

CNC SHARK

INCLUDING HD3 * SLIMLINE * EXTENDED

OWNERS MANUAL

Copyright Next Wave Automation
All Rights Reserved.

Version 2
10 March 2016

Updates of this manual may be
available at www.nextwaveautomation.com.

CNC Shark, CNC Shark HD3, CNC Shark Slimline, CNC Shark HD3 Extended, and the configuration of these products are either registered trademarks or trademarks of Next Wave Automation. Software copyright by Next Wave Automation. All rights reserved.

All other trademarks are the property of their respective owners.

To Our Customers

Thank you for purchasing a CNC Shark! Your Shark brings the speed and precision of computer-controlled machinery to your shop with the top value CNC system.

This manual tells you more about your CNC Shark system and how to operate and maintain it. Please read the manual carefully. The manual also includes our warranty and important safety information.

This manual has been written with the assumption that the owner is familiar with the basic operation of a computer as well as the basic aspects of techniques for the safe operation of woodworking power tools. Information in this manual is subject to change without notice.

Again, thank you for purchasing a CNC Shark. We are confident you will be pleased with the performance, and its ability to carve and machine a wide variety of signs, doors, and other projects. If you ever have any questions or comments, feel free to contact us at the address below.

Next Wave Automation, LLC
7235 Progress Street
Holland, Ohio 43528 USA
www.nextwaveautomation.com

Main Phone – (419) 318-4822
Support Email – support@nextwaveautomation.com
Support Phone – (419) 491-4520

Serial Number and Software License Information

Record your CNC Shark Control Box and Vectric software user name and license codes here for safe keeping. Your software may vary depending on the CNC Shark model purchased.

Control Box Serial Number: _____

VCarve Pro User Name: _____

VCarve Pro License Code: _____

Cut3D User Name: _____

Cut3D License Code: _____

Table of Contents

To Our Customers	1
Serial Number and Software License Information	2
Warranty	4
Safety	4
Emergency Stop.....	5
CNC Shark Operations Safety Instructions.....	6
CNC Shark Hardware and Project Safety Instructions	7
Overview	8
General – The CNC Shark Family	8
CNC Shark Assembly Instructions	9
General	9
Tools Required.....	9
Assembly	10
Power and Cable Layout.....	15
Software Installation.....	16
Getting the Latest Software	16
Systems Check.....	16
Computer/Shark Control Box	17
Shark Control Panel Checkout and Jog	19
Update the Firmware	21
CNC Shark Control Panel Registration.....	22
Maintenance	22
Routine	22
Repair Parts and Upgrades.....	23
Control Box Fuses.....	23
Optional Accessories	24
CNC Shark Touch Probe.....	24
4 th Axis.....	24
Laser Module.....	25
Information Resources.....	26
Tooling Suppliers.....	27
Computer Requirements	27

Warranty

Next Wave Automation warrants to the original retail purchaser of a CNC Shark machine and purchased from an authorized CNC Shark machine distributor that the CNC Shark and any Shark accessories purchased with the CNC Shark machine will be free from defects in material and workmanship for ONE YEAR from the date of purchase. This warranty is for parts and labor to correct the defect, and does not cover the cost of shipping the defective item(s) to Next Wave Automation for repair.

This warranty does not apply to defects arising from normal wear and tear, misuse, abuse, negligence, accidents, unauthorized repair or alteration, or lack of maintenance. This warranty is void if the CNC Shark machine or any portion of the CNC Shark machine is modified without the prior written permission of Next Wave Automation, LLC, or if the CNC Shark machine is located or has been used outside the country of residence of the authorized CNC Shark machine distributor from whom the CNC Shark machine was purchased.

Please contact Next Wave Automation to take advantage of this warranty. If Next Wave Automation determines the CNC Shark machine or CNC Shark accessory is defective in material or workmanship, and not due to normal wear and tear, misuse, abuse, negligence, accidents, unauthorized repair or alteration, or lack of maintenance, then Next Wave Automation will, at its expense and upon proof of purchase, send replacement parts to the original retail purchaser necessary to cure the defect. Next Wave Automation will repair the CNC Shark machine or CNC Shark accessory provided the necessary CNC Shark machine component is returned to Next Wave Automation, shipping prepaid, with proof of purchase and within the warranty period.

Next Wave Automation disclaims any and all other express or implied warranties, including fitness for a particular purpose. Next Wave Automation shall not be liable for death, injuries to persons or property, or incidental, consequential, contingent or special damages arising from the use of the CNC Shark machine.

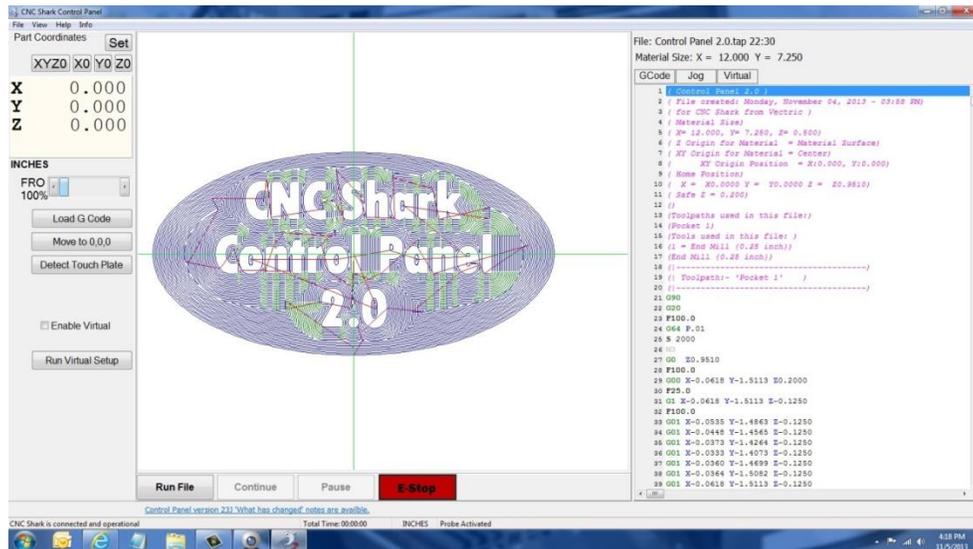
Safety

The CNC Shark, along with a router or other power tool, is a computer-numerically-controlled (CNC) routing system. As such, it is a powerful system that can reduce your woodworking risks by providing a method of cutting wood and other materials without having to interact with the cutting tool(s) or material during the fabrication process. As with all power tools, your care and attention are required to ensure that you use your CNC Shark safely. Next Wave Automation assumes you will use your CNC Shark safely and follow accepted safety precautions and practices for woodworking and machining.

Emergency Stop

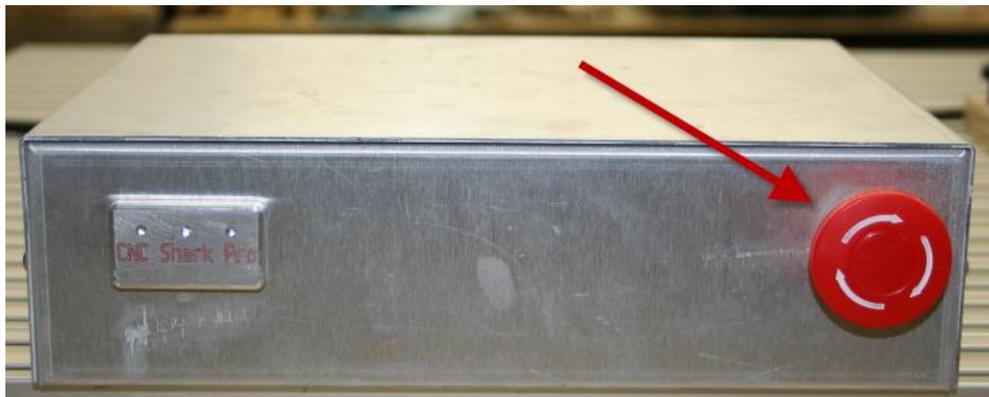
There are 2 ways you can immediately stop your CNC Shark. We also recommend CNC Shark users use a power bar with an on/off switch as an additional safety precaution.

The first is the Emergency Stop button on the Control Panel. The E-Stop button is available regardless of whether you are using the File or the Jog panel.



E-Stop on Shark Control Panel

The second is the E-Stop button on the Control Box.



Emergency Stop Button on Enhanced Control Box

Hitting either will immediately stop the CNC Shark movement. This will also stop the router if it is plugged into the Control Box.

For CNC Shark users who have plugged the Shark Power Supply and router into a power strip, the power strip's on/off switch serves the same purpose as the E-Stop button on the Shark Enhanced Control Box.



Power Strip On/Off Switch

CNC Shark Operations Safety Instructions

1. Read and follow all safety and operating instructions before using the CNC Shark. This includes reading the manual(s) for the router that will be mounted on your CNC Shark. Take the time to orient yourself to the Shark and the workflow steps.
2. Take small steps early in use – this will enable you to use the Shark safely and effectively. Practice each step a few times early on without running the router and raised a few inches off the surface for example. Again, this orientation process will help you to use the Shark safely and effectively.
3. Let the CNC machine and router spindle come to a complete stop before touching parts. Ensure that you have a positive system in place to make sure that power is not applied to the router or the CNC Shark while positioning a work piece, adjusting the position of the tool, changing a bit, or setting up clamps, hold downs, or jigs.
4. Ensure that the material or work piece is firmly secured to the table. This includes accounting for the attachment and hold down of any pieces that will become cutouts or cutoffs during the machining process. Also be sure that all clamps, hold downs, and jigs are not in the path of the cutter – and do not interfere with the movement of the gantry.
5. Always wear eye and ear protection while operating your CNC Shark.
6. Keep miscellaneous equipment off of the CNC Shark table and gantry. This includes areas alongside the table where the gantry travels.

7. Never leave the CNC Shark unattended while it is running. A work piece slippage, unexpected cutting error or other unexpected event might occur. This could result in injury as well as damage to the CNC Shark.
8. Never attempt to remove chips, dust or debris from the machine while it is running with your hands or fingers, or by placing a vacuum device into the field of operation – near the cutter.
9. Position the computer keyboard and control box (with E-Stop button) in a place that is easy for you to quickly reach, and out of the path and travel direction of the tool. Chips and debris can travel a good distance, and cutters can break during use.
10. Never attempt to manually adjust the work piece while the CNC Shark and router are running. Do not attempt to manually feed a work piece ‘into’ a running cutter – this is not a router table.
11. Keep the CNC Shark lubricated and clean. Clean the CNC Shark and area after each use.

CNC Shark Hardware and Project Safety Instructions

Your CNC Shark is comprised of a system – the CNC Shark, the Shark Control Box, a computer, the software that prepares your design project and the software that controls the Shark during operation.

The Shark has 3 stepper motors, a Control Box, and computer connected to it. These are all precision electronic devices and are susceptible to damage from power surges, static discharges, inappropriate power supply, and other unexpected electrical events. It is recommended that the control box and your computer be plugged into a surge protector to minimize the opportunity for damage to occur as a result of a power surge. You may also want to use a dedicated electrical circuit for the CNC Shark. Turning on a shopvac or other power tool on the same leg may cause a momentary change in the power supplied to the CNC Shark. If you know that the power you receive fluctuates significantly, you may also want to use a power conditioner and battery backup device. This will ensure the longest life of your CNC Shark electronic components. A minimal battery backup will enable you to gracefully stop the job in progress at the time of the power loss, thus minimizing the possibility of damage to the CNC Shark, electronics and router.

The CNC Shark machine is not designed to work with fluids. The router is a ‘dry’ router. Do not cut with any misting, cutter lubrication, or wet material as it may cause a fire.

Keep the Control Box vents (all models) and fan clear of dust, dirt, shavings and other material.

Keep your CNC Shark away from any moisture and in a temperature range from 50° to 80° F.

Lightly vacuum the Control Box vents (all models) and fan occasionally to remove any particulate from the electronics. This will help to prevent additional heating inside the box that could result in damage.

Do not expose the system to high humidity – this may cause condensation on the electronics and result in abnormal behavior or even a short in the electronics.

You should not operate your CNC Shark machine during a thunderstorm unless you have an appropriate surge protector in place to prevent circuits from being damaged by excessive line voltage.

Keep static charges from discharging into the motors. If you think this may become an issue, a grounding wire can be added to one bolt head of each of the motors.

It is also strongly recommended that you keep backup copies of all important computer data, files and programs. These should be separate copies – stored on a different device than the computer you are using to create the projects and run them on the CNC Shark.

Overview

General – The CNC Shark Family

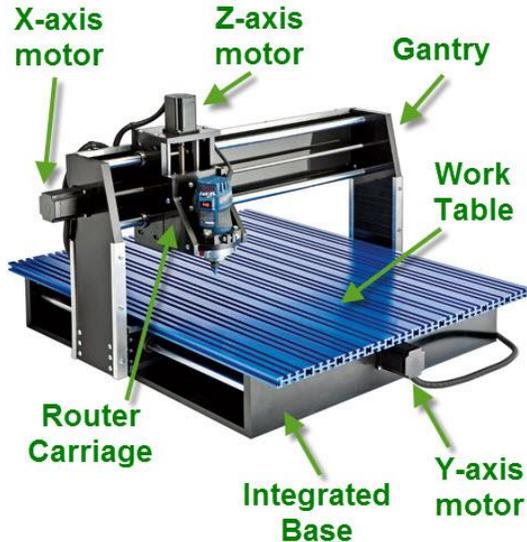
Bringing the speed and precision of computer-numerically-controlled machinery to your shop, the CNC Shark family is designed for routing all types of wood, routing or engraving plastics, etching metal and even etching or cutting tile. You will find that the entire The CNC Shark family have impressive power, speed, and accuracy yet extremely easy to use. The CNC Shark family has a quality and tested design. Many of their parts have actually been manufactured using CNC machines to ensure the highest accuracy. The CNC Sharks are constructed of steel, aluminum and high-density polyethylene for a robust, long lasting and high tolerance machine.

The CNC Shark comes with select versions of Vectrics designing software and can interface with other cnc programs in the industry as well.

CNC Shark Assembly Instructions

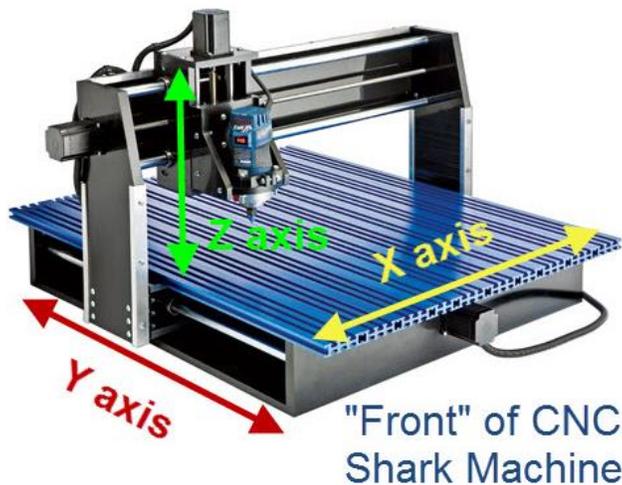
General

The core components of the CNC Shark are the same for each of the family members, and are shown in the figure below.



CNC Shark Core Components

The axes of movement of the CNC Shark are shown in the figure below. Note that the router carriage is facing the 'front' of the machine. The 'front' of the machine for purposes of this manual is defined as the edge of the integrated base unit that has the Y-axis motor bolted to it.



CNC Shark Movement Axis Orientation

Tools Required

A T27 star bit and a 7/16" box or open wrench.

Assembly

1. Unpack the CNC Shark machine and verify that all items are present. The shipping manifest for each of the models can be found in the CNC Shark Family Specifications section at the back of this manual.
2. Unpack the The CNC Shark Control Box and set it aside for later. The CNC Shark Control Box stores the project's tap file (instructions) and controls the movement of the X, Y, and Z axis. The Control Box is connected to your computer using a USB cable and is plugged into a USB 2.0 capable plug. The Shark Control Panel software is used to communicate to the Control Box. Using this interface, you can jog (position) the gantry and router, load a project (tap) file, and run the project

Do not use the gantry mounting brackets that are on either side of the Integrated Base, or the gantry support rod(s) to lift or reposition the Integrated Base. Doing so can result in significant damage that can only be repaired by sending the unit back to Next Wave Automation. Lift and reposition the Integrated Base from the base assembly proper.

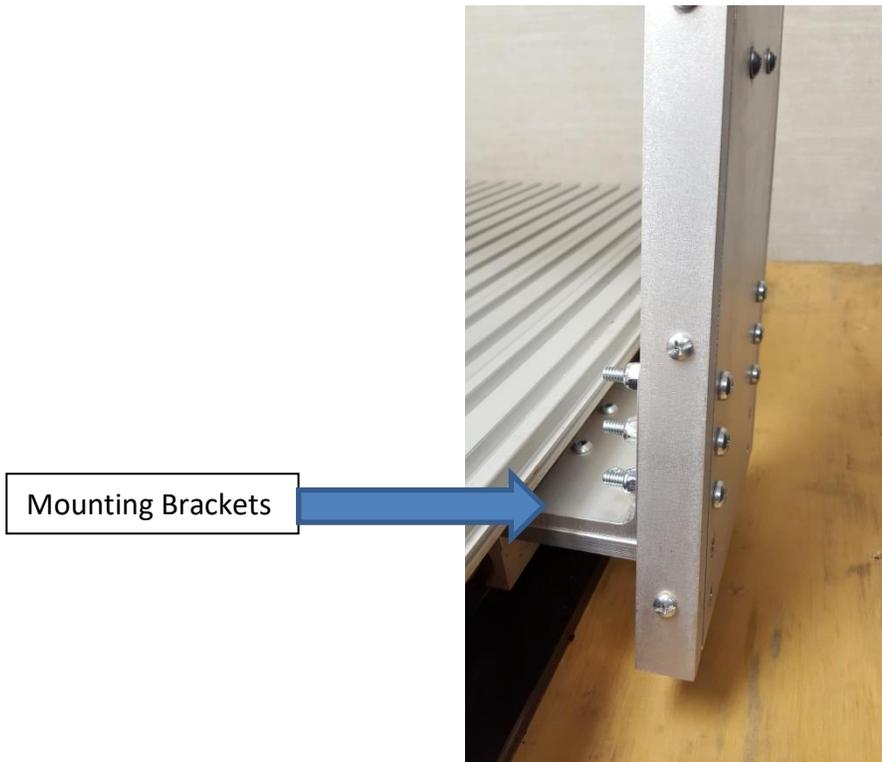
Do not lift the Integrated Base from the work table surface. Doing so can result in warping of the metal table base, and in all cases can result in mis-alignment of the table surface to the gantry. Lift and reposition the Integrated Base from the base assembly proper.

2. Attach the gantry assembly to the base assembly.
 - Take out the 12, 2" carriage bolts, and 12 nylock hex nuts from their shipping bag. If necessary, unscrew all of the nuts from all of the bolts.
 - Ensure you remember that the 'front' of the machine is the side of the integrated table that has they Y-axis motor bolted to it.



'Front' of Machine - Integrated Base Unit with Y-axis Motor

- Identify the gantry mounting brackets on either side of the integrated base unit. They are found on both ends of the Y-axis carriage assembly.



Gantry Mounting Bracket on the Integrated Base Unit

- Position the gantry assembly across the base assembly. Verify that the router carriage side of the gantry assembly is facing the 'front' of the machine.
 - Line up the six pre-drilled bolt holes in each of the two gantry mounting brackets and insert, **but do not fasten**, the 12 bolts through the gantry assembly and gantry mounting bracket. You may find it easier to have an assistant to help during this phase of assembly.
 - Once all 12 bolts are in place, thread the nuts onto each bolt until they are snug (lightly in place). Do not tighten the nuts firmly until all 12 bolts and nuts are threaded and snug.
 - Once all 12 nuts are snug, tighten the nuts firmly, but do not over-tighten. You can over-tighten and strip out the nylock hex nuts. Replace any nylock hex nuts that end up in this condition.
3. Mount the router to the router carriage.
- Prepare the router by removing the base. The manual that came with the router will explain how to do this.

- Locate and identify the router collar. The router collar is a plate mounted to the router carriage with 4 bolts and nylock nuts. There are an additional 2 bolts and nuts on the collar that is used to tighten the collars around the router.
- Loosen the router collar bolts.
- Place the router into the router collar. The fit is tight, so twist the router left and right while applying downward pressure on the router. Make sure the router goes down as far as possible.
- Tighten router collar bolts firmly, but do not over-tighten. You can over-tighten and strip out the nylock hex nut. Replace the nylock hex nut if it ends up in this condition.
- Tighten all four router carriage bolts.



Router Collar and Locking Bolt

4. Connect the Control Box to the CNC Shark.

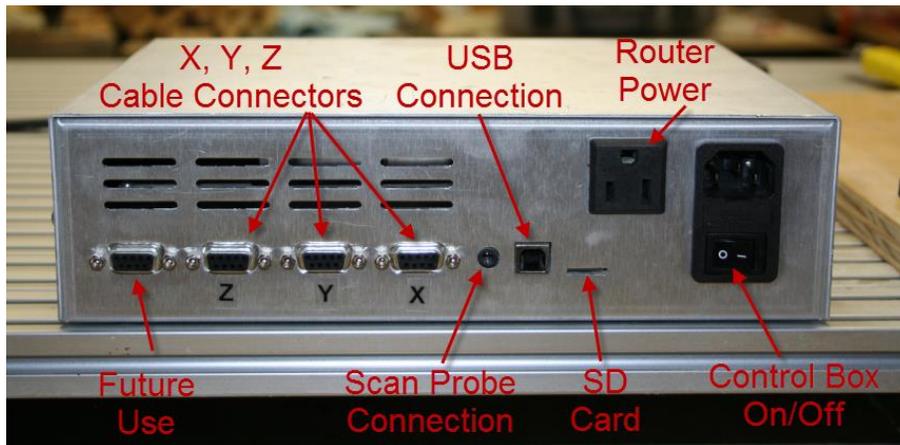


Controller Box Front and Rear views

WARNING: The axis cable connectors should never be disconnected or re-connected while there is power to the Control Box. Doing so can damage the stepper driver board inside the Control Box.

Verify that the Shark Control Box is unplugged.

There are cables running from each of the stepper motors with male 9 pin serial connectors. There are female 9 pin serial connectors on the back side of the Control Box. Each of the connectors is labeled with the corresponding axis letter. There is a fourth serial connector on the control box. That is present for future expansions of the CNC Shark's capabilities.



Control Box Back View



Serial Cable Connector

Plug each of the drive cable connectors into the corresponding connector on the Control Box. Tighten the two thumb screws on each connector until they are snug. There is no need to use a screwdriver. Do not over tighten these connections.

Apply power to the control box.

Rotate the E-Stop button 1/4 turn to ensure it is not engaged. If it is engaged, the Control Box will not power on.

Turn the on/off switch on the back of the Control Box to the on position.

The blue led on the front of the control box should illuminate. You will also hear a slight bumping or clicking noise coming from each of the motors when power is initially supplied. This noise is momentary, and will occur every time power is applied to the Control Box. If the blue light does not illuminate, unplug the Power Supply and check the troubleshooting section of this manual or contact Next Wave Automation's technical support.



Control Box Front View

6. The hardware setup is complete. The CNC Shark machine's hardware is now completely setup and is ready for basic operation testing. Now you must setup the CNC Shark software before you are able to completely test your CNC Shark machine.

Power and Cable Layout

It is recommended that the Power Supply used with the CNC Shark be plugged into a switched power strip (not included with the CNC Shark machine). This provides additional emergency stop capability – by switching off the power strip you stop all machining actions.

The Shark has 3 stepper motors, a Control Box, and computer connected to it. These are all precision electronic devices and are susceptible to damage from power surges, static discharges, inappropriate line power supply, and other unexpected electrical events. It is recommended that you consider purchasing a switched power strip with built in surge protection. The control box and your computer would be plugged into this switched surge protector power strip to minimize the opportunity for damage to occur as a result of a power surge.

You may also want to use a dedicated electrical circuit for the CNC Shark. Turning on a shopvac or other power tool on the same leg may cause a momentary change in the power supplied to the CNC Shark.

If you know that the power you receive fluctuates significantly, you may also want to use a power conditioner and battery backup device. This will ensure the longest life of your CNC Shark electronic components.

You should arrange the drive motor cables, power cables, and USB cable in a manner that minimizes overlap, even amongst cables of the same purpose. This will reduce any opportunity for signal interference as a result of cables 'laying on top of each other'.

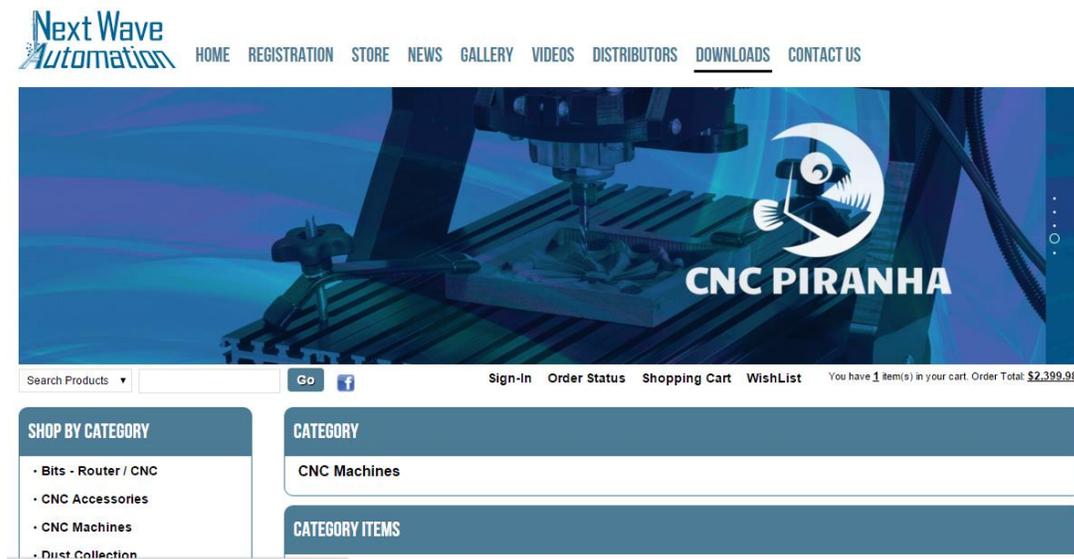
Software Installation

The Shark Control Panel must be installed before you can connect to the Shark Control Box using a USB cable and complete the system setup. Follow the instructions on loading the Control Panel located on the download page at www.cncshark.com

You can also choose to install the Vectric software products that you may have purchased on the same computer you are going to use with the Shark Control Box, or a separate computer. These software packages come with their own installation instructions. If you have any difficulty installing the Vectric products, please contact Vectric support for resolution.

Getting the Latest Software

Open up your web browser (e.g. Internet Explorer, Chrome, etc.) and go to the website www.CNCShark.com. Click on the 'Downloads' section located on the left side of the page.



Web Page Downloads Section

The Downloads page has several sections –

- Vectric Trial Downloads
- CNC Shark Control Instructions
- Microsoft Patches
- CNC Shark Post Processors – USB Version
- CNC Shark Digital Touch Probe Software

Systems Check

Once you have the control panel and any updates loaded you are now ready to perform a systems check. During the systems check, you will connect the computer to the Shark Control

Box using a USB cable, confirm that the Shark Control Panel is able to communicate with the Shark Control Box, jog the gantry, load and run the test toolpath file, and update the firmware.

Computer/Shark Control Box

With the computer turned on, the user logged in, but without first running the CNC Shark Control Panel, and the Shark Control Box turned off, connect the USB cable to the Shark Control Box and the computer.

Once the USB cable is plugged into the computer and the Shark Control Box, turn on the power to the Shark Control Box. You may see a message appear in the lower right corner of the screen in the task bar about finding new hardware.



Found New Hardware Message

If you do, a Found New Hardware Wizard will open. Select 'No, not at this time' to the choice about connecting to Windows Update to search for the software, and click on Next.



New Hardware Wizard - Do Not Connect to Windows Update

You are then given a choice on how the Wizard will install the driver. Select 'Install the software automatically' and click on Next.



New Hardware Wizard - Install the software automatically

During the driver installation you will receive a warning dialogue – click on ‘Continue Anyway’.



Hardware Installation Warning - Continue Anyway

The system will report a successful installation of the driver. Click on Finish to close the window.



New Hardware Wizard – Success

After closing this window, a message will appear in the lower right hand corner of the screen in the task bar indicating that the new hardware was successfully installed and it is ready for use.



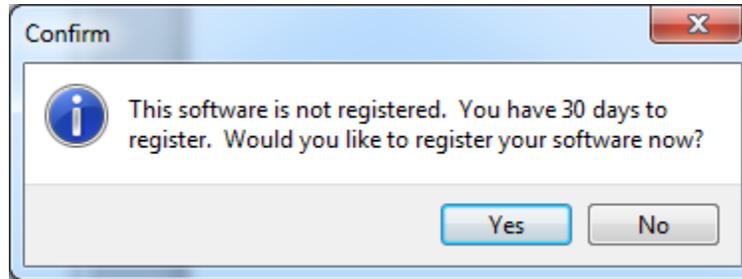
New Hardware Installed and Ready for Use

Shark Control Panel Checkout and Jog

At this point you have connected the computer to the Shark Control Box via a USB cable, and the Shark Control Box is turned on. Start the CNC Shark Control Panel – from the Start, Programs, CNC Shark Control Panel programs group by clicking on the CNC Shark Control Panel shortcut; or by double clicking on the CNC Shark Control Panel shortcut you created on the desktop.

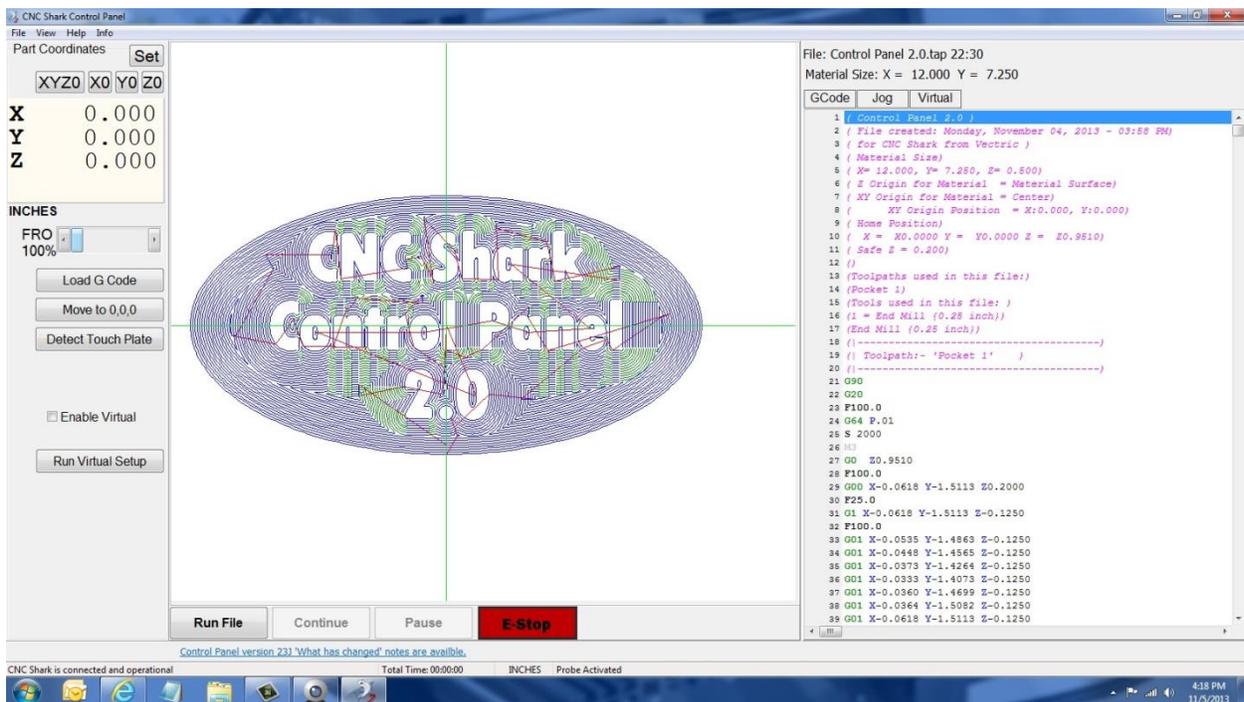
Connect the Shark Control Box to the computer using the USB cable, and power on the Shark Control Box. Start the CNC Shark Control Panel – from the Start, Programs, CNC Shark Control Panel programs group by clicking on the CNC Shark Control Panel shortcut; or by double clicking on the CNC Shark Control Panel shortcut you created on the desktop.

As the application starts for the first time, you will see a reminder to register the software. Registering the software is discussed below. This reminder will occur every time you open the application until the software is registered. For now, hit the 'No' button to continue.



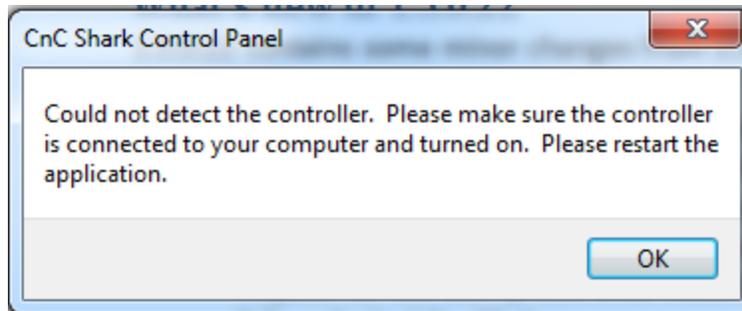
CNC Shark Control Panel Registration Reminder

The CNC Shark Control Panel displays on the screen.



CNC Shark Control Panel

If the Shark Control Box is not connected and powered on, you will see the message below informing you of the condition. After hitting 'OK', the Shark Control Panel will close. Connect the Shark Control Box, power it on, and start the Shark Control Panel.



Control Box Not Connected or Powered On at Start Up of Shark Control Panel

If you turn off the Shark Control Box or disconnect the USB cable after the Shark Control Panel is open, the controls will gray out and become inactive. In the lower left hand corner you'll see a message – Please check CNC Shark power and USB cable. This is indicating that the CNC Shark Control Panel is currently not able to communicate to the Shark Control Box.

Note the message in the lower left corner – 'Shark is connected and operational'. This indicates that the CNC Shark Control Panel is successfully communicating with the Shark Control Box.

A comprehensive description of each of all of the CNC Shark Control Panel's functions is found in the Shark Control Panel manual. For purposes of completing the systems check, click on the Jog tab. The Jog portion of the CNC Shark Control Panel is now displayed.

Update the Firmware

Ensure that the CNC Shark Control Panel is closed, but the Shark Control Box is powered on and connected to your computer via the USB cable. Start the CNC Shark Firmware Updater – from the Start, Programs, CNC Shark Control Panel programs group by clicking on the CNC Shark Firmware Updater. The CNC Shark Firmware Updater displays on the screen.

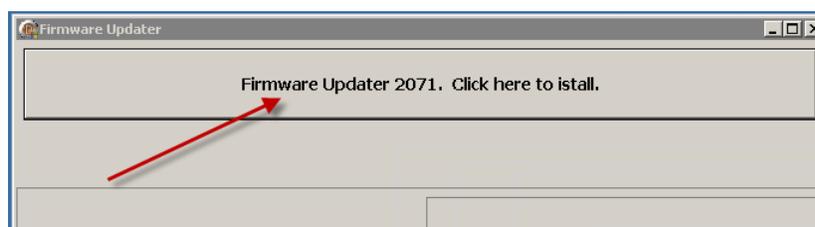
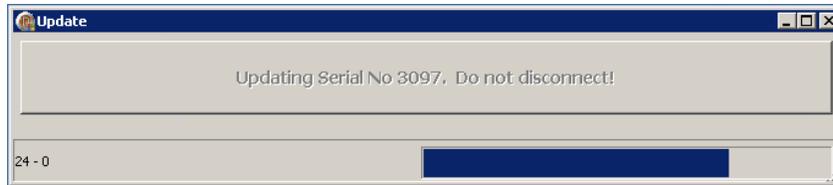


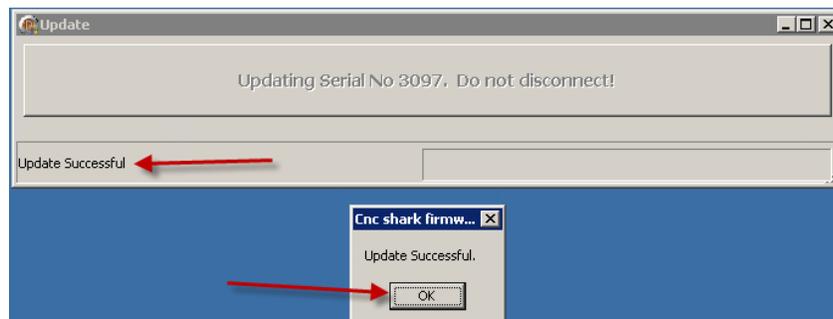
Figure 1 - CNC Shark Firmware Updater

Click on the 'Click here to Start Firmware 2071 Update' button to start the firmware update. The CNC Shark Firmware Updater displays a status bar to indicate the progress of the firmware update.



CNC Shark Firmware Updater - Progress of Update

A new window opens to indicate success. Also note that the status of the firmware update is now present in the lower left corner of the CNC Shark Firmware Updater. Click Ok on the notification window. The notification window and the CNC Shark Firmware Updater will close.



CNC Shark Firmware Updater – Success

Don't be confused if the file name or version number of the Firmware Updater on the Documents web page is different than that listed in this manual. A difference in name or version number only indicates to you that a new version of the Firmware Updater is available to you.

You have now successfully updated the firmware in your Shark Control Box. There is one last step to complete the systems check and installation – register the software.

CNC Shark Control Panel Registration

Registering the software is a new feature of the CNC Shark Control Panel and Next Wave Automation's commitment to improving the product and support. The software is fully functional for up to 30 days after installation while registration is pending. This registration process is available on the download page at www.cncshark.com

Maintenance

Routine

Besides keeping the machine generally clean – it's a good idea to remove all dust and debris after a job – the primary maintenance task is to lubricate the lead screws (spiral rods) and support rods. While any lubricant will work, a silicon teflon spray is recommended. This can be found at any hardware or 'big box' store. Apply the lubricant, jog the gantry the length of the

axis and back again. Holding a cloth or rag against the lead screw, repeat the jogging motion. This removes any excess lubricant and cuts down on the opportunity for dust and debris to build up by clinging to the lubricant. Repeat these steps with the guide rails.

Repair Parts and Upgrades

Repair parts for the Shark are available online in the Next Wave Automation Store at the Next Wave Automation web site – www.nextwaveautomation.com.

Questions about upgrades and other modifications can be made directly to Next Wave Automation via email or phone.

Control Box Fuses

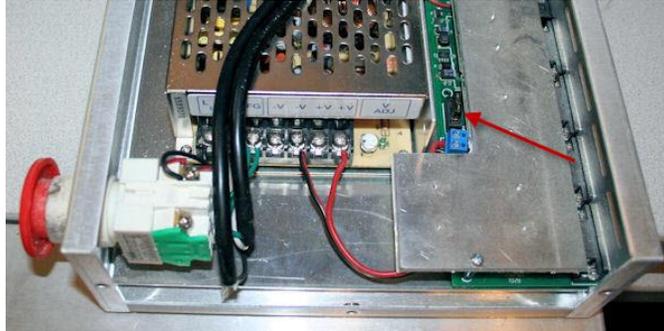
The Enhanced Control Box has two fuses.

One is located in a small drawer under the AC power cord connector. A spare fuse is supplied and in the drawer. Turn off the Shark Control Box, remove the AC power cord, and using a small flat tip screwdriver, slide the box away from the chassis. Inspect and replace the fuse if necessary. This fuse is 8 amp for units delivered to Canada, and 10 amp everywhere else.



Shark Control Box Power Cord Fuse

The second fuse is located on the electronics board inside the enclosure. Turn off the Shark Control Box, remove the AC power cord, and remove the screws that hold the enclosure cover on. The fuse is a 7.5 amp blade type fuse that can be purchased at any electronics store.



Blade Fuse on Electronics Board

Optional Accessories

CNC Shark Touch Probe

The CNC Shark Touch Probe is an accessory that can be used with any of the CNC Shark machines. The CNC Shark Touch Probe is used for replicating basic shapes in carvings or reproducing damaged areas on antiques or other irreplaceable items. The probe attaches to the router, and can trace objects down to 0.001" step resolution. The resulting scan file can be edited if needed and then be replicated on the CNC Shark.



CNC Shark Touch Probe

4th Axis

Create precision turned spindles or columns that include intricate carvings and designs that will astonish your clients. With virtually a plug and play design, the CNC shark 4th axis easily bolts to your existing shark bed. It comes complete with a nova precision midi 4 jaw chuck and features a standard 1"X 8 tpi drive shaft to allow you to use just about any of your lathe accessories. Machined from solid aluminum stock the cnc shark 4th axis is built to last. The 4th axis can also be placed diagonally along cnc bed for maximum length capacity.



NOTE: Your CNC Shark may require an additional control board, check out the website when ordering to be sure.

Laser Module

An interchangeable Laser Module that mounts in the collet of your router that will enable you to create detailed photographic engravings, images and lettering.



NOTE: Interface required For adapting the Laser Module on any Shark Controller prior to HD3

Information Resources

Next Wave Automation

www.nextwaveautomation.com or www.cncshark.com

Manufacturer of the CNC Sharks. The website has software and documentation downloads as well as other general product information.

Vetric

www.vetric.com

Producers of the **VCarve Pro** software package. The Vetric website has product information, FAQs, on-line tutorials, and an excellent user forum. Keep in mind that Vetric supports Vetric software, not the CNC Shark; although there are some Shark-specific threads in their Forum.

CNC Zone

www.cnczone.com

All kinds of CNC information. Includes a “Woodworking Machines” forum with some Shark-specific threads and many other interesting discussions – including how to build your own CNC routing system (or why it might be a better idea to just buy one).

Router Forums

www.routerforums.com

A discussion board site; check out their “CNC Routing” router category for both general and Shark-specific threads.

CNC Information

www.cncinformation.com

A general CNC information website that includes a forum, articles, a free e-learning course about CNC and a free G-code Quick Guide.

Woodshred

www.woodshred.com

A general woodworking information website that includes some interesting articles about adapting and customizing the Sharks.

VectorClip3D

www.vectorclip3d.com

Vendors of CNC-ready, **Vetric** compatible three-dimensional clip-art models.

Tooling Suppliers

This is by no means a complete list.

Rockler	www.rockler.com
Woodcraft	www.woodcraft.com
PreciseBits	www.precisebits.com
Onsrud	www.onsrud.com
VTC	www.vanguardtool.com
MLCS	www.mlcswoodworking.com
American Carbide	www.american-carbide.com
2L Inc	www.2linc.com
Bits & Bits	www.bitsbits.net
Amana Tool	www.amanatool.com
Centurion Tools	www.centuriontools.com
Toolstoday Router Bits	www.toolstoday.com

Computer Requirements

The Vectric software supplied with your machine is more computationally and graphically intensive than the CNC Shark Control Panel software. The current minimum system requirements for running both Vectric software and the CNC Shark Control Panel on the same computer are:

- 2 GHz Pentium 4
- 60 Mb Disk Space
- 2 Gb RAM
- 1024x768 graphics display
- DVD ROM drive
- USB 2.0
- Operating system: Windows XP with SP3, Windows Vista, Windows 7, 8.0, 8.1, & 10

Vectric design software will run faster with a better processor and more memory than listed in the minimum system requirements. While loading a tap file to the Control Box may be slightly faster in the same case, the operating speed of the CNC Shark machine is not affected by the 'power' of the computer used to connect to the Control Box.

Other operating systems, for example iOS (Apple) and Linux, are not currently supported.

The computer used to connect to the Control Box must have a USB 2.0 port. If a USB hub is used between the PC and the Control Box, it must be a 'powered' USB 2.0 hub. The Control Box will not work with a computer connected with a USB 1.0 or 1.1 port, or a USB hub that is not powered.

There is no requirement to run the Vectric software on the same computer as you use in the shop to connect to the Shark Control Box.

Installing the CNC Shark Post Processors in Vectric Products

Vetric's software comes with CNC Shark post processors installed. However, Next Wave Automation periodically updates these, and you may want to install the latest CNC Shark post processors. Photo VCarve may not have the CNC Shark post processors installed.

You can update the post processor used by any Vectric product by downloading the latest version from the Downloads page and copying it to the Vectric product's post processor folder.

You will find specific instructions on the downloads page on www.cncshark.com