

# Ready2Control

User's Manual

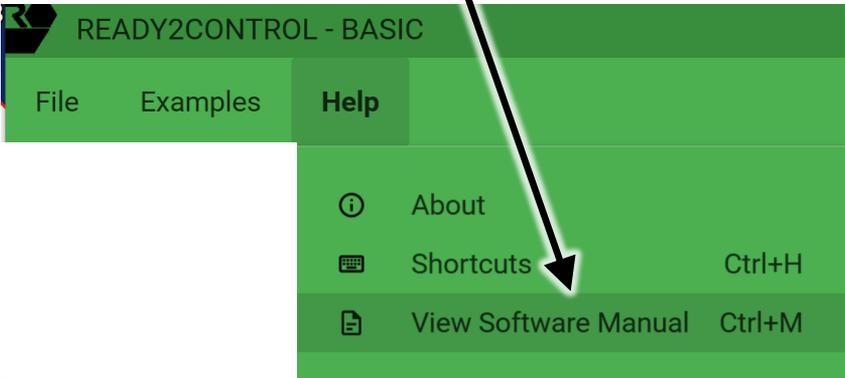


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Software copyrighted by Next Wave CNC. All rights reserved.  
Virtual Zero Unlimited is patented by NWCNC  
All other trademarks are the property of their respective owners.

**Information in this manual is subject to change without notice.**

**This manual will be periodically updated.  
New versions (when available) can be  
downloaded from Help menu.**



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## To Our Customers

Thank you for choosing **Ready2Control** software. **Ready2Control** includes a broad set of machine control tools that are used to operate your Next Wave CNC from a computer. Please read this manual carefully. It provides setup and operational information for the **Ready2Control** software. It has been written with the assumption that the user is experienced with the basic operation of a computer as well as the technical knowledge required to safely operate power tools including your Next Wave CNC machine. Refer to the owner's manual for your specific CNC product for information on its operation.

## Two Editions

**Ready2Control** is offered in two editions. The first is **Ready2Control-Basic** and the second is **Ready2Control with Virtual Zero Unlimited (VZU)**. The only difference between the two editions is the second includes the VZU functions. The Basic edition can be upgraded to the VZU version – [See page 58](#) for more information. The information in this manual applies to both versions of **Ready2Control**. A separate User's Manual is available for VZU.

## Product Warranty

Next Wave CNC warrants **Ready2Control** to perform as intended and will provide customer support when used in association with applicable Next Wave CNC machines. Warranty only applies to the current version of the software or the support needed to update to the current version. The cost of the software upgrade (if any) is not covered by the warranty.

## System Requirements

**Ready2Control** software can be used on any PC computer that is running Windows 10 and has a USB port. The software can be used with any Next Wave CNC machine that has a controller box equipped to use a Next Wave Pendant. The Controller box firmware may need to be updated to run **Ready2Control** software. Information on updating the firmware is included in this manual. If your Control box doesn't use a Pendant, please call our Sales team at (419) 318-4822 to discuss your upgrade options.

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## Technical Support

If you need technical assistance with **Ready2Control** software or any of your Next Wave CNC products please visit our Support webpage at: [NextWaveCNC.com/support](https://NextWaveCNC.com/support) or email our support team at [support@NextWaveCNC.com](mailto:support@NextWaveCNC.com). Include your product model number, date of purchase, and any other pertinent information that may be helpful such as .tap files, .crv files, screen captures, and photos of your setup or problem.

**Ready2Control** also has a build-in “Issue Reporting” tool that sends your **Ready2Control** software questions directly to our software team. [See page 49](#) for more information.



**When operating machinery always wear the appropriate ear and eye protection and follow all safety instructions per the owner’s manual and related equipment manuals.**

### **READ FIRST**

#### **IMPORTANT**

- Follow the steps in order.
- Don't skip any steps unless instructed to do so.

The **START HERE** instructions are divided into five major sections. They cover the steps involved in installing the software and using it with your CNC.

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#### **PROBLEMS?**

If something doesn't seem to be working correctly, try repeating the previous step(s) a couple times—it's easy to miss a step. If that doesn't solve the problem, please contact our Tech Support team by email or phone at:

Email: [support@NextWaveCNC.com](mailto:support@NextWaveCNC.com)

Phone: (419)491-4520

Available: 9 am – 5 pm Monday-Friday (Eastern time)

## Section 1 - Create a Next Wave Portal Account

---

If you already have a Next Wave Portal Account, skip to [step 1.8 on page 9](#).

**NOTE:** Your tool may differ from the one shown above. That's OK, the following steps apply to all Shark CNCs with a USB connection.

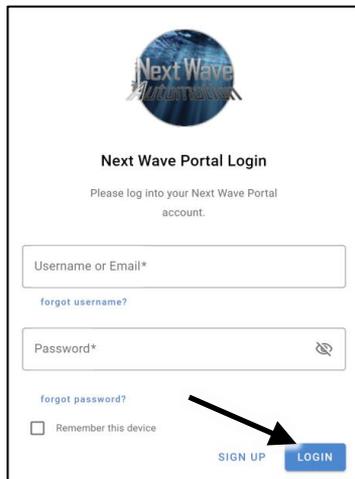


**1.1** You will use your computer to control the Next Wave CNC machine. **BUT DO NOT CONNECT THE TWO AT THIS TIME.**

**Note:** Ready2Control software only runs on computers using Windows 10.

**1.2** Open a web browser on the computer you plan to use with your Next Wave CNC and go to <https://portal.NextWaveCNC.com>

**1.3** The Next Wave Portal Login screen will appear. Click on **SIGN UP**



Next Wave  
Alternatives

Next Wave Portal Login

Please log into your Next Wave Portal account.

Username or Email\*

[forgot username?](#)

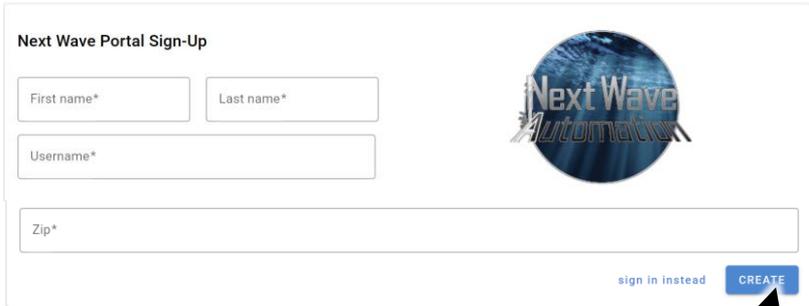
Password\*

[forgot password?](#)

Remember this device

[SIGN UP](#) [LOGIN](#)

## Create a Next Wave Portal Account (cont.)



Next Wave Portal Sign-Up

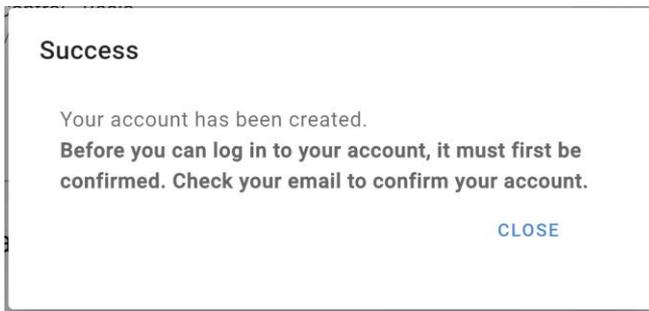
First name\* Last name\*

Username\*

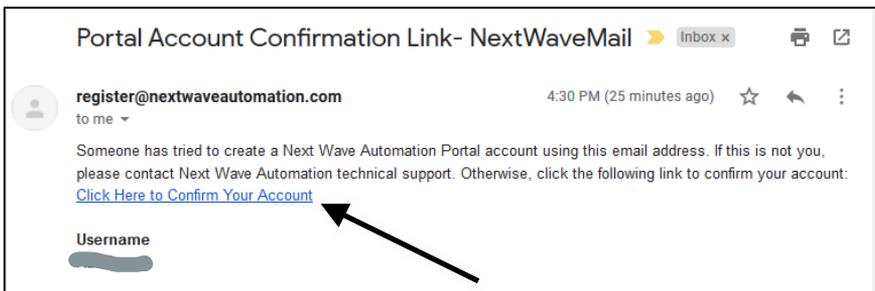
Zip\*

sign in instead **CREATE**

- 1.4 Fill in the information on the **Next Wave Portal Sign-up** page. Then click **Create**.



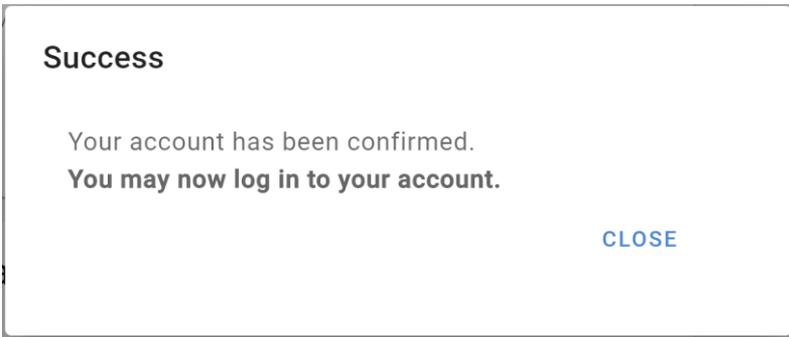
- 1.5 You should receive a **Success** message. Check your email for a confirmation message. If you don't see the email, check your Spam folder.



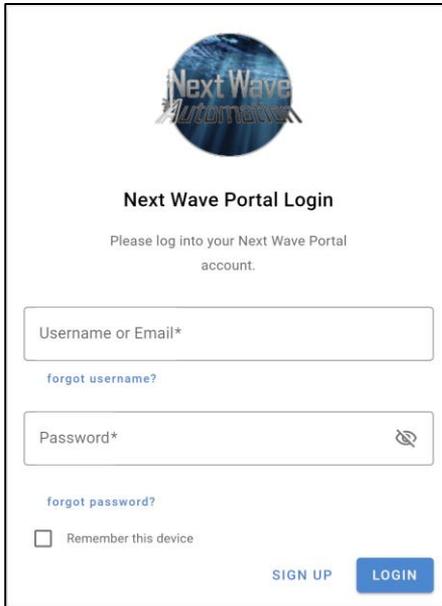
- 1.6 Click the Confirmation link in your email. You should receive a pop-up notice confirming that your account has been created (see next step).

## Create a Next Wave Portal Account (cont.)

---



1.7 Once your Account is confirmed, click **Close**





**Next Wave Portal Login**

Please log into your Next Wave Portal account.

Username or Email\*

[forgot username?](#)

Password\*

[forgot password?](#)

Remember this device

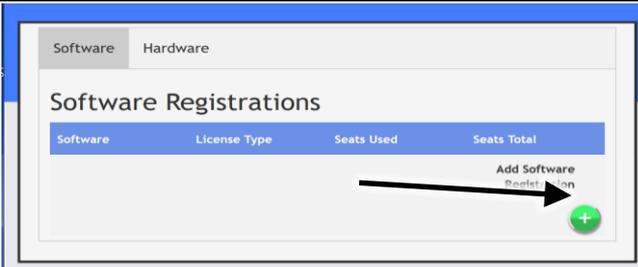
[SIGN UP](#) [LOGIN](#)

1.8 Go to the Portal Login (<https://portal.NextWaveCNC.com>) and **Login** with your Username and Password. This will take you the Software Registration and download page.

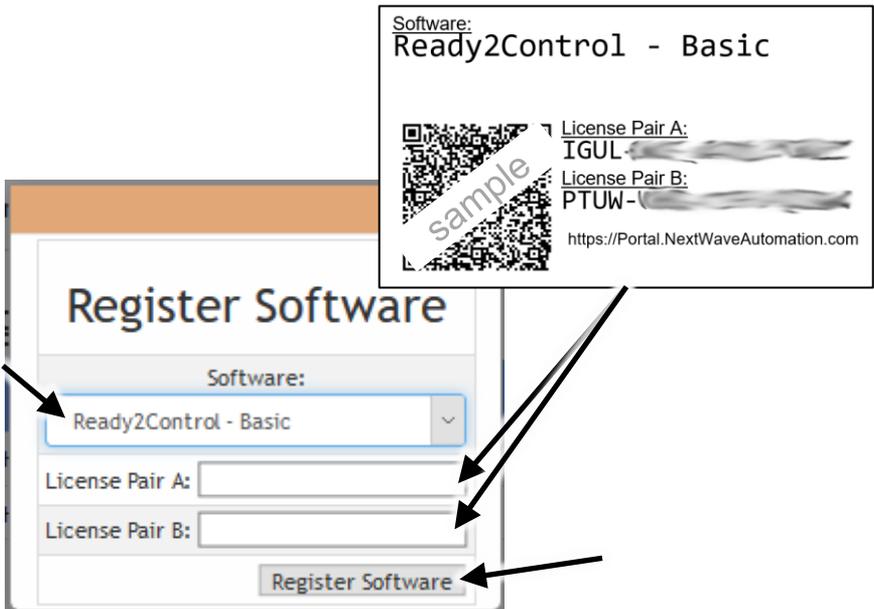
**This completes Section 1 – Create a Next Wave Portal Account**

## Section 2 – Install Ready2Control

**NOTE:** This installation process works for both Ready2Control-Basic edition and Ready2Control VZU (Virtual Zero Unlimited) edition. Ready2Control VZU is available as an upgrade to the Basic edition. See [page 58](#) for more information about VZU. VZU comes with a separate owner’s manual.

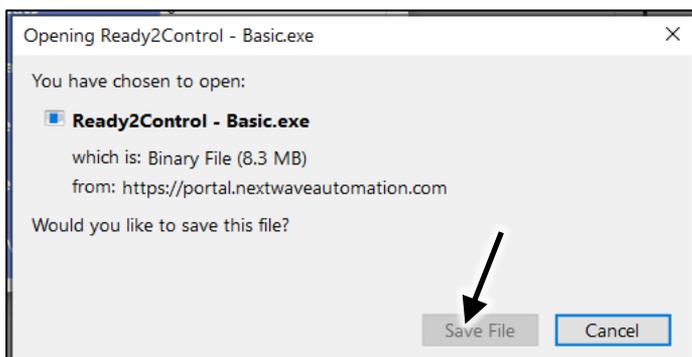


**2.1** In the Software window, click the **+ Add Software Registration** button to start the download and install process for Ready2Control software.



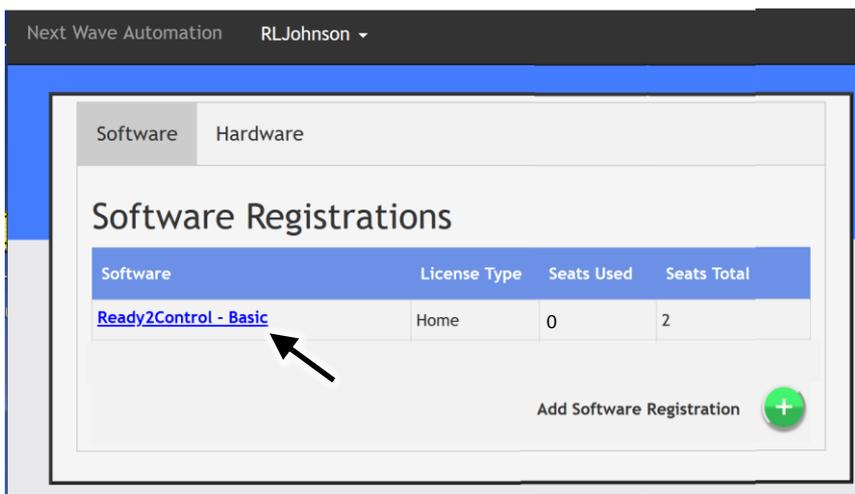
**2.2** From the dropdown menu, select the **Ready2Control** software that matches your license - Enter the **License Pair** codes from the card or email that you received.  
- Press **Register Software**. The software will now attempt an automatic download. This may take a minute or two.

## Install Ready2Control (cont.)



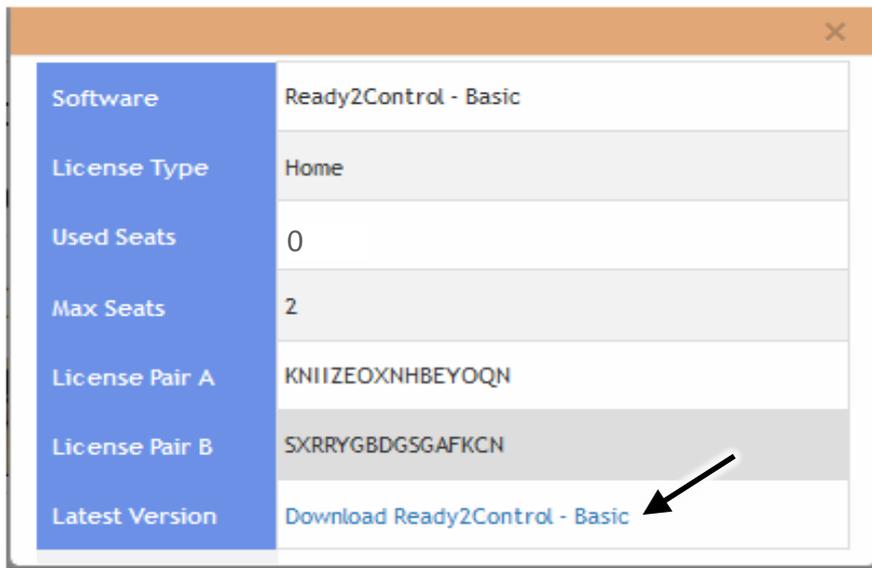
**2.3** If a Save window appears, click **Save File**, and pick a folder on your computer save the file. If the Save window (shown above) doesn't appear, check your download folder, the file (Ready2Control-Basic.exe or Ready2Control.exe) may be there. If you find it, then skip to step 2.6 on the next page. You may also get the option to Run or Open the file – if you do, then Run/Open the file and then skip to step 2.7

- If one of the options above do not appear, go to Step 2.4 (below) for another way to download the program.



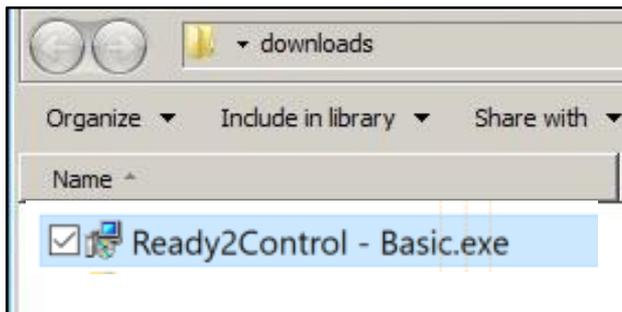
**2.4** Ready2Control-Basic or Ready2Control will now appear in the Software list. Click on the software name to access the Software information window.

## Install Ready2Control (cont.)



**2.5** In the Software information window, click the link to download the latest version of Ready2Control.

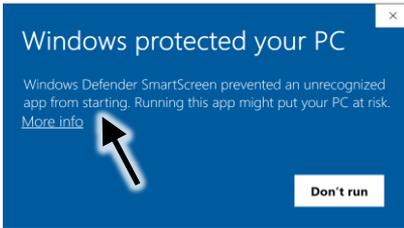
What happens after you press the **Download** link will vary depending on your computer setup. It may ask you to save it to a folder or it may save the file directly to your Downloads folder. If you don't see where it downloaded, do a Search on your computer for **Ready2Control** to locate the file.



**2.6** Locate the file on your computer and click on it to start the install process.

## Install Ready2Control (cont.)

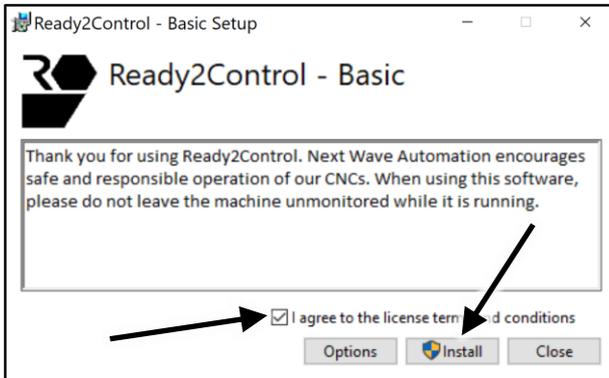
**NOTE:** You may need to grant permission to your computer if it does not recognize the Ready2Control program.



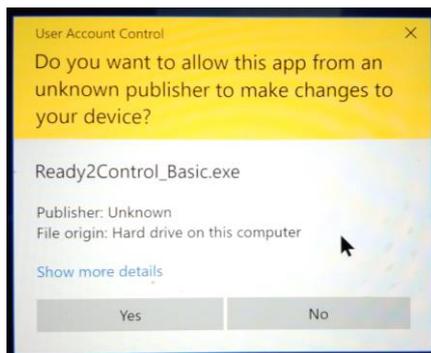
**2.7** If you get this message, select **More Info**.



**2.8** Then click **Run anyway**.

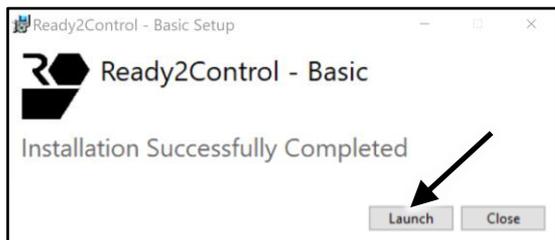


**2.9** Check the **I Agree...** box and then click the **Install** button.



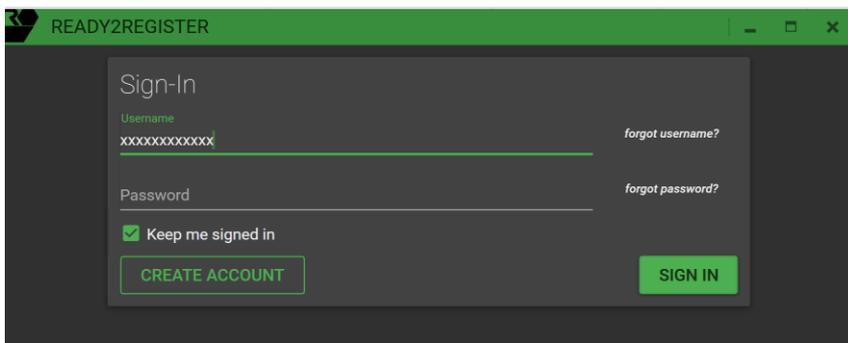
**2.10** If you receive this message click **Yes**.

## Install Ready2Control (cont.)

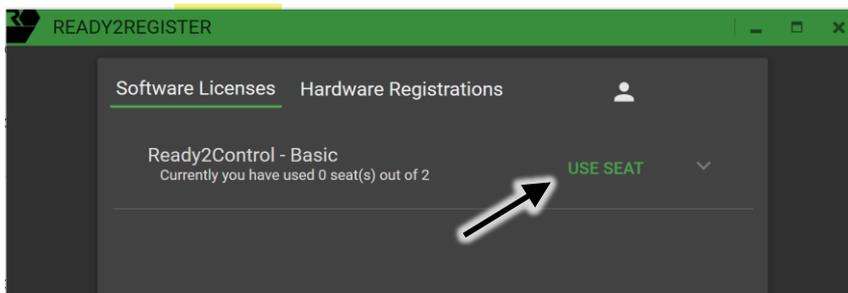


### 2.11 Press **Launch**

This will open the Ready2Register window.

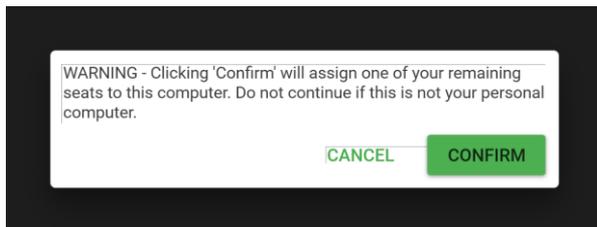


**2.12** If the Sign-In window appears, sign in using your Portal account name and password. Also, if you check the box for **Keep me signed in**, it will simplify the current install process and future updates.

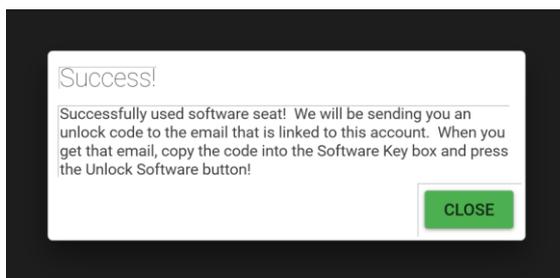


**2.13** After you've signed in, you will see Ready2Control in the Software Licenses list. Click on **USE SEAT**. This will assign a copy of the software to the computer you are currently using.

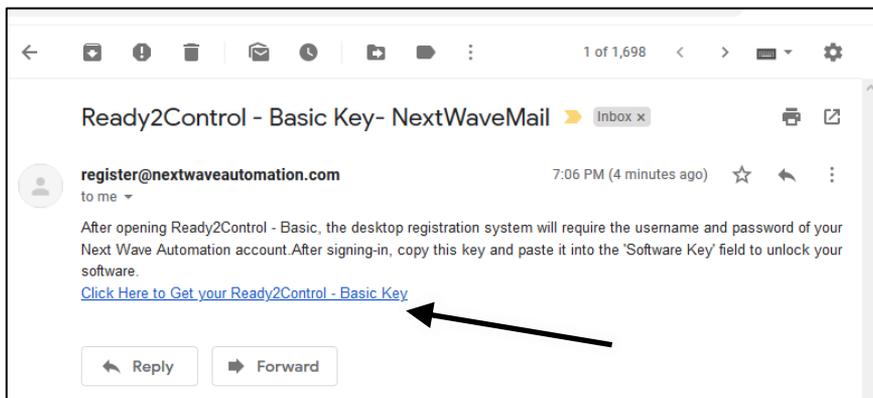
## Install Ready2Control (cont.)



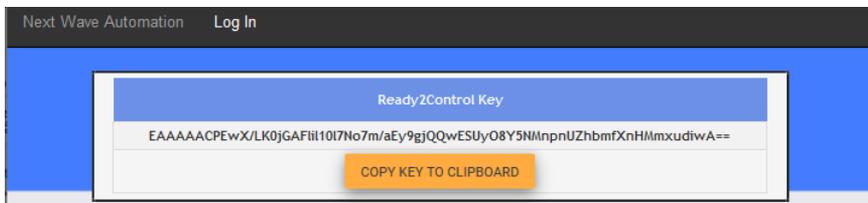
**2.14** This message will appear next. Click **CONFIRM**.



**2.15** Next **check your email** for the Unlock Code/Software Key.

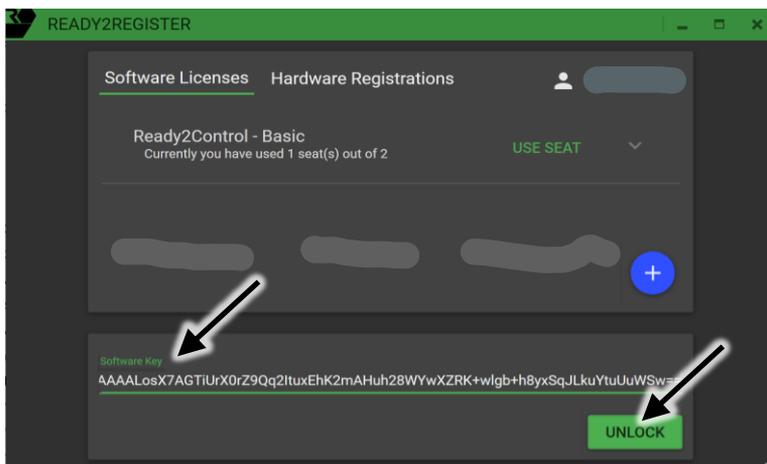


**2.16** Click on the link in your email to access your **Software Key**.



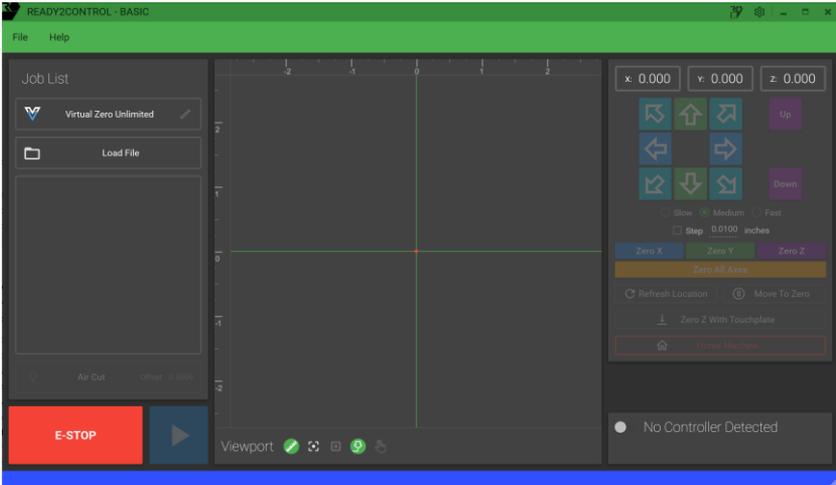
**2.17** The Software Key window appears next. Click **Copy Key To Clipboard**. The software will attempt to automatically paste the key into your copy of Ready2Control. If successful, Ready2Control will automatically open. If it opens, skip to step 2.19 on the next page.

If the key fails to auto-paste, you will be given the option to manually paste the Key into the software registration window – see step 2.18 below.



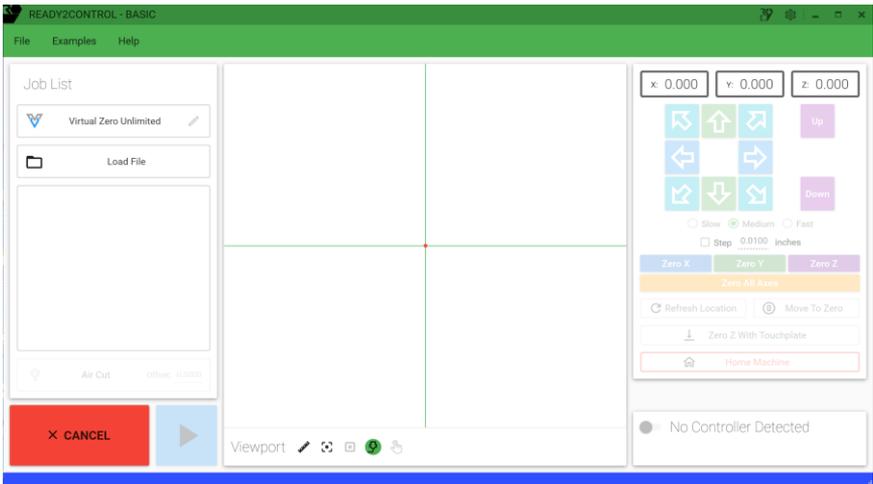
**2.18** If this window appears, paste the key into the space at the bottom and click **Unlock**. This will unlock and launch Ready2Control.

## Install Ready2Control (cont.)



2.19 The main window for Ready2Control will now appear.

The default theme (color scheme) for Ready2Control is the “Dark” theme (shown above). You can switch to a “Light” theme (shown below) in the General Settings window. [See page 43](#) for instruction on how to change to a “Light” theme.



Ready2Control using a “Light” theme.

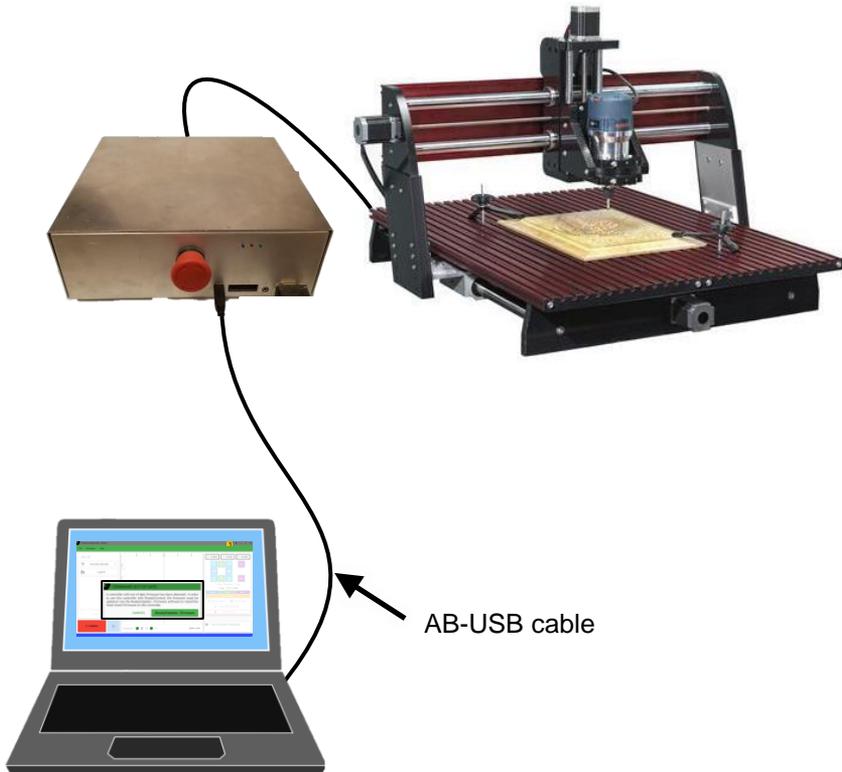
This completes **Section 2 – Install Ready2Control**

## Connect your machine

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**NOTE:** Your control box may differ from the one shown below, but if it has a USB port, then the following instructions still apply.

**NOTE:** Your Next Wave CNC machine may differ from the one shown below. But, the instructions in this section still apply if the control box on your machine has a USB port,



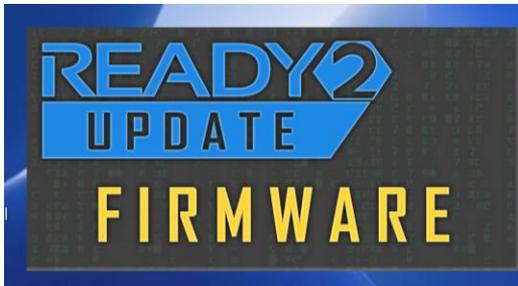
**3.1 Connect your computer** to the control box with the AB-USB cable and turn ON the power switch on the control box.

## Connect your machine (cont.)



**3.2** The **FIRMWARE OUT OF DATE** pop-up window may appear the first time you connect Ready2Control to your Next Wave CNC machine. Click the **Ready2Update-Firmware** button to start the update process.

**If you don't get this pop-up, skip to step 3.4 on [page 20](#).**

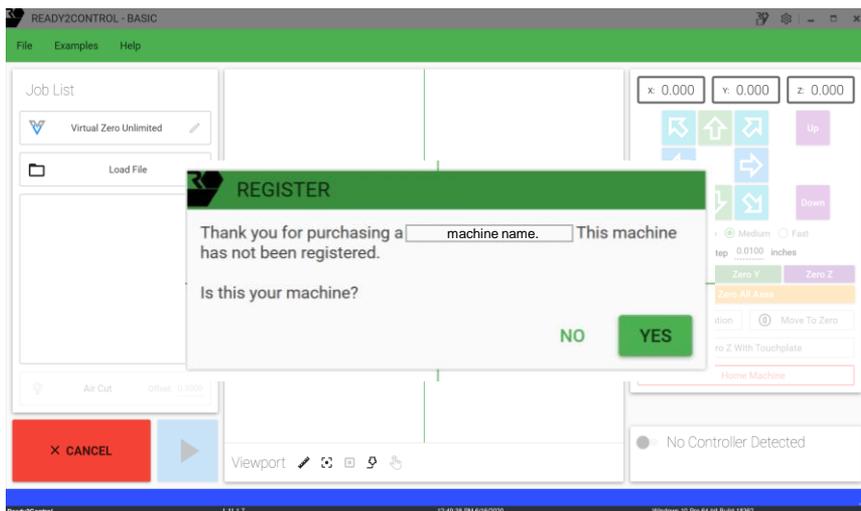


**3.3** The **Ready2Update-Firmware** app will automatically launch. The Ready2Control software window will also automatically close.

Follow the onscreen prompts. They will guide you through the download and updating process. At the end of the process you will be given the options to re-launch the Ready2Control.

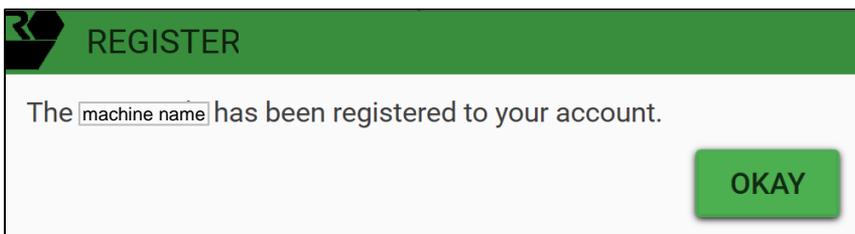
**PROBLEMS?** If something doesn't seem to be working correctly, try repeating the process a couple times—If that doesn't solve the problem, please contact our Tech Support team by email or phone at: Email: [support@NextWaveCNC.com](mailto:support@NextWaveCNC.com) or Phone: (419)491-4520 Available: 9 am – 5 pm Monday-Friday (Eastern time)

## Connect your machine (cont.)



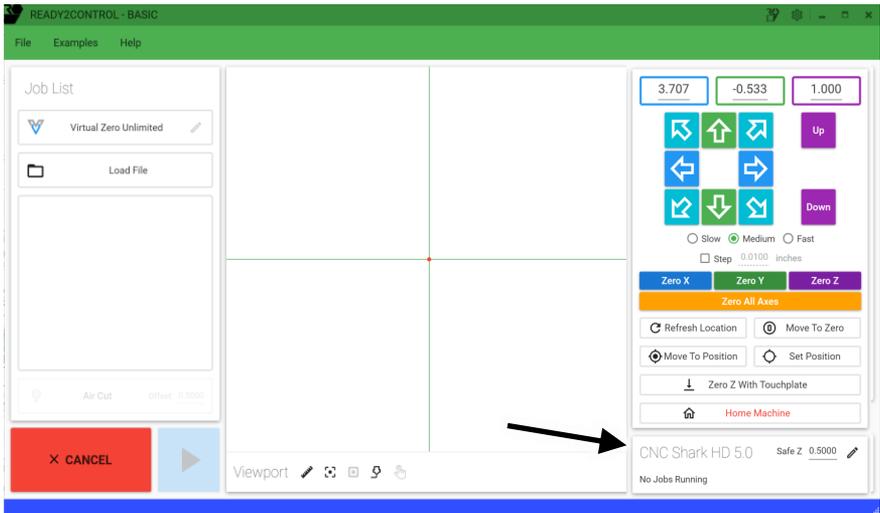
**3.4** The first time Ready2Control is opened after updating the firmware, this message will appear, or the first time you connect your Next Wave CNC to Ready2Control. Clicking **YES** will register your machine to your Portal Account. If you're not logged in, it will also prompt you to log into your portal account.

If you're not the owner or don't wish to register the machine, click **NO**. This will simply bypass registration.



**3.5** Click **OKAY**

## Connect your machine (cont.)



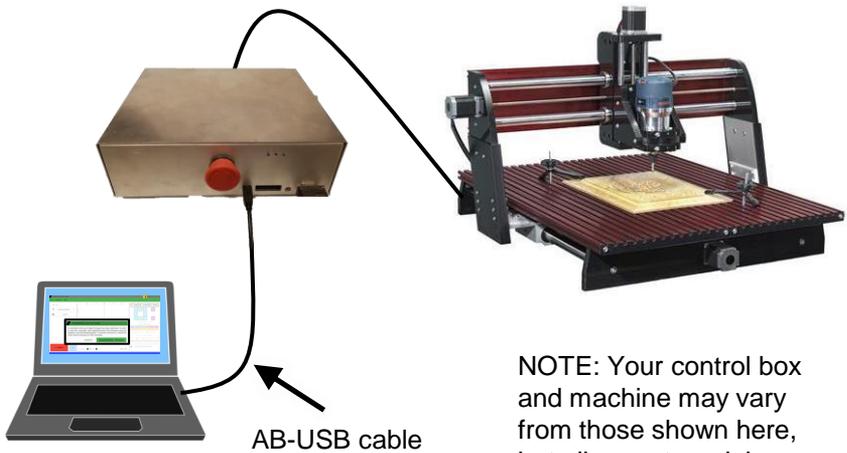
**3.6** Your machine is now connected to **Ready2Control**. The name of your machine appears in the lower right.

## Section 4 – Ready2Control Workflow

**NOTE:** This section provides a basic overview of the workflow of Ready2Control when connected to your Next Wave CNC machine. **This section assumes you are already familiar operating your Next Wave CNC.**

If you are new to CNC, please also refer to the Owner's manual for your machine for details on running your specific machine. It's also recommended that you work through the Ready2Carve Projects ([page 27](#)). The Ready2Carve projects provide a hands-on way to practice the Ready2Control workflow with your Next Wave CNC. They are especially useful if you are new to CNC.

If you're looking for detailed information about specific buttons and functions in Ready2Control see [pages 29-59](#)



NOTE: Your control box and machine may vary from those shown here, but all recent models have a USB port.

**4.1** Open the **Ready2Control** software.

**4.2 Connect your computer** to the control box with the USB AB cable and turn ON the power switch on the control box.

NOTE: Your control box and machine may vary from the pictures above. But all recent models have a USB port.

**4.3** Secure your project material to the table of your machine using the provided clamps (or other method) and install the appropriate bit in the router.

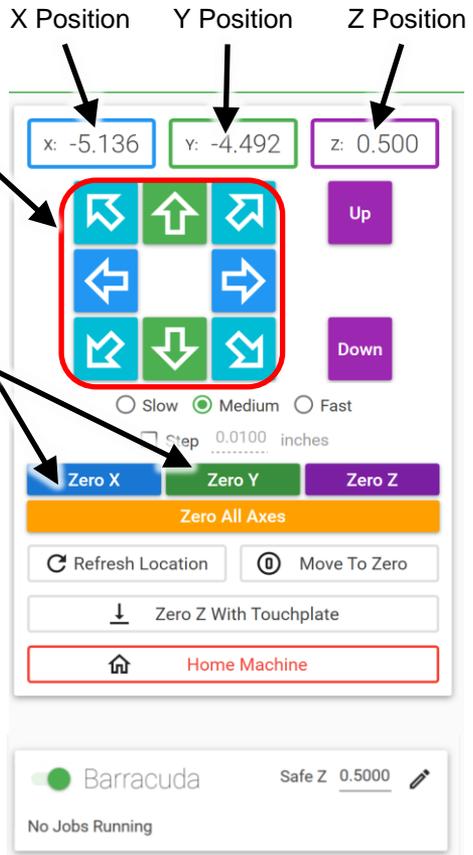
**4.4** Use the arrow buttons to move the X and Y Axes (router bit) to the XY Zero (datum point) for your project.

**4.5** Zero the X and Y axes using the **Zero X** and **Zero Y** buttons. The X and Y position fields at the top of the window will zero-out and display 0.000

**4.6\*** Use the purple **Z Up** and **Down** buttons to move the tip of the router bit to the Z Zero location you set in your VCarve file. When starting out, this is usually the top of the material.

You can also use the Slow jog speed and the Step settings will help you approach the Z zero position more precisely. Sliding a piece of paper back and forth under the bit will also make it easier to sense when the bit reaches the Z zero location.

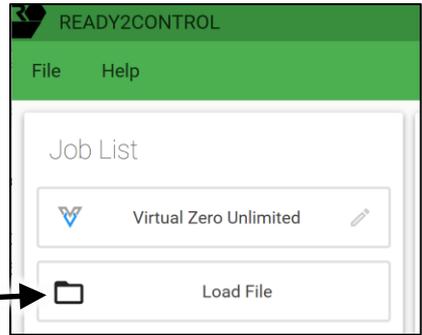
When the bit is correctly positioned, press the purple **Zero Z** button. The Z position field at the top of the window will zero-out and display 0.000. Next, use the purple **Up** button to move the Z axis up about .5 in. so the router bit is safely above the material.



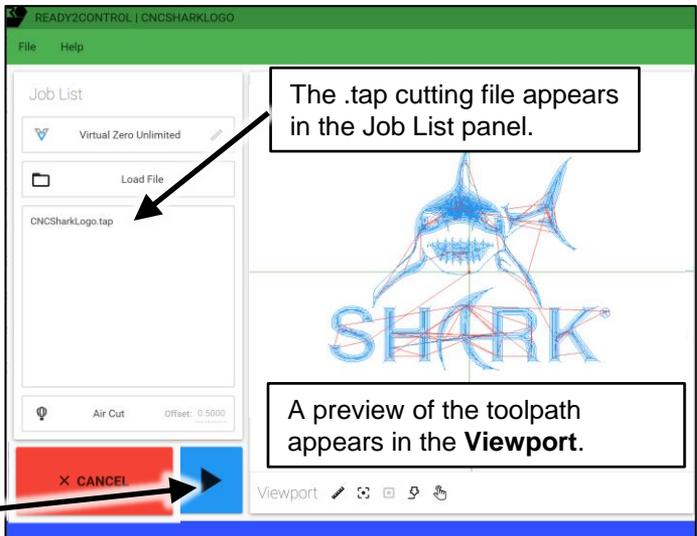
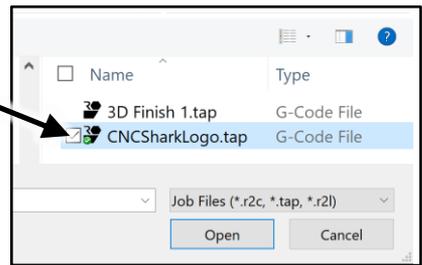
\*OR If you have a touch plate, use the process described on [pages 55](#) to zero the Z axis.

## Ready2Control Workflow (cont.)

4.7 Click on **Load File**.



4.8 Select your **.tap** cutting file.  
(This file is created using Vectric VCarve software)



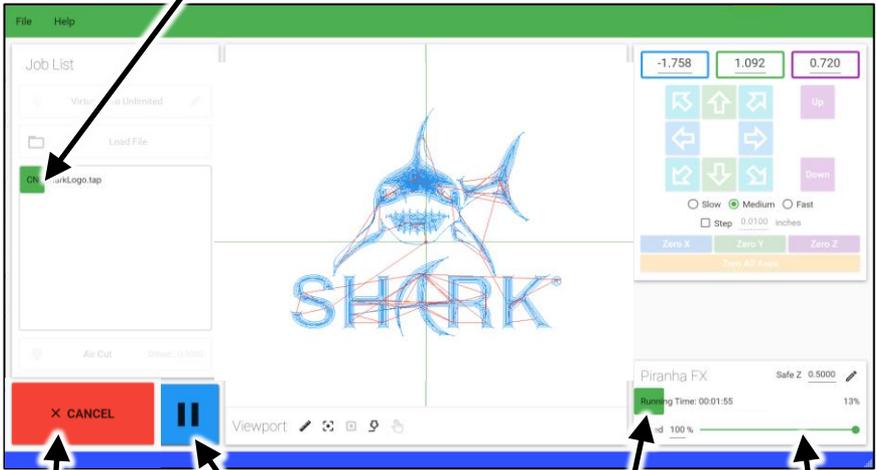
4.9a Start the Spindle or Router (router auto-starts on some models).

4.9b Press the blue **Run** button to start the file. The CNC will now start moving and cutting the design.

## Ready2Control Workflow (cont.)

The information on this and the next page describe some of the basic functions that are useful when running a file.

A progress bar appears behind the file name as the file cuts.



Pressing the blue Pause button will pause the machine. Press it again to restart the file at the same place you paused it.

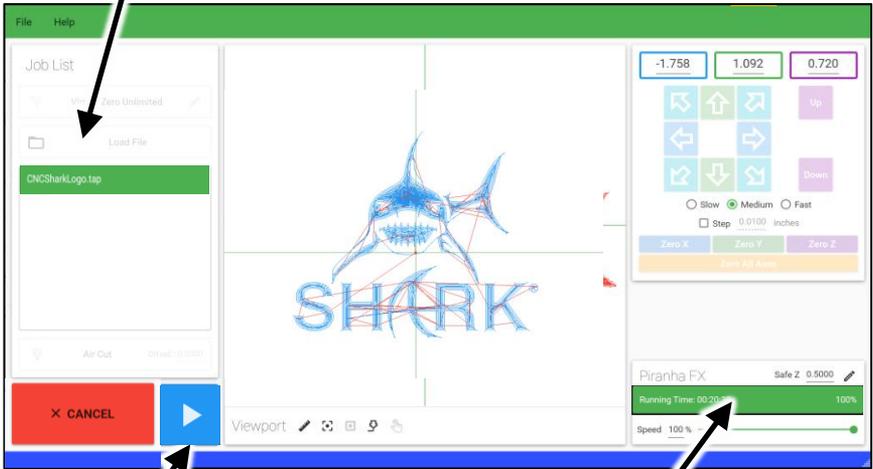
The percent completed appears in the lower right. A progress bar appears behind the time information.

Pressing the CANCEL button will STOP the machine. To restart the file press the blue Run button. The file will restart at the beginning of the file – not where you stopped it.

Use this slider to decrease the feed speed while the file is cutting. NOTE: it may take a few lines of code before it takes effect.

## Ready2Control Workflow (cont.)

To cut a new file click on **Load File**



To rerun the same file, click on the blue **Run** button.

When running a file, run time and percentage complete appear in the lower right.

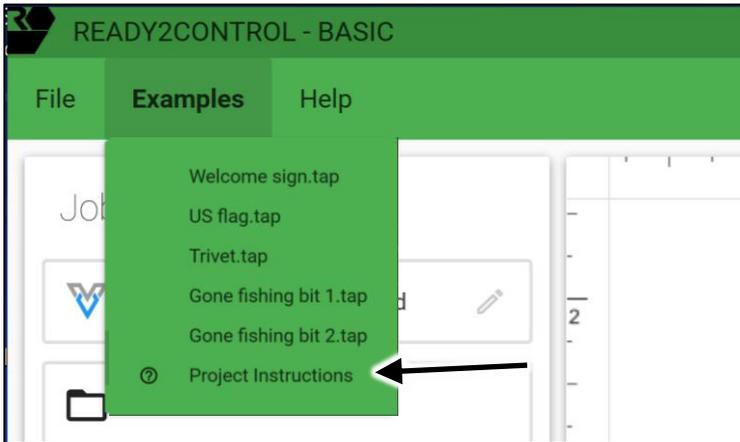
**This completes the Workflow Overview.**

If you would like to practice the workflow, check out the next section for some sample projects that require no design work and are **Ready2Carve**.

## Section 5 – Ready2Carve Projects



There are four **Ready2Carve** projects available under the **Examples** menu (see below). These project files are predesigned and load directly into Job List panel in Ready2Control. They are a good way to practice using Ready2Control with your Next Wave CNC.



**Project Instructions** for cutting the **Ready2Carve** projects can be downloaded directly from the **Examples** menu. The instructions show the projects on a Shark SD100 CNC, but they can be cut on any Next Wave CNC machine that uses Ready2Control.

**NOTE:** If you don't see the **Examples** menus, look under the **Help** menu – it may be there also.

# Explore and expand your creativity with these accessories from Next Wave CNC.

Available from your local Next Wave CNC distributor or online at [www.NextWaveCNC.com](http://www.NextWaveCNC.com)

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**Router bits** – Find the right bit for your project. Available in a variety of sizes and shapes and as singles or sets. V-Bits, straight bits, upcut spirals, carving bits, small diameter bits and coated long lasting bits.



Starter sets



General purpose sets



1/8 dia.  
tapered  
ball nose



1/4 dia.  
Spiral Upcut

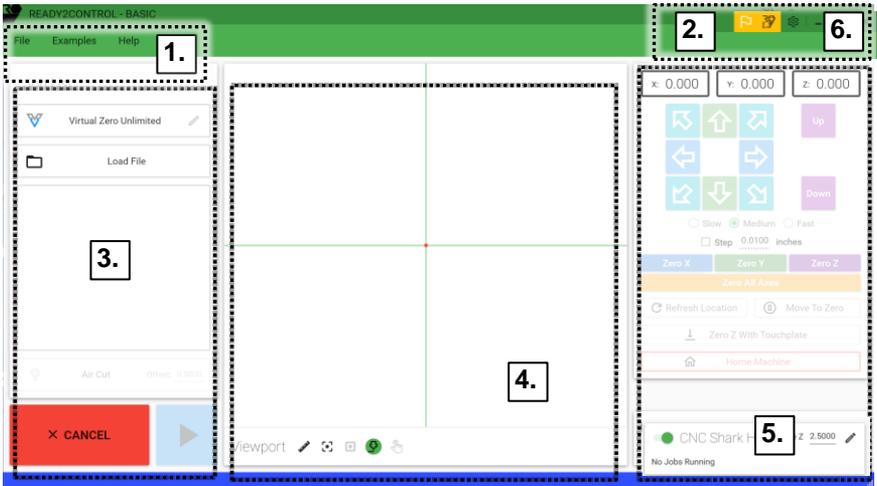


1/2 dia.  
90 deg. V-bit



1/4 dia.  
60 deg. V-bit

# Ready2Control Basic Main Panel overview



## Main Control Main Panel

The **Ready2Control Basic** main window contains six main sections:

1. **Menu Bar** ([see page 30](#))
2. **Update icons** ([see page 31](#))
3. **Job List panel** and commands ([see page 32](#))
4. **Viewport window** and commands ([see page 35](#))
5. **Machine control panel** and commands ([see page 36](#))
6. **Settings icon** ([see page 42](#))

## Menu Bar

---

### File

-  Load File    Ctrl+O
-  Settings
-  Exit            Ctrl+Q

### File menu

**Load File** – Loads a .tap cutting file to Job List window.

**Settings** - Opens General Settings window. [See Page 40](#) for more information.

**Exit** - Closes Ready2Control program.

### Examples

- Welcome sign.tap
- US flag.tap
- Trivet.tap
- Gone fishing bit 1.tap
- Gone fishing bit 2.tap
-  Project Instructions

### Examples menu

- The Examples menu contains cutting files and instructions for the Ready2Carve projects.
- Available project may vary from those shown here.
- The Examples menu can be toggled ON or OFF.
- To toggle the Example menu ON or OFF see [page 43](#)
- When toggled OFF it moves to the Help menu (see below).

### Help

-  About
-  Shortcuts
-  View Software Manual

### Help menu

**About**– Opens the About window that contains Current Version information and Change Log history

**Shortcuts** - Opens the Ready2Control-Basic keyboard shortcuts window.

**View manual** – A link to most recent version of the Shark CNC User's manual appears here when the software is connected to the internet.

# Update Icons

## Software Update Icon

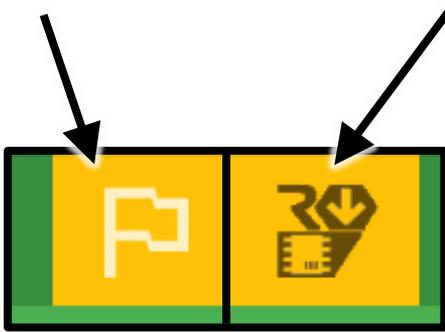
When this icon glows yellow it means a Ready2Control software update is available. Clicking on the icon starts the update process. Onscreen prompts will guide you through the Firmware update process.

You do not need to connect your computer to your machine to get software updates.

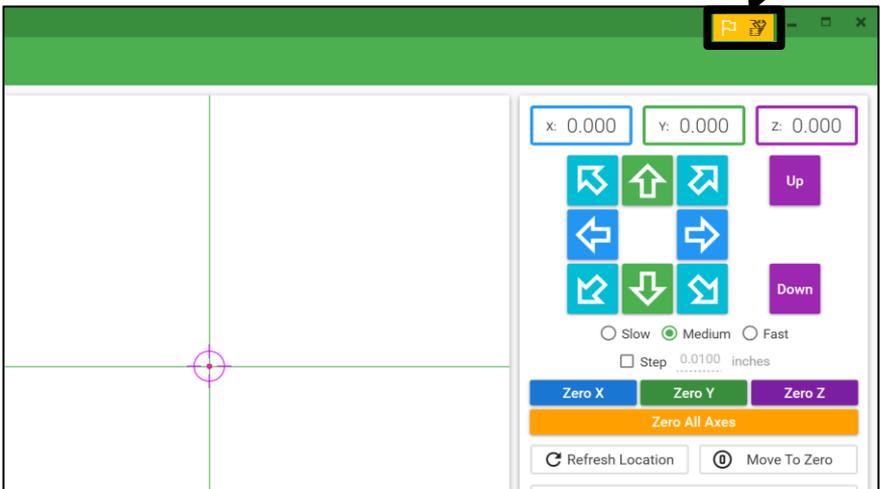
## Firmware Update Icon

When this icon glows yellow it means a controller firmware update is available. Clicking on the icon starts the update process. Onscreen prompts will guide you through the Firmware update process.

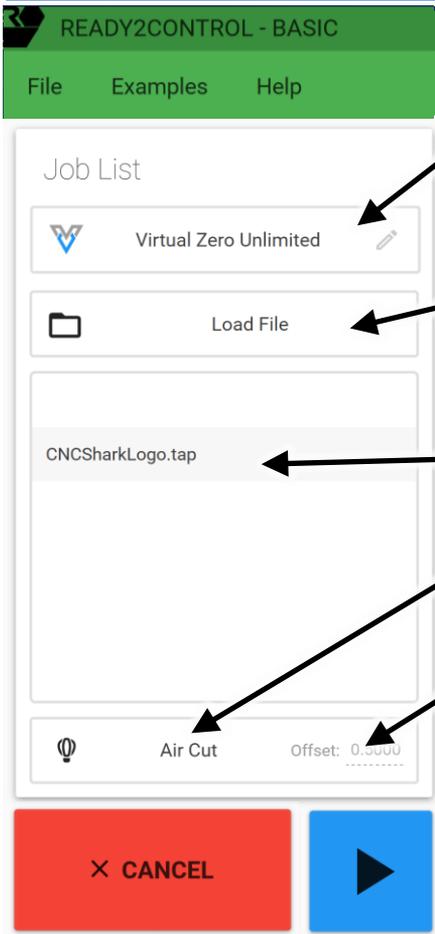
You must have your computer connected to your machine to perform firmware updates.



Note: if you see a red explanation mark, it means an update is available, but you need to first connect to your portal account.



## Job List panel



**Virtual Zero Unlimited** is not available in Ready2Control-Basic. To purchase Virtual Zero Unlimited visit [NextWaveCNC.com/shop](http://NextWaveCNC.com/shop) or call the Next Wave Sales team at 419-318-4822

Press **Load File** to load a .tap cutting file.

The currently “loaded” file appears here.

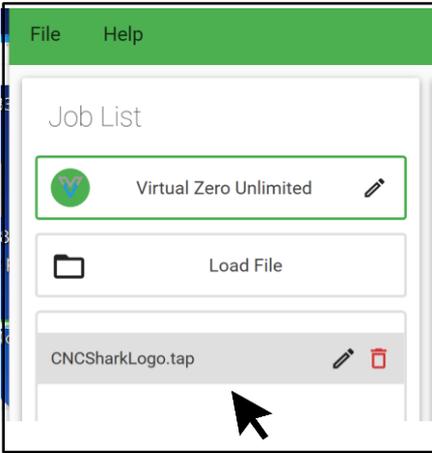
Press **Air Cut** to “air” cut the loaded .tap file.

Set **Offset** to thickness of the material plus a clearance amount. For example. for .75” thick material add .25” clearance for a total **Offset** amount of 1.00”. This will keep the router bit at least .25” inches above your material during the Air Cut.

Press this button to **RUN/PAUSE/RESUME** the cutting file.

Press the **CANCEL** to stop the machine movement and cancel the cutting file. After pressing CANCEL the cutting file must be restarted from the beginning. For a temporary stop, use the blue Pause button

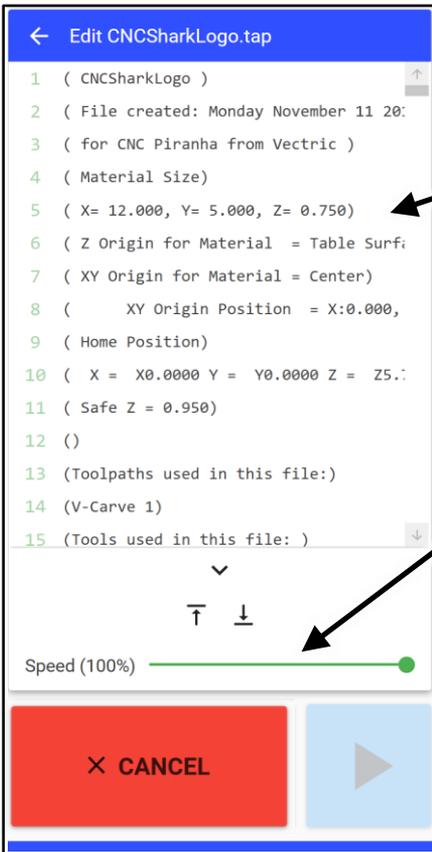
# Job List panel (cont.)



Holding the cursor over the .tap file name reveals the Pencil icon and the Trash icon.

Use the Trash icon to delete the .tap file from the list.

Click on the Pencil icon to view the G-code for this file and to access the feed speed override slider (see below).



G-code can be viewed, but not edited.

Feed speed override slider

# Explore and expand your creativity with these Free Projects

Online at [NextWaveCNC.com/cncprojectplans](http://NextWaveCNC.com/cncprojectplans)

## Custom Coaster Project

MAKE THE CUSTOM COASTERS

These beautiful custom wooden coasters are the perfect gift for the person that has everything...or keep them for yourself.

### INSTRUCTIONS

COASTER PROJECT INSTRUCTIONS: [CLICK TO DOWNLOAD](#)

COASTER PROJECT CRV FILES: [CLICK TO DOWNLOAD](#)

COASTER DESIGNING VIDEO: [CLICK TO VIEW](#)

COASTER MACHINING VIDEO: [CLICK TO VIEW](#)

COASTER EPOXY INLAY VIDEO: [CLICK TO VIEW](#)

COASTER SANDING & FINISHING VIDEO: [CLICK TO VIEW](#)



## Edge Lit Signs

MAKE EDGE LIT SIGNS

Build these Signs to light up someones life!

### INSTRUCTIONS

EDGE LIT SIGN INSTRUCTIONS [CLICK TO VIEW](#)

DESIGNING VIDEO [CLICK HERE](#)

MACHINING VIDEO [CLICK HERE](#)

ASSEMBLING VIDEO #1 [CLICK HERE](#)

ASSEMBLING VIDEO #2 [CLICK HERE](#)

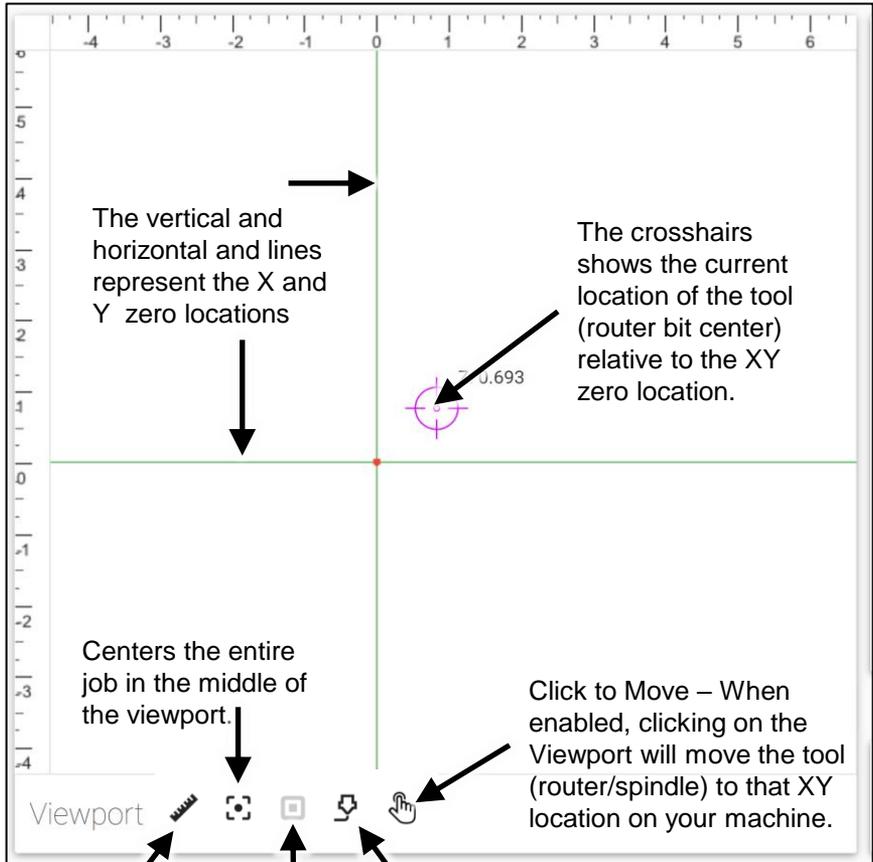
MERRY CHRISTMAS CARVING FILES [CLICK HERE](#)

DISPLAY BOX CARVING FILES [CLICK HERE](#)

[WHERE TO BUY LIGHTS](#)



## Viewport window



Toggles ruler visibility on and off

Centers the machine space (cutting area) in the Viewport.

Only available after running the Home Machine routine [see page 39](#).

# Machine control panel

The **Keypad ENABLED mode** provides quick access to the axis keypad (bottom right image). You can *pop-up* the keypad by clicking on one of the axis position fields. This will open the keypad for that axis – as shown at the bottom right of this page. [See page 45](#) on how to **enable** and **disable** the Keypad

### Axis Position fields

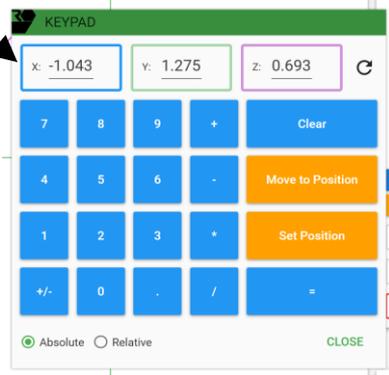
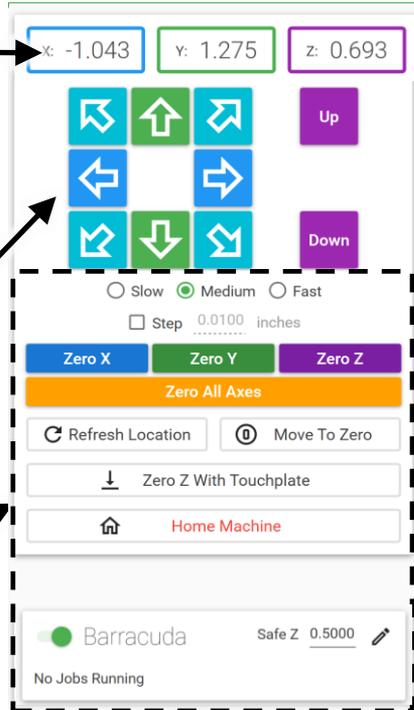
- Show the current location of each axis.
- Clicking on one of these fields will open the **Keypad** control for that axis – see bottom of this page.

**Arrow buttons** – press arrows to move axis in that direction. These buttons can also be changed to the “classic” LCD Pendant style button layout - [see page 47](#).

[See pages 37-40](#) for information on these buttons and functions

### Axis Keypad (pop-up view) Position fields

- They show the current location of each axis.
- Clicking on a position field will activate the keypad for that axis and the keys will change color to match.
- The location fields can be edited and used in conjunction with the **Move to Position** and **Set Position** buttons.
- The keypad also functions as a simple calculator.



## Machine control panel (cont.)

The **Keypad DISABLED view** hides the keypad. Instead the location for the axes can be entered directly in the axis position fields. It also adds the **Move to Position** and **Set Position** buttons to the main control panel (as shown in the image below)

[See page 45](#) on how to **enable** and **disable** the Keypad.

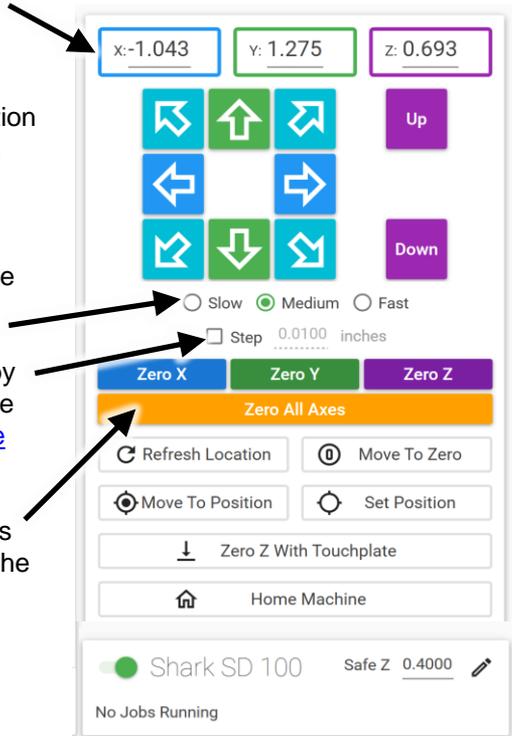
### Axis Position fields

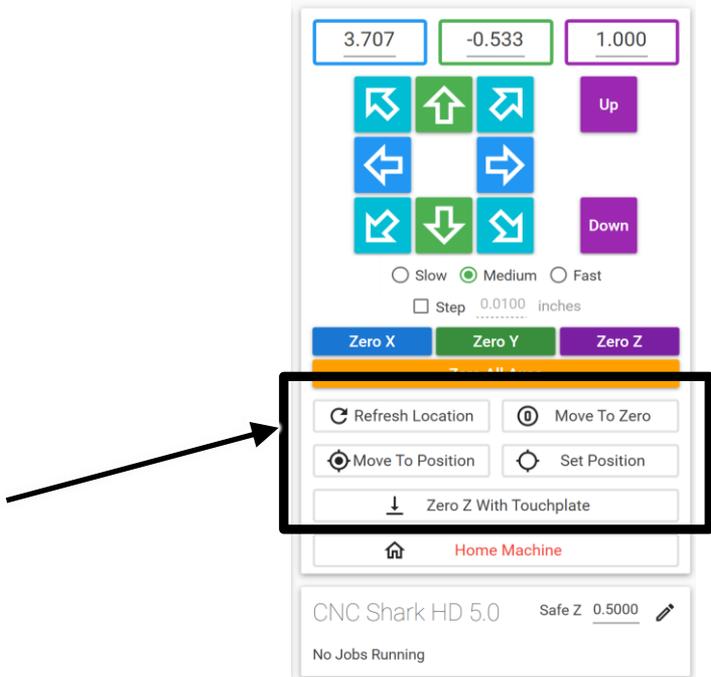
- Show the current location of each axis.
- When the Keypad is disabled, values can be entered directly into these fields and used in conjunction with the **Move to Position** and **Set Position** buttons below.

**Jog speed** settings (to change default speeds [see page 44](#))

**Step** – check this box to jog by the entered amount. To set the default Step amount [see page 44](#))

**Zero X, Y, Z, All Axes** buttons  
Clicking these button will set the Position field(s) to zero.





**Refresh Location** button - Click this button if the Position fields fail to update or if the machine stalls. The need to refresh can sometimes be caused by an underpowered computer, too many programs open at the same time or a problem in Ready2Control. If you frequently need to use the Refresh Location button, contact our Support Team at [support@NextWaveCNC.com](mailto:support@NextWaveCNC.com) or call 419-318-4822.

**Move to Zero** – Click this button to move one or all axis to its zero location.

**Move to Position** – Press this button after entering an amount in one or all the Axis Position fields. The machine will move to that location. (This button is only visible in main Control Panel when the Keypad is disabled)

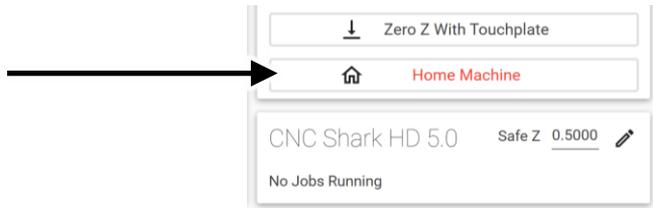
**Set Position** – Press this button after entering an amount in one or all the Axis Positions fields. (This button is only visible in main Control Panel when the Keypad is disabled)

**Zero with Touchplate** (optional accessory required) [See page 54](#) for a step-by-step guide to using the touchplate with Ready2Control.

## Machine control panel (cont.)

**NOTE:**

The **Home Machine** function is only available on the following tools:  
CNC Piranha XL, Shark SD120  
CNC Shark II, Shark HD500  
CNC Shark HD4 and HD5 (Standard and Extended)  
Shark HD510, HD520



### Home Machine

Pressing the **Home Machine** button starts the Homing routine. When pressed, the machine automatically moves to the left (X axis) and/or forward (Y axis). When the machine reaches the left side or front of the table it will touch sensors and move back towards the table by small amount. This calibrates an XY zero location known as Machine Home or Machine Zero. The process is often referred to as “homing the machine” or “zeroing the machine”

**NOTE: The axes must be within 4 inches of the homing sensors (left side for the X, front side for the Y) before running the Home Machine routine. During the Home Machine routine, the machine will pause momentarily about every 1 inch of movement as it searches for the sensors.**

Setting the Machine Home position provides a useful starting or reference point for projects and jigs. Homing the machine also activates “soft stops” that prevent you from running the machine into the sides (hard stops) of the machine when you are manually jogging the X or Y axis of the machine.

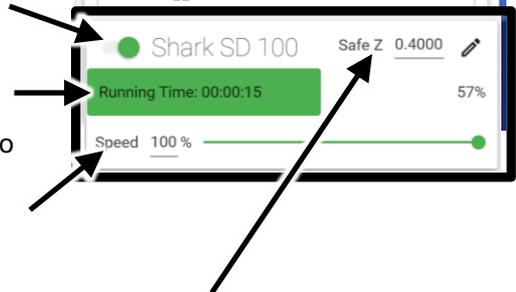
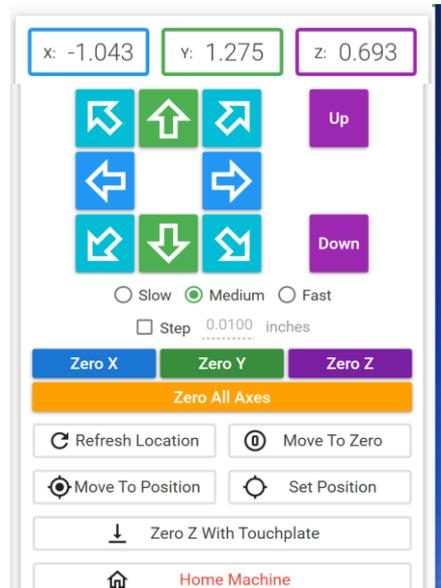
Although many projects can be run without using the Homing routine; learning how to use it makes it easier to more accurately setup and cut projects that use multiple bits, parts or jigs.

Additional options for using the Home Machine function can be found on [page 52](#)

**Control Toggle** – Switches control between Ready2Control and the LCD Pendant Control (The pendant is an optional accessory for machines).

**Progress bar** – Shows the runtime and progress of the active job.

**Speed slider** – Can be used to adjust the Feed Rate during operation.



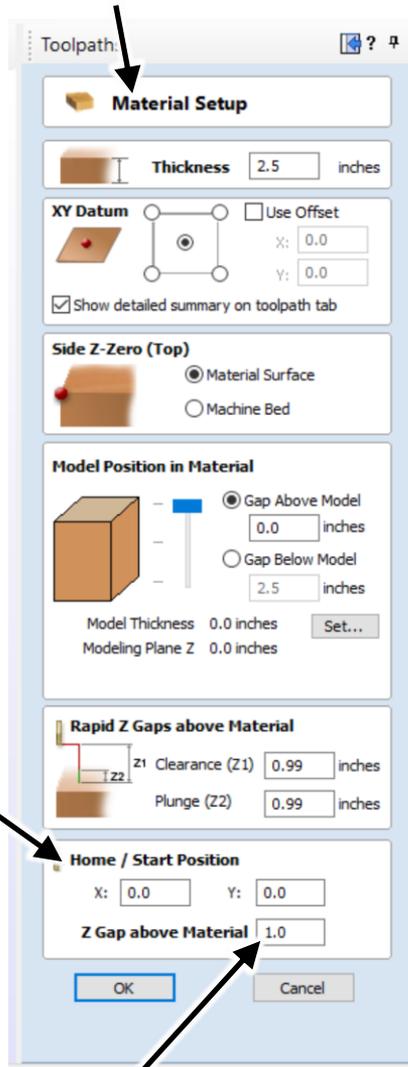
**Safe Z** – Enter the amount that you want the bit to raise above Z zero during **Move to Position** moves.

**Note:** The **Safe Z** setting does not control the Z clearance height when running a .tap file. That Z amount (called **Z-Gap above Material**) is set in VCarve – See next page for more info.

# How to set Z-Gap above Material in VCarve and Aspire

1. Open the Toolpaths window

2. Click on **Set...** button to open the **Materials Setup** window



**TIP:** The **Home / Start Position** controls where the XY comes to rest (parks) after the file has run on the machine. It's a useful way to automatically "park" the machine off to the side and out-of-the-way when the file is done running.

This **Home/Start Position** is not the same as Machine Home ([page 39](#)). Rather this setting can be thought of as "Project Home". By default it is set to XY 0,0, which is the same as the default VCarve Datum point of XY 0,0. Changing the Home/Start Position does not affect the XY Datum setting.

3. **Z-Gap above Material** - Enter the amount that you want the Z axis (the bit) to clear your material during cutting. This is also the height that the bit (Z) will "park" itself when the file is done running.

# General Settings



## Settings icon

Click the Setting Icon to open the **General Settings** window (below)

## General Settings window

See the pages listed below for detailed information.

## More settings menu

Opens a menu with access to additional settings and information windows.  
[See page 50](#) for details.

Opens access to the **Hard Reset** option, which resets all program functions to original default settings.

**Interface** [See page 43](#)

- Display Examples
- Metric Mode

Theme:

Light  Dark  System Default

**Speeds** [See page 44](#)

Default Speed: Medium

Slow	15.0000	inches / minute
Medium	60.0000	inches / minute
Fast	120.0000	inches / minute
Step Distance	0.0100	inches

**Controller** [See page 45](#)

- Display A Axis Controls
- Use keypad for Move To and Set Location
- Display keypad inline
- Display zero axis confirmation
- Display move to zero confirmation

Default Move to Zero:  X Axis  Y Axis  Z Axis  A Axis

- Move to Z zero if at X, Y zero

Controller Layout: Arrow Movement

Demo:

**Viewport** [See page 48](#)

- Display Rulers
- Visualize G-Code Height

Z-Label Behavior: Display on Change

**Virtual Zero Unlimited**

- Recommended Points

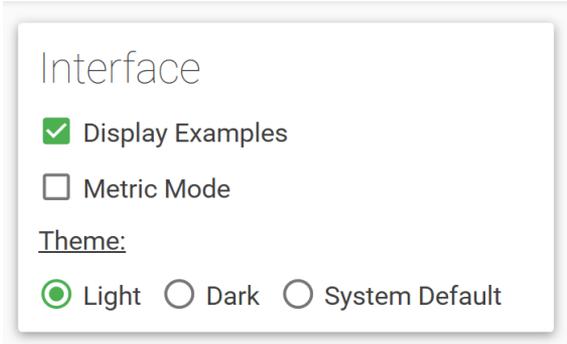
Recommended Points Tolerance: 0.0200 inches

Default Corner Points Offset: 0.1250 inches

Virtual Zero Unlimited is available as an upgrade to Ready2Control-Basic ([see page 58](#)). VZU comes with a separate Owner's Manual.

[See page 49](#) REPORT AN ISSUE

# General Settings (cont.)

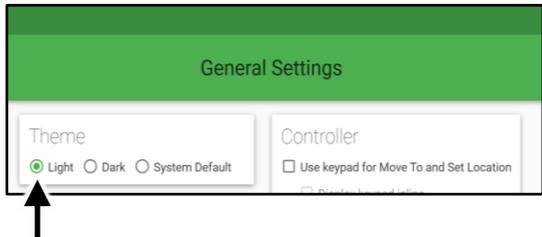


**Display Examples** – Checking this box makes the Examples menu visible in the main Menu Bar. Unchecking this box moves the Examples menu into the Help menu.

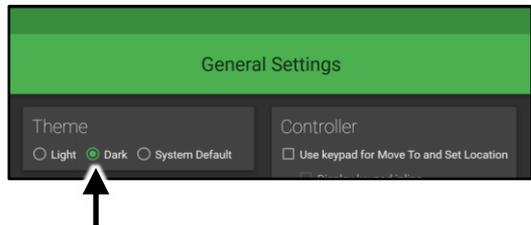
**Metric Mode** – checking this box switches the Ready2Control measurement fields from inches to metric.

## Theme Settings

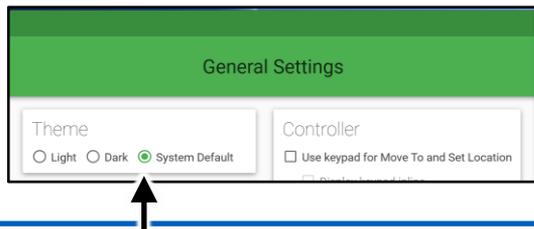
The **Light** theme setting uses a light background color.

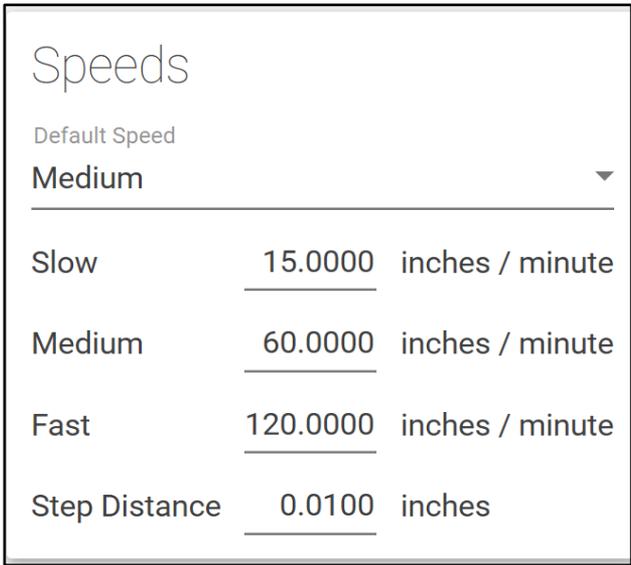


The **Dark** theme setting uses a dark background color.



The **System Default** theme setting uses your computer's theme setting.





**Speeds**

Use this area to adjust the default jogging speeds for the three jog speed buttons in the main control window.

**Default Jog Speed** – Sets the default jog speed option in main Control window. ([See page 37](#))

**Slow, Medium, Fast** - Set the default Jog speed for each of these settings.

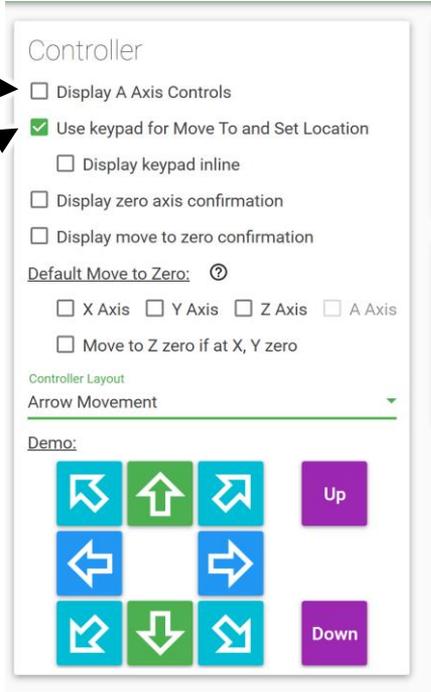
**Step Distance** - Sets the default step distance when using the “Step” option in the main Control window. ([See page 37](#))

# General Settings (cont.)

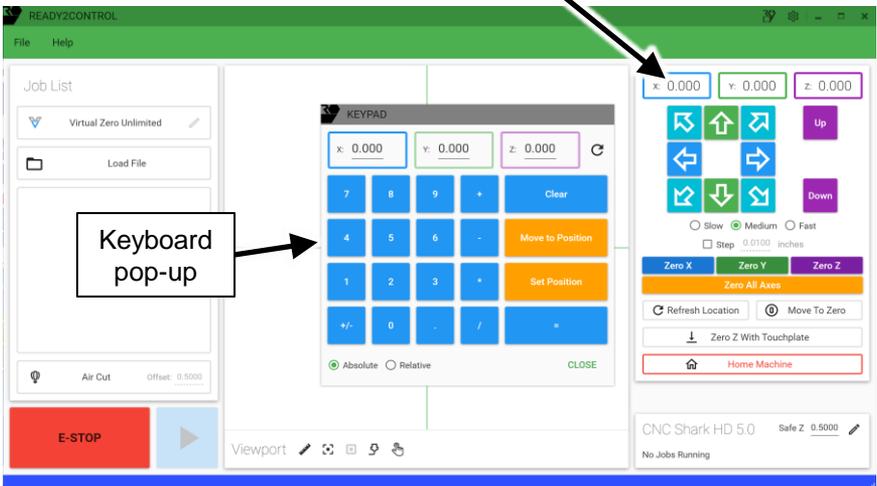
## Controller settings

Adds A-Axis buttons to the Control Panel

Check this box to **enable** the Keypad. The Keypad will now pop-up when you click in one of the axis position fields in the main Control Panel (see image below)



Axis position field

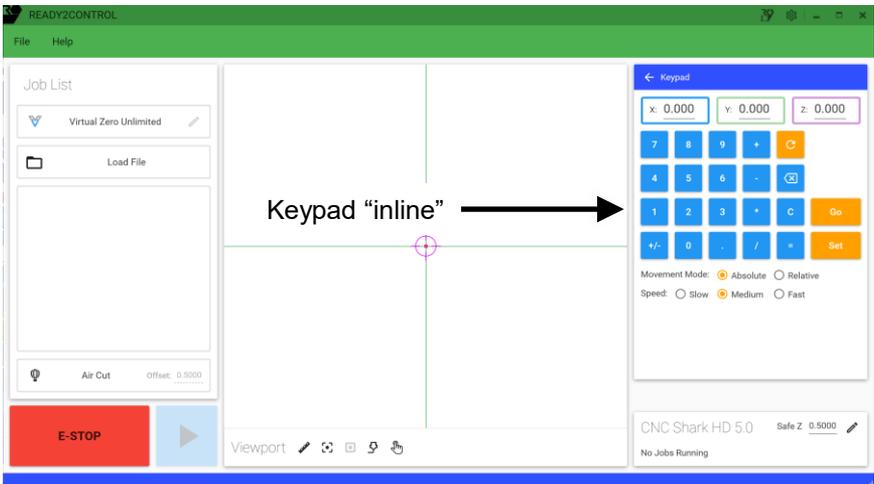
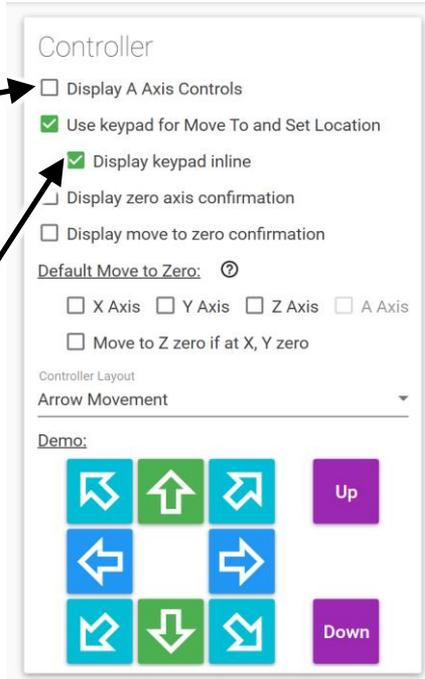


# General Settings (cont.)

## Controller settings (cont.)

Adds A-Axis buttons to the Control Panel. Used with Rotary 4<sup>th</sup> Axis accessory (sold separately)

When checked the Keypad will replace the direction controls in the Main control panel and be displayed **inline**. (See bottom image)

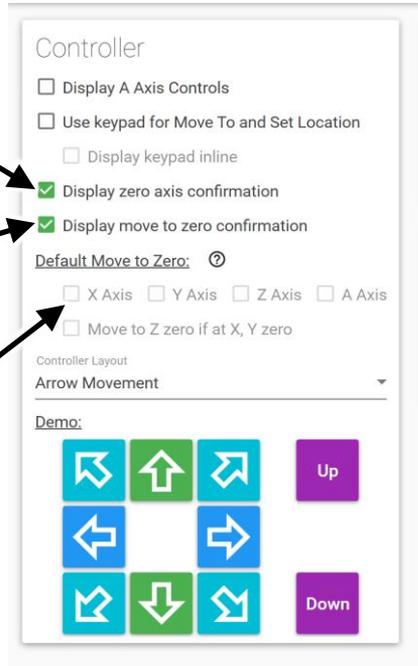


## Controller settings (cont.)

Checking the box makes the **Zero Axis** confirmation message pop-up by default in the main control window.

Checking the box makes the **Move to Zero** confirmation message pop-up by default in the main control window.

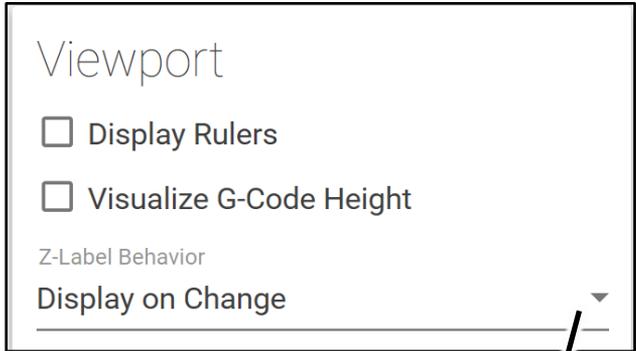
Use these checkboxes to set the default behavior for the **Move to Zero** button in the main the control panel.



Click on the name dropdown menu to toggle between the **Arrow Movement** layout and the **Classic CNC Controls** button layout. The Classic layout is similar to the Pendant control button layout.



Viewport settings



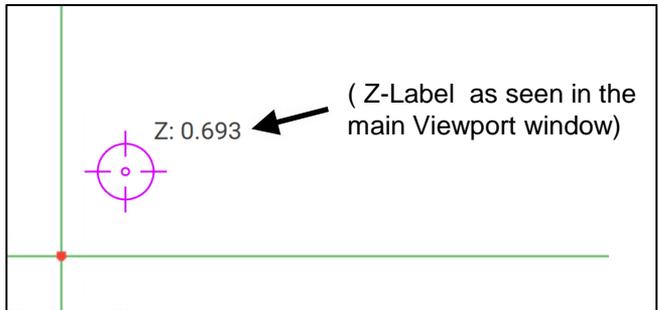
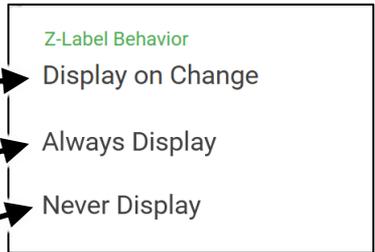
**Display Rulers** – Check this box to make ruler visibility the default setting in the main Viewport window. ([See page 35](#))

**Visualize G-Code Height** – Check this box to make this option the default setting in the main Viewport window. ([See page 35](#))

(dropdown menu)

**Z-Label Behavior**

- The Z label becomes visible for a few seconds each time the machine moves.
- The Z label is always visible
- The Z label is always hidden



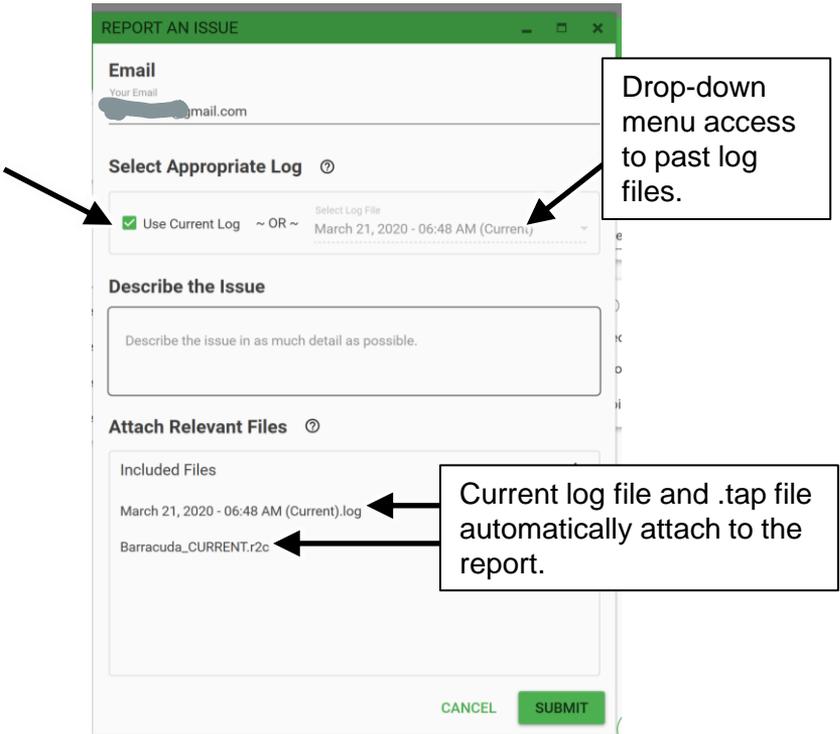
## Report an Issue

In the General Setting Window, click the **Report an Issue** button to open the Report An Issue window. Use this window to report Ready2Control software problems. The window sends the issue to the software support team.

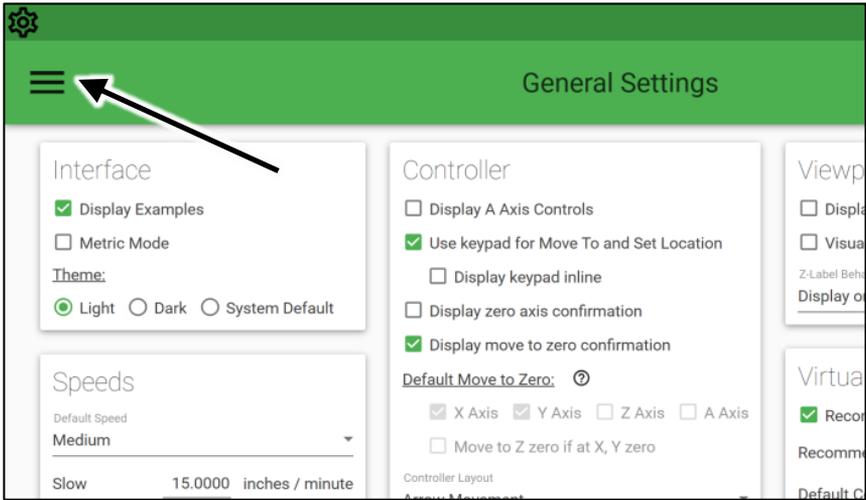
You can also use this window to submit “Wish List” items for features you’d like to see added to Ready2Control.

### Current Instance checkbox

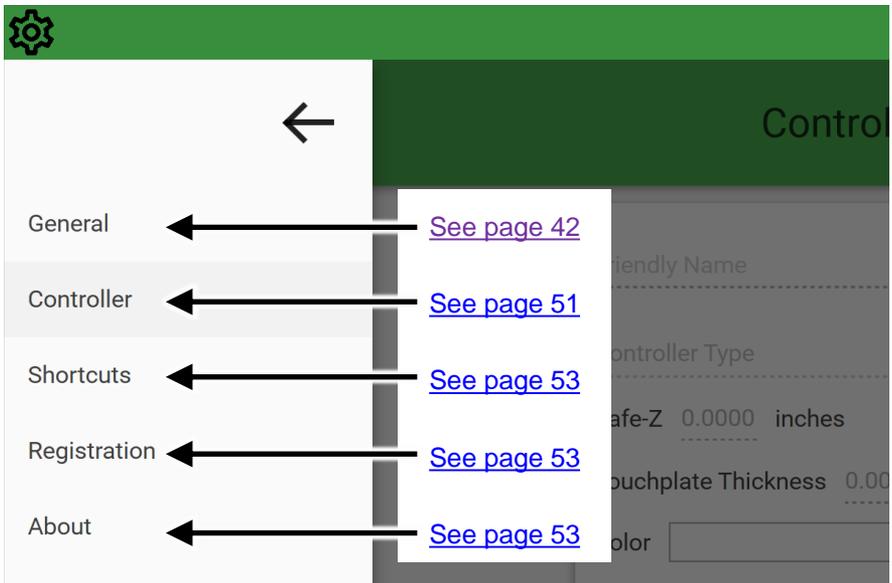
- Check this box to automatically attach a log file (history) of your current usage of Ready2Control. The log file is helpful to the programmers because it provides information about the problem(s) you encountered and things that may have contributed to the problem .
- Leave the box unchecked if you wish to submit a comment or suggestion not directly related to your current instance of Ready2Control, or submit a older log file from an earlier session.



## More Settings Menu



The **More Settings Menu** icon is in the top left corner of the Settings window



**More Settings** dropdown menu provides links to additional settings and program information. See the pages listed above for detailed information on each menu item.

## More Settings Menu (cont.)

### Controller Settings (Applies to the Connected Controller)

The screenshot shows the 'Controller Settings' window. At the top is a green header with the text 'Controller Settings'. Below it are several settings sections:

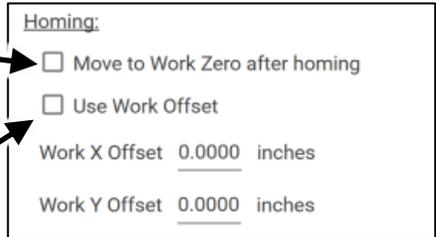
- Friendly Name:** 'Machine #2'. A callout box explains: 'You can enter a custom name for your tool in this field. It shows up in the bottom right corner of the main control window.'
- CNCShark HD4:** A callout box explains: 'Standard name for connected tool'.
- Safe-Z\*:** '0.5000 inches'. A callout box explains: 'Change Safe Z and Touchplate settings'.
- Touchplate Thickness\*:** '0.3750 inches'. A callout box also points to this field with the text 'Change Safe Z and Touchplate settings'.
- Color:** A blue color bar with a dropdown arrow. A callout box explains: 'Changes the color of the Crosshairs in the Viewport window'.
- 4th Axis Mode\*:** Three radio button options:
  - Next Wave Design (Lathe Type I/A)
  - Legacy OEM Tech Model (Lathe Type II/B)
  - Mini 4th Axis (Lathe Type III)A callout box explains: 'Select the setting that matches the Rotary 4<sup>th</sup> axis accessory you are using. Only affects the operation of the A-axis'.
- Homing:** Two checkboxes:
  - Move to Work Zero after homing
  - Use Work OffsetA callout box explains: 'See Page 52 for more information about Homing and Offset settings.'
- Work X Offset:** '0.0000 inches'
- Work Y Offset:** '0.0000 inches'
- Serial Number:** [Redacted]
- Model Number:** [Redacted]
- Bootloader Version:** [Redacted]. A callout box explains: 'Information for the controller that is currently connected.'

## More Settings Menu (cont.)

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### Controller Settings (cont.)

**Move to Work Zero after homing.** - Moves tool directly to the Works Offset X,Y 0,0 position after Homing



**Homing:**

Move to Work Zero after homing

Use Work Offset

Work X Offset 0.0000 inches

Work Y Offset 0.0000 inches

### Use Work Offset

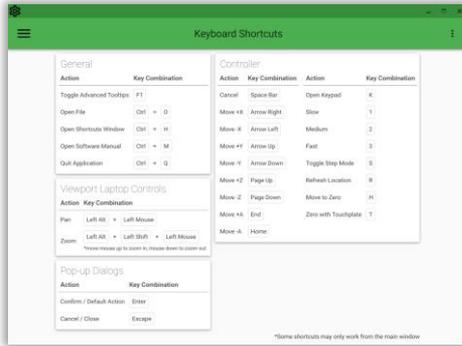
Checking this box sets a “Work Zero” location by the amounts entered in the X and Y Offset fields. The Offset amounts are measured from the machine’s Home “zero” position. Use Work Offset works in conjunction with the Home Machine routine in the main control window. [See page 39](#) for more information on using the Homing function.

**Work Zero and Work Offsets** are useful when you want to zero or re-zero the XY to an exact location on the machine. It’s accurate and repeatable because the Work Offsets are calibrated from the Machine Home/Zero position, which is the same every time you “home” the machine.

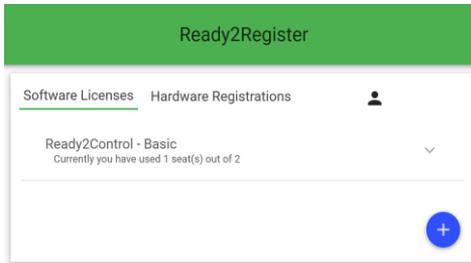
### NOTE:

Homing and Work Offsets are NOT available on the Piranha FX, Shark SD100 or Shark SD110 machines or older machines that do not use a Pendant.

## More Settings Menu (cont.)



### Keyboard Shortcuts - Guide to keyboard shortcuts



### Registration window - Lists of software and hardware that you've registered.



### About window - Provides program version and change history information.

## Explore and expand your creativity with these accessories from Next Wave CNC.

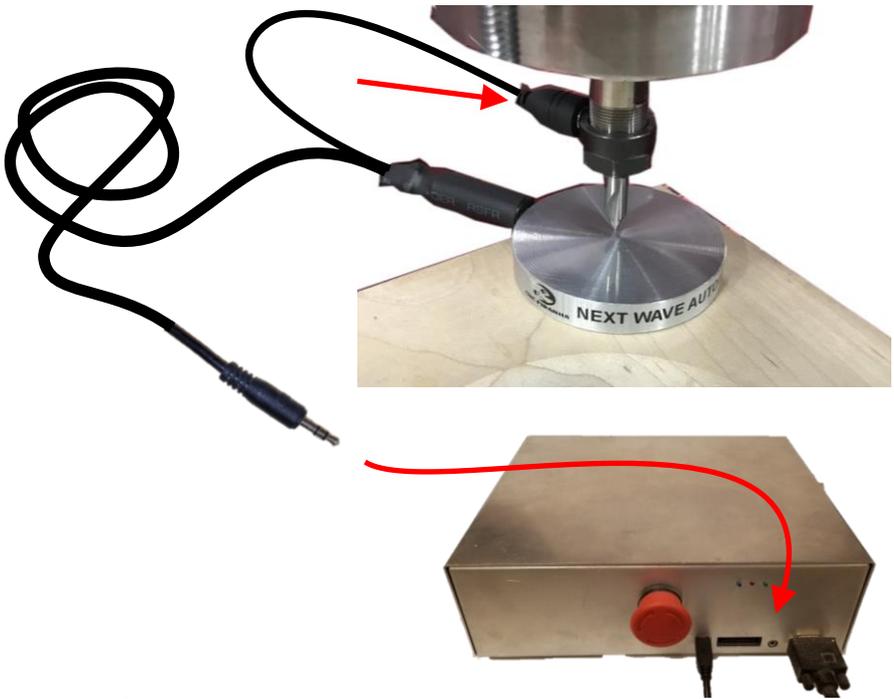
Available from your local Next Wave CNC distributor or online at [www.NextWaveCNC.com](http://www.NextWaveCNC.com)

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**Z Zero Touchplate** – Automate your Z zeroing process with accuracy and convenience. The standard model has a 2-in. diameter. The mini touchplate has 1-in. diameter. Both are compatible with controller boxes that have a 1/8" input port.

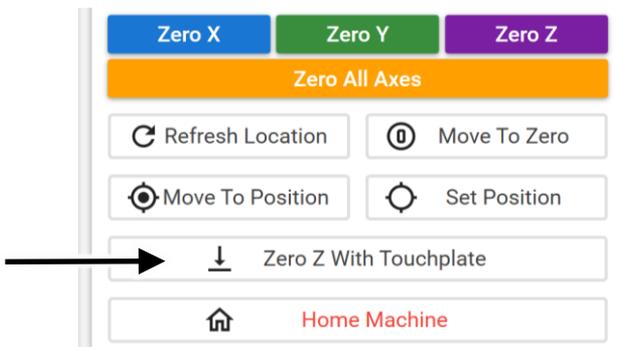


## How to Use a Touchplate to Zero the Z axis



### Step 1

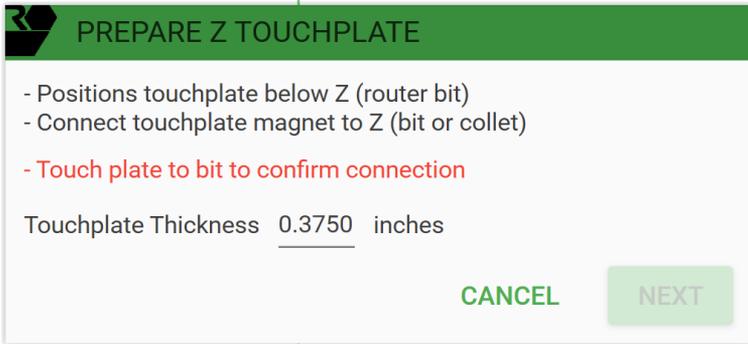
- Plug Touchplate cable into the 1/8 in. input port on the controller box
- Place touchplate under bit
- Attached magnet to collet or bit



### Step 2

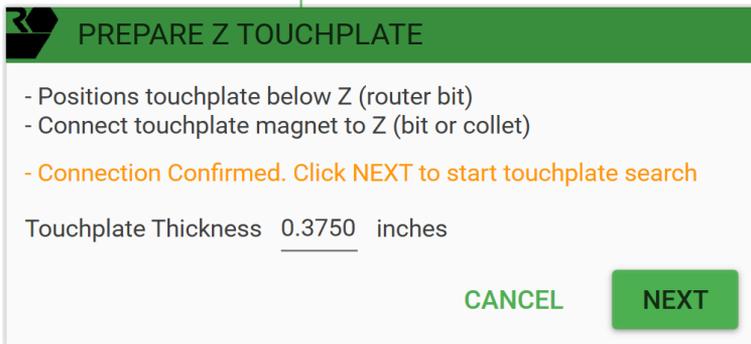
Start the routine by clicking on the **Zero Z With Touchplate** button.

## How to Use a Touchplate to Zero the Z axis (cont.)



**Step 3** Prepare the touchplate per the instruction in the pop-up window

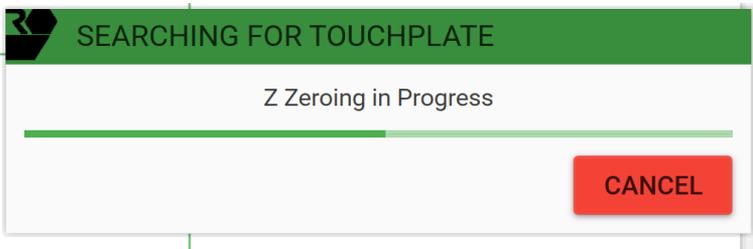
The **Touchplate Thickness** can be edited in this pop-up or in the Control Settings window ([see page 51](#)). Editing the Touchplate Thickness is useful if the plate is slightly over or undersize or if you want the routine to set the Z Zero slightly deeper or shallower. The Touchplate Thickness setting can also be used to accommodate the thickness of a custom-made plate.



**Step 4** After the Confirmation notice appears, click **NEXT**.

## How to Use a Touchplate to Zero the Z axis (cont.)

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**Step 5** The Z axis will move down until the tip of the router bit touches the touchplate. It will then retract up to the Safe Z Height that was set in the control panel ([page 41](#)).



**Step 6** Remove the magnet and touchplate from the machine before proceeding.

**This completes the Z Zero process using the Touchplate accessory.**

Explore and expand your creativity with these accessories from Next Wave CNC.

Available from your local Next Wave CNC distributor or online at [www.NextWaveCNC.com](http://www.NextWaveCNC.com)

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**Virtual Zero Unlimited** – Carve your designs into a curved or uneven surface such as a chairback, gun stock or rough sawn board. (A larger Shark HD machine is required for large projects such as the Chair back shown above).

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**Laser Module** (available with 2- or 7-watt power)\* Engraves in a variety of soft materials such as wood, paper, and leather. Also cuts thin materials\*\*.

\* Using the 7-watt with your Shark SD100 (Barracuda) requires a special mounting bracket.

\*\* Cutting thin materials requires the 7-watt model.

## Resources

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### **Next Wave CNC**

[www.NextWaveCNC.com](http://www.NextWaveCNC.com)

Manufacturer of the SharkSD100 (Barracuda), Shark HD series, CNC Piranha series, Moray Laser and CNC accessories. The website has software and documentation downloads as well as information about the full line of Next Wave CNC products.

### **Next Wave CNC Technical Support**

For questions about your Shark SD100 (Barracuda) or Ready2Control software or other Next Wave CNC products, please contact our support team at [support@NextWaveCNC.com](mailto:support@NextWaveCNC.com)

### **Next Wave CNC Owners Only Forum**

<https://forums.NextWaveCNC.com/>

An online group of the CNC users geared around Next Wave CNC machine owners. The website has projects, ideas, showcase, and valuable support from users of all levels.

### **CNC Shark Talk User Forum**

[www.cncsharktalk.com](http://www.cncsharktalk.com)

CNC forum open to all CNC users.

### **Vectric**

[www.vectric.com](http://www.vectric.com)

Producers of the VCarve and Aspire software package. The Vectric website has product information, FAQs, on-line tutorials, and an excellent user forum. Keep in mind that Vectric only supports Vectric software. They are a separate company. They do not provide technical support for Next Wave products.

## **FREE Next Wave CNC Webinars**

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