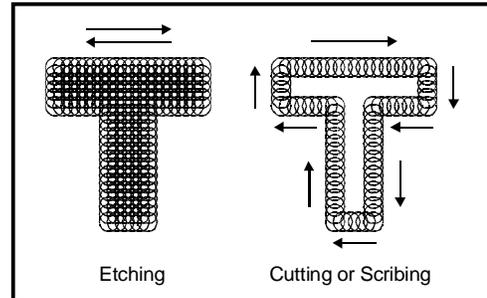


# Operation

## How it Works

The VersaLASER uses the intense energy of the laser beam to vaporize material (wood, plastic, etc.), placed on the VersaLASER work surface, by using the technique of etching, cutting, or scribing the material. Etching is the technique where the laser beam traverses left and right, etching horizontal lines of material as it steps down the material vertically, similar to a laser or inkjet printer. Cutting or scribing is the technique in which the laser beam follows a path to cut or mark a desired outline, which is similar to a pen plotter. The difference between cutting (completely passing through the material) and scribing the material (lightly marking the surface), is laser power applied. You determine whether you want your artwork etched, scribed, or cut into the material by the colors you assign to the elements of the objects in your graphic images. Black colored (filled) and shades of black (grays or grayscale) objects will etch the material. Red colored outlined objects, set to a hairline thickness, will cut the material. Blue outlined objects, also set to a hairline thickness, will scribe the material.



Using the VersaLASER is as simple as creating your artwork, according to the rules outlined above, and simply printing to the VersaLASER as you would to any other type of printer. The VersaLASER printer driver will then pop up and prompt you for the type of material you are processing and its measured thickness. After choosing a material from the list and entering the material thickness, your artwork will be turned into a print job and stored in the VersaLASER print cache on your hard drive. You can then use the VersaLASER On-Screen Control Panel to select and preview the saved print job you wish to run, position your material in the VersaLASER, and press the START button.

## The VersaLASER Keypad

- **POWER:** Turns the VersaLASER on ONLY if the computer is powered on, booted into Windows, the VersaLASER On-Screen Control Panel is running, and the USB cable is connected from the computer to the VersaLASER. Also, holding the key down for 5 seconds will power off the VersaLASER.
- **UP and DOWN ARROWS:** Raises and lowers the Z-axis table (work surface). Press momentarily for slow movement and hold down for faster movement.
- **PAUSE:** If, during processing, you wish to stop or pause the VersaLASER, press PAUSE once. Press PAUSE again and the VersaLASER will resume processing from the point at which it was "paused". If you press START while the VersaLASER is "paused" the VersaLASER will start over from the beginning of the print job.
- **START:** Begins processing from the beginning of a job.
- **RED and GREEN LED's:** The RED LED and GREEN LED located between the PAUSE and START buttons provide information on the status of the machine.



CONDITION	RED LED	GREEN LED
OFF	The user door is closed	The VersaLASER is off
ON	The user door is open	The VersaLASER is on

## The VersaLASER On-Screen Control Panel (VCP)

The purpose of the VersaLASER On-Screen Control Panel (VCP for short) is to be able to remotely control your VersaLASER by being able to view and print your stored print jobs. You will not be able to operate the VersaLASER without the VCP running in the taskbar.

Once you have installed the VCP using the installation disk, a green, square-shaped icon will appear in the lower right corner of your Windows taskbar. This icon indicates that the VCP is active. It will automatically activate itself every time you power on your computer. If for any reason the VCP is deactivated you can reactivate it by double-clicking on the shortcut found on your computers desktop screen. You can access the VCP at anytime by left-clicking once on the icon in the taskbar. The following describes the features of each tab of the VCP:

### VIEWER

- Shows a preview window of the currently selected job.
- The cursor becomes a magnifying glass (Zoom Tool) if you pass it over the preview window. Left-clicking your mouse zooms in and right-clicking zooms out.
- Displays, in the lower left corner, the name of current job, the date and time it was stored on your hard drive, and the run time.
- The print job navigation buttons (left and right arrows in the lower right corner) allow you to preview the print jobs stored on your hard drive.
- The “open folder” button displays and allows you to select your print jobs in a file management style. It also allows you to delete print jobs stored from your hard drive.
- The upper right side contains the software version of the keypad buttons found on the VersaLASER itself. These buttons operate identically to the physical buttons on the VersaLASER.

### SETUP

- The PRINT CACHE number is adjustable. It indicates the maximum number print jobs that you would like to be stored on your hard drive. If you exceed the number shown, the software will automatically begin deleting the oldest jobs as newest ones enter the cache.
- The PURGE button deletes **ALL** cached print jobs stored on your hard drive.
- UNITS allows you to choose between English or metric units.
- AUTO Z should be enabled if you would like the device to focus the laser beam by automatically adjusting the height of the Z-axis table. This operating principle is based on the material thickness that you specify in the VersaLASER Settings popup (explained later). If it is disabled, you will need to set focus manually by using the included Focus Tool (also explained later).
- AUTO-ZOOM enabled causes the preview window to automatically zoom in until your graphic fills the entire window. This only works for the next job that you print.
- The TUNING number is a value set by the VersaLASER manufacturing factory for your particular machine. In the future, as your system gets broken in, it may be necessary to change this value to sharpen the resulting image. Do not change this number unless instructed to do so by our customer support department.
- The LENS SIZE choice from the dropdown list should be the same as the number printed on the lens assembly on the side of your VersaLASER’s Focus Carriage. If you change lenses (available accessory) other than the standard 2.0, then you **MUST** select the value that matches your installed lens otherwise your VersaLASER will not focus the laser beam properly.

### FOCUS

- Manually positions the Focus Carriage to an absolute position in the field to either manually focus the laser beam to the surface of your material, instead of using the Autofocus feature, or to locate an absolute position within the table area by using the Red Dot pointer. To illuminate the Red Dot pointer, simply open the user door. Using your mouse, position the on-screen crosshairs to the desired position, indicated by the X-axis (left) and Y-axis (right) coordinates next to the crosshair, and left-clicking once. The Focus Carriage will then move to that position. Or, you can accomplish the same thing by typing in the X-axis and Y-axis coordinates of the location you desire in the X-axis and Y-axis boxes at the bottom left of the screen and left-clicking the “MOVE” button.

- GO HOME will move the Focus Carriage to the upper right edge of the work area.
- RESET X-Y button will electronically and mechanically re-home the Focus Carriage if you accidentally bump it out of position.
- RESET Z will electronically and mechanically re-home the Z-axis table. You MUST select this if you accidentally stall the table by placing excessive weight on it otherwise the VersaLASER will not focus the beam properly.
- The UP and DOWN arrow buttons are identical to the up and down buttons on the VersaLASER keypad and will raise or lower the Z-axis respectively.

### ABOUT

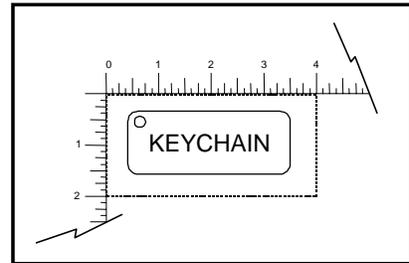
This tab displays the version of the VCP software, information about us, and the serial number and the firmware version of your VersaLASER (only shown if your VersaLASER is connected to your computer).

## Running Your First Job, Step-By-Step

We will now illustrate how to use the VersaLASER with CorelDRAW11 by creating a wooden keychain. In this example, we will Etch and Cut the key chain from a 2 by 4 inch, 1/8 inch thick piece of hardwood.

### Step 1 - Creating Your Artwork

Open CorelDRAW11 and create a new graphic. Draw some text using a **BLACK** colored fill and **NO** outline. For example, type in the word "KEYCHAIN". Then, draw a **RED** hairline rectangular outline (with no fill) around the text and round the edges if desired. Add a circle (**RED** hairline outline also with no fill), for the key ring. Position the graphic, on your computer screen, in the upper left corner of the page as shown.



### Step 2 – Printing Your Artwork

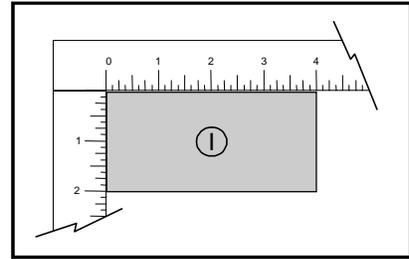
When you are ready to print the file, select PRINT, in CorelDraw11, from the FILE menu. When the print dialog appears, ensure that the VersaLASER printer name is in the dropdown list, and then click PRINT. The VersaLASER Settings dialog box will pop up. Choose your material by selecting the appropriate category from the material categories on the left (in this case wood) and then select the correct material type from the material types on the right (in this case hardwood). Instead, if the material has already been assigned an official VersaLASER Material Code, you can simply type in the code in the code field and the correct material will be automatically highlighted from the database. Since we are placing the material directly on the work surface, leave the Fixture Type set to Standard Table. If you were using an optional accessory or custom fixture you would choose it from the fixture list. Using a calipers or similar measuring device, enter the thickness of the material (in this case .125 inch). The Intensity control allows you to increase or decrease the already pre-programmed laser power setting. We suggest that you always leave it set to "0" until you are more comfortable using the system. When you have made all the appropriate selections and entered the material thickness, click PRINT. As the print job is being created, a small printer icon will appear in your taskbar in the lower right corner of your computer screen. Once the icon disappears the print job is completed and is now stored on your hard drive. Click on the VersaLASER icon in the taskbar and the last print job will appear in the viewer of the VCP.

### Step 3 – Powering On the VersaLASER

To power on the VersaLASER you can either left-click on the POWER button in the VCP or press the POWER button on the VersaLASER keypad. The VersaLASER will always reset itself in the X-Y position when it is powered on. However, the Z-axis table will reset only when your computer is first turned on. It will not reset each time you power on the VersaLASER.

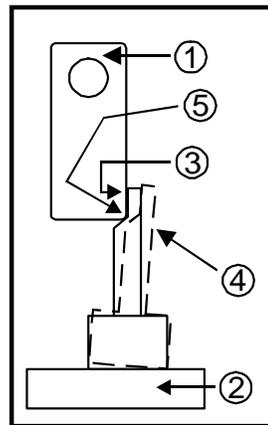
**Step 4 – Loading and Positioning Your Material**

Open the user door and position the wood (1) into the upper left corner of the table, up against the rulers. If necessary, use the UP or DOWN arrow buttons on the keypad or in the VCP to raise or lower the Z-axis to make loading easier.

**Step 5 – Focusing the Laser Beam**

In the Setup tab of the VCP, if you have AUTO Z enabled and the LENS SIZE matches the number printed on the side of the Focus Carriage, then the VersaLASER **WILL AUTOMATICALLY** focus the laser beam based on the material thickness you entered when the VersaLASER Settings dialog box popped up. However, if you would like to override the AUTO Z feature and manually focus the laser beam, follow the steps below:

- Disable AUTO Z in the Setup tab of the VCP.
- Position the Focus Carriage (1) above your material.
- Place the Focus Tool on top of the material (2).
- Raise or lower the Z-axis table so that the flat edge of the tool rests against the front side of the Focus Carriage (3). Slowly raise the table until you observe the tool either tilting or sliding away from the Focus Carriage (4). This will occur when the bottom edge of the Focus Carriage meets with the top of the beveled edge of the Focus Tool (5). The objective is to stop moving the table at the point where the tool just starts to move or tilt.

**Step 6 – Running Your Job**

If you have an external exhaust system, power it on now. If you have purchased the optional Computer Controlled Air Cleaner (CCAC), it will automatically power on when processing begins. Once your material is loaded and the access door is closed you can start your job by left-clicking on the START button on the VCP or pressing the START button VersaLASER keypad. Once processing is complete, wait a few seconds for the smoke to clear, or the CCAC to power off, then open the access door and remove the material. If you would like to repeat the process, load a fresh piece of material, close the door, and press START again.

**NOTE:** If you start the material process with the door open, the laser beam will not fire, but the Red Dot pointer will illuminate, showing you where the image will be located. If desired, you may use the center of the stroke as your center reference for positioning your material.

**Step 7 – Powering Off the VersaLASER**

When you have finished processing your materials and wish to power the VersaLASER off, simply left-click the POWER button in the VCP or hold down the POWER button on the VersaLASER Keypad for 5 seconds until it powers off.

**WARNING: NEVER UNPLUG THE USB CABLE WHILE THE VERSALASER IS POWERED ON. THIS MAY CAUSE THE USB PORT OF YOUR COMPUTER TO ELECTRONICALLY LOCK ITSELF OUT OF THE WINDOWS OPERATING SYSTEM RENDERING IT UNUSABLE UNTIL RECONFIGURED. IF THIS OCCURS, PLEASE CONTACT OUR TECHNICAL SUPPORT FOR ASSISTANCE.**