

Vision VR48 Router Installation Guide

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Factory Settings

Braille Inserter Offset
X _____ Inches ___ mm ___
Y _____ Inches ___ mm ___

This is **ONLY** the Installation Guide.
PLEASE review the complete User Manual
for your machine, which will be installed on
your computer after the software
installation is completed.

Vision Engravers and Routers Installation Guide

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1 Introduction

This guide contains information to prepare the new owner of a Vision VR48 Router for the proper installation of their machine. It is the customer's responsibility to read through this guide and make sure the work area, electrical and computer requirements are met prior to the arrival of a representative from Vision for the scheduled installation/machine orientation date. If for any reason, there are questions about these requirements, please call your Vision representative as soon as possible. **IMPORTANT** – Once your training day is scheduled, if for any reason you have to cancel training or change the dates, you may be subject to fees associated with your change request. However, if the trainer arrives at your facility on the day of training and you have to cancel or reschedule training at that time, a fee of \$750 will be required before Vision will send the trainer back to your facility in addition to fees associated with your change request. No exceptions.

In the following sections, the complete machine and Vision software installation will be outlined. There are three connection configurations possible with the Vision Router.

The first is a direct cable connection to your computer via the network port. There is a special "crossover" cable (the cable colored gray) supplied for this connection type. This configuration is for a stand alone computer that is NOT connected to a WIRED network or internet. A connection can be made to a computer that is connected to a wireless network in this manner.

The second configuration is for connection through a wired network using a standard Ethernet cable (DO NOT use the crossover cable when connecting to a network). In this configuration, the engraver or router will be recognized as a network device. Connection in this manner is the easier of the two connection types. If there are no network connections available, a network hub can be added to allow connection to your network.

The third configuration is for a connection from the computer to a hub (or router) and then to your machine. This is WITHOUT a computer network. Standard Ethernet cables are used in this configuration.

Please call your distributor or the service department at Vision for assistance if you are having problems with this procedure.

FOR MORE DETAILED INFORMATION, PLEASE REFER TO THE USER GUIDE FOR YOUR MACHINE INSTALLED WITH THE VISION SOFTWARE. USER GUIDES ARE ALSO AVAILABLE ONLINE AT <http://www.visionengravers.com/support/vision-engraver-manuals.html>

To begin installation, locate the White/Blue Dongle or Orange Dongle or USB Stick included with your machine in the Accessories Box

Important Note:

The Vision software is available in two versions; one with a dongle, and one that is "dongle-less" and is loaded on to a USB Memory stick.

If your machine was delivered with, or you currently have the white/blue or orange software dongle, DO NOT LOSE IT!

The Vision software will NOT run without the dongle plugged into the computer.



1.1 Computer Requirements

IT IS HIGHLY RECOMMENDED THAT THE COMPUTER USED TO OPERATE THE VISION ENGRAVER OR ROUTER BE CONNECTED TO THE INTERNET. THIS ALLOWS THE USER TO ALLOW VISION'S TECHNICAL SUPPORT TO ACCESS THE MACHINE AND TROUBLESHOOT IF NECESSARY.

Minimum System Requirements

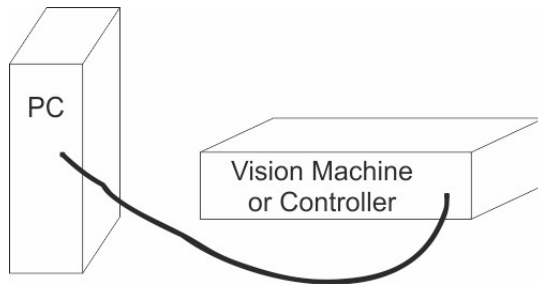
CPU:	Dual Core (2.0GHz or higher)
Hard Drive:	500 GB free space
RAM:	1GB + OS Requirements
Operating System:	Windows 10 - 32 Bit & 64 Bit Windows 8 & 8.1 - 32 Bit & 64 Bit Windows 7 - 32 Bit & 64 Bit Windows XP SP3 - 32 Bit (64 Bit not supported)
Ports:	USB port for security dongle Local or network Ethernet port to connect machine

Suggested System Requirements

CPU:	Core i3 (or faster)
Hard Drive:	1 TB (or more)
RAM:	4GB + OS Requirements
Operating System:	Windows 10 - 32 Bit & 64 Bit Windows 8 & 8.1 - 32 Bit & 64 Bit Windows 7 - 32 Bit & 64 Bit
Ports:	USB port for security dongle Local or network Ethernet port to connect machine

1.2 Direct Connection to Computer

Direct Connection to Computer Using Crossover Cable

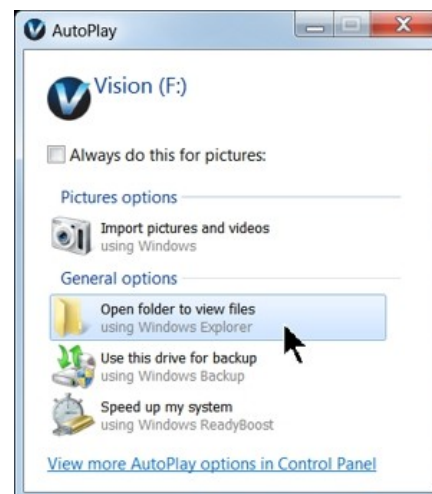
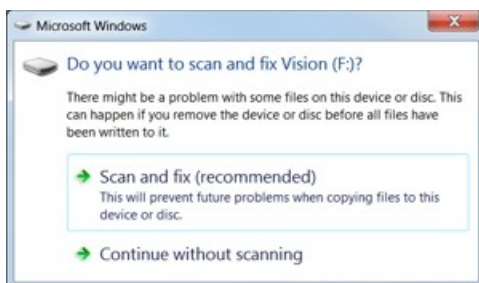


Once the machine or controller is connected directly to your computer's network port with the crossover cable (the gray colored cable), turn the machine or controller on. The power switch for the Vision Express is located on the power supply box for the machine. The power switch for the VE810 is located below the LCD screen on the front of the machine. The power switch for the Vision Series 4 Controller is located on the front left of the Controller. Once the machine or controller has initialized, plug the supplied Vision USB drive (or white/blue or orange USB Dongle) into an available USB port on your computer.

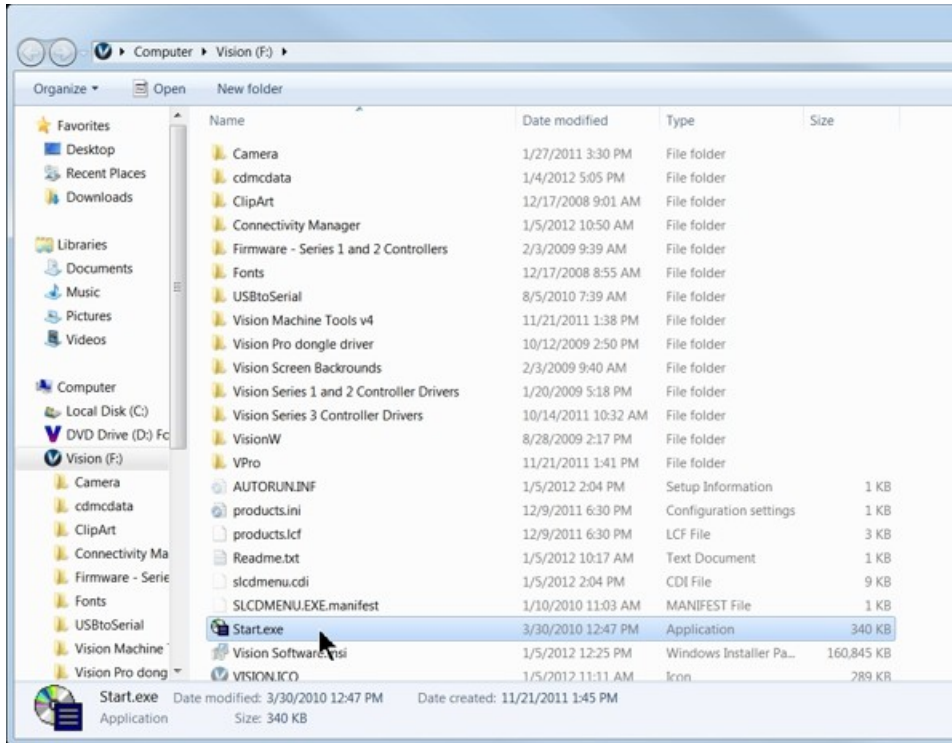
NOTE - This installation is performed on a Windows 7 PC. For Windows XP, Windows 8, Windows 8.1 or Windows 10, the screens are slightly different.

The computer will recognize the USB drive and the following screen will appear. Select Continue without scanning.

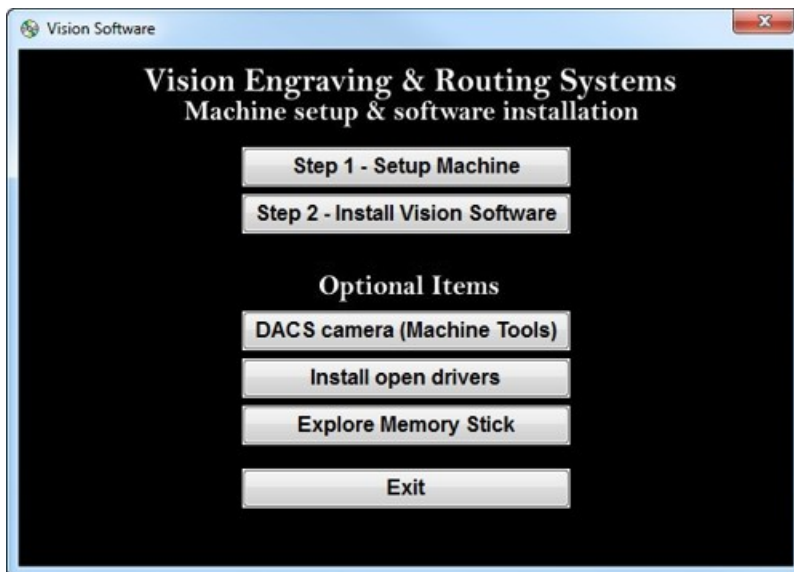
Select Open folder to view files.



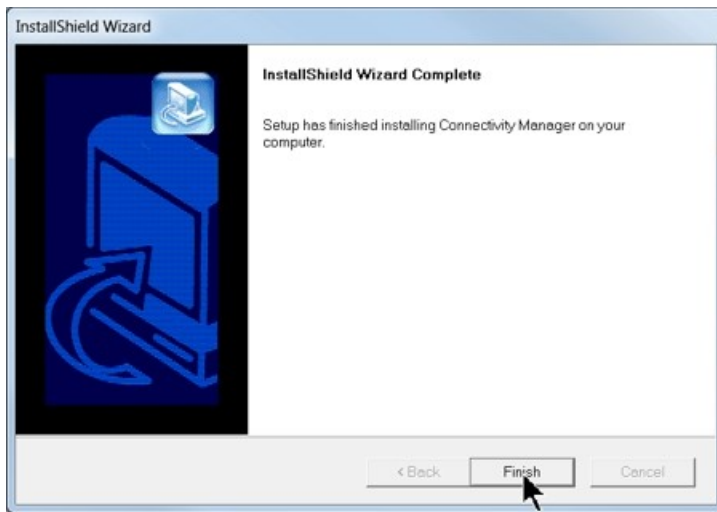
Locate the file named Start and double click on the file to start the installation. The screen below shows Start.exe, but your computer might not show the .exe portion.



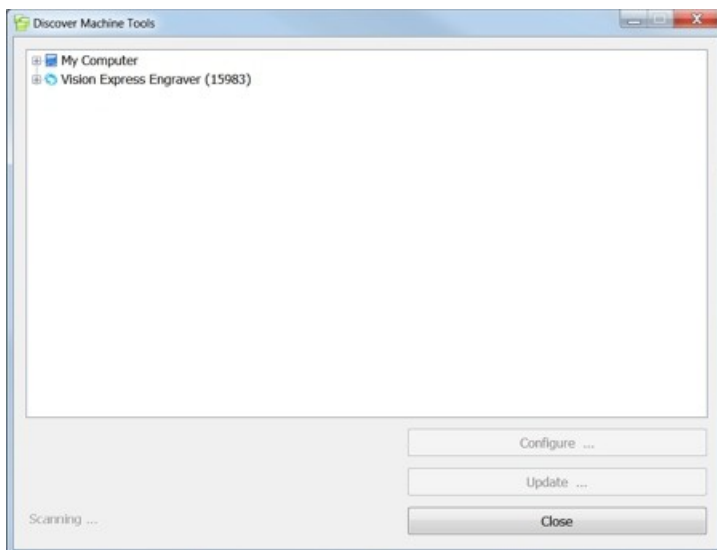
Select Step 1 - Setup Machine. This installs the Vision Connectivity Manager software.



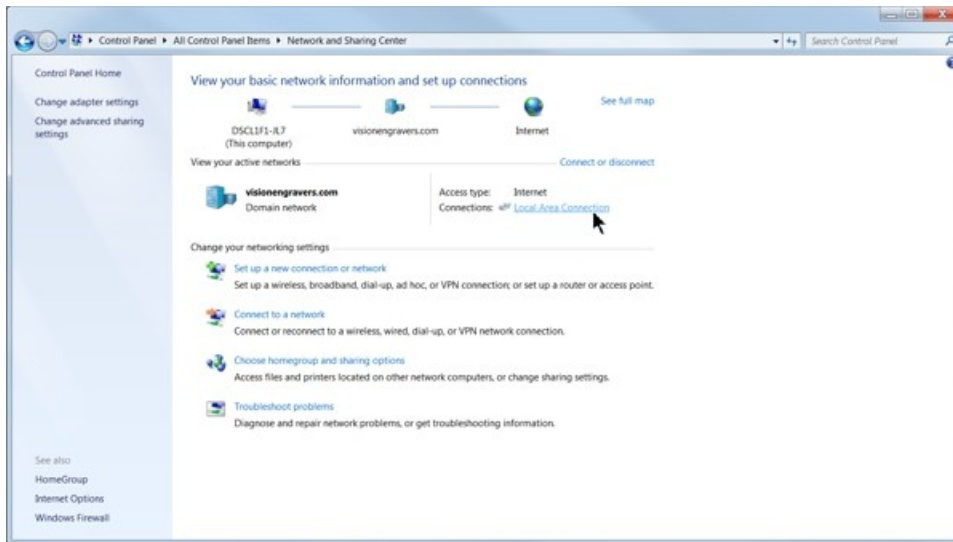
When the software is installed, select Finish.



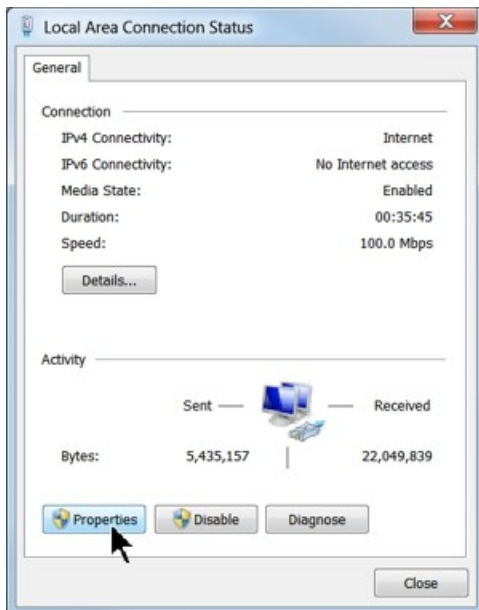
The Connectivity Manager will search for available Vision devices.



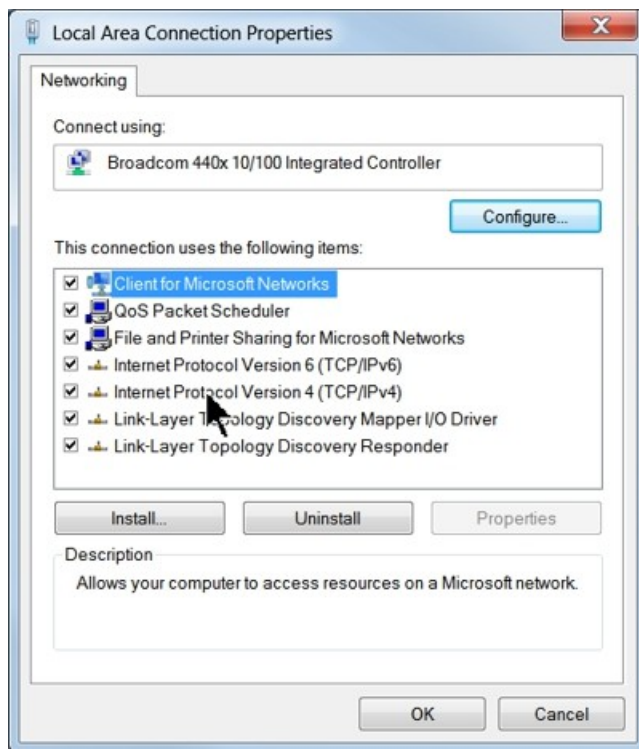
The computer's IP address will need to be set. NOTE - this should not cause any conflicts with your computer's wireless IP address, which is determined by the computer's wireless network card. To set the computer's IP address, open the Windows Control Panel. Depending on how you have this folder set, you will either see Network and Internet, or you will see the Network and Sharing Center immediately. If you see Network and Internet, select View Network Status and Tasks (which opens the Network and Sharing Center). If you see the Network and Sharing Center, open it. Then select Local Area Connection (as shown below).



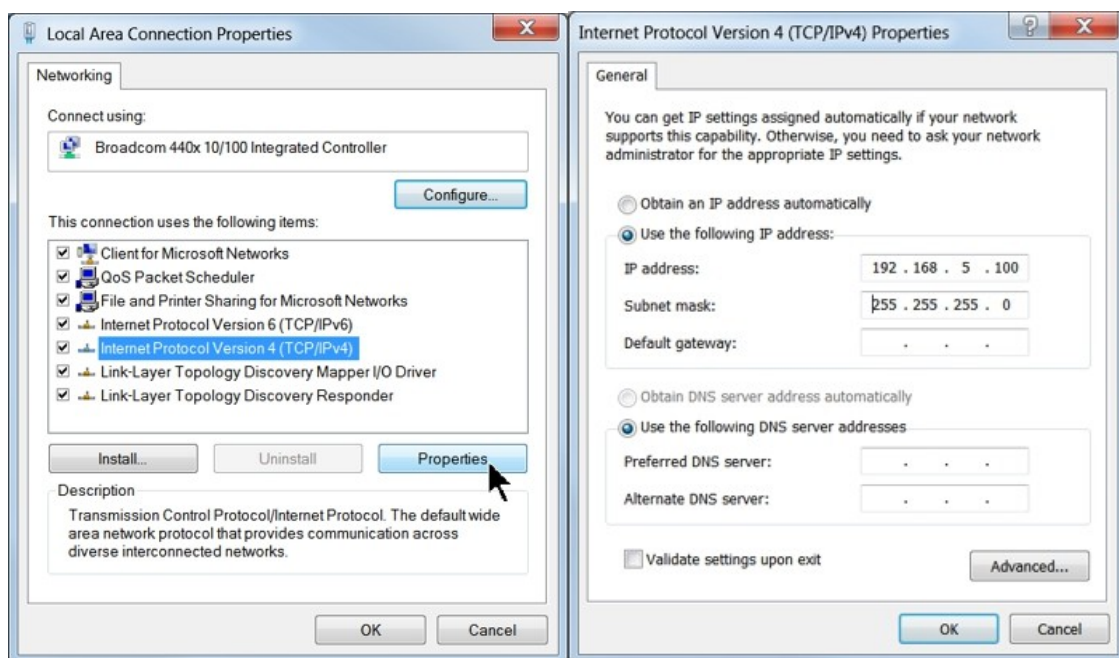
Select Properties.



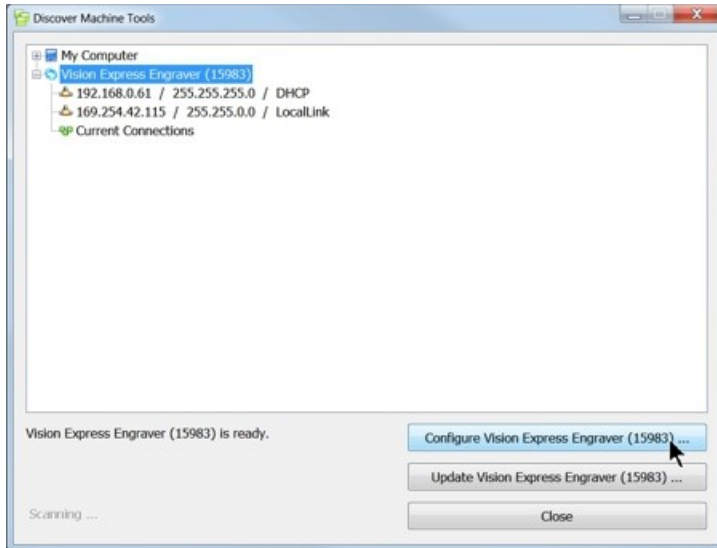
Then, select Internet Protocol Version 4 (TCP/IPv4).



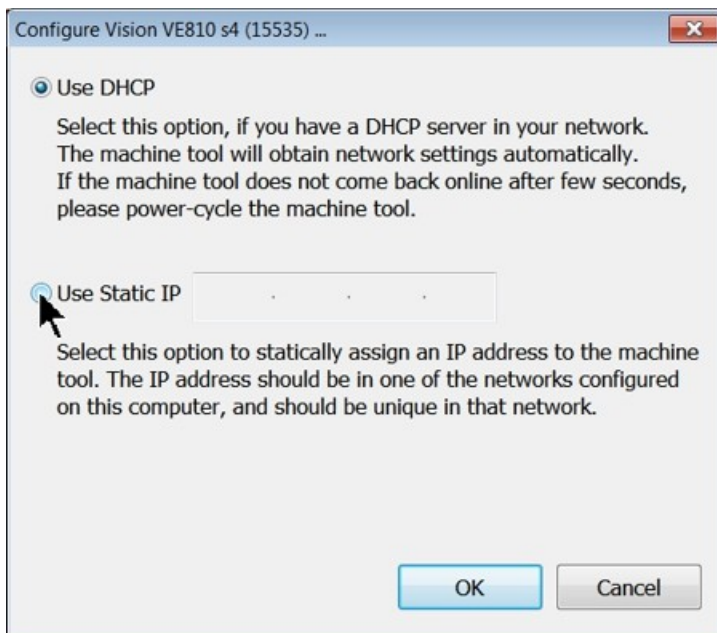
Then select Properties. Select Use the following IP address: and enter 192.168.5.100 and set the Subnet mask to 255.255.255.0 as shown. Then select OK and close any other network configuration windows.



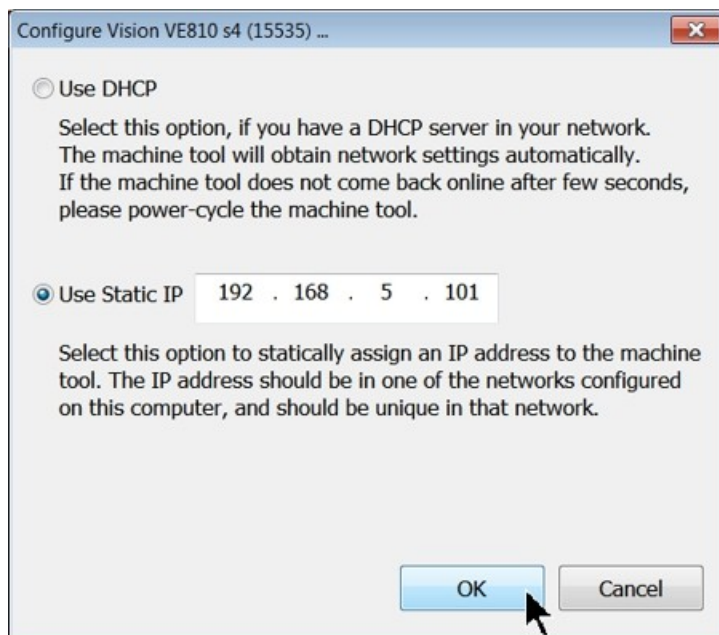
The IP address of the machine will need to be set to set up the connections properly. Select the + box next to the machine now listed in the Discover Machine Tools window to expand the information. Then select Configure (Your Machine) at the bottom of the screen.



Select Use Static IP.



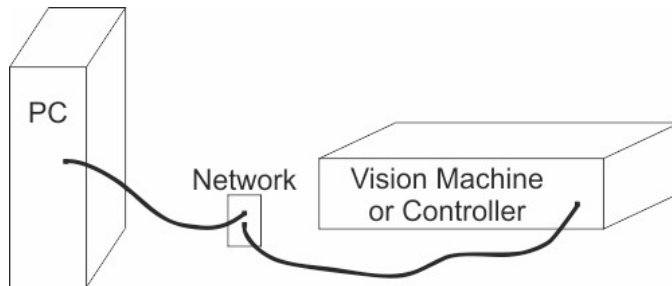
Set the IP address (as shown) to 192.168.5.101, then select OK. This sets the machine's IP address.



The configuration is complete at this point. Close the Discover Machine Tools window and return to the Main Installation Screen to proceed with the Vision software installation in the next section.

1.3 Network Connection

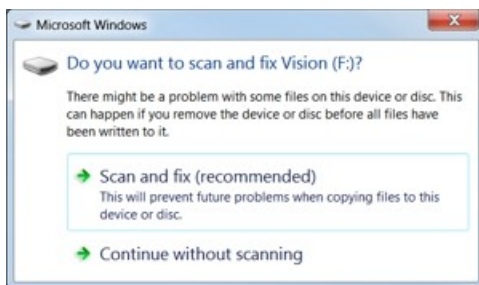
Connecting via Standard Network Cable to Network



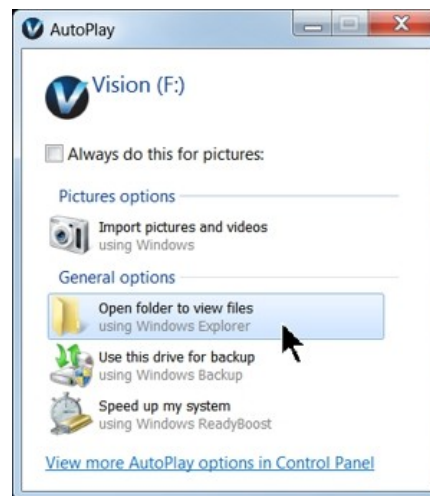
Once the machine or controller is connected to your network, turn the machine or controller on. The power switch for the Vision Express is located on the power supply box for the machine. The power switch for the VE810 is located below the LCD screen on the front of the machine. The power switch for the Vision Series 4 Controller is located on the front left side of the controller. Once the machine or controller has initialized, plug the supplied Vision USB drive (or white/blue or orange USB Dongle) into an available USB port on your computer.

NOTE - This installation is performed on a Windows 7 PC. For Windows XP, Windows 8, Windows 8.1 or Windows 10, the screens are slightly different.

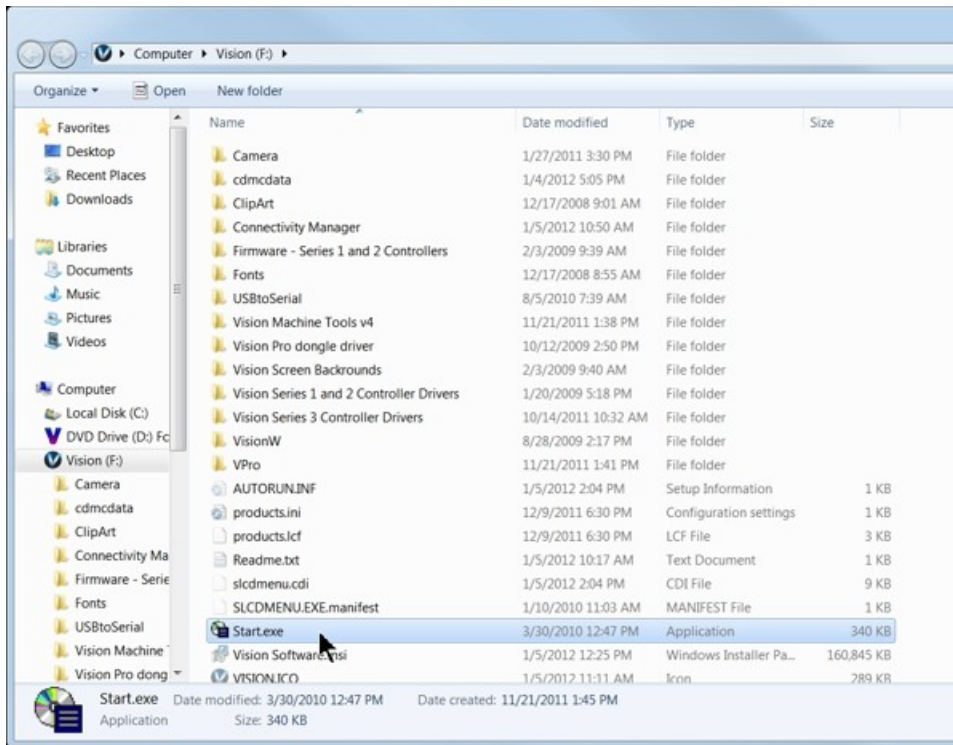
The computer will recognize the USB drive and the following screen will appear. Select Continue without scanning.



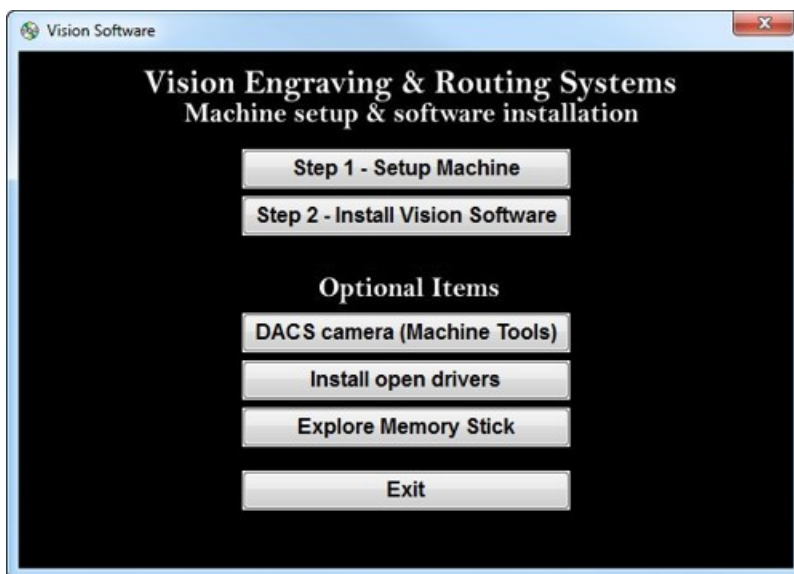
Select Open folder to view files.



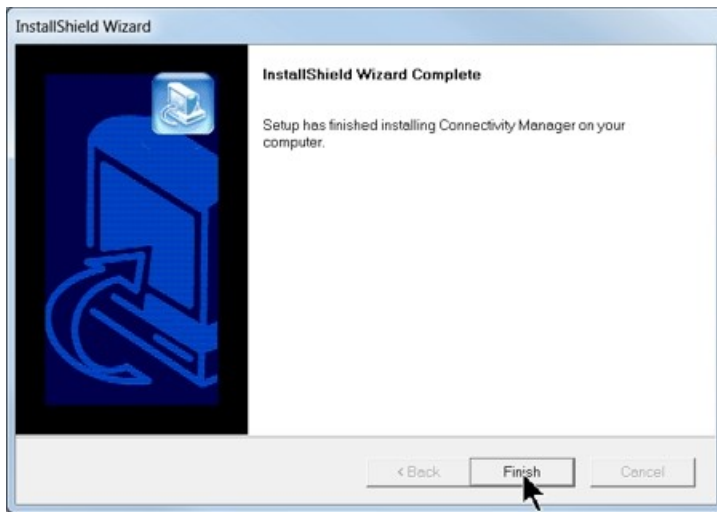
Locate the file named Start and double click on the file to start the installation. The screen below shows Start.exe, but your computer might not show the .exe portion.



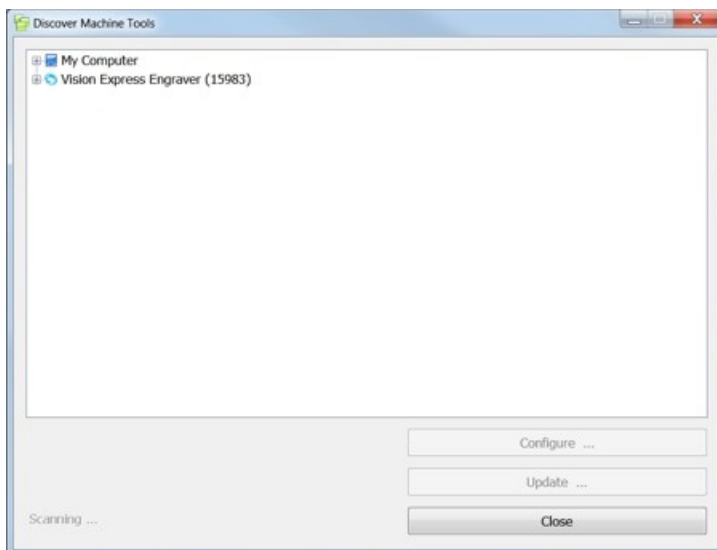
Select Step 1 - Setup Machine. This installs the Vision Connectivity Manager software.



When the software is installed, select Finish.



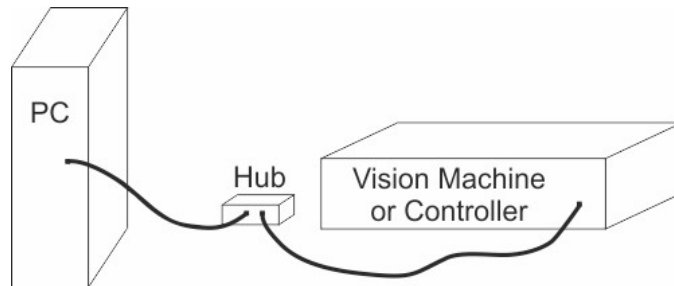
The Connectivity Manager will search for available Vision devices.



The configuration is complete at this point. Close the Machine Tools Discovery window and return to the Main Installation Screen to proceed with the Vision software installation in the next section.

1.4 Using a Router or Hub - ONLY

Connection from PC to Hub or Router to Machine or Controller

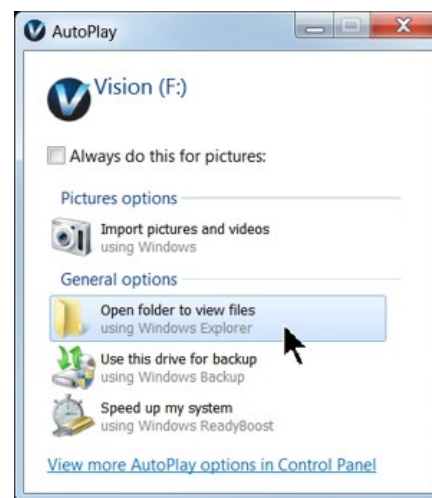


Once the machine is connected to a hub or router, and the hub or router is connected to your computer's network port, turn the machine or controller on. The power switch for the Vision Express is located on the power supply box for the machine. The power switch for the VE810 is located below the LCD screen on the front of the machine. The power switch for the Vision Series 4 Controller is located on the front left of the Controller. Once the machine or controller has initialized, plug the supplied Vision USB drive (or white/blue or orange USB Dongle) into an available USB port on your computer.

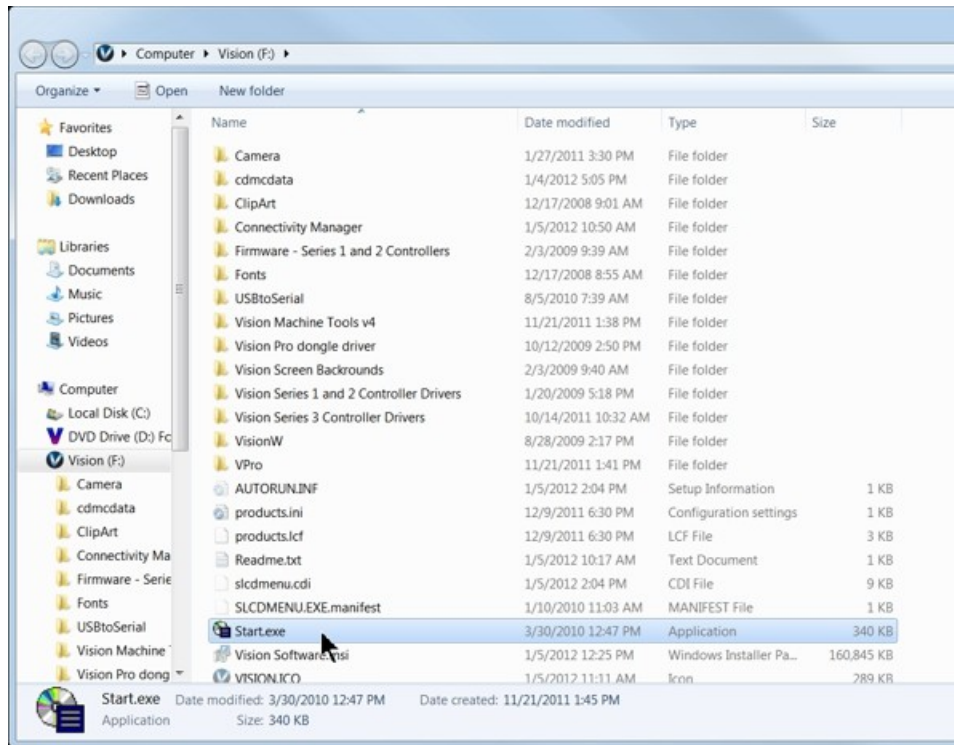
NOTE - This installation is performed on a Windows 7 PC. For Windows XP, Windows 8, Windows 8.1 or Windows 10, the screens are slightly different.

The computer will recognize the USB drive and the following screen will appear. Select Continue without scanning.

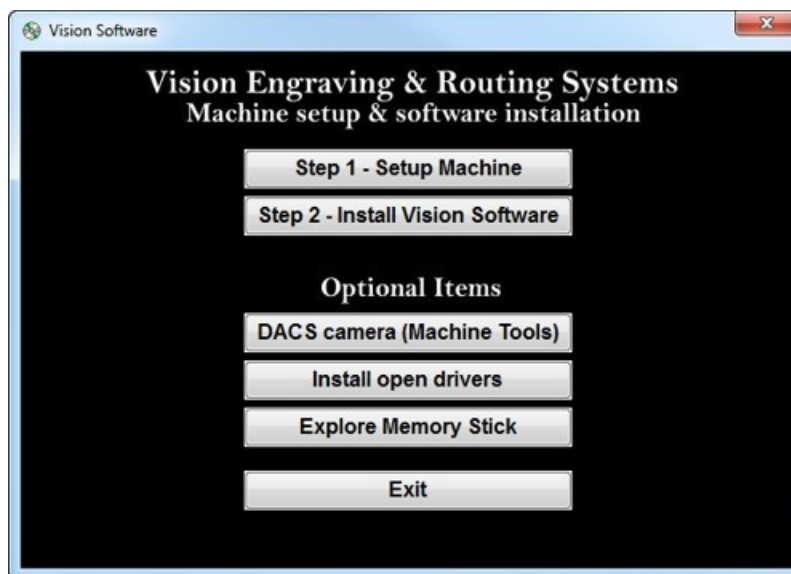
Select Open folder to view files.



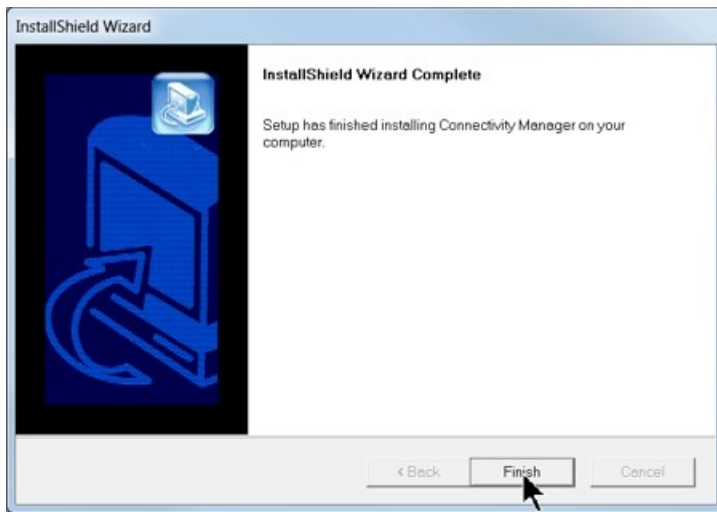
Locate the file named Start and double click on the file to start the installation. The screen below shows Start.exe, but your computer might not show the .exe portion.



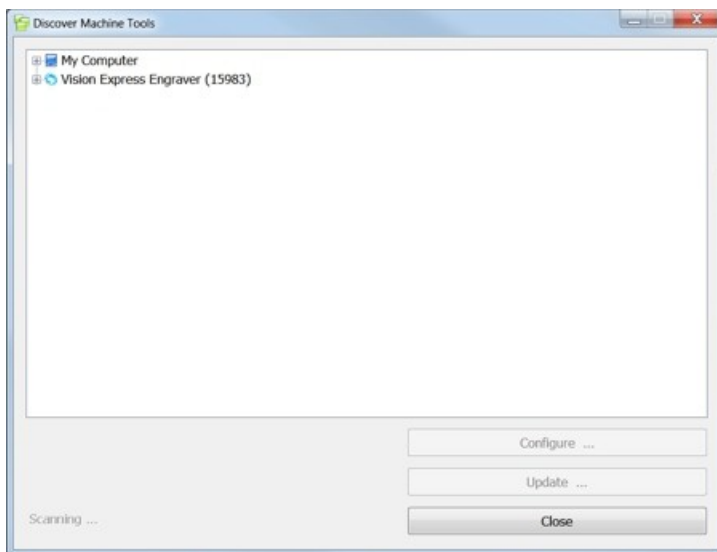
Select Step 1 - Setup Machine. This installs the Vision Connectivity Manager software.



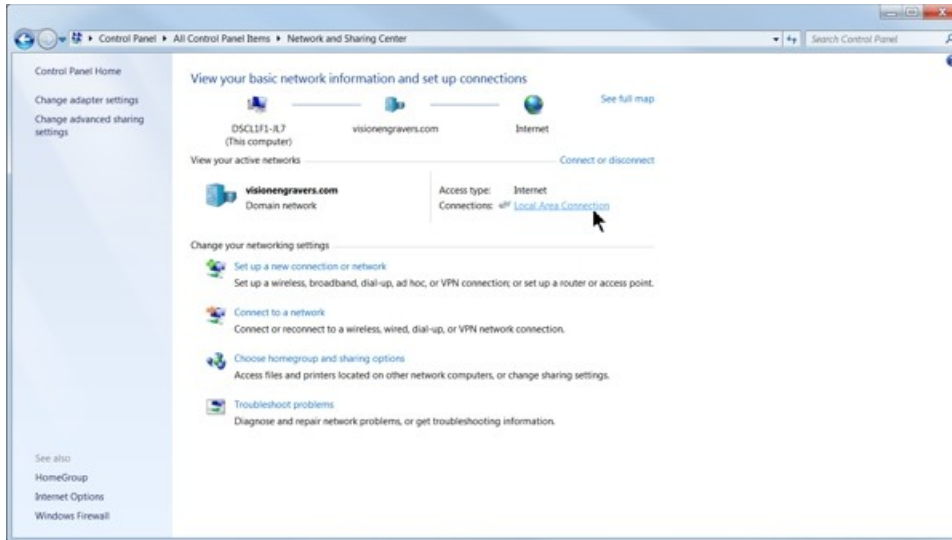
When the software is installed, select Finish.



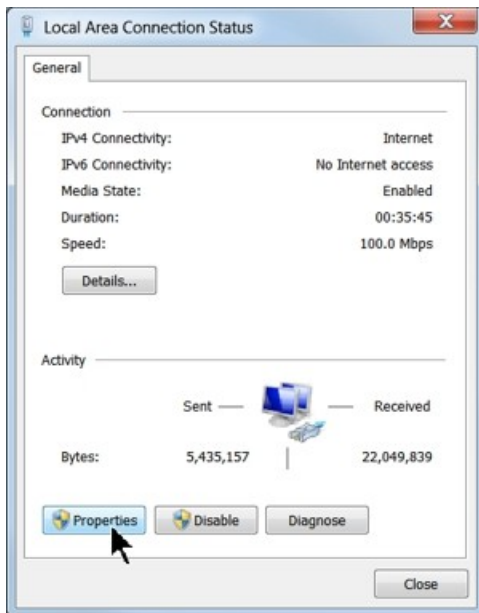
The Connectivity Manager will search for available Vision devices.



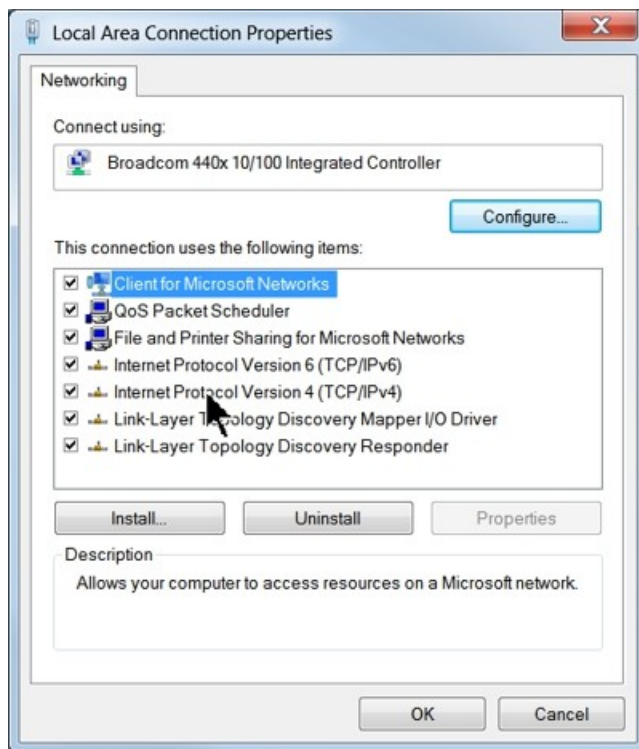
The computer's IP address will need to be set. To set the computer's IP address, open the Windows Control Panel. Depending on how you have this folder set, you will either see Network and Internet, or you will see the Network and Sharing Center immediately. If you see Network and Internet, select View Network Status and Tasks (which opens the Network and Sharing Center). If you see the Network and Sharing Center, open it. Then select Local Area Connection (as shown below).



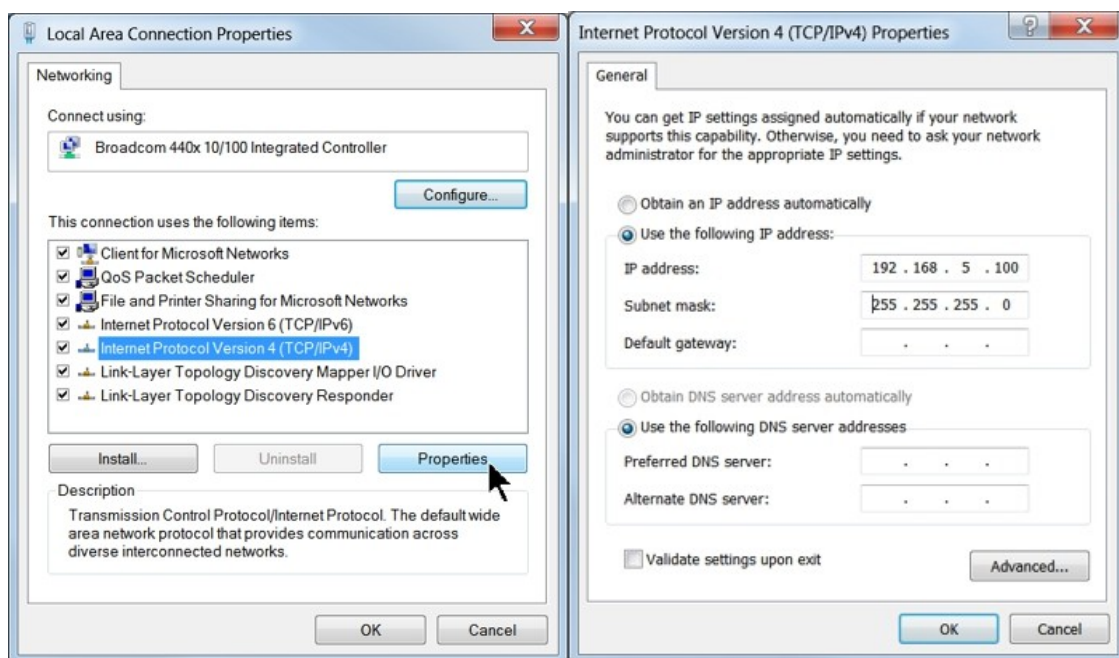
Select Properties.



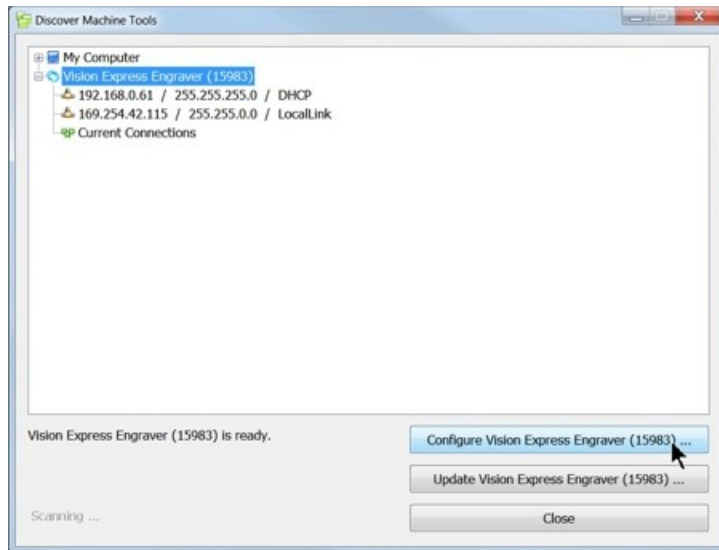
Then, select Internet Protocol Version 4 (TCP/IPv4).



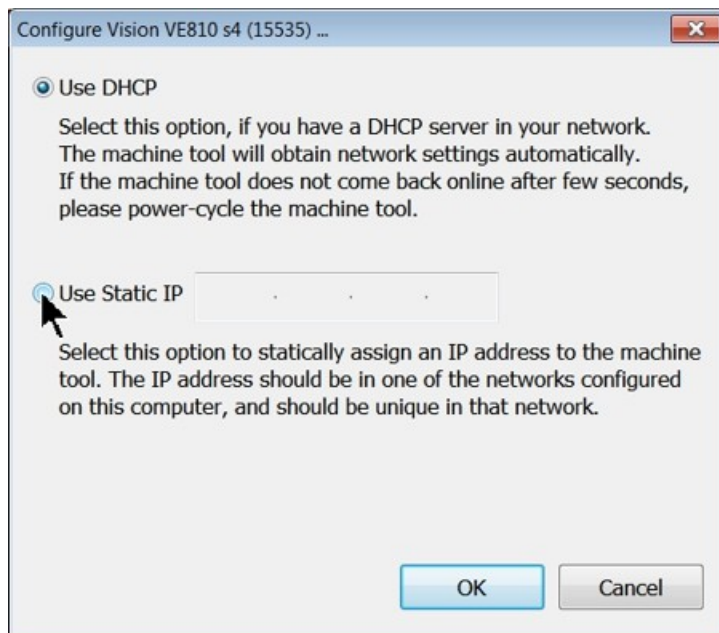
Then select Properties. Select Use the following IP address: and enter 192.168.5.100 and set the Subnet mask to 255.255.255.0 as shown. Then select OK and close any other network configuration windows.



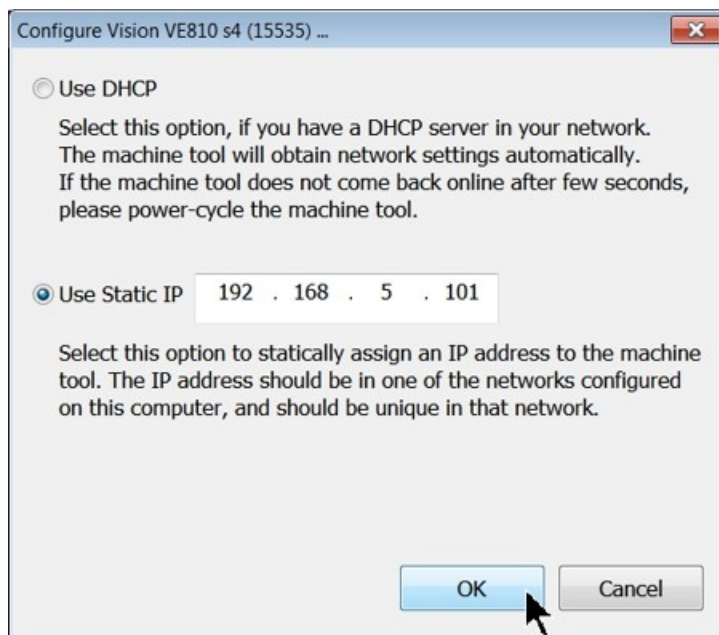
The IP address of the machine will need to be set to set up the connections properly. Select the + box next to the machine now listed in the Discover Machine Tools window to expand the information. Then select Configure (Your Machine) at the bottom of the screen.



Select Use Static IP.



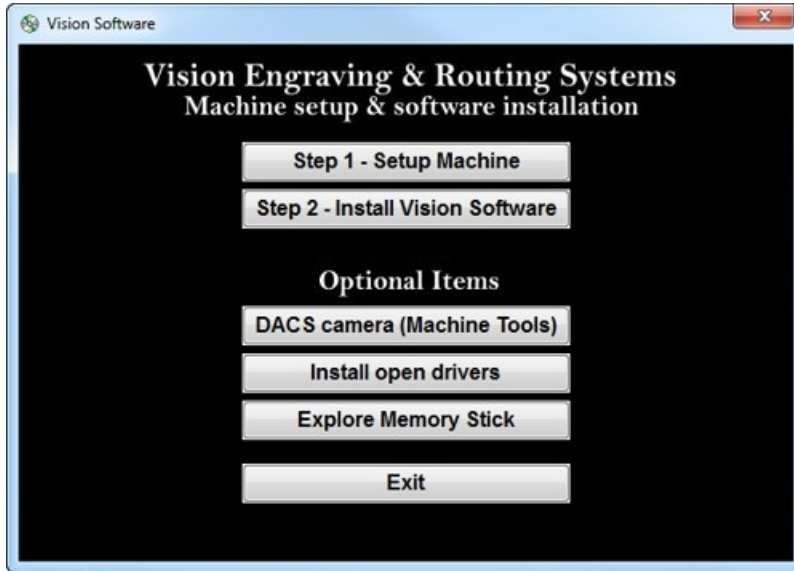
Set the IP address (as shown) to 192.168.5.101, then select OK. This sets the machine's IP address.



The configuration is complete at this point. The new IP address should appear in a few seconds in the Discover Machine Tools window. Close the Discover Machine Tools window and return to the Main Installation Screen to proceed with the Vision software installation in the next section.

1.5 Vision Software Installation

From the Main Installation Screen, Select Step 2 - Install Vision Software.



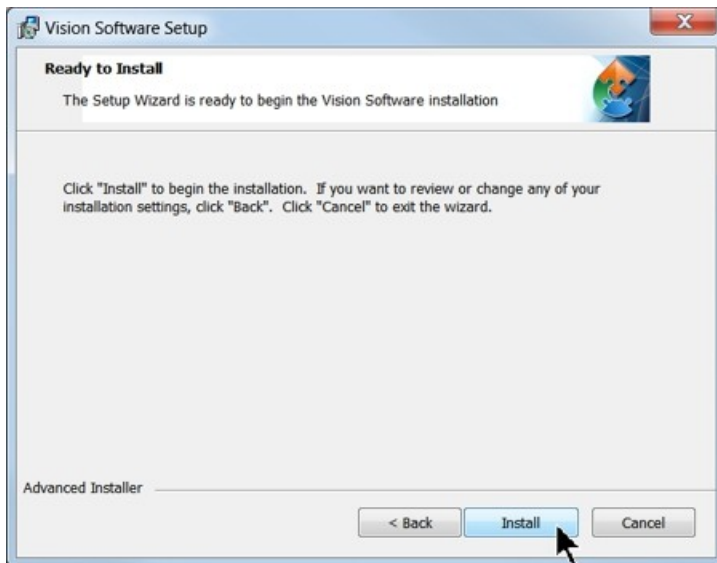
The Windows Installer will prepare the installation.



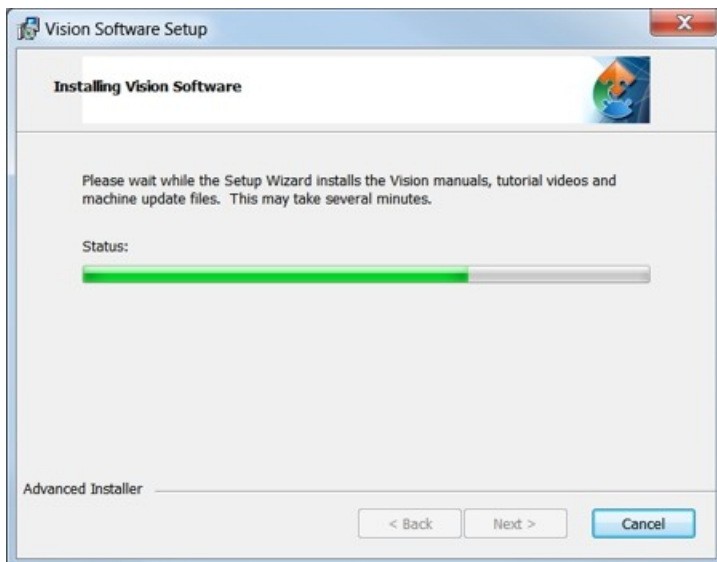
Select Next.



Select Install.



The installation will proceed.



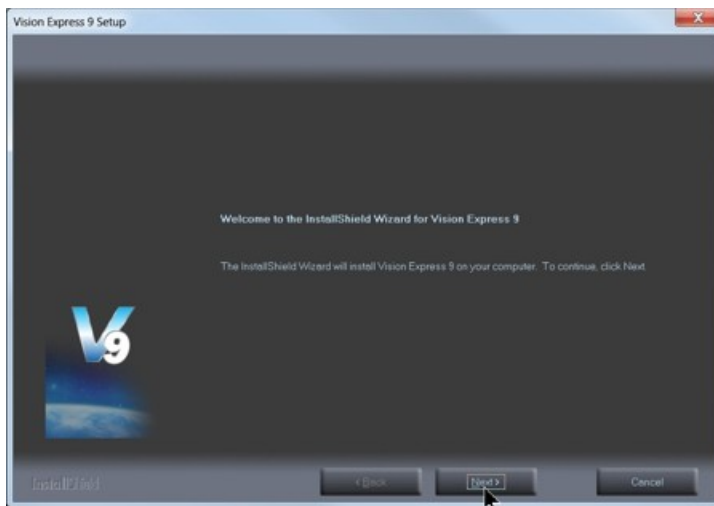
Select the appropriate language and select OK.



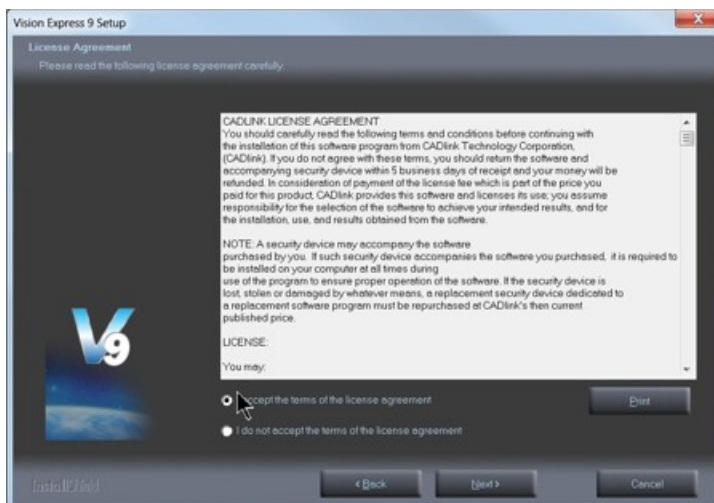
Installation will proceed.



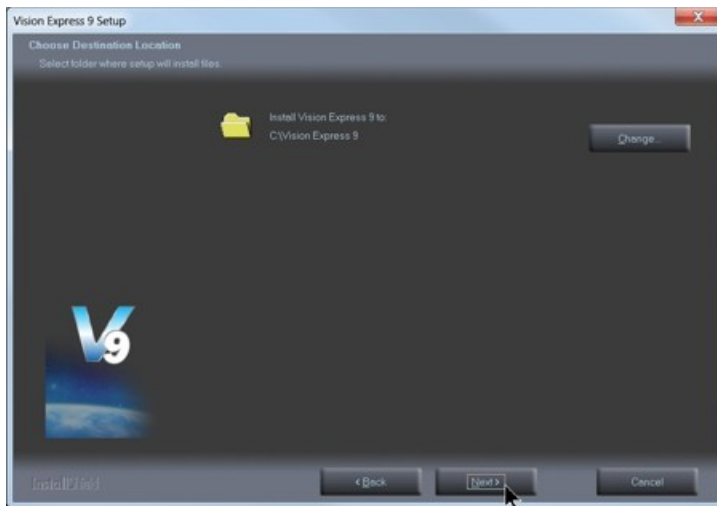
Select Next to begin the installer.



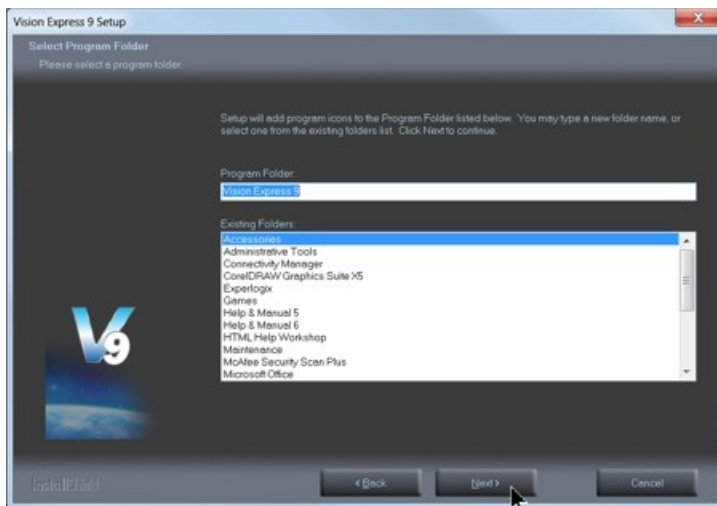
Select Accept the license agreement, then select Next.



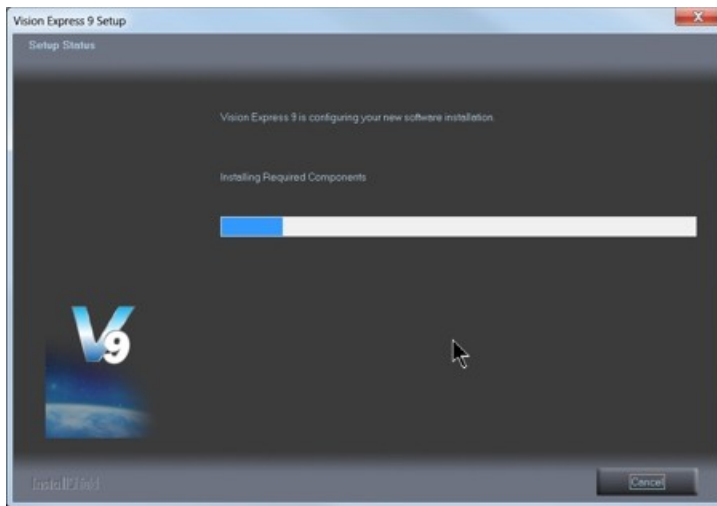
Select Next (or change the destination folder - not recommended).



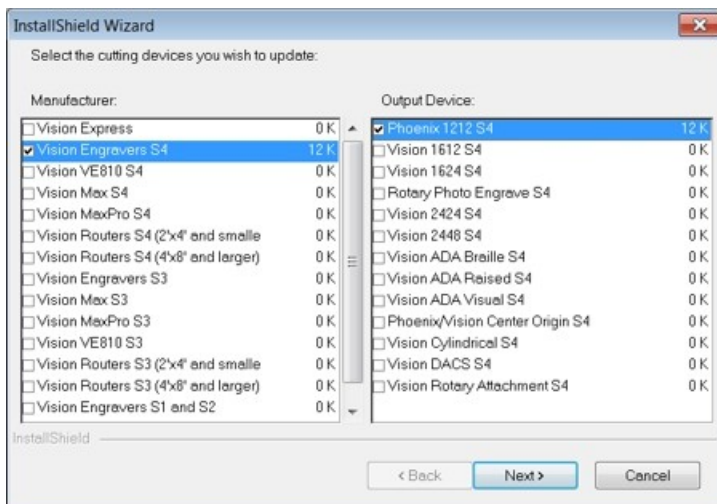
Select Next to create the folder.



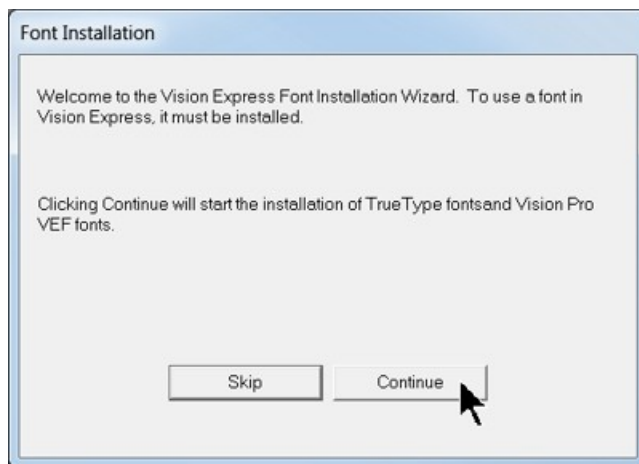
The installation will continue.



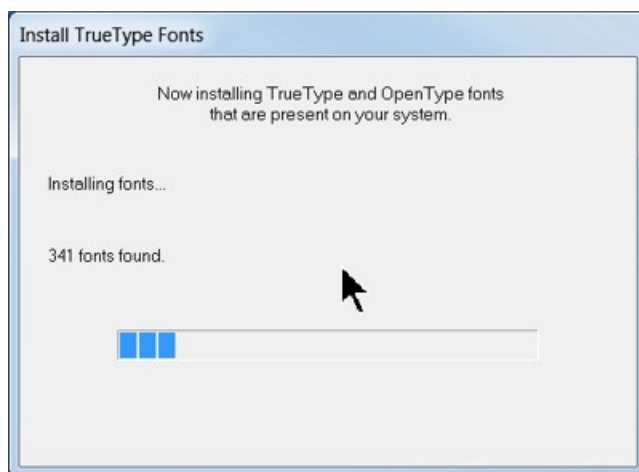
Select your machine from the Manufacturer list on the left side of this window by clicking in the box to the left of the machine (or machine series) you own. The right side of the window will list a selection of Output Devices. Only put a check mark in the box(es) to the left of the Output Device(s) you own. Then select Next. If you purchase another engraving system from Vision, it can be added to the machine list at a later date from within the Vision software.



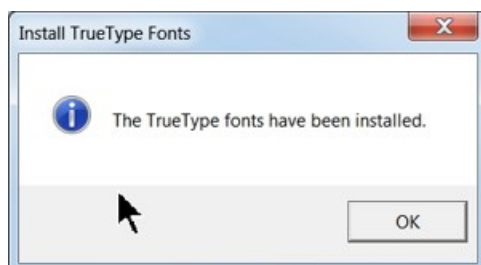
Select Continue to install True Type fonts and Vision Engraving Fonts on your computer.



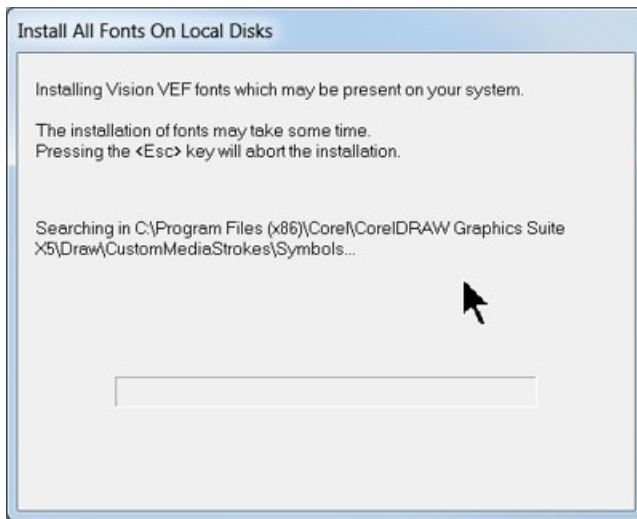
The software will look for True Type fonts on your computer and allow the Vision software to use them.



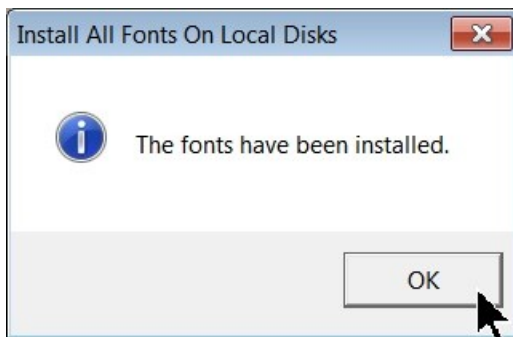
Once the True Type fonts are installed, select OK.



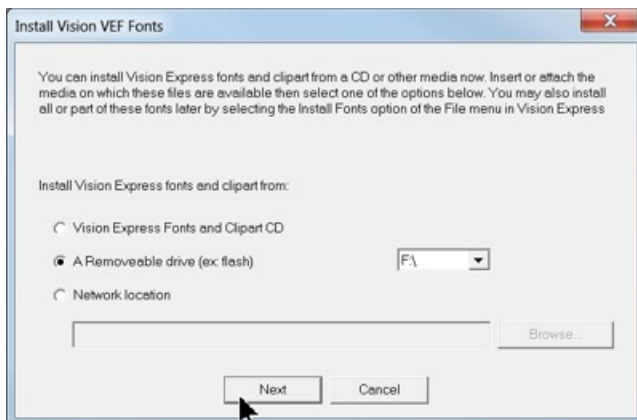
In this step, the software will install any Engraving fonts on your computer.



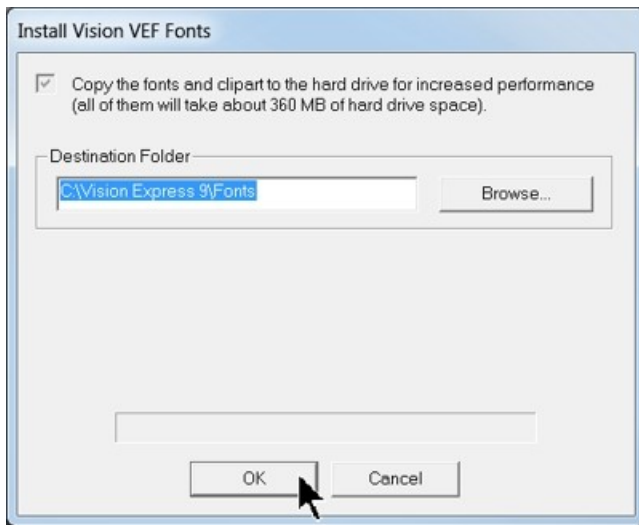
When complete, click on OK.



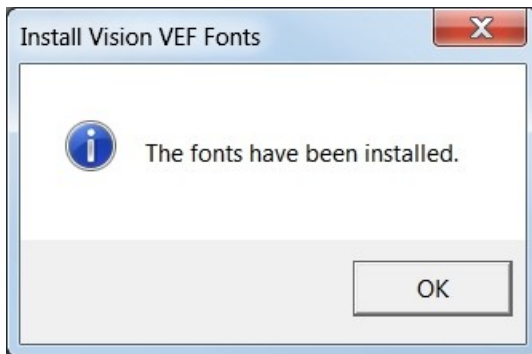
In order to install the fonts on the USB drive, select A Removable drive and from the drop down list, select the drive letter for the Vision USB drive plugged into your computer.



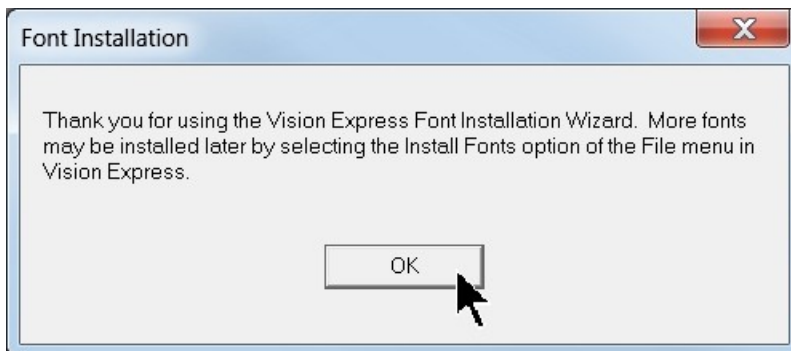
Select OK to install to the default folder.



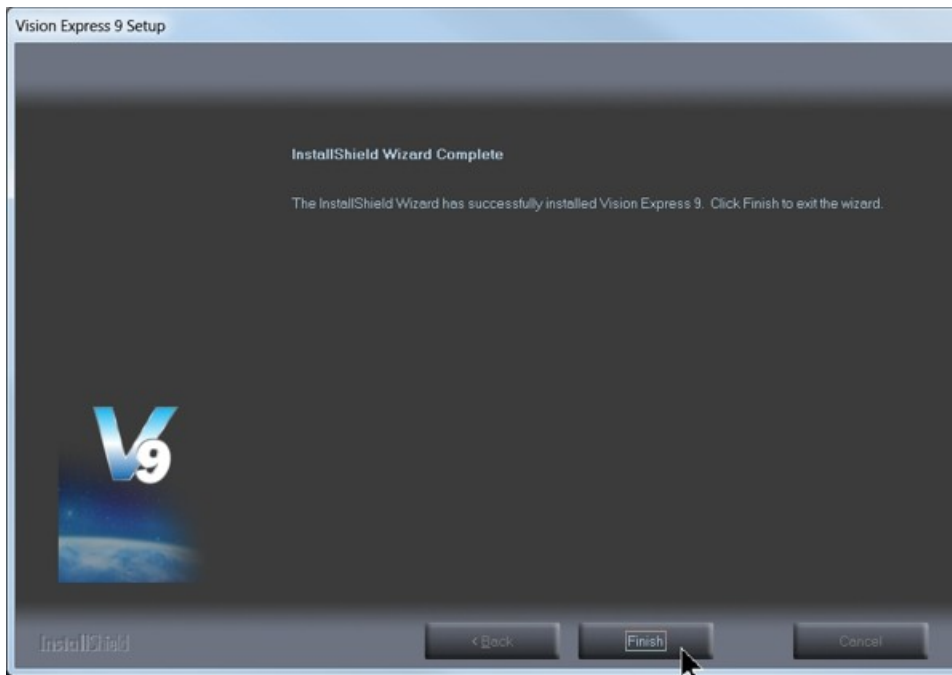
Select OK. All fonts and clipart have been installed from the USB drive at this time.



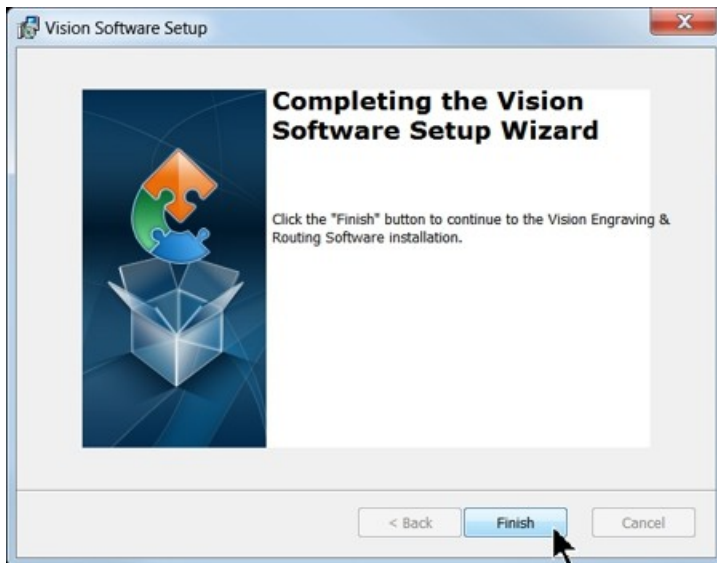
Select OK to return to the main installation screen.



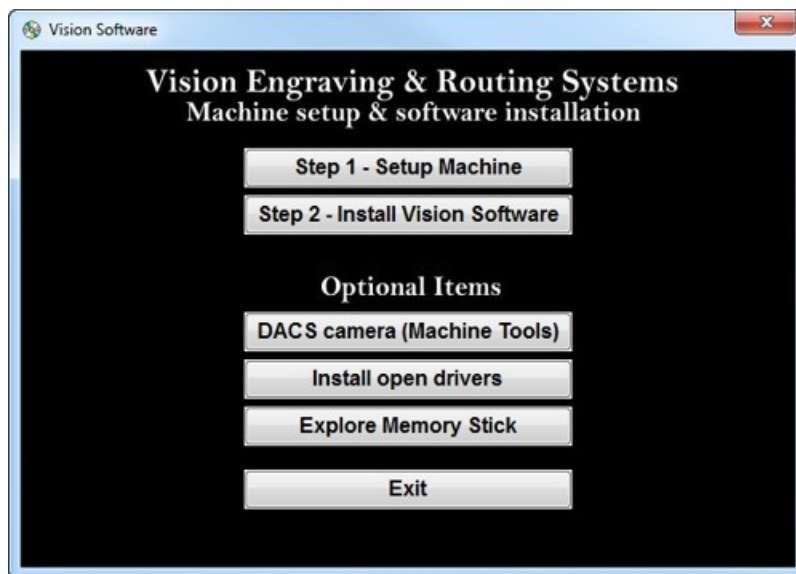
To complete the installation, select Finish.



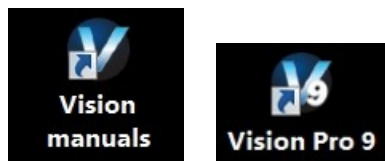
To close the Software Setup window, select Finish.



Select Exit to close the installer.



The Vision manuals icon should now appear on your computer's desktop along with an icon for your version of Vision 9 software.



Clicking on the Vision manuals link will give the user access to User Manuals, Installation Guides, Accessories and Training Videos.

If you were supplied with a White/Blue or Orange Dongle, keep it installed in your computer's USB port in order to use the Vision software. If you were supplied with another color USB stick with your machine, it can be removed at this time from your computer. Installation is now complete.

2 General Electrical and Facility Requirements

Machine Model	Requirements
VR48 Router - T-Slot Table With Standard 3 HP Router Head With Optional 5 HP Router Head With Router Extraction Unit	One 220 VAC 50 Amp Single Phase (Vision machine) One 220 VAC 50 Amp Three Phase (Vision machine) One 220 VAC 20 Amp Single Phase (extraction unit)
VR48 Router - Vacuum Table With Standard 3 HP Router Head With Optional 5 HP Router Head With Router Extraction Unit	One 220 VAC 50 Amp Single Phase (Vision machine) One 220 VAC 30 Amp Single Phase (vacuum table pump) One 220 VAC 50 Amp Three Phase (Vision machine) One 220 VAC 30 Amp Single Phase (vacuum table pump) One 220 VAC 20 Amp Single Phase (extraction unit)
Optional Equipment Engraving Chip Removal System Router Chip Extraction System	One 110 VAC 15 Amp One 220 VAC 20 Amp Single Phase
Optional Equipment Requiring Compressed Air Supply UNIST Misting System NSK High Frequency Spindle	Clean Dry Compressed Air Supply 60 - 90 PSI Clean Dry Compressed Air Supply 1 SCFM @ 40 PSI

NOTE: In addition to the above requirements, a 110 VAC standard outlet is required for the computer.

3 Pendant Holder Installation

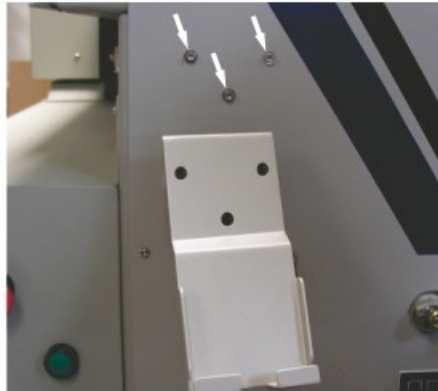
Pendant Holder Installation for VR48 machines

Your machine is shipped with an optional Pendant Holder to give the user a place to secure the Pendant.

The Pendant Holder for the VR48 can be mounted on the front of the machine. To install the Pendant Holder, remove the three screws on the machine and mount the holder to the machine as shown below. Place the Pendant in the Holder to keep it secure when the machine is being used.

VR48 Pendant Holder Installation

Step 1 - Locate and remove the three mounting screws



Step 2 - Secure Pendant Holder to machine with screws



4 VR48 Router

4.1 Requirements

Electrical Connections

1. A qualified and licensed electrician must be used to complete all wiring and grounding of the machine according to all state, local, and national electrical codes.
2. Make sure all Junction Boxes and Outlets are mounted according to all state, local and national electrical codes.
3. Junction Box #1 (50 Amp, 220 VAC, Single Phase for 3 HP router motor **OR** 50 Amp, 220 VAC, Three Phase for 5 HP router motor) will power the router table, spindle, and controls. It is typically mounted on Wall A, approximately 36 to 48 inches above the floor surface. The box should be level with the left edge of the router table. (Refer to Installation Layout Diagrams).
4. Junction Box #2 - for machines equipped with Vacuum Tables ONLY - (30 Amp, 220 VAC, Single Phase) will power the Vacuum Pump. Mounting should be on Wall A and between 36 inches and 48 inches above the floor surface. If locating the vacuum pump as shown (Refer to Installation Layout Diagram), locate Junction Box #2 no greater than 4 feet from Junction Box #1. Junction Box #2 can also be another outlet if you are using the plug supplied with the vacuum unit - check all local, state, and national electrical code.
5. Outlet #1 (20 Amp, 220 VAC, Single Phase) should be mounted on Wall A as shown (Refer to Installation Layout Diagram - Section 2.1). This can also be another Junction Box if the Dust Collector is to be direct wired to its electrical source. The dust collector is approximately 2 feet x 3 feet and is on wheels.
6. Outlet #2 (15 Amp, 110 VAC, Single Phase) should have multiple standard three prong sockets for the computer. It is typically located near the bottom left corner of the router table (home position) as shown (Refer to Installation Layout Diagram).
7. **Wiring needs to be completed to the junction boxes, outlets, etc. before the scheduled first installation/machine orientation day.**

Locating the Router

1. A doorway of at least 80 inches wide and 80 inches high is required in order for the router to be moved into your facility.
2. Locate machine indoors on a flat surface and on a solid foundation.
3. Temperature must remain between 40°F and 85°F.
4. Do not expose machine to direct sunlight, rain, vibration, dampness, or explosive environments.
5. A forklift is required to remove the crate from the shipping truck and to locate the equipment in the building. The forklift must have a minimum capacity of 6,000 lbs and 6' or longer forks.
6. A pallet jack is required to level the router table.
7. The router table footprint is approximately 6.7 feet x 10.7 feet. A designated work area of at least 5 feet is strongly recommended around all sides of the machine to ensure ease of operation, material handling, cleaning, maintenance and safety.
8. Typically, the vacuum pump is between the router table and Wall A (Refer to Installation Layout Diagram - Section 2.1). Please note the orientation of the pump and motor.

Leveling the machine

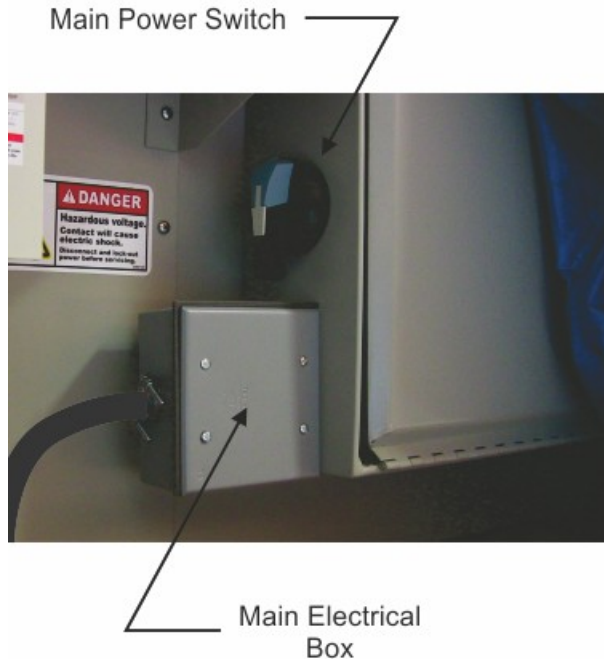
1. Make sure the machine has been properly located at your work-site.
2. It is not necessary to bolt your machine to the floor in your facility. However, a solid, stable foundation is required to support the machine's weight.
3. There should be a leveling bolt in each of the four machine legs.
4. Place a precision leveling gauge on the machine's table top and adjust the leveling bolts until the machine is level in both the horizontal and vertical directions.

Scheduling the Installation

1. Please schedule an electrician for the morning of the first day of installation/machine orientation to connect the router table, vacuum pump motor, and dust collector to the junction boxes and outlets.
2. If an electrician is not available for the installation, please call Vision ASAP in order to reschedule installation/machine orientation. If Vision personnel arrive and the electrical connections are not ready and the electrician is not present, there will be an additional charge \$750/day while waiting.

4.2 Wiring Connections

The Main Power Switch is located on the left side of the VR48.



The main power supply is connected to the Main Electrical Box on the left side of the VR48. Remove the cover and make the connections as shown below. Ground is connected to the bare wire and common leads are connected to the two shielded wires. The supply for this connection is Junction Box #1 (220 VAC, Single Phase).

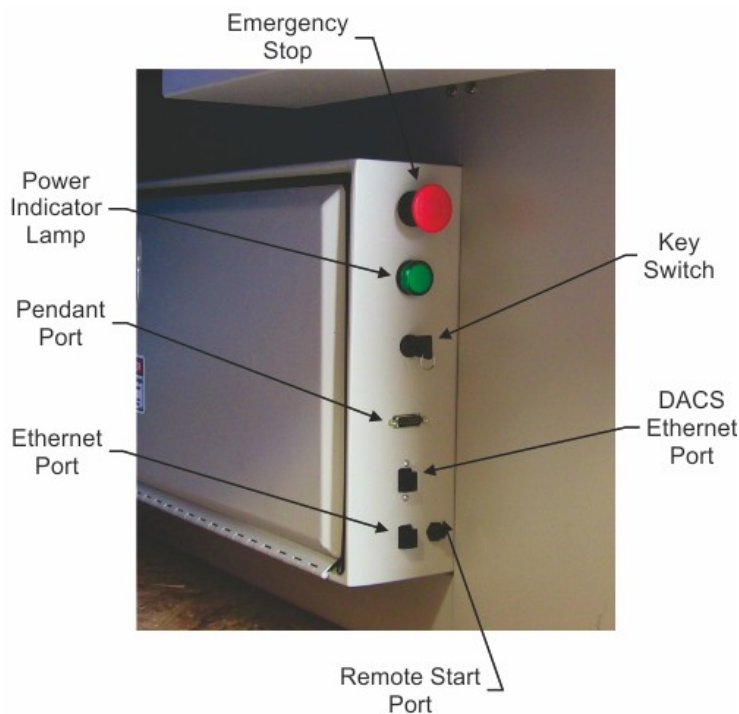
Note: The picture below is for illustration purposes only. The power cable should enter the Main Electrical Box through the hole in the left side of the box as shown in the above picture.

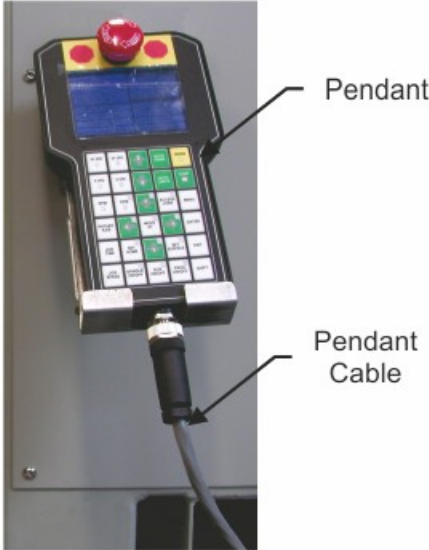


On the front of the control box for VR48 Router, there are four connection ports; One is an Ethernet port used to connect your computer or network to the on-board Series 4 Controller, the second is for the Pendant, the third is a USB port used to connect a computer to the VR48 when using the DACS Camera System, and the fourth is to connect the Remote Start Switch for the Dust Collector System.

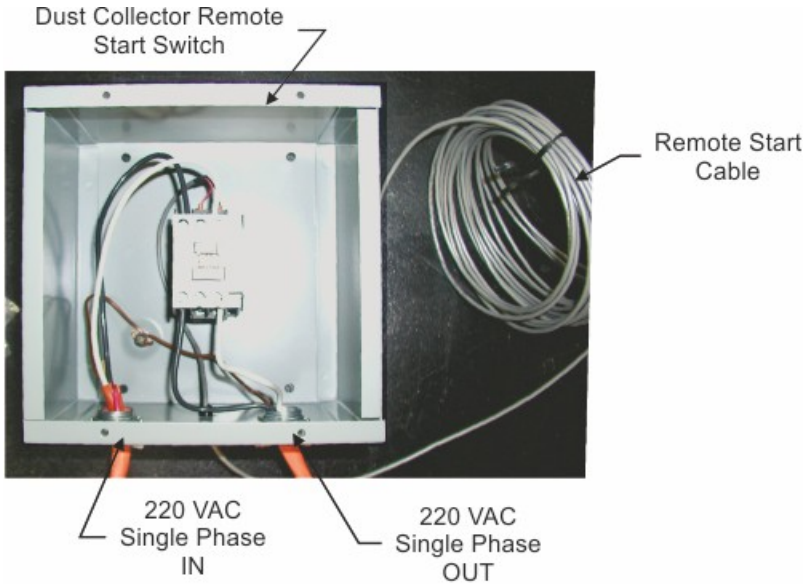
Plug the network cable (or the crossover cable) into the Ethernet port on the VR48, then either plug the network cable into your network (or hub), or using the crossover cable, plug into the network port on your computer. Plug the Pendant cable into the Pendant and Pendant Port on the VR48. Connections for the DACS Camera System are detailed in a separate section of this manual. Connect the Dust Collector Remote Start Cable to the Remote Start Port using the supplied cable.

NOTE: The crossover cable is colored gray.



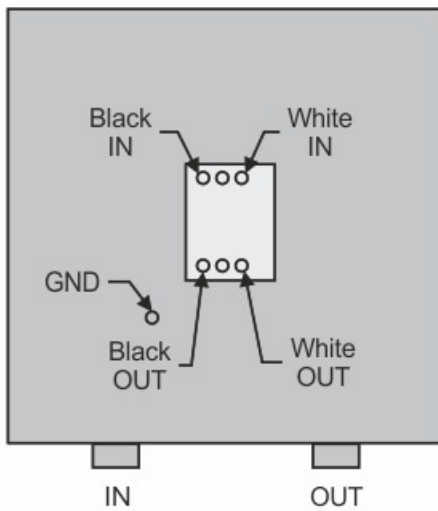


The Dust Collector Remote Start Switch will need to be connected. For ease of operation, a remote start switch and cables can be used to turn on the dust collector automatically when a job is being run. The supply for this connection is from Outlet #1 (220 VAC, Single Phase, 20 Amp).

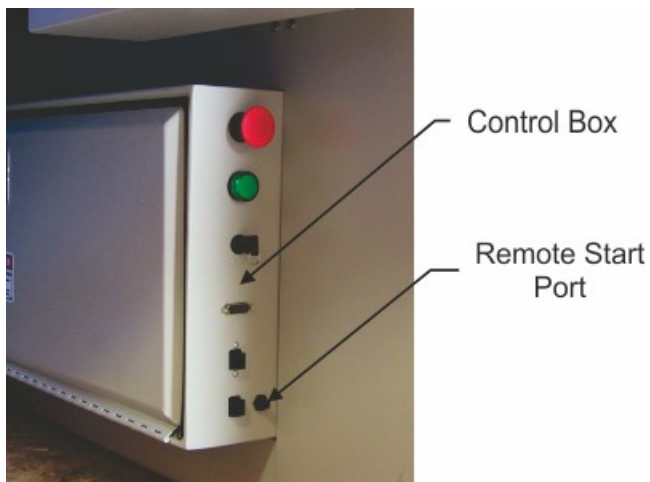


Wiring for this switch is shown below. The input and output wires should be connected as shown. Both input and output ground wires can be connected to the single GND location shown. The switch can be wall mounted at a location convenient for the user.

Typical Remote Start Wiring

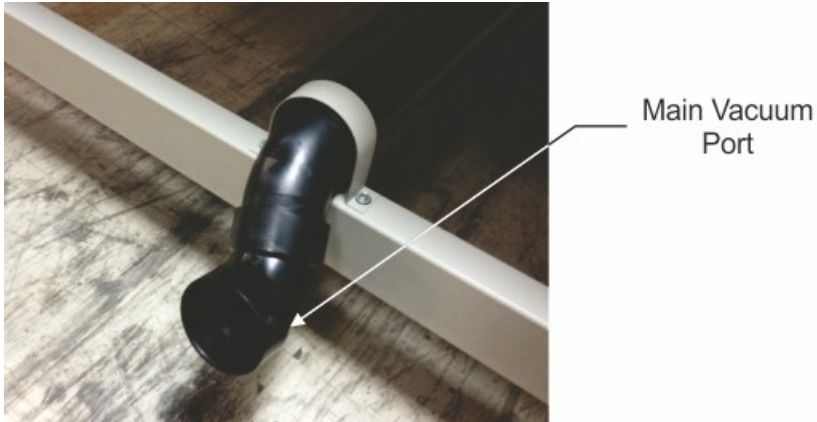


The Remote Start Cable is connected to the Remote Start Port on the front of the machine's control box.



4.3 Vacuum Pump Connections - Vacuum Table Models Only

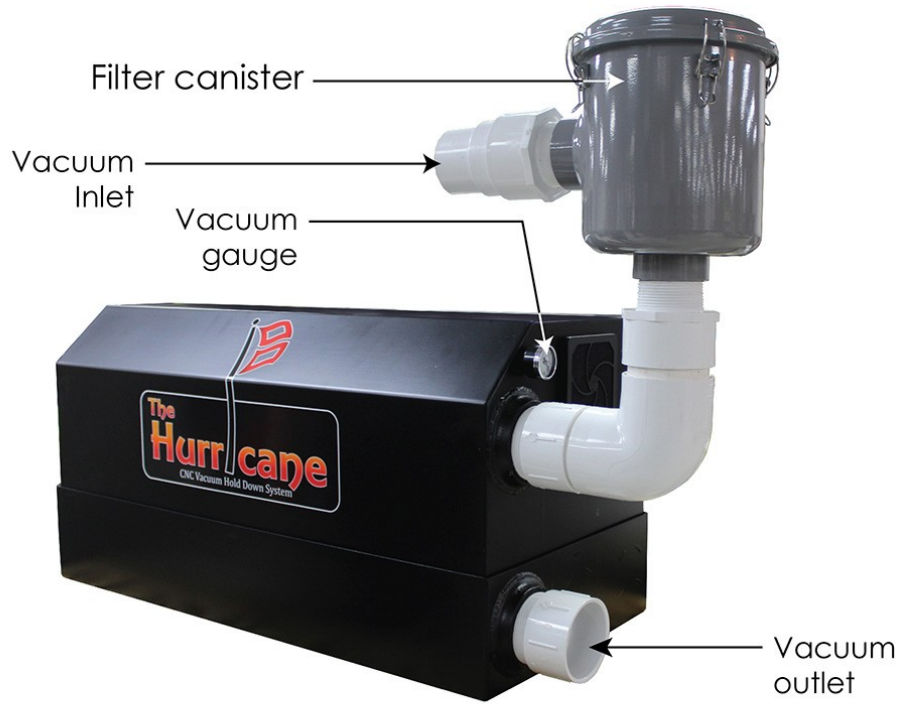
The Main Vacuum Port for the VR48 is located at the foot of the machine. To connect the vacuum pump to the machine, use the supplied 3" diameter vacuum hose and connect one end to the vacuum pump and the other end to the Main Vacuum Port on the machine. If a longer connection is needed, use 3" diameter schedule 80 PVC pipe.



The vacuum pump has been equipped with an electrical connector designed for a 30 amp, 220 VAC, single phase power supply. A qualified and licensed electrician must be used to complete all wiring and grounding of the vacuum pump according to all state, local, and national electrical codes.



The photo below shows the the vacuum inlet, outlet, gauge, and filter.



4.4 VR48 Router Layout Diagrams

T-Slot Tables Models

