



ENGRAVING

and

Cutting

Guide



Discover the unique opportunities that an Epilog Laser system can provide for your woodworking business!

An Epilog Laser system is the ideal tool for expanding your woodworking capabilities. Detailed graphic images and precision cuts are a breeze with Epilog's high performance line of woodworking lasers. Custom engraved and cut graphics are ideal ways to add distinction and profits to your wood products.

EPILOG
LEGEND^{EXT}

EPILOG
mini



Working with Wood on the Laser

Wood is by far the most popular material used with Epilog's laser systems. It can be engraved or cut very easily, and when it is engraved, it produces a beautiful contrast where the laser burns away the wood. This highly visual contrast allows you to create intricately detailed engravings of photographs, logos and images.

There are many types of wood products that are designed for use with the laser, and many more that are **waiting to be discovered by you.**

How Detailed Will My Wood Engraving Be?

Epilog's laser systems can engrave in very fine detail (up to 1200 dots per inch!) and highly detailed engravings turn out beautifully on wood. Take a look at our Aztec Calendar sample shown to the right. The detail of this image can't be matched by any other laser available. This superior engraving ability is due to a combination of our motion control system and the electronics we use in every laser system we manufacture.

Which of Epilog's Systems Can Create this Quality?

This same quality image can be engraved on any of our laser systems, from the Mini 18 all the way up to our top-of-the-line Legend 36EXT!



Wood Engraving Techniques

When creating the highest quality images on wood, high contrast and consistent depth of engraving are the two most important factors that people look for when laser engraving. The higher the power levels you send your image over to the laser with, the higher the contrast and depth will be. By adjusting the speed and power settings on your laser and the resolution, you can quickly configure your project for the ideal depth of engraving.

Speed and Power Settings

Wood is a great material to laser engrave, because it discolors when engraved and the depth of the engraving is greater than on many other materials. In order to accomplish this it will take a lot of power to deeply engrave wood at high speeds. Most wood can be engraved using full power regardless of whether you are using a 25 watt laser or a 120 watt laser. Depending on the wattage of your laser, the best approach is to set the laser power at 100% and adjust the speed to obtain the desired depth.

Resolution Settings

Wood is a very easy material to work with, and allows you to produce very nice detail with as little as 300 dpi engraving. Depending on your image, 600 dpi engraving into wood can produce fabulous results with an image that really stands out.

Grayscale images look wonderful when engraved into wood. The reason for this is that the wood will react much differently to each level of grayscale than to each level of color, providing amazing contrast. Experiment! Take a piece of clipart, ungroup it and change the colors so that they range from black to white, then engrave it. This will create a shading effect that is almost 3D in its appearance.

Laser Cutting Wood

Laser cutting wood with a CO₂ laser allows you to create intricate designs and highly detailed inlays with a low-cost, highly profitable tool.

Attached to your computer just like a printer, the laser will cut designs you create in most graphic software programs. Set up your page size to the size of the piece you are engraving, create your image, and print it to the laser - it will even engrave and cut the material in the same job!

The Advantages of Laser Cutting

There are many advantages to laser cutting over other cutting methods. The laser creates a beam of light that is used to cut through the material. Since there is no part of the laser system in contact with the material you are cutting so gravity can hold the material in place. For thinner materials, all Epilog laser systems include an Integrated Vacuum Table to hold down papers, fabrics and thin plastics as you cut through the material. Laser cutting produces a crisp cut that works well with a multitude of materials.

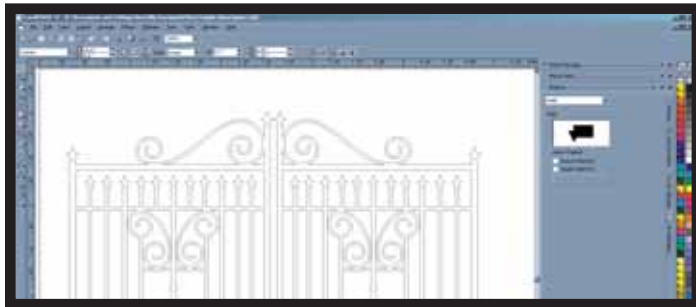


Image to Cutting in 3 Easy Steps

1) In a graphic software program, draw or import your shape to be cut. In this example, we are cutting an intricate gate out of 1/8" alder. The laser system will engrave and cut within the same job. To let the laser know that the lines we have on screen are to be cut out, we set the width of the lines to .001". The laser reads all lines at or below .003" as lines to be cut.



2) Place your sheet of wood on the laser table and now you're ready to print the image to the laser. The system is hooked up to your computer just like a printer. Set the speed and power settings in the print driver for the material you are cutting, and send it to the laser. The laser will automatically adjust to the correct height based on the thickness of the material you are cutting or engraving.



3) The final product is an intricately cut set of 4" tall gates. As you can see, the laser does a beautiful job with the scroll work and fine detailing. You can use clipart, logos, AutoCAD files and most other graphic files.

How do I decide what wattage of laser is right for me?

With wood, a higher wattage laser will allow you to run the same engraving job at a higher speed, and will also allow you to cut through thicker pieces of wood. On a 25 watt system, a user may run the system at 35% speed and 100% power to achieve the engraving depth they are looking for. On a 45 watt system, they may increase the settings to 50% speed and 100% power, and still have the same engraving depth in less time.

The thickness of wood you can cut through is also determined by the wattage of your laser system. A 35 watt laser can cut through most 1/4" hardwoods, while the 120 watt can cut through up to 1" thick woods. Our Applications Lab can test your materials so you can see the edge quality and speed of cut to find the laser that best fits your needs. You can find more information on the lab at www.epiloglaser.com/applications_lab.htm.

There are countless wood applications for an Epilog Laser system, some of which include:

- Inlays
- Overlays
- Marquetry
- Custom Cabinet Engravings
- Custom Picture Frames
- Fraternity and Sorority Crest and Paddle Manufacturing
- Finger Joints



- Game Manufacturing
- Cut Scroll Saw Patterns
- Puzzle Manufacturing
- Specialty Items
- Light Switch Plates
- Door Pulls
- Personalized Pencils



- Custom Boxes
- Season Crafts
- Parts Marking
- Router Templates
- Gun Stocks



- Clocks
- Wooden Jewelry
- Pen Cases
- Puzzles
- Wedding Gifts
- Game Boards
- Memo Holders
- Sports Merchandise
- Coasters
- Graduation Gifts

- Baseball Bats
- Desk Sets
- Name Plates
- Hockey Sticks
- Awards
- Photo Albums
- Signs
- Photos



- Easels
- Bird Feeders
- Jewelry boxes
- Knife Handles
- Holiday postcards
- Walking Sticks / Canes
- Carpentry
- Cutting Boards
- Decorations



- Christmas Ornaments
- Architectural Modeling
- Plaques



- Key Chains
- Pencil Holders
- Flower Presses
- Wood Pens
- Business Cards
- Furniture



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