APPENDIX

Please refer to the Warranty Registration Form included with your shipment.

Appendix B - Specifications

Model Number	V-400
Resolution	1000 x 1000 DPI, 500 x 500 DPI, 333 x 333 DPI, 250 x 250 DPI 200 x 200 DPI, Draft
Computer Interface	Windows 95, 98, and HPGL
Table Size	29" x 23" (736.6 mm x 584.2 mm)
Work Area	24" x 18" (609.6 x 457.2 mm)
Maximum Part Size	29" (736.6mm) wide x 23" (584.2mm) deep x 9" (228.6mm) tall
Laser Source	15, 20, 25, 30, 35, 40, 45, 50 Quick Change Laser Cartridge
Lenses Available	Focal Length / Spot Size / (Standard or Optional) 1.5" (38.1mm) / 0.003 inches (.08 mm) / Optional 2.0" (50.8mm) / 0.005 inches (.13mm) / Standard 2.5" (63.5mm) / 0.007 inches (.18 mm) / Optional 4.0" (101.6mm) / 0.013 inches (.33 mm) / Optional
Interfaces	Centronics parallel, RS232C Serial
Memory Buffer	Multiple file / Single file / Auto Start modes, automatic data compression
Dimensions	38" high x 36" wide x 36.5" deep (965 x 914 x 927mm)
Weight	250 lbs. (113 kg)
Safety	Class IIIa interlocked safety enclosure
Available Options	Rotary Fixture, Air Assist, Honeycomb Cutting Table

Facility Requirements

Power	Single Phase 110/220V AC, 15/8 Amp, 50/60 Hz
Exhaust	Outside exhausting required, one 4" connection, 250 CFM minimum at 6 inches static pressure ($425m^3$/hr at 1.5kPa)
Cooling	Air cooled (ambient temperature 50ºF (10ºC) to 95ºF (35º C)

Specifications are subject to change without notice.

Appendix C - Using DOS Based Programs

DOS software is not standardized and each application will work differently. When using DOS applications, it is not possible to print through the Windows Printer Driver and for this situation, the system has been designed to automatically emulate a Hewlett Packard plotter. Plotters use a special language called HPGL that the laser system has been designed to accept. When configuring the DOS based program, select the HP7475 plotter (or larger) as the printing device. Set the paper size to the maximum engraving area of your Platform (refer to the DOS software manual for how to configure the printing device). Once configured properly, the laser system should interface with the program and act just like a plotter. Keep these points in mind:

1. Some DOS programs will not allow the page size to be set as large as the maximum engraving area of your Platform. If this is not possible, the full engraving field cannot be utilized. If a smaller page size is used, determine where the program will place the graphic on the engraving table by running a few tests.

2. Some DOS programs use the lower left corner of the engraving field as the origin so remember this when setting up the graphic drawing.

3. When assigning power settings to the graphic, it will be necessary to assign an HPGL plotter pen to the different colors in which the graphic was drawn. In most cases the pen numbers should match the power setting numbers in the laser systems "DOS Power Settings" display.

4. Some DOS programs may allow the setting of pen speed for the plotter pens. The laser will ignore these speeds. The laser system only recognizes the settings in the "DOS Power Settings" section of the laser systems control panel.

5. Set all of your line widths to .001 inch otherwise the laser system may go into raster mode instead of the desired vector mode.

6. If your laser system is configured to run in the multiple file memory mode, after every file download an "End of File" marker must be inserted at the laser systems control panel so that the memory control will work properly. To do this, print the file to the laser system and wait for the file to completely download. While in either the "MEMORY CONTROL" or the "FILE DISPLAY" menu, press and hold down the "NEXT FILE" button while you press the "SELECT" button once. Let go of both buttons and the word "NONAME" will appear in the display. You can now run the file. If you are in the "ONE FILE MEMORY" mode, it is unnecessary to do this because the file will run automatically as soon as the first part of the file enters into the laser systems memory.

7. Power setting for plotter pens can only be done at the laser system itself through the main control panel display. If having trouble with using DOS based programs, please contact our technical support.
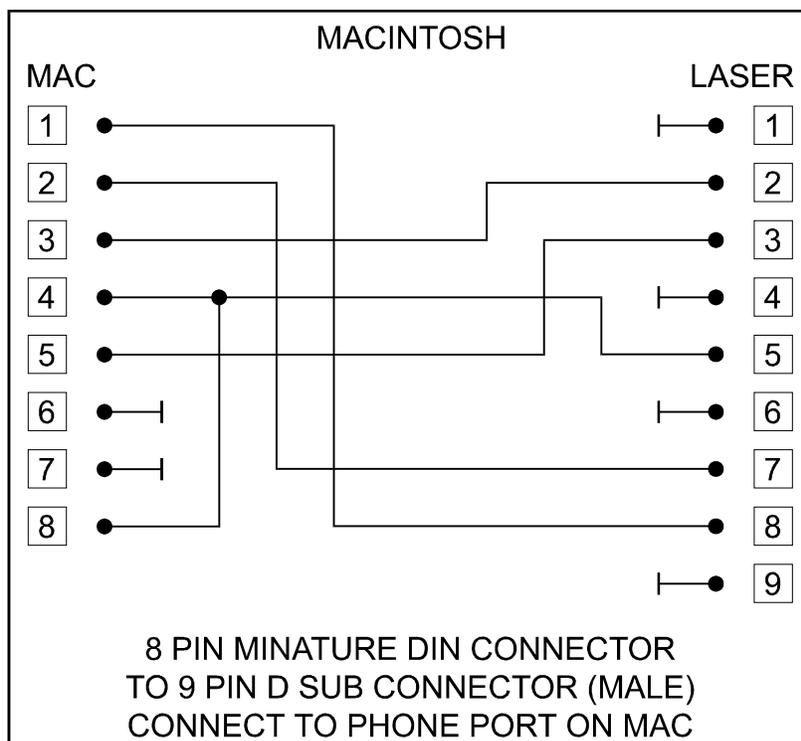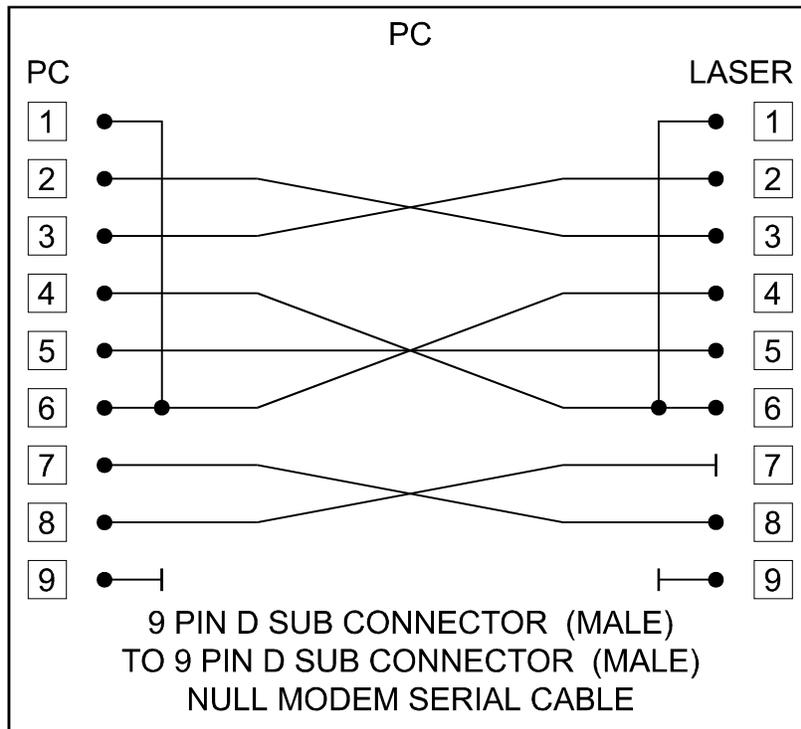
Appendix D - Using Macintosh Computers

The laser system has primarily been designed to run under the Windows 95 or Windows 98 operating system.

There is no Macintosh Driver available for this Platform at this time, however, there may be one in the future.

Once in awhile you might want to log on to our website www.ulsinc.com to see if there are developments in this area.

Appendix E - Serial Port Cable Requirements

PC

PC		LASER
1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9

9 PIN D SUB CONNECTOR (MALE)
TO 9 PIN D SUB CONNECTOR (MALE)
NULL MODEM SERIAL CABLE

MACINTOSH

MAC		LASER
1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
		9

8 PIN MINATURE DIN CONNECTOR
TO 9 PIN D SUB CONNECTOR (MALE)
CONNECT TO PHONE PORT ON MAC

Appendix F - How To Get Help

Step 1:
Determine exactly what the problem is. Refer to "Section 8 – Troubleshooting" for a possible solution.

Step 2:
Try to recreate the problem and write down the circumstances in which the problem occurred. Be prepared to describe all pertinent information about the computer being used with the laser cutting and engraving system such as software, operating system and computer type. Have the serial number of the laser system available. The serial number tag is located on the back of the machine in the lower right corner. There is a second serial tag located behind the front door on the right side when you open it.

Step 3:
Contact your local Sales Representative first to assist you in diagnosing the problem. If possible, call from a phone that is close to the laser engraving system so that the system can be operated while talking to our representative.

Step 4:
If your local Sales Representative is unavailable, contact our Customer Service Department at:

Universal Laser Systems, Inc.
Technical Support/Parts Department
16008 North 81st Street
Scottsdale, AZ 85260
Phone: 480-609-0297
Fax: 480-609-1203
Email: service@ulsinc.com
M-F 7am – 5pm Arizona Time