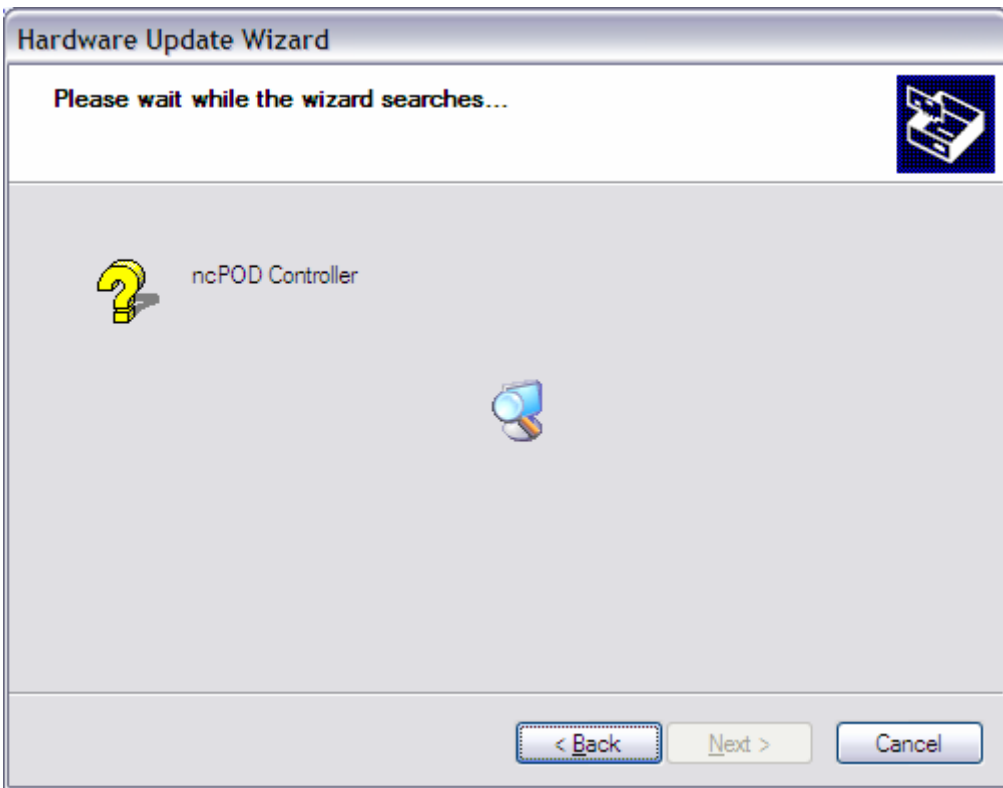
Step 3: Choose the Driver

The next screen will allow you to choose the correct location where Windows can find the driver for the CNC Shark. First, click on “Search for the best driver in these locations.” Next, click “Include this location in the search:” Finally, click the “Browse” button to find the location of the driver. It will be located in the folder “USB Driver” which is located in the same folder as the CNC Shark USB Control Software (C:\CNCShark\CNC Shark Control 1.0\). Highlight or select the “USB Driver” folder and click “OK”, and then click the “Next” button in the Hardware Update Wizard window. Refer to the screen shots below.



Step 4: Complete Driver Installation

While searching for the driver, the following screen will appear.



When the search is complete, the “Next” button will be enabled. Click the “Next” button to display the following window. Click the “Finish” button to complete the installation.

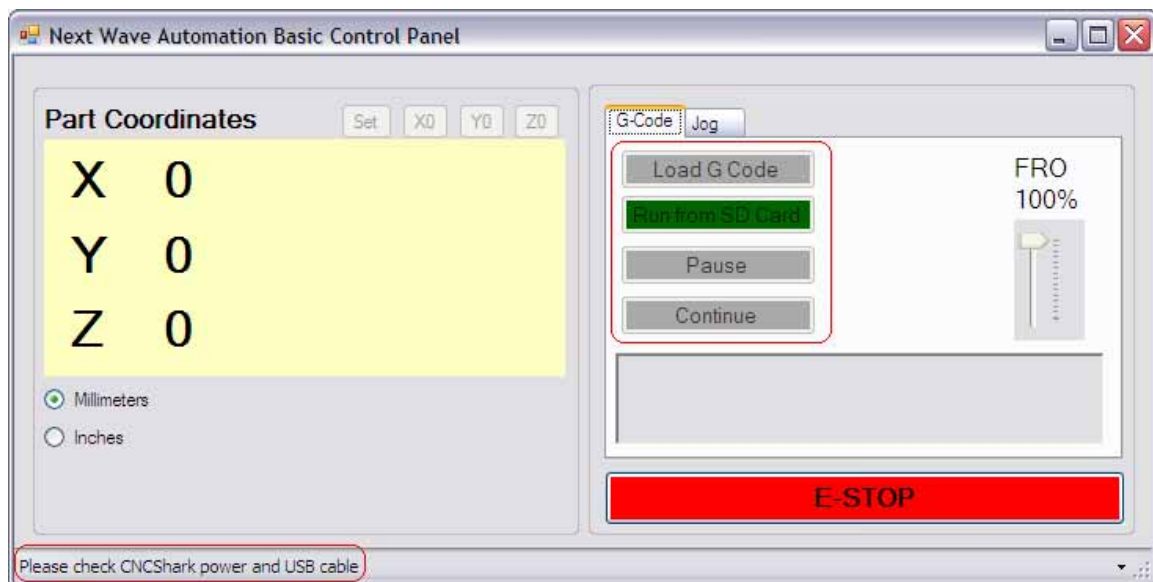


Using Basic Control Panel

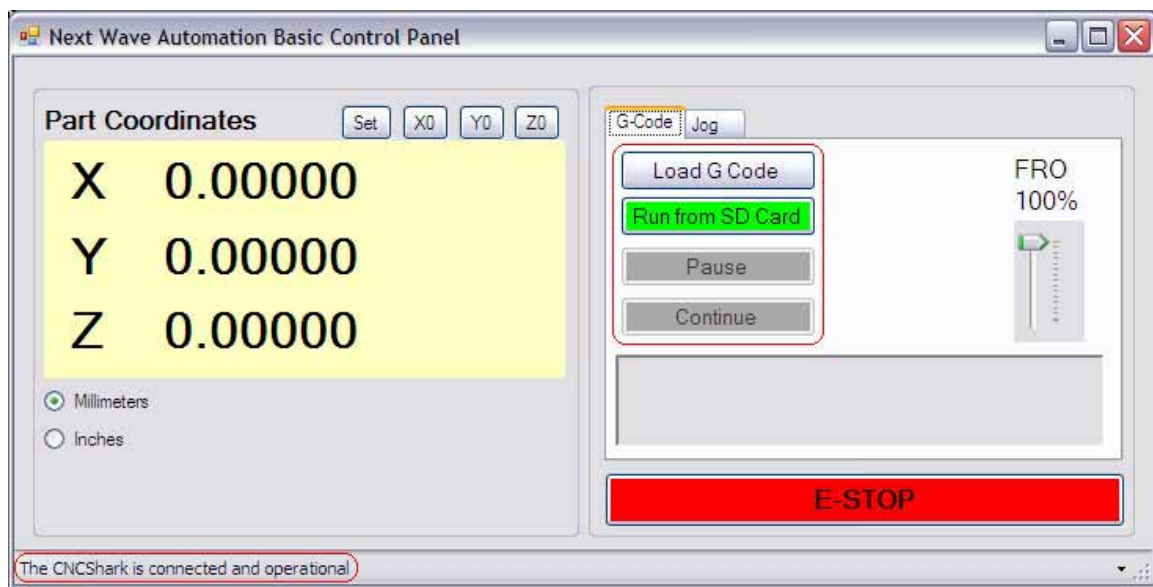
Step 1: Make Sure CNC Shark Driver is Installed Before Proceeding

Go to the C:\CNCShark\CNC Shark Control 1.0\ folder. Click on the CNC Shark Control Panel icon this will start the program.

Upon running the application, the Next Wave Automation Basic Control Panel will be displayed. If the status bar in the lower left of the screen says to “Please check CNC Shark power and USB cable” and if the buttons are gray and unable to be clicked on, then check to make sure the USB cable ports are completely plugged in. Once this has been verified, and still you get the “Please check CNC Shark power and USB cable” in the status bar, go back to step 1 of “Installing the Driver” section.



When the CNC Shark driver is properly installed and the USB cable is plugged in, the status bar will read “The CNC Shark is connected and operational”, and the top two buttons “Load G Code” and “Run from SD Card” in the right pane will be enabled.

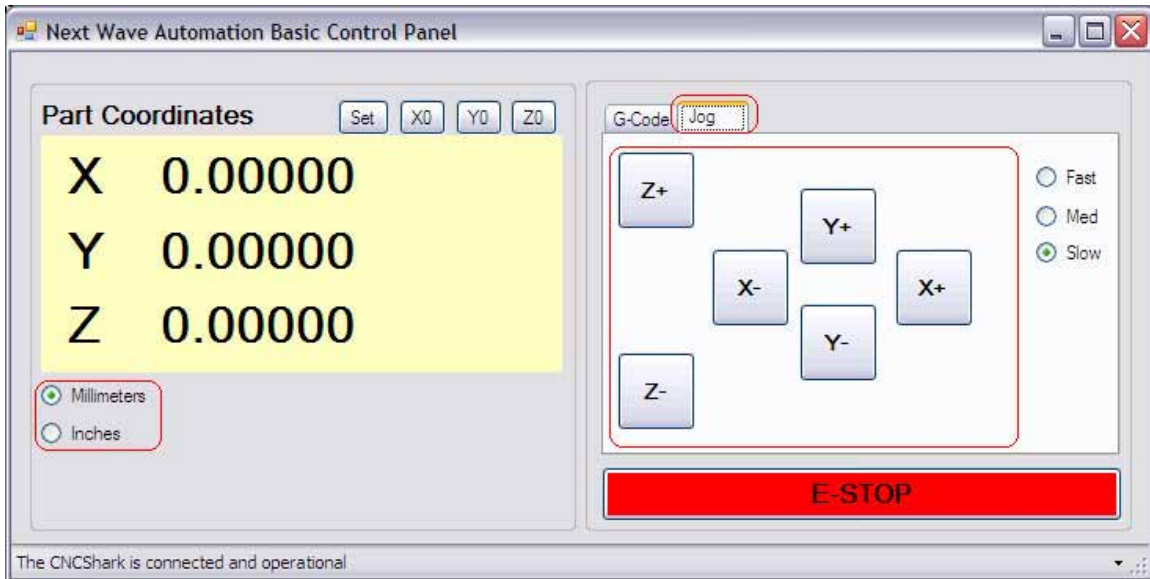


Step 2: Setting the Starting Position for Your Project

Click on the “Jog” tab, this will display the position controls of the X, Y, and Z axes of the machine. The buttons on the far right next to “Fast”, “Med” and “Slow” are used to control the speed all of the axes movements for jogging only, there is another set speed controls called “FRO” that controls how fast or slow the program runs. (The “Fast”, “Med”, and “Slow” options are not used when a program is running.)

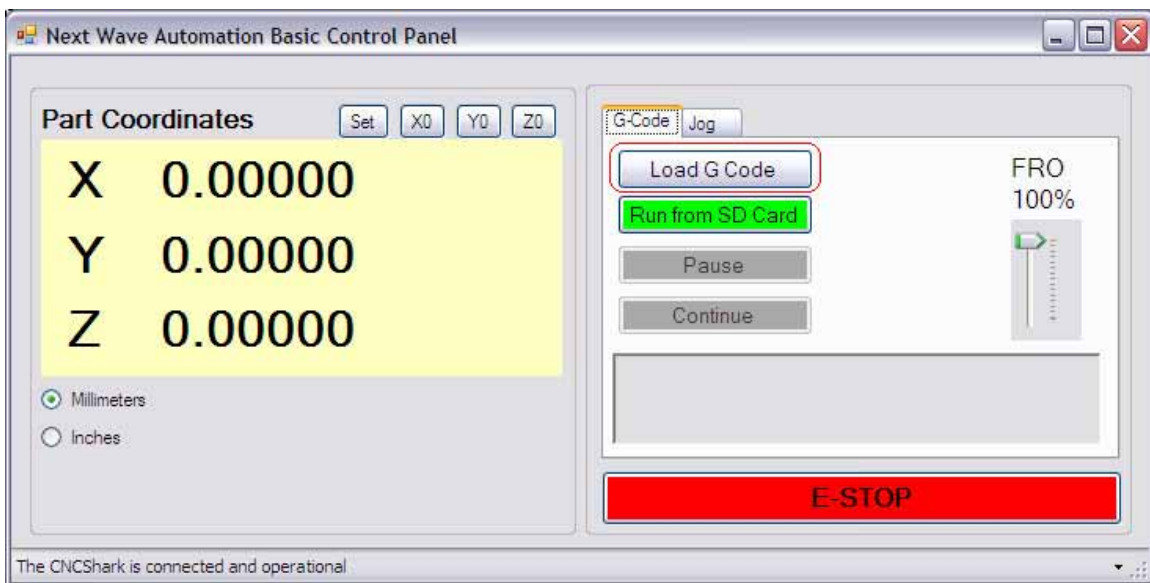
In the right pane of the “Next Wave Automation Control Panel”, you will see the buttons for controlling the position of the machine. Use the “X+” or ”X-“ buttons to move the router either left or right along the X axis. Similarly, use the “Y+” or ”Y-“ buttons to move the router position forward or backward along the Y axis. Finally, the “Z+” or “Z-“ buttons move the router up or down on the Z axis. You will position the router’s bit according to where the zero was set in the VCarve program. Please see VCarve Manual and/or Tutorials with any questions as to where zero would be set up in VCarve program. Typically, this is either in the center OR the lower left corner of the material you are working on. Make sure the bit is one sheet of paper’s width above the material you are about to carve. This is the starting or zero position which should correspond to the zero position in the VCarve program (see “Material Setup” in the VCarve Manual).

Click on the buttons next to inches or millimeters to select the unit of measurement you want to see displayed in the “Part Coordinates” side of the window.



Step 3: Load G Code

First, click on the “G-Code” tab. This will display the program run screen. Click the “Load G Code” button to load file that contains CNC Shark G Code that you created and saved from the VCarve Program (usually saved as a*.tap file extension).

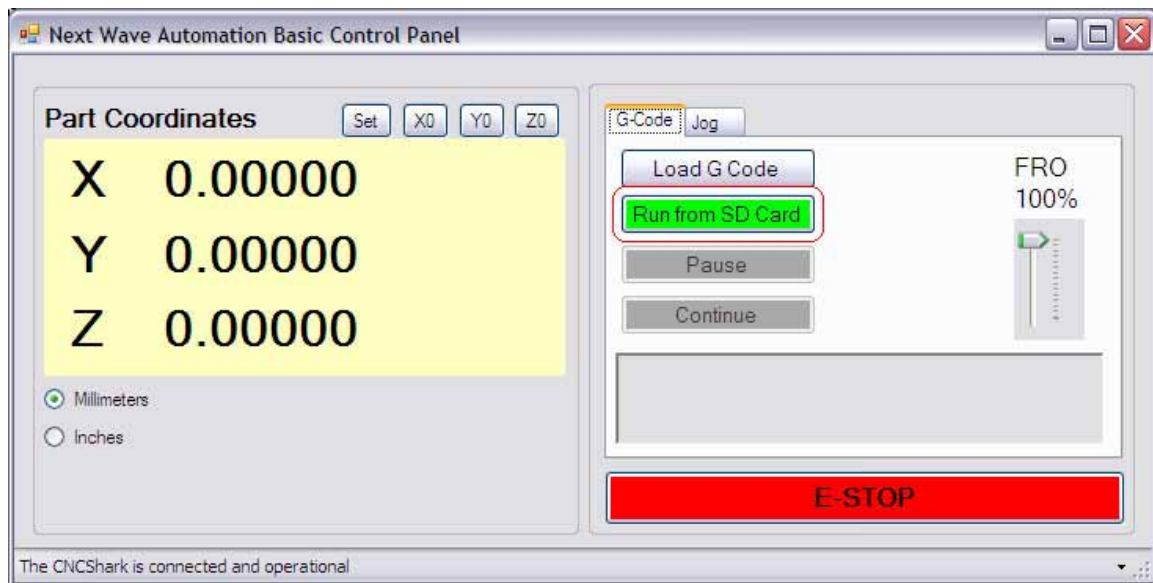


A standard Windows file selection window is displayed. Browse to where you saved the program file you to cut that you created in VCarve. Make sure you have the memory card slid into its slot in the CNC Shark’s control box. Click the “OK” button and the file

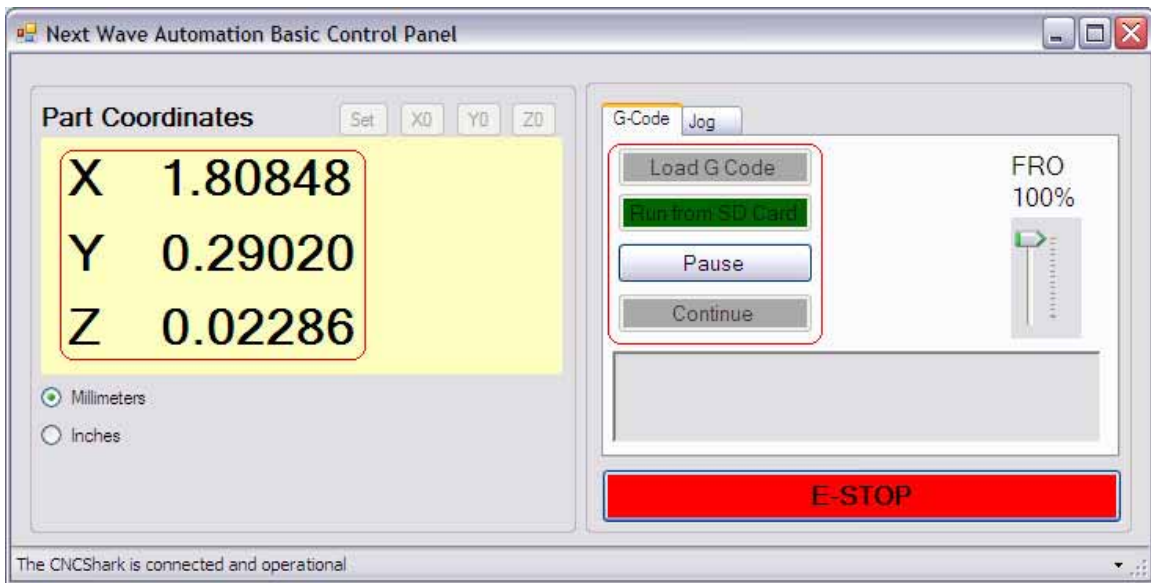
will be loaded to the memory card. Because the file size will determine how long it takes to load, it can take anywhere from 5 seconds to 2 minutes. While the program is being transferred to the controller the “Load G Code” and “Run from SD Card” will gray out and become inactive. When they become active again the program has finished loading.

Step 4: Run Code

Once the code has been loaded and coordinates have been set, turn on your router and click on the “Run from SD Card” button. This will instantly start the program running you can adjust the speed of the program while it is running by changing the “FRO” also known as the Feed Rate Operator. If you need to stop the program before it finishes you can click on the “Pause” button. To start it up from where the program paused click the “Continue” button. To stop and reset the program before it has finished click on the large red “E-Stop” button. The program **cannot** be continued if the “E-Stop” is pressed, but it can be started over again by selecting the “Run from SD Card”.



While running the “Load G Code,” “Run from SD Card” and “Continue” buttons will be grayed while the “Pause” button will be enabled. The X, Y and Z coordinates will also change based upon where the router’s position is from the starting or origin point.



Step 5: Complete the Process

When complete, the buttons will return back to the status prior to beginning of code execution. The program is now complete. Finally, you can close the Control Panel or load another program. To load another program and begin a new project, go back to Step 1 of “Using the Basic Control Panel” and follow Steps 1-5.

