

ShopSABRE

• ROUTERS • PLASMA CUTTERS •

Professional CNC Router and Plasma Cutting Tables

for Metal, Wood, and Plastic

Pro Series

Catalog





Our systems are not designed to be one or two project a week machines.

You can run them 24 hours a day 5 days a week or even more if your needs require.

You the owner/operator should be able to go to the machine, turn it on, and go to work. No squaring or alignment should be required. Chinese Imports and Kit Machines might play the smoke and mirrors game but in the end you will find yourself shopping again.

Heavy Wall Structural steel tube and plate framework

ShopSabre uses only top-rated North American steel tubes and steel plate. We do not use any extruded aluminum or sheet metal construction in our machine frames. Our systems are Heavy Wall Structural steel welded and no customer assembly is required. Each machine is Jig welded, Precision Milled, and Heat Treated to assure you get the most accuracy.



ShopSabre uses only high-precision components

We use 25MM linear guide rails with triple wiper linear guide bearing blocks on X, Y, and Z Axis. We use 2 bearing blocks on each rail to assure the cut forces are equally distributed over the rail to reduce the amount of wear and noise. The triple sealed bearing blocks assure that no matter how much debris and dust build up on the rails you will not get failure to the bearings. The design also makes the machine a self-cleaning system without the worry of wiping down the rails or watching for build up. On our ShopSabre Production Level Routers the motion on all 3 of our axes are driven by high precision Ball Screws with the highest diameters in our market. The ShopSabre Ball Screws are Ball Matched Angular Contact Bearing to assure the highest accuracy possible. The ShopSabre CNC drives are all driven by A/C Digital Super Servo Drives with matching Amplifiers and Glass Encoder Technology.



21630 Hanover Ave Lakeville, Minnesota 55044
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ShopSabre does not cut corners

If you purchase a 5 position Tool Changer you get 5 complete positions, which include the wrenches, collets, cones and tool forks. Yes—even the wrenches are included. This goes for any number of positions. ShopSabre also can attach a Tool Measure switch with **ANY** of our CNC Router systems so you are not limited on tooling accuracy between changes whether manually changing or auto tool changing.

Professional-grade CNC controller

ShopSabre uses the best of both worlds when it comes to a controller. We use an Industrial Controller technology that has been conveniently installed into a Windows compatibility to give you the most control over your CNC system with the ease of running a computer. Our system does not connect to the machine with a cheap printer port or USB cable. We use a true CNC grade Industrial Connection via a 37 Pin direct connection.

The ShopSabre has a SSD Hard drive for AT MACHINE STORAGE and you can load your CAD/CAM software on the machine computer too if you would like. Eliminating the need to walk to a workstation to make changes to a file if necessary. ShopSabre Also makes the machine completely networkable so you can utilize your businesses Internet Connection or Network for File Transfer, Storage, or On-line diagnosis/assistance.

The ShopSabre requires **NO** special training or machine setup. It has a dedicated built in microprocessor that **ONLY** drives your CNC machine, while the PC processor runs the PC and any programs you might have running. The ShopSabre CNC controller has USB drive ports to assure you can plug in your flash drives and external hard drives as necessary.

The ShopSabre Controller has **EVERY** capability that our competitors with standalone controllers have, and many more that competitors cannot offer (*even on competing machines costing \$100,000.00+*). The ShopSabre Controller is dust and dirt protected and designed to be used in a working environment. The Controller updates with Windows so you will never run into a problem with compatibility, and all controller software version updates are **FREE** for the lifetime of the equipment.

ShopSabre has an answer for any budget

We can build a CNC system that fits entry level needs from Porter Cable Routers all the way to a Fully Functional Tool Changer system. We provide 3.25HP Porter Cable Routers, 2.2Hp HSD Spindles, 3.7HP HSD Quick Change Spindles, 4Hp HSD Spindles, 5 Hp HSD Auto Tool Changer Spindles, 9.3Hp HSD Spindles, and of course the 10HP HSD Tool Changer Spindles. We can special order even larger spindles for those of you who need the power. All our spindles come standard with a Variable Frequency Drive (VFD) to control spindle RPM ranging from 2,000-24,000 depending on the model (*ask sales for details*).

ShopSabre also has Tool Changers that are expandable in the field meaning you can take a 5 Position system and upgrade to a 10 Position without sending the machine back to us for work. Don't be fooled by competitor's quotes, Many only provide you with the Tool Changer head and 1 tool position and charge you extra for the cones and collets.

ShopSabre Benefits List

- » ShopSabre puts additional time and money into assuring that each CNC system is 100% **TESTED** and Calibrated prior to leaving our facility so you won't be the tester in the field. The ShopSabre is designed to drop into your building and go to work. Don't pay expensive fees to have someone on-site to setup your machine; it can be done before it ever leaves the factory with ShopSabre CNC keeping installation simple, easy, and stress free.
- » ShopSabre puts more time and effort into assure each mounting bracket, Spindle Plate, and Drive Component is machined to exact specs for increased accuracy and better fitments to assure you do not get any binding or excessive wear.
- » ShopSabre CNC uses High Grade Continuous Flex Robotic CNC wiring that is specifically designed for the type of work a CNC system does. It can bend and move all day without having any issues, and the anti-interference coating assures the wires are less likely to have interference from other electronic equipment in your shop for the highest accuracy possible. Many competitors use cheap wires that can be purchased off the shelf for less money, but they still charge comparable pricing. Don't be fooled by companies who don't build quality into their systems.
- » Unlike many competitors that offer Laser calibrations by request, we do this as a part of **EVERY** build to assure our machines are as accurate as possible during manufacturing.
- » ShopSabre CNC is fully upgradable and has expansion capabilities for the growing shop. If you want to start with the basics and move to the bells and whistles down the road, almost every option (with a few exceptions) can be added after the sale in the field.
- » ShopSabre CNC designs our systems to be easy to work on so you do not need a ShopSabre technician to come into your facility to help with everything you encounter. You benefit from low operational cost and a big return on investment.
- » If you do find yourself in need of help, ShopSabre CNC offers **FREE** lifetime tech support and assistance as a part of ShopSabre "SabreNation" – because we are confident that our machines will last a lifetime.
- » ShopSabre sales are not paid on commission so the only reason for them to recommend an option is truly to benefit your project and machine capabilities. ShopSabre has no reason to encourage you to spend more money than you need to up front to perform your job. We sell on facts and the facts should sell the technology, equipment, and options.
- » Don't be fooled by the other systems on the market. We are so confident of our machines that we extend an invitation to tour our facility and view our ShopSabre CNC systems in various stages of manufacturing. With prices starting under \$20,000 you can't afford not to check us out!

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Pro Series

Popular Industries

- Proto-type Manufacturing
- Nested Based Manufacturing
 - Sign Makers
 - Engineering
 - R&D/Job Shops
- Cabinet/door/instrument Manufacturing
- Medium Duty to High Production Shops
 - Solid Surface
 - Millwork

Product Description

This CNC Router system is our most popular model with an upgrade in technology, durability, and force. This machine packs a punch that cannot be found by any comparably priced equipment on the market today. From the over-sized heavy duty tube steel frame, gantry, and tube steel gantry uprights to the Industrial Anti-Backlash Ball Screw drive system you cannot go wrong with this machine. It has the power, the accuracy, and the durability to be a game changer. The PRO Series CNC Router is designed to produce high quality parts whether you are performing nested based sheet work, one off custom machining, or anything in between. These machines work great with a variety of materials from Hard Wood, Soft Wood, Hard Plastic, Soft Plastic, Foam, Aluminum, and/or Brass just to name a few. Whether you are into crafts, signs, cabinets, furniture, R & D, manufacturing, or simply a hobbyist at home or an educator looking to expand your schools capabilities the ShopSabre PRO Series CNC Router is the machine for you. These machines are available in an over-sized 4' x 8' or over-sized 5' x 10' working area with the largest standard gantry clearance. This machine will provide you with years of problem free service and the quality you have come expect from a ShopSabre CNC.

Standard Options

- › Fully Assembled, Tested, and Pre-Calibrated for Easy Installation
- › Access to "SabreNation" - Life-Time Support via Phone, Email, and PC Connectivity
- › Access to ShopSabre Basic Training Course (*Ask for Details*)
- › Vectric VCarve Pro Cad/Cam software
- › ShopSabre CNC WINCNC Controller Hardware & Software
- › Integrated PC with included Control Tower with Windows software & Monitor/ Keyboard included
- › Fully Configured Control Box with Operators Control Stand
- › Precision Linear Guide Rails and Bearings on X, Y, and Z Axis
- › Large Diameter Ball Screw Drives on X, Y, and Z axis
- › Dual Drive Y Axis with High Powered A/C Brushless Closed Loop Servo Motors
- › High Quality CNC Grade Wiring with Cable Guards and Carriers
- › ShopSabre Super Z Technology and Z Axis Stiffener System
- › 2D & 3D Capable (4th Axis Available)
- › Tool Measure Switch for Fast And Accurate Tool Change
- › Accepts G-Code or DXF Files direct
- › Hi-Definition Control Cabling for Machine Communication
- › PC Control Software
- › PC Included with SSD Hard Drive
- › WinCNC hardware with 37 pin HI definition cable, accepts .dxf or standard G-Code
- › Vectric VCarve Pro



Machine Specs

Traversing Speed	1200IPM Standard
Cutting Speed	800IPM Standard (tooling, material, hold down dependent)
Resolution	.0003-.0005
Repeatability	+/- .001"

Cutting Area

PRO408	60" x 100" x 12" <i>(Some limitations apply- ask for detail)</i>
PRO510	72" x 125" x 12" <i>(Some limitations apply- ask for detail)</i>
Construction	
Table	Welded Precision Ground Steel Construction
Gantry	Welded Precision Ground Steel Construction
Linear Rails	25mm Precision HiWin Rails
Foot Print	PRO404: 80" x 84" x 95" PRO408: 80" x 135" x 95" PRO510: 92" x 155" x 95"
Weight	3200-3600 lbs
Power Requirements	20amp / 220 Volt

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Linear Guides

This machine like all our equipment is built with Large Linear Guide Rails and Bearings reducing the maintenance and wear you would find on smaller bearing systems. These bearings are the top of the line and built for longevity and easy maintenance.



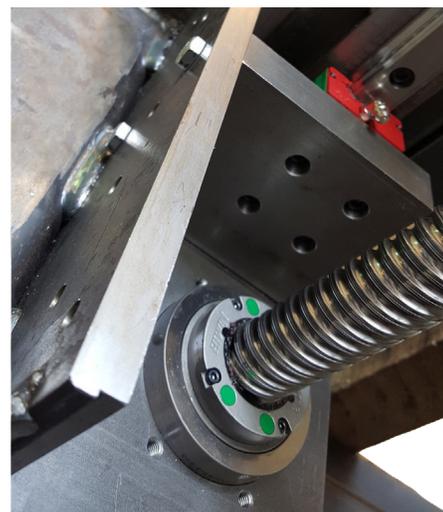
Industrial Motors

The motors on this machine are anything but low power. ShopSabre includes AC Digital Servo Motors on all Axis giving you maximum speeds, increased cutting ability, and dependability that cannot be match. Name Brand Recognized Systems that are A/C Digital Closed Loop Brushless motors with Glass Encoder Technology increases ability and provide a maintenance free solution.



Hidden y Axis Design

The Y Axis on the PRO Series uses hidden rail technology meaning the dust and debris from cutting will not be able to contaminate your bearings under production working levels.



Controller

Our Controller is Industrial in strength yet easy to operate with simple point and click technology you won't need to remember difficult code or screen switching. Everything is done in one place with keyboard and mouse control! No Special Operators Required - Anyone can learn this system

Steel Frames

These machines are FEA Engineered & Designed, 100% Welded, Precision Milled, and Heat Treated Structural Steel Frames, Large Over-Sized Tube Bases, and Powerful Steel Gentries. The machines are all precision ground to assure the machine is accurate and true which will provide you better cuts and more accurate products.



Ball Screw Drives

This system is very similar to what you see from higher priced systems. We cut no corners and put over-sized Industrial Ball Screw drives on all axis. This includes dual drive Y Axis giving you more power, accuracy, and dependability.





Pro Series Router

Configuration:

- › Welded steel structural frame, stressed relieved & precision machined
- › Welded Steel Gantry with precision machining & stress relieved technology
- › Tube Steel gantry uprights
- › Fully FEA Engineered and Designed for Better Performance
- › X Axis: AC Digital Servo Driven with Ball Screw Drive and Linear Guide Rails and Bearings
- › Y Axis: AC Digital Dual Servo Driven with Dual Ball Screw Drives and Linear Guide Rails and Bearings
- › Z Axis: AC Digital Servo Driven with Ball Screw Drive and Linear Guide Rails and Bearings
- › All Motors are High Powered Name Brand A/C Brushless Digital Servo Motors with Amplifiers and Glass Encoder Technology
- › Machines are 100% American Designed, Engineered, Supported, and Manufactured!

Standard Features:

- › 12" Gantry Clearance with 16" of Z Travel
- › 1200 IPM Rapid Movement on X & Y Axis
- › Industrial Ball Screw Drives on All Axis
- › Upgraded Z Axis Technology for Rigid Tooling and Machining
- › Precision Linear Guide Rails and Bearings
- › Machine Mounted Continuous Flex Robotic CNC Grade Wiring
- › Auto Tool Measuring Technology
- › X,Y, and Z limit Switches with Homing Position & Accuracy
- › ShopSabre Quick Dust Skirt
- › Emergency Stop Switch
- › Vectric VCarve Pro CAD/CAM Software
- › Nesting Capabilities
- › Industrial ShopSabre WINCNC Controller with at Machine CAD Capabilities, SSD Hard Drive, Ethernet & USB connections with online, phone, and email support

Popular Options & Features (Other options may be available):

- › HSD Spindles (ISO & HSK Spindle Clamp System available)
- › Auto Tool Changer System Available in 5 or 10 Position
- › Table Reference Pins (Pop-Up Pins)
- › Rotary 4th Axis (Lathe) System
- › Vacuum Hold Down Systems with 4 Zone Grid and High Flow Pumps (F4, Becker & FPZ)
- › Knife Systems
- › Vision Recognition Systems (used with registration marks)
- › Tooling Packages
- › Software Packages
- › Dust Collectors

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A business born of necessity,



hard work, and inspiration



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Background

Years ago Jim Bombardo, founder of ShopSabre, had an idea to build a CNC machine to do crafts for his wife's business. Jim knew that if he did not have a machine capable of producing parts, he would have many long hours of back breaking work to do by hand. With a background in engineering and software, he started the project of building his own CNC machine.

After the initial days and weeks of research, Jim knew that he had to have a system that was an industrial design which would provide fewer headaches and years of problem-free service. His first machine was a full ball screw driven machine with industrial components throughout. Now he could produce parts for hours with ease and great precision.

After running the machine for some time, friends and acquaintances saw it and were amazed by its fully welded construction, power, precision and overall quality. After getting offers to sell it and hours of convincing, Jim sold the machine and decided he would build another for himself. Armed with experience and new ideas, the second machine went together more quickly, and Jim was once again convinced to sell it.

During the construction of the third machine, Jim had done further research in the CNC market and was amazed that no one offered an industrial quality machine under \$60,000. The only machines on the market were small bolt-together machines, and the components being used were simply hobbyist in quality. After seeing everything and doing this research, Jim decided to take this third machine to the Woodworkers show in Atlanta.

During the show he received a lot of attention and accolades for the machine design. When the show was finished they had over a dozen request for orders. Every client was willing to wait for the machine as they understood the quality and components put into each one.

After arriving back home, a facility was constructed for the manufacturing of the new CNC machines, and ShopSabre was born. Jim had started with himself, four sons, and his wife.

ShopSabre is a self-funded company and the machines are constructed from the ground up with every component being closely monitored to ensure it works flawlessly. ShopSabre's philosophy is simple: Customer Service is Everything. Each machine is tested for hours before it leaves to ensure power, precision, quality and reliability.

Currently there are over 5,000 machines around the world in over 29 countries. ShopSabre CNC has experienced enormous growth in the past few years, and has received recognition from some of the largest manufacturers of cabinets, aerospace parts and equipment, signs and many other industries. Business owners and engineers are seeing that you do not have to spend \$100k or more on a machine that can produce precision parts three shifts a day every day of the week.

ShopSabre is continuing to be on the cutting edge of CNC technology with the release in January '08 of its fastest and most powerful machine under \$100,000. ShopSabre's ability to monitor every part of the build cycle and every industrial component put into the machine each one is built to perfection before it leaves regardless if it is a router, spindle, laser, plasma, tangential knife or other product.

Jim is still personally involved in the construction and assembly of nearly every machine. With new products in the works and growth continuing at an astonishing rate, ShopSabre will continue to be a leader in affordable CNC machines.

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