*Versa***LASER**™

Step-By-Step Installation

In this section we will step you through site preparation, computer and software setup, and unpacking and assembling the VersaLASER. Please follow the instructions in the order shown.

Establishing a Proper Operating Environment

- The device **MUST** be installed in an office-type or light duty manufacturing environment. Airborne pollutants can damage the device. Keep the device isolated from any sandblasting, sanding or machining equipment or any other machinery that produces airborne particles. Also, do not operate or store this device near sources of water, saltwater, or oil vapor.
- For best results, we recommend operating this air-cooled device in the ambient temperature range of 73ºF (22ºC) to 77ºF (25º C). However, it can operate in the ambient temperature range of 50ºF (10ºC) to 95ºF (35º C).
- Avoid storing the device outside the temperature range of 50ºF (10ºC) to 95ºF (35º C) as excessively cold or hot temperatures can damage the laser cartridge or reduce its lifetime.
- Ambient humidity levels must be non-condensing.

Providing a Suitable Electrical Power Source

- The electrical power requirements can be found either in the "Specifications" table in the beginning of this manual or printed on the sticker next to the power inlet of the VersaLASER.
- The VersaLASER and VersaLASER accessories are equipped with standard IEC 60320 "computer style" power cord receptacles. A power cord may or may not be included with the device. If the power cord is not present, please refer to the "Additional Requirements" supplement for more information.
- **Never remove the ground (earth) lead to the electrical cord and plug the system into a non-grounded (non-earthed) outlet**. Operating the device without the ground connection is very dangerous and can lead to a severe, if not fatal, electrical shock. It may also cause the device to exhibit unpredictable behavior.
- Noisy or unstable electricity as well as voltage spikes may cause interference and possible damage to the device's electronics. If electrical power fluctuations, brown outs, or constant power outages are a problem in your area, an electrical power stabilizer, UPS (Uninterruptible Power Supply), or backup generator may be required.
- To prevent the overload of your electrical power circuit or to control an unstable or noisy electrical power source, it may be necessary to connect the device to a dedicated electrical circuit.
- The device is designed as a Class I, Group A, pluggable device. It is also designed for connection to IT power systems.

Extracting Fumes and Particulates

Fumes, smoke, and particulates are a byproduct of the cutting and marking of materials in the VersaLASER and **MUST** be extracted (vacuumed) from the VersaLASER. You may choose to either exhaust them to the outside environment or filter them.

External Exhaust (most common): We recommend that you contact a local contractor to design and install an exhaust system that not only meets the minimum requirements of this device but also complies with local environmental laws.
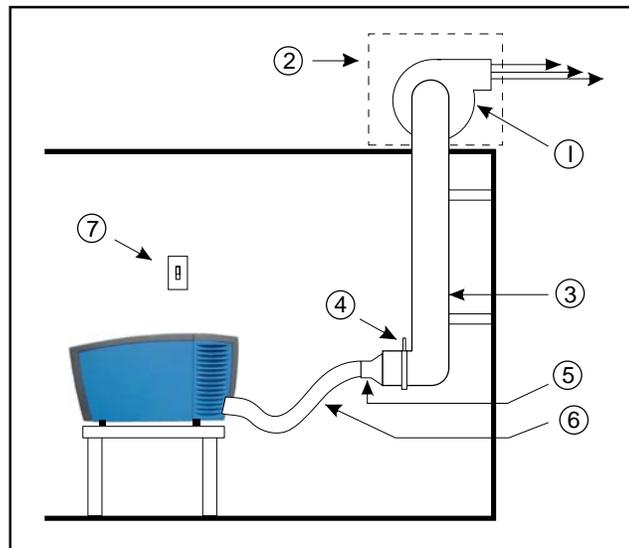
- The exhaust system **MUST** be capable of supplying a minimum of 150 CFM (cubic feet per minute) of airflow while under a load of 6 inches of static pressure (254 m3/hr at 1.5kPa). **DO NOT** install forward incline, backward incline, in-line, or ventilator fans because these types of air handlers are inadequate and inappropriate for this type of installation. A high-pressure blower **MUST** be used to meet minimum airflow requirements.

- For personal safety and noise control reasons, we recommend that the blower be mounted **OUTSIDE** the building.
- Rigid tubing should be used for 90% of the distance traveled between the blower and the laser system. The tubing should be smooth walled and have as few 90 degree bends as possible.
- Install a gate to control airflow and to close off the exhaust from the outside environment when the laser is not in use. Place this gate within 5 – 10 feet from the laser system.
- Use a short piece of industrial grade, wire reinforced rubber tubing to connect the end of the gate to the laser system. This will provide mobility and will dampen blower vibrations.
- Have the blower electrically wired to a wall switch in the same room for easy ON/OFF control.

The following diagram shows a typical exhaust system layout. Use this as a guideline to proper exhaust system installation.

NOTE: Although this diagram just serves as an example, we recommend installation of the exhaust system by a local, licensed contractor to meet safety and local code requirements as well as being able to calculate the correct size blower required for your particular installation. Length of exhaust pipe, exhaust pipe diameter, number of 90-degree angles, and other restrictions must be calculated when determining the correct exhaust blower unit. Installing an undersized or oversized blower is not only unsafe, but it can also lead to premature and excessive wear and tear to the laser system as well as premature failure of the blower.

1) High Pressure Exhaust Blower
2) Weather-proof Cover
3) Rigid Ducting
4) Airflow Gate
5) Reducer
6) 3 inch Diameter, Industrial Grade Flexible Tubing
7) On/Off Switch

Filtration System: If you have chosen to purchase the optional Computer Controlled Air Cleaner (CCAC) accessory, exhausting to the outside environment is not required but is recommended. Refer to the Accessories section for more details.

Computer and Operating System

Your computer is critical component in the operation of the VersaLASER. In fact, you cannot power on the VersaLASER if your computer is not connected, powered on, running Windows, and running the VersaLASER Control Panel software (VCP).

Only **ONE** VersaLASER per computer is allowed. You will need to purchase a separate computer for each VersaLASER you own. Also, the VersaLASER is **NOT** designed to be a network printer. **YOU MUST** operate the VersaLASER using the computer that is directly attached to it via the **PROVIDED**, 3 foot, USB cable. **USB cables longer than 3 feet may cause the VersaLASER to malfunction.**

Minimum Computer Requirement
- A PC-based computer with either the Windows XP Home or Professional Edition operating system. MacIntosh computers are **NOT** compatible with the VersaLASER
- 1.5GHz processor with 256 MB RAM and a 40 GB hard drive
- CDROM drive
- Monitor (minimum 800 x 600 resolution)
- Mouse or other pointing device
- Available USB 1.1 compliant port (or higher)

NOTE: Some computer motherboard manufacturers USB ports DO NOT comply with USB 1.1 standards. This may cause erratic behavior from the VersaLASER such as freezing and lock-ups.

1) Try a different USB port on that computer or use a different computer
2) Add a USB port PCI card that is compliant with version 1.1 and install it into your computer
3) Purchase an external USB port hub, that has its own AC power adapter, and install it between the computer's USB port and the VersaLASER's USB port.

Other USB peripheral devices that demand a large amount of computer processing power may slow down the operation and productivity of the VersaLASER. We recommended not using these devices while operating the VersaLASER.

NOTE: Laptop computers are known for having low powered USB ports. If using a laptop most likely you will need to use an external USB port hub, that has its own AC power adapter, and install it between the computer's USB port and the VersaLASER's USB port.

Recommended Accessories or Upgrades
- Faster processor (2.0 GHz or higher) with 512 MB RAM or greater
- Larger hard drive (80 GB or greater)
- Large monitor (17" or larger)
- 600 DPI scanner (optical)
- Writeable CDROM drive
- Internet connection and email address

Optimizing Windows XP Performance
Windows XP, by default, displays many "visual effects" that slow down the computer by utilizing RAM and processor time. We recommend that you turn **OFF** these effects by right-clicking on the My Computer icon on your desktop, then click Properties and then click the Advanced tab. In the Performance section, click Settings, then click Adjust For Best Performance, and then click Apply.

Computer Power Management
Power management is a configuration setting in Windows XP that reduces the energy consumption of computers and monitor by shutting them down after a period of inactivity. However, since your computer is a critical component in the operation of the VersaLASER, you **MUST NEVER** allow your computer to go into the Standby or Hibernate mode.

To properly configure Power Management in your Windows XP computer, right-click on your desktop, then click Properties. Click the Power Schemes Tab, choose "Never" from the "System Standby" and the "System Hibernates" dropdown list, and then click "Apply".

If you have further questions on how to configure or upgrade Windows XP, please contact Microsoft Corporation.

Recommended Software Programs

All software necessary to control the VersaLASER is included. However, the software necessary to create the artwork is **NOT** included. ULS recommends the following software for use with the VersaLASER:

- **Graphics Programs**
  CorelDRAW11 (recommended)** or Macromedia Freehand
- **Bitmap / Scanning Software**
  Adobe Photoshop (recommended) or Corel PHOTO-PAINT**
- **Raster to Vector Conversion Software**
  Adobe Streamline (recommended) or CorelTRACE**
- **CAD Software**
  AutoCAD or AutoCAD LT for Windows
- **FONTS**
  Use True Type fonts **ONLY**. Do not use PostScript or bitmapped fonts.

**Most users purchase the CorelDRAW12 Graphics Suite package which contains all the software necessary to operate the VersaLaser to its fullest capability. Earlier versions of CorelDRAW have experienced problems with the XP operating system, which in turn, causes problems with the operation of the VersaLASER. As a result ULS recommends CorelDRAW11 over earlier versions. Whether you decide to use CorelDRAW12 or a different graphics software package, it is critical that you fully understand how to use the software in order to successfully operate the VersaLaser. While ULS has made reasonable efforts to make the VersaLaser as compatible as possible with graphics and CAD software written for the Windows XP operating systems, ULS cannot guarantee complete compatibility with any software not manufactured by ULS.

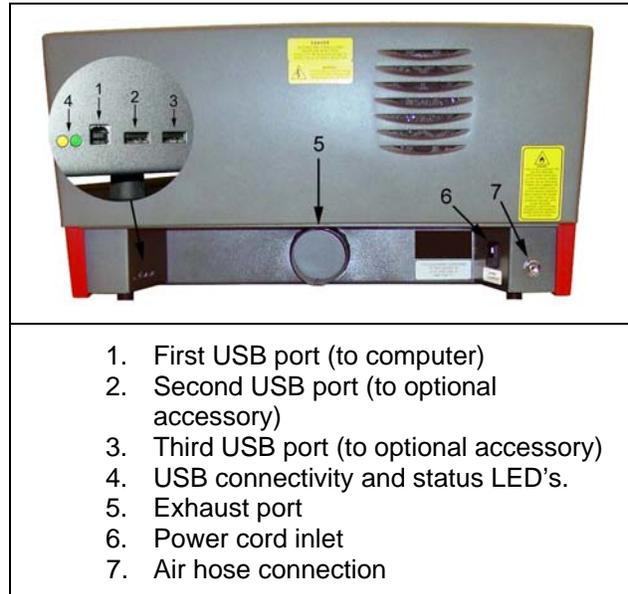# Unpacking and Assembling the VersaLASER

1. With the assistance of one or two other people, pick up the VersaLASER and place it on top of a table strong enough to support its weight (refer to the specifications section). To lift the unit properly, note the lifting points shown by the arrows.
2. Completely open the access door by lifting up on the handle. Remove all packing material that may be used to secure the motion system arm during shipment. **YOU MUST DO THIS BEFORE PLUGGING IN THE POWER CORD OTHERWISE SERIOUS DAMAGE MAY OCCUR.** Gently move the arm toward and away from you. It should slide freely.

3. The motion system arm cover is hinged and is held down by magnets. Grasp the bottom of the cover and rotate it up to expose the motion system carriage.
4. Remove any remaining packing material that may be preventing the motion system carriage from sliding left and right. Close the cover.

NOTE: Your chosen software MUST be installed and operational before proceeding to the next step.

1. Power on your computer and boot into Windows. If your computer is already running, save your work and close all programs except Windows.

2. Connect the power cord from your power source to the power cord inlet (6) of the VersaLASER.

3. If you have an external exhaust system, connect your external exhaust hose to the exhaust port (5) and secure with a hose clamp.

4. Connect a provided USB cable from USB port (1) of the VersaLASER to an available USB port in your computer.

1. First USB port (to computer)
2. Second USB port (to optional accessory)
3. Third USB port (to optional accessory)
4. USB connectivity and status LED's.
5. Exhaust port
6. Power cord inlet
7. Air hose connection

NOTE: If you purchased either the Computer Controlled Air Cleaner (CCAC) or the Computer Controlled Compressed Air Unit (CCAU), DO NOT connect their respective USB cables to the VersaLASER at this time. We will address those options later in this section.

5. After you have connected the USB cable and within about 15 seconds the "Found New Hardware Wizard" dialog box will appear.

6. Windows asks if you would like to install the software automatically or you choose to install from a specified location (Advanced). Select the advanced method and click "Next". Select the "Search Removable Media" choice and proceed to the next step.

The VersaLASER Software Installation CD-ROM
The VersaLASER Software Installation CD-ROM can be found in a pocket on the inside of the back cover of this manual.

7. Insert the CD-ROM into your CD-ROM drive now and click "Next".

8. The software will begin loading and the Windows Logo Testing warning will appear. Ignore this statement by Microsoft and simply click "Continue Anyway".

9. The VersaLASER software will continue to load and at some point may ask you for your VersaLASER model type. Choose the appropriate model. If you choose a model that does not match what you have purchased, you will have problems running the VersaLASER. If you are unsure what model you have, refer to the serial tag located on the back of your VersaLASER.

10. Click "Finish" to complete the installation and **RE-BOOT your computer.**

If you purchased the Computer Controlled Air Cleaner (CCAC) accessory and/or the Computer Controlled Compressed Air Unit (CCAU), at this time, proceed to Section 5 of this manual and follow the installation instructions for that device. When you have completed the installation, return to this section to continue configuring the software.

Configuring Your Graphics Software

After the VersaLASER software installation is completed, you must configure your graphics software to work correctly with the VersaLASER. The basic setup should include the following:

- Set the default page orientation to Landscape and page size to a width of 16 inches (406.4mm) (model VL-200) or 24 inches (609.6mm) (model VL-300) and height of 12 inches (304.8mm).

- Set the default line thickness to Hairline or the smallest available by the software (for vector output).

- Use only the color Black for fills for etching, Red outlines for cutting, and Blue outlines for scribing. We will discuss more about using your graphics software in Section 3 of this manual.

Since most users use CorelDRAW12, we have included the following specialized configuration instructions:

CorelDRAW12

1. Using Windows Explorer, locate the file named "VersaLASER.CPL", on the VersaLASER Installation CD, and copy this file over to the C C:\Program Files\Corel\Corel Graphics 12\Languages\EN\Custom Data\Palettes folder.
2. While still in Explorer, locate a file named "corelapp.ini" located in the C:\Program Files\Corel\Graphics12\Config folder. Double-click on the file it will open up in Notepad. Scroll down past the semi-colons to the [Config] header. Then scroll down 31 lines to the line that reads "Fontrasterizer=1". Change the 1 to a 0 (this is a zero, not an o), save the file, and exit Notepad.
3. Open CorelDRAW12 and start a new graphic.
4. In the menu bar, click on "Window", then "Color Palettes", and then click "None". Once again click "Window", then "Color Palettes", and then "Open Palette". In the pop-up box, double-click on "VersaLASER.CPL" which allows it to appear on the right side of the screen.
5. On the property bar, click on the landscape orientation (the sideways rectangle). Enter the page width of 16 inches (406.4mm) (model VL-200) or 24 inches (609.6mm) (model VL-300) and height of 12 inches (304.8mm).
6. The rulers on screen need to match the rulers in the VersaLASER. Adjust the ruler's vertical origin by double-clicking directly on the vertical (side) ruler. The "Options" dialog box will appear. In the vertical origin box, type in 12 inches (304.8mm). Click OK
7. Set the default value for line width and color of the graphic objects, by clicking the outline tool and then the outline pen dialog in the flyout. With "Graphic" being the only selection checked, click "OK". Click the down arrow in the Color dropdown box to expand the list and click on the color red. Click the down arrow in the "Width" dropdown box and click "Hairline". The units can be "inches", "millimeters" or anything else you prefer. Click "OK to close the Outline Pen dialog box.
8. In the top menu, click "Tools, then click "Color Management". Click on the down arrow to expand the "Style" dropdown list. Click "Color Management Off", and then click "OK".
9. Finally, at the top of the screen, click on "Tools", then "Options", then "Document", and then select "Save Options as Defaults for New Documents". Make sure **ALL** the options listed are **CHECKED** then click "OK".
10. The setup defaults for CorelDRAW12 are now complete. Whenever you start a new document, all of the default settings that we had setup will automatically apply to the new document.

Remove the VersaLASER Installation CD-ROM from your CD-ROM drive and store it either back into the pocket of the rear cover of the manual or in a safe place.