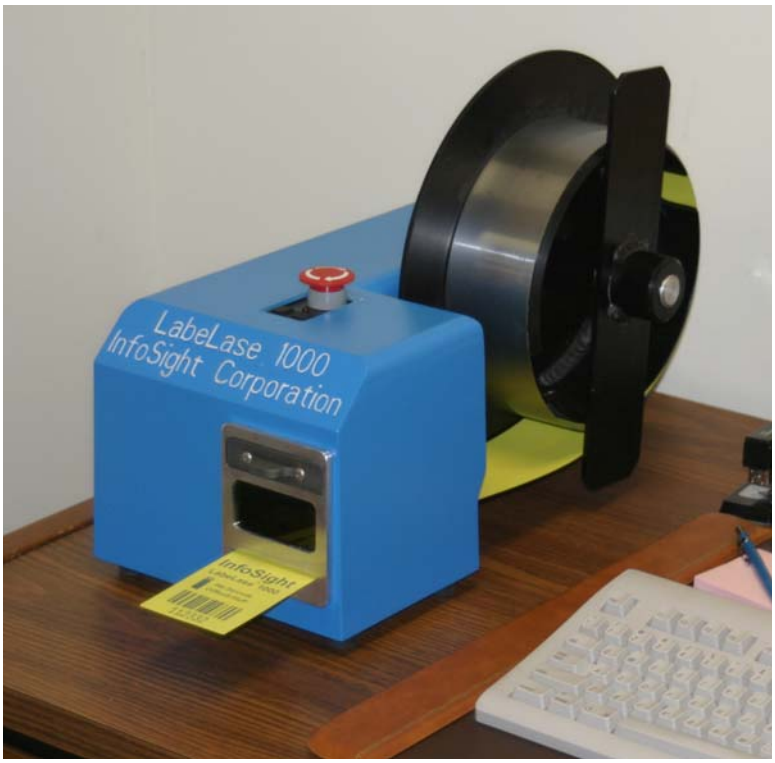
InfoSight

LabeLase® 1000 Tag Printer

Basic Operations & Maintenance Manual



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PREFACE

The LABELASE® 1000 Tag Printer is fourth in the family of InfoSight laser tag markers. The LABELASE® 1000 series contains many new features, including: a higher internal processor clock speed, a PC-driven interface and the ability to print multilingual fonts.

This OPERATIONS AND MAINTENANCE manual is intended as a companion to the ONLINE REFERENCE MANUAL supplied with the Producer software and also available on the web at http://www.infosight.com/labelaseproducer/index.htm

This OPERATIONS AND MAINTENANCE manual will be automatically installed on your computer hard drive when installing the Producer™ software. It may be found under the PROGRAMS menu with other INFOSIGHT software and HELP files.

MINIMUM SYSTEM REQUIREMENTS

- IBM PC 100% compatible computer.
- Pentium 400 MHz .
- Windows 2000/XP (** Windows 95/98/NT are no longer supported for LabeLase® 1000 and Producer™ applications).
- 10MB available disk space .
- 32MB RAM (64MB recommended).
- 1 communications port for connection to the printer (serial, USB or ethernet depending on the communications option provided on the printer).
- Color monitor (800x600 resolution or higher recommended) .
- CD or DVD drive.
- LabeLase® 1000 firmware version LL1000 v1.07 or higher.
- LabeLase® Producer™ version 1.61 or higher.

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PRINTER SETUP

The LABELASE® 1000 Tag Printer requires 100-240 VAC, 50/60 Hz, 2.4 A.

> **NOTE:** both sides of the incoming line voltage are fused. See the Maintenance section for instructions on replacing fuses.

The LABELASE® 1000 Tag Printer should be positioned so that the power supply cord exits from the back of the machine.

The LABELASE® 1000 Tag Printer should be placed in a temperature controlled environment. This marker, though designed for industrial use, should be treated as any typical computer system and printer. Dirty environments will necessitate a more frequent cleaning schedule for internal optics.

If the printer is housed in a secondary protective enclosure, the two exhaust fans located on the bottom of the printer directly underneath the tag feed drive area must not be obstructed. Ideally the fans should be exhausted to the environment outside the enclosure, with clean & dry makeup air entering the enclosure toward the back of the printer near the foam element air filter.

A 12-foot (3.6 meter) RS-232 serial communications cable is provided for communicating with your Windows-based PC. A USB cable is also provided with the optional USB/ethernet communications module. See the serial connector wiring diagram at the back of this manual for additional information if another serial cable is required.

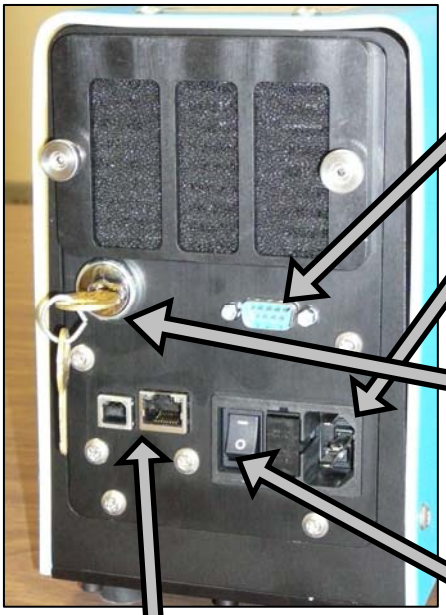
SOFTWARE INSTALLATION

Before connecting the printer to your PC, LabeLase® Producer™ software should first be installed on your PC.

The easiest way to install the software is to use the Installer Disk that came with your new printer. In addition to installing the correct version of Producer™ for your specific printer model, it will also allow you to configure the appropriate communications interface. In most cases this will allow you to skip the Printer Communications and USB Drivers sections of this manual.

If your original Installer Disk is not available, the latest release of Producer™ software can also be downloaded directly from http://www.infosight.com/labelaseproducer.htm . This is a self-contained, single self-installing file. However, it will not automatically guide you through the configuration process for communications, and you must therefore follow the steps outlined in the Printer Communications and USB Drivers sections of this manual.

SYSTEM CONNECTIONS & POWER-UP:



1. Attach the included RS-232 cable from the LABELASE® 1000 Tag Printer to your Windows-based PC running LabeLase® Producer™ software.
2. Insert the AC power cord into a nearby power receptacle. **NOTE: both sides of the incoming line voltage are fused. See the Maintenance section for instructions on replacing fuses.**
3. Place the security key into rear of machine. The key functions as an ON-OFF switch.
4. Turn key to the vertical (ON) position. NOTE: The security key can only be removed when in the OFF position.
5. Press the power switch to the ON position (1).

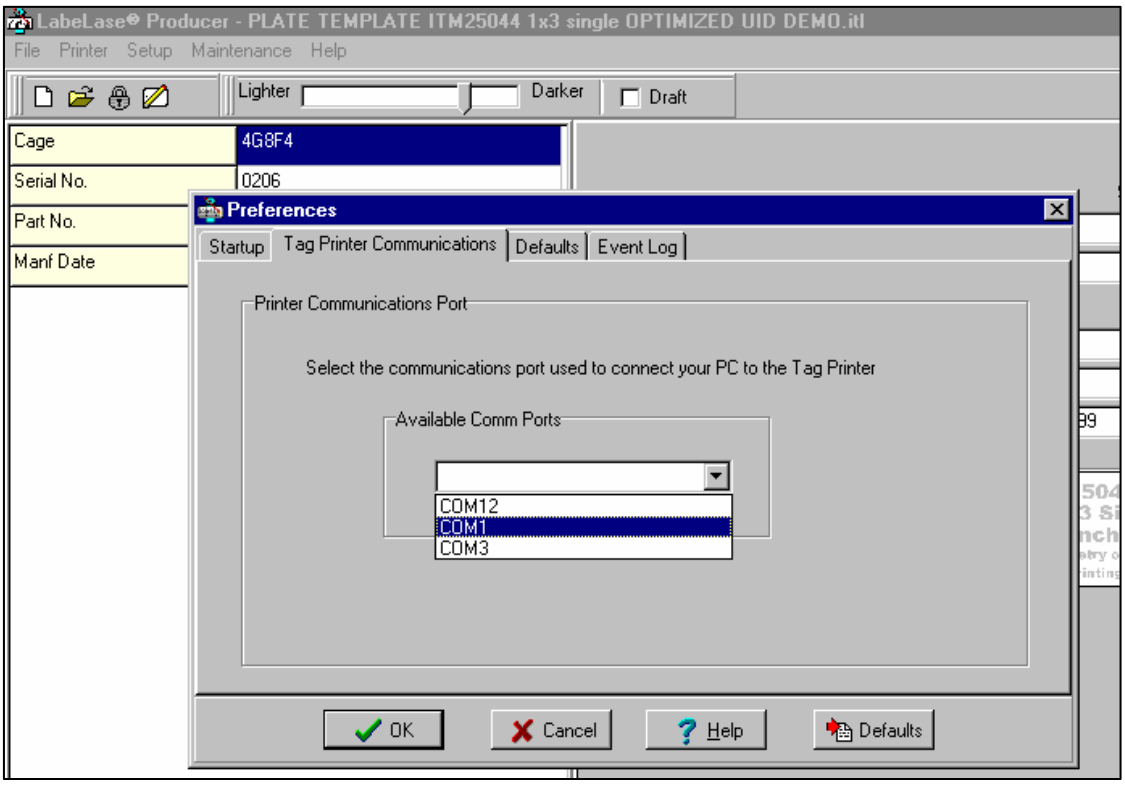
Optional USB & ethernet connectors. See following section of this manual for instructions on installing required drivers.

NOTE: rear panel layouts may vary, depending on the printer configuration

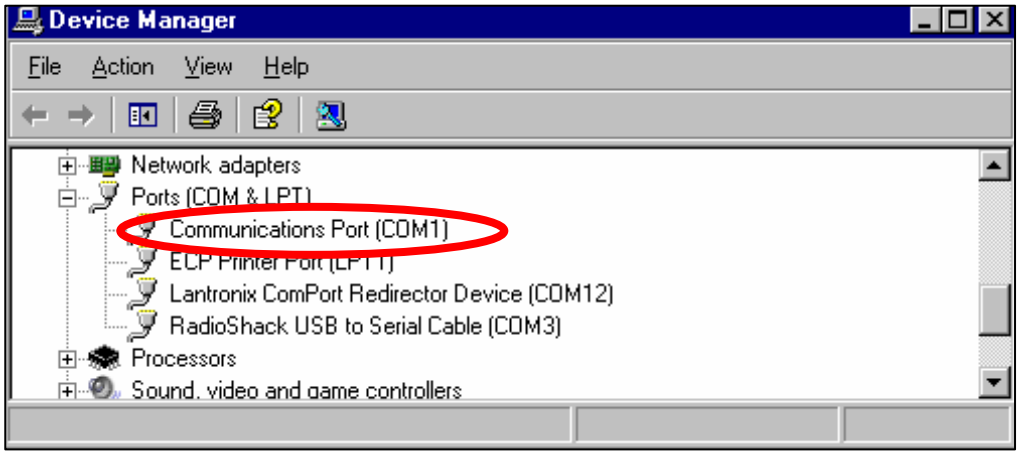
PRINTER COMMUNICATIONS

The LL1000 series of printers requires a communication link to a PC running Producer™ software. In addition to the standard serial RS232 link, an optional integrated USB/ethernet module is available.

The Producer™ software defaults to a serial port on COM1 and automatically configures the port settings. If your computer has a comm. port other than COM1, you can select that port from the Producer™ main menu, SETUP…PREFERENCES…TAG PRINTER COMMUNICATIONS (note: Supervisor login is required). Select the appropriate port from the pull-down list.



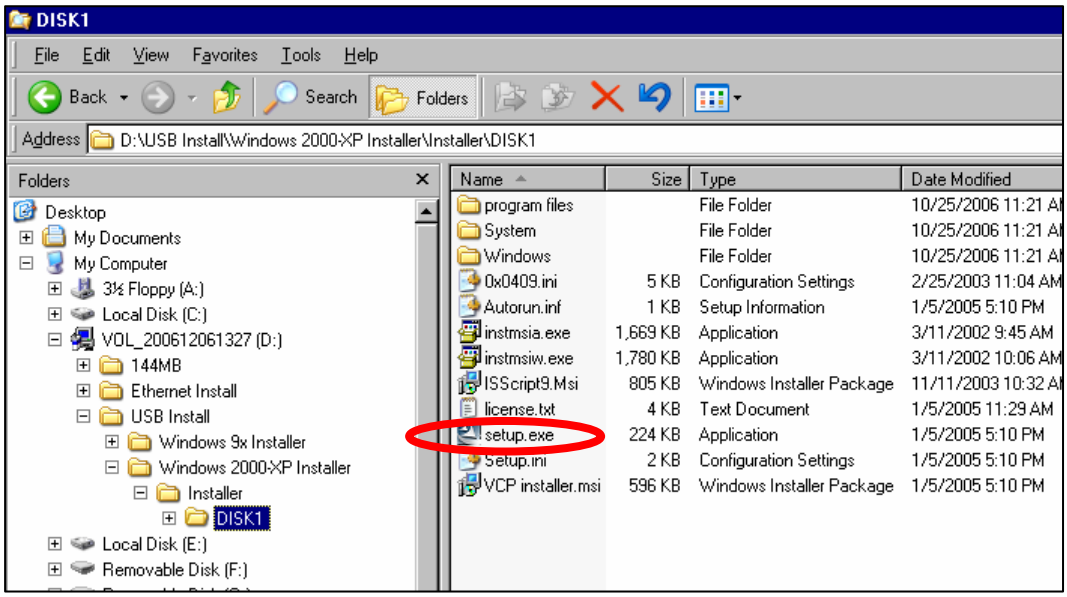
If you are uncertain about which port to use, more details about each comm port are available in the Device Manager in Windows Control Panel.



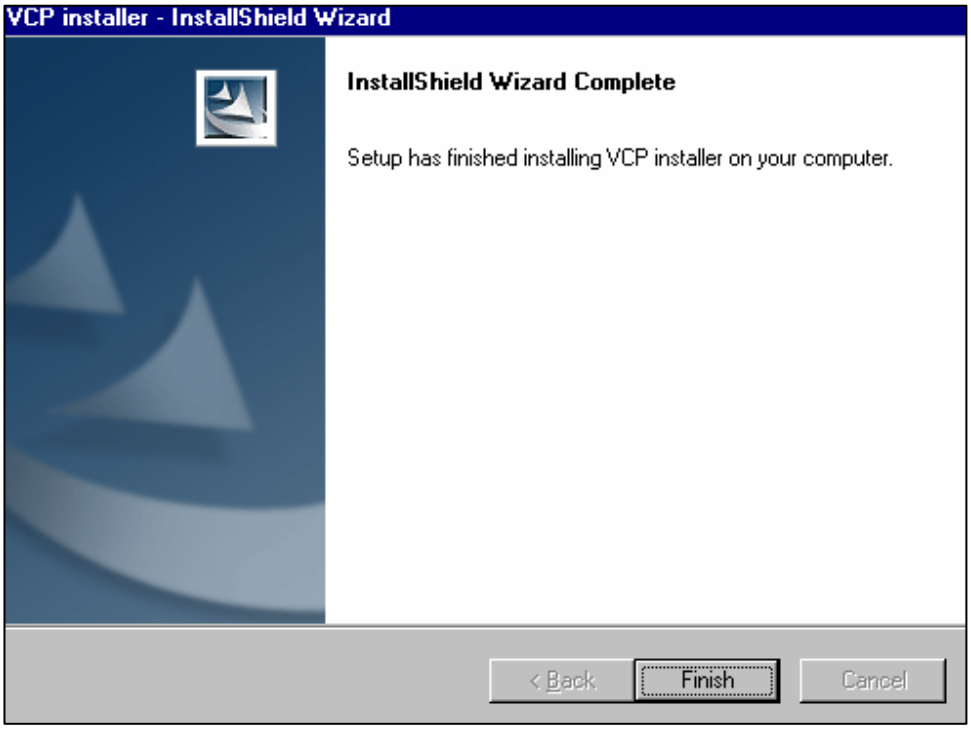
INSTALLING USB DRIVERS

If your printer includes the USB/ethernet option, you will need to install the appropriate drivers first.

The USB driver is found on the Producer™ installation CDROM. Explore the disk (do not use the Auto Run feature), navigate to the installation directory, and run SETUP.EXE. This will run the VCP Installer program.



When the VCP Installer has finished, click the Finish button.



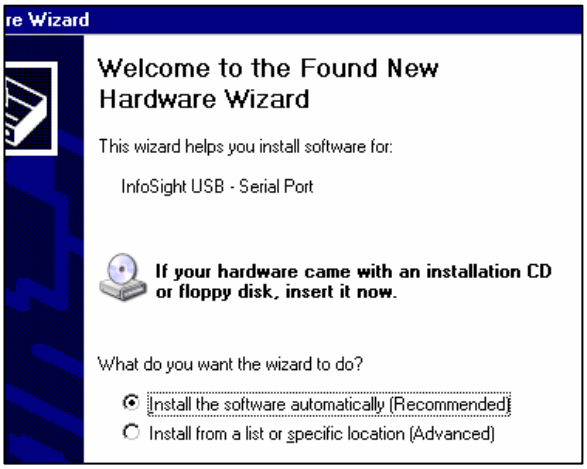
Next, plug the USB cable into an available port on your PC and into the back of the LL1000P Plate Printer. Power on the printer and you will see a New Hardware message for the Adapter.

Followed immediately by the Found New Hardware Wizard for the Serial Device:

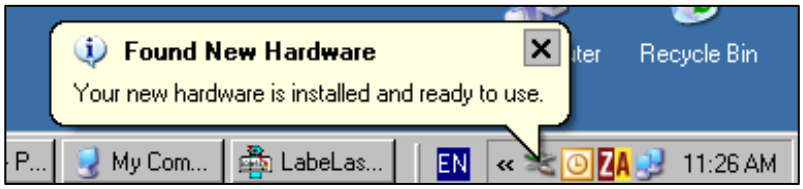
Install the software automatically as recommended. When the Wizard has finished installing, click on Finish.

Next you will receive a Found New Hardware message for the Serial Port

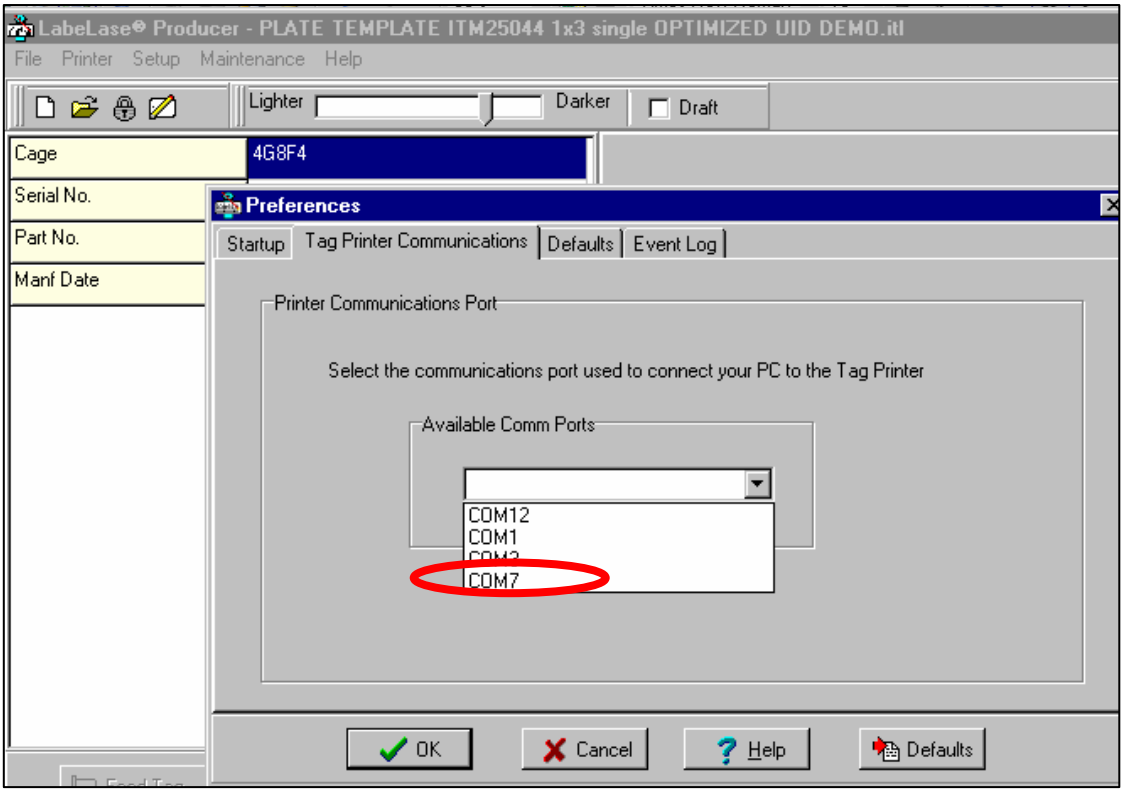
Followed immediately by the Found New Hardware Wizard for the Serial Port:



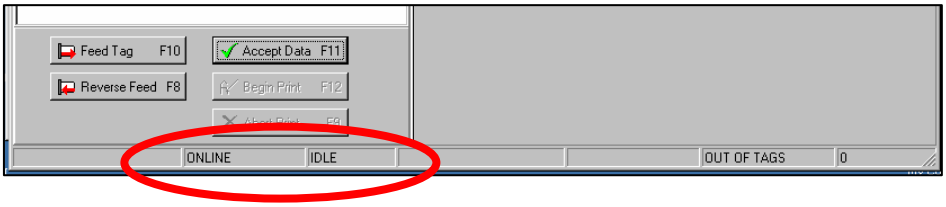
Install the software automatically as recommended. When the Wizard has finished installing, click on Finish.



Now return to the Producer™ main menu, SETUP…PREFERENCES…TAG PRINTER COMMUNICATIONS, and select the newly added comm. port which will probably be at the bottom of the list. If in doubt, check the list of Ports in the Device Manager in Windows Control Panel



The printer will now be recognized by Producer and you may proceed to print tags.



SPECIAL NOTE: Once the first printer is installed, each time you connect a new printer to your PC, the Found New Hardware Wizards for both the Serial Device and the Serial Port will launch. Follow the guided prompts to install the software automatically as above, and then select the newly installed comm. port in the Producer™ menu.

STARTUP SEQUENCE:

1. Install tag stock onto tag payoff reel. Be sure to re-attach the keeper bar to prevent the tag roll from falling off the reel.
2. Confirm that the rear power switch is on and the rear key switch is in the vertical ON position.
3. Remove E-STOP by twisting the red button on the top of the printer by one-quarter turn clockwise.
4. Feed tag stock into printer. If necessary, press the tag FEED button to align tags to the breakoff location.
5. Start LabeLase® Producer™ software on your PC.
6. Load a pre-existing tag layout, or design a new tag layout. NOTE: designing or changing a tag layout requires SUPERVISOR login.
7. Adjust printer setup parameters if necessary (e.g., laser speed). NOTE: other than setting laser speed (LIGHTER/DARKER slider bar), this feature requires SUPERVISOR login.

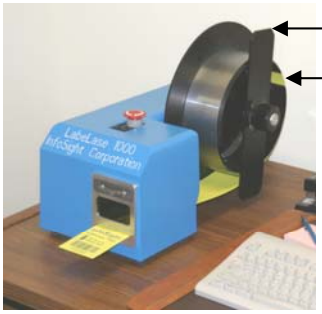
NOTE: The Producer™ software is password protected for all features beyond loading an existing tag layout, entering tag variable data, adjusting laser speed and initiating printing.

The default password for new installations is blank (no data, no spaces). A new password should be created before printer is commissioned for regular operator use.

LOADING NEW TAGS

CAUTION: DO NOT GRIP THE TAG STOCK BY ITS EDGES WHEN FEEDING INTO THE PRINTER. PROTECT YOUR HANDS AND FINGERS FROM THE SHARP EDGES OF THIN METAL TAG STOCK AT ALL TIMES.

Loading a new roll of tags is as easy as mounting the new roll on the payoff reel so that it unwinds from the bottom, and hand-feeding the leading edge of the tag stock into the rear feed slot. The marking side of the tag stock should be facing UP. Gently push it into the slot until it stops against the internal (rear drive) roller. The printer will then automatically draw the tag stock into the printer.



Reminder - The marker is not ready for use and will not feed tags until the E-STOP button is returned to the OUT position by twisting the red button one-quarter turn CLOCKWISE.

If necessary, tag stock can be manually fed into the printer by pressing the FEED button located beside the large red E-STOP button.

NOTE: The function of the FEED button on top of the printer has changed with Firmware version 1.03 and later.

Press & Release Quickly = feed one tag-length OUT (forward).

Press & Hold for 1 Second = feed one tag-length IN (reverse).

Press & Hold for longer than 2 Seconds = CONTINUOUS REVERSE FEED.

PRINTING A TAG

Note - The following assumes the LABELASE® 1000 Tag Printer has already been setup with a tag layout.

There are several ways to print a tag using the LABELASE® 1000.

A) If tag stock is loaded in the machine from the rear payoff reel and properly aligned at the break off exit point:
   1. Pressing the **PRINT button** located beside the red E-STOP will initiate printing of 1 or more tags, depending on operator-entered data on the main Producer screen.
   2. Pressing the **F12 key** on your PC.
   3. Placing the mouse pointer over the **Begin Print** button on your PC and left clicking.
   4. A **print command** may be sent from your host computer to your PC via Extended Protocol.

B) If there is no tag stock feeding in from the back of the machine, a single tag inserted in the FRONT slot will be automatically drawn into the printer.
   5. If the AUTO PRINT SINGLE ITEMS box is checked (enabled) in the SETUP / PRINTER CONFIGURATION menu (requires supervisor login), then **tag printing will begin automatically** with no further action or input required.
   6. If the auto print box is NOT checked, then any of the above methods in paragraph (A) may be used to initiate printing.

CAUTION: DO NOT GRIP THE TAG STOCK BY ITS EDGES WHEN FEEDING INTO THE PRINTER. PROTECT YOUR HANDS AND FINGERS FROM THE SHARP EDGES OF THIN METAL TAG STOCK AT ALL TIMES.

NOTE: The SINGLE PRINT feature of the printer requires a minimum tag or tag-strip length of three inches (76mm).

For example, a single 3x3 (or 3x4, 3x6, etc) tag may be printed. If single printing of a 1x3 (25 x 76mm) tag is desired, a strip of at least 3 tags must be inserted in the front slot.

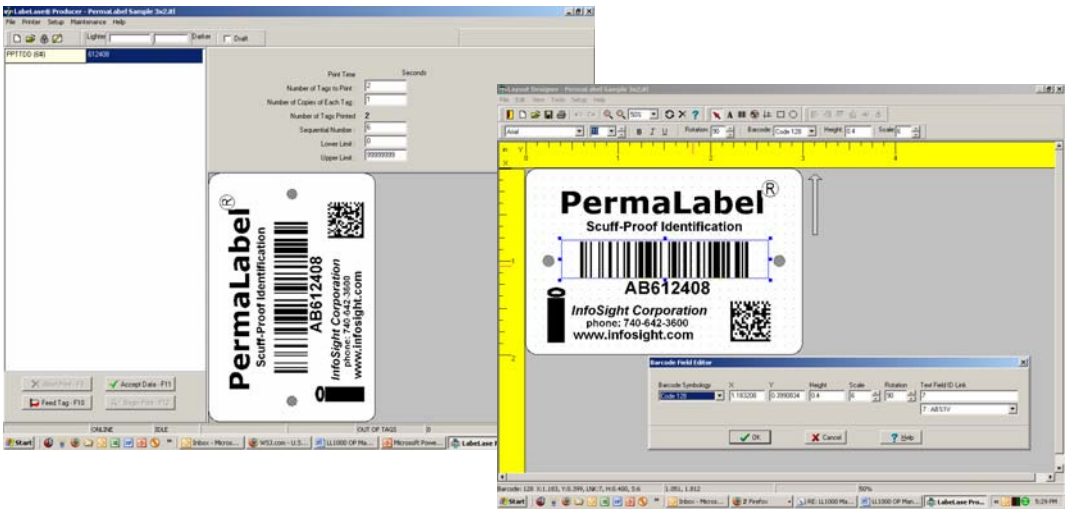
LABELASE® PRODUCER™ SOFTWARE

LabeLase® Producer™ is an integrated, Windows-based application for complete control of tag design and printing. For complete details, please refer to the ONLINE REFERENCE MANUAL supplied with the software, or on the web at http://www.infosight.com/labelaseproducer.htm

Features:

The software has many features designed to provide maximum flexibility to serve the customer's specific marking needs. Some of these features include:

- Built-in and online (web access) HELP.
- Total freedom to change tag layout whenever needed.
- WYSIWYG ("What You See Is What You Get") user interface for simple and intuitive tag design.
- New features emulating popular presentation software packages to speed layout and organization of complex designs containing multiple text and graphics fields.
- An unlimited number of data, text, barcode and graphics fields.
- Move fields easily with drag-and-drop.
- Rotate fields in 90-degree increments.
- Unlimited UNDO-REDO to easily correct mistakes.
- Optional placement grid with snap-to placement aid.
- Optional field anchor display shows field alignment.
- Zoom in/out for detailed display.
- Tag geometry features such as holes, slots, bare edges and bend lines can be shown.
- Prints all PC-installed fonts, including multi-byte characters for Asian languages.
- User-selectable download of message data from a host computer via RS-232, network TCP/IP, or network file transfer. A wide selection of communications protocols includes InfoSight Extended, emulation of Zebra and Intermec standard printers, and simple comma or tab-separated, flat-file formats. Details can be found in the communications chapter of the online reference manual.
- Operator entry of message data, for example if the host computer is unavailable.
- Easy control over printer setup parameters such as laser speed (i.e., formerly known as the "heat" setting for different types of laser tag material) and high/low pixel density (i.e., "draft" and "normal" printing modes)
- Auto-print feature for single tag printing (i.e., whenever a roll of tags is not loaded, a single tag can be auto-printed simply by inserting the tag in the front tag slot).
- Auto-incrementing of all text and number fields, for unattended batch printing.
- Option to make text and graphic fields "non-printable"
- Option to make non-printable fields visible in the File Open dialog, and on the Producer™ main screen.



PRINTER CONFIGURATION & LASER SETTINGS

The LabeLase® 1000 printer and LabeLase® Producer™ software are designed with a high degree of flexibility and user-control, to enable the system to be used in a wide range of applications and on an ever-increasing array of laser-markable materials.

Calibration and configuration settings are accessed in LabeLase® Producer™ under SETUP-PRINTER CONFIGURATION. On-line help instructions will guide you through each of the available settings. The most common parameters for fine-tuning the performance of the printer beyond the easy-to-use LIGHTER/DARKER SLIDER BAR are LASER SPEED, LASER OFF TICKLE, and LASER ON DUTY CYCLE, all of which are found under the LASER tab. Each of these parameters separately and together can be adjusted to create the right balance of black/white contrast, fineness of detail and cycle time.

As laser speed is increased printing cycle time will be faster. In general, as laser speed increases, duty cycle must also be increased to achieve the same relative blackness. Some materials with especially sensitive surfaces, such as PermaLabel®, will print more consistently at lower duty cycles, and therefore correspondingly lower laser speeds. Tickle controls the readiness of the laser to fire and helps maintain consistency of marking across the tag surface. Some tag materials are more sensitive to power variation than others, but in most cases this parameter can be left at its factory setting.

Typical Range of Settings (DRAFT mode OFF):

- Laser Speed: 50-75 ips
- Laser Off Tickle: 7-15 µs
- Laser On Duty Cycle: 60-95%

Each printer is calibrated in our factory before shipping, and the results are recorded on two tags as shown at the right. Save these tags in the event you ever want to return the printer to its original factory configuration.

Experience has shown the following settings to be a good starting point for the most common types of tag material. Each individual application may then be fine tuned to achieve the right balance of cycle time, fineness of detail, and black/white contrast.

Calibration Tag

Factory Settings

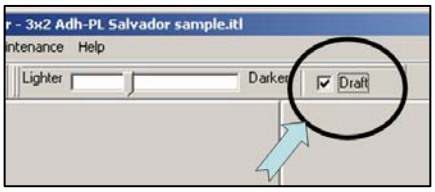
Typical Laser Settings (DRAFT mode OFF)

	Hot Tag™	Pic-Anneal®	PermaLabel®	X-Tag™
Laser Speed	70	60	55	20
Tickle	15	15	15	15
Duty Cycle	95%	95%	95%	95%

CYCLE TIME CONSIDERATIONS

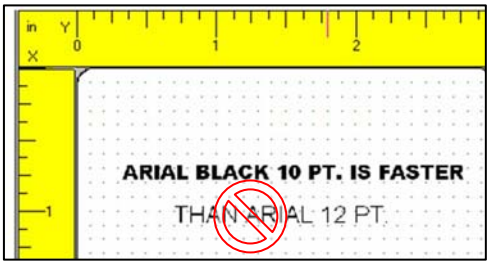
Tag layout and printer configuration can have a significant influence on cycle time. Here are a few techniques that in many cases can significantly speed printing.

1. Select DRAFT mode. When DRAFT mode is on, stepper and mirror resolution, laser speed, font sizes, and barcode and graphic scales are automatically adjusted.

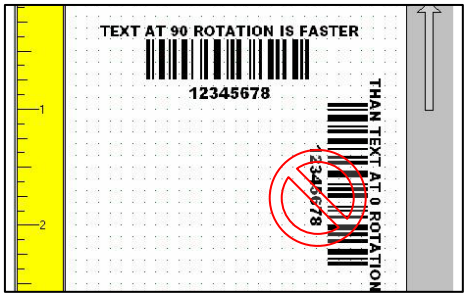


2. Increase laser speed (move slider bar to LIGHTER). It may be necessary to increase Laser Duty Cycle to maintain black/white contrast.

3. Use ARIAL BLACK font for text, to create darker easier-to-read characters. Also try using the BOLD font setting instead of a larger font size.

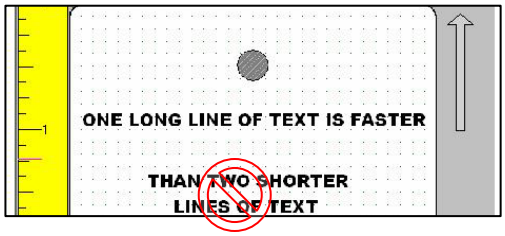


Design printing to run ACROSS the tag at 90° rotation (right angles to tag feed) rather than down the tag at 0° rotation (printing parallel to tag feed is slower).

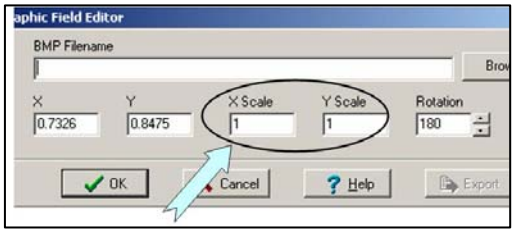


4. Avoid drawing graphic boxes around text or other graphics with long vertical (parallel to tag feed) lines.

5. Combine text strings into fewer lines. A single long line of text is more efficient than several short lines of text (at 90° rotation, parallel to tag feed).



6. Keep graphics/logo X-scale and Y-scale factors equal to 1. If the graphic or logo must be re-sized to fit on the tag, use an external application such as MS PAINT to change the dimensions of the image and re-save the BMP file before importing into Producer™.



BEST PRACTICES AND HELPFUL HINTS

To facilitate sharing of best practices among users, InfoSight has created an online DISCUSSION FORUM. You may access the forum via our home webpage or directly at http://www.infosight.com/forums/ .

BASIC TROUBLE SHOOTING

Service during normal business hours (Monday-Friday, 8am-5pm): 888-642-3600 or 740-642-3600
Emergency after-hours service: 1-800-401-0716 (outside the USA call 740-642-4666)

Red LED Status Light:

- STEADY ON: ready to print.
- OFF: no power to laser (power cord, key switch, power switch, fuses).
- SLOW BLINK: out of tag stock.
- FAST BLINK: E-STOP.

Problem: **Marker does not respond to print button.**

- Check power cord.
- Check key switch.
- Check E-STOP.
- Check tag stock.
- Check serial cable to PC.
- Producer software must be running on the connected PC.
- Bottom of main Producer screen indicates printer status – "ONLINE", "ESTOP" or "UNKNOWN MODE". If UNKNOWN MODE, check communications cable and settings.
- From within Producer, click on HELP-ABOUT. If the FIRMWARE VERSION is blank, your PC does not see the printer. Check communications cable and settings.

Problem: **Out of tag message on PC screen.**

- Load more tag stock into printer.
- Insert single tag in front tag slot.

Problem: **Tag exiting too far or not far enough (breakoff "nick" not aligned with exit slot).**

- The printer may need to be re-calibrated. See the Troubleshooting & Maintenance / Feed and Tag Adjustment section of the built-in help.

Problem: **Tag print appears very light, fine lines appear to drop out.**

- Reduce laser speed (DARKER)
- Increase Laser Off Tickle (SETUP-PRINTER CONFIGURATION).
- Final output lens may require cleaning (see Maintenance section below).

Problem: **Tag print shows "shadows"**

- Decrease Laser Off Tickle (SETUP-PRINTER CONFIGURATION).

Problem: **Tag print not aligned correctly with breakoff "nicks" (leading & trailing edges).**

- Check that actual tag size in machine and programmed tag size in Producer (LAYOUT-SETUP-GEOMETRY) are the same.
- The printer may need to be re-calibrated. See the Troubleshooting & Maintenance / Feed and Tag Adjustment section of the built-in help.

Problem: **Barcode too long for tag size.**

- Reduce number of characters in barcode data.
- Use more efficient barcode symbology.
- Reduce barcode scale.

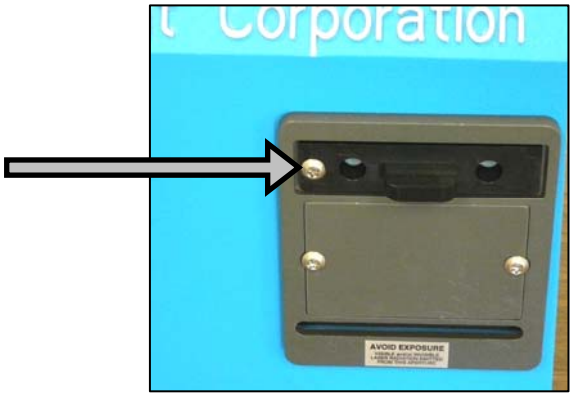
NORMAL MAINTENANCE & SERVICING

The only regular maintenance required is periodic cleaning of both surfaces of the final pass-through lens to remove dust, and cleaning or replacing the rear air filter. Additional cleaning or maintenance requires removal of the laser cover, contact InfoSight for instructions.

LENS CLEANING PROCEDURE

CAUTION: LASER OPTICS ALIGNMENT SHOULD ONLY BE PERFORMED BY A QUALIFIED TECHNICIAN.

The lens slide is secured with a SECURITY TORX screw to prevent unintended opening.



After removing the security screw, carefully open the slide to expose the lens.

Carefully perform the cleaning procedure described below, then re-insert the lens slide and secure it with the security screw.

CAUTION: DO NOT TOUCH LENS WITH FINGERS OR ANY SUBSTANCE CONTAINING ALCOHOL, OR PERMANENT DAMAGE MAY RESULT.

LENS CLEANING PROCEDURE:

- Use a cloth that will not leave any fibers and is not abrasive.
- White vinegar is recommended. DO NOT USE ALCOHOL!!
- Gently wipe the moistened cloth across the lens so that the liquid evaporates behind the cloth, avoiding streaks.
- DO NOT RUB HARD!
- DO NOT USE COMPRESSED AIR TO CLEAN OPTICS!
- DO NOT USE EYE GLASS WIPES CONTAINING ALCOHOL!
- For optics that are severely contaminated or damaged, contact InfoSight for replacement.

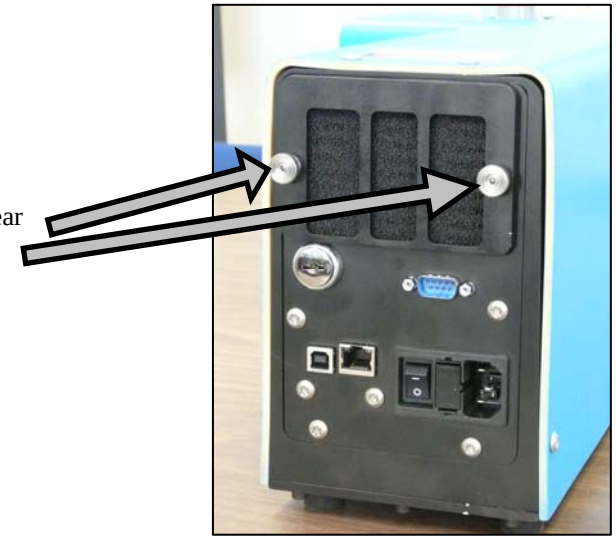
AIR FILTER REMOVAL & REPLACEMENT

The LabeLase® 1000 Tag Printer includes a light-duty foam filter element, intended for use in a normal office environment. It is not intended to protect the printer from industrial contaminants or vapors, typical of a factory or mill environment.

As the filter element accumulates dust and pollen over time, air flow through the printer may be reduced. This may cause excessive dust to accumulate on the internal optics (lenses and mirrors), which may shorten their life considerably. Therefore, it is important to monitor the condition of the filter and determine the appropriate cleaning frequency for your specific environment.

At high duty cycles when printing large batches of tags with a high percentage of black (printed) area, reduced air flow may also cause the internal temperature sensor to automatically shutdown the laser tube until it cools back to its normal operating temperature – this is normal.

The filter cover is located on the rear of the printer, and is held in place by two thumb screws.



Loosen the thumb screws and carefully remove the cover and the foam filter element underneath.

Carefully blow any lint or dust off the filter, or gently wash it in soap and water. Dry the filter thoroughly before reinstalling.

CLEANING THE INTERNAL DRIVE MECHANISM

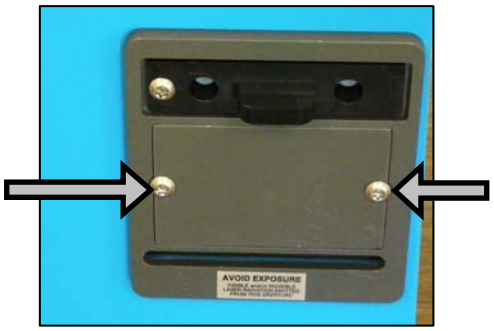
In some environments with excessive ambient dust, limited airflow through the printer and high rates of operation, dust and debris may collect in the drive mechanism area of the printer. Over time this dust and debris may block the laser beam and/or affect the operation of internal sensors and drive rollers.

> **CAUTION**: ALWAYS UNPLUG BOTH THE PRINTER POWER CORD AND ALL COMMUNICATION CABLES BEFORE SERVICING THE DRIVE UNIT.

The front cleanout plate may be removed to clean the drive mechanism without removing the printer cover. Extreme care must be used to avoid damaging laser optics, pass-through lens, optical tag & notch sensors, and other delicate components. The pass-through lens should be left in place to avoid introducing dust into the laser optics.

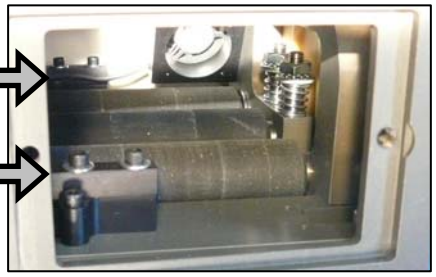
A soft brush or long Q-Tip can be used to loosen any debris, and a small PC keyboard vacuum with a 90-degree or flexible nose piece can be used to remove the loosened debris.

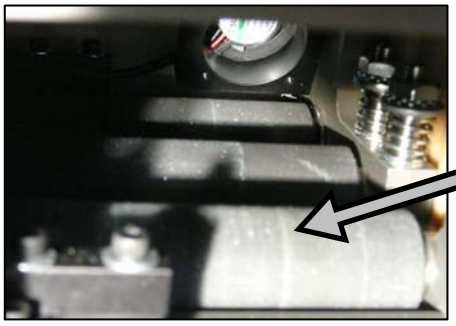
The front cleanout plate is secured with two SECURITY TORX screws to prevent unintended opening



REAR NOTCH SENSOR

FRONT TAG SENSOR





Laser Beam hits the tag between Front and Middle drive rollers. Dust may collect at the extreme left and right-hand sides of this area.

> **CAUTION**: ALWAYS REPLACE THE FRONT CLEANOUT PLATE BEFORE CONNECTING POWER AND OPERATING THE PRINTER.

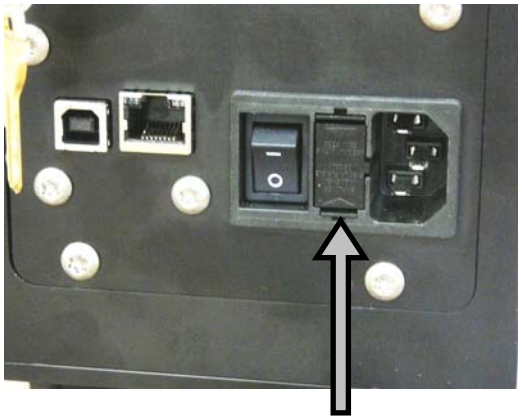
> **NEVER OPERATE THE PRINTER WITH THE FRONT CLEANOUT PLATE OR THE PASS-THROUGH LENS REMOVED !!**

FUSE REPLACEMENT

The incoming AC line is fused on both legs. Before replacing the fuses, first determine and fix the cause of the blown fuses.

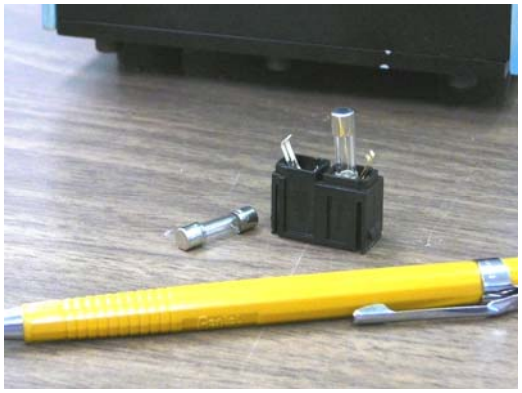
> CAUTION: BE SURE TO REMOVE THE AC POWER CORD BEFORE REMOVING THE FUSE HOLDER OR PERFORMING ANY OTHER TROUBLESHOOTING OR MAINTENANCE !

To replace the fuses, remove the fuse holder on the back of the printer between the power cord input and the on-off rocker switch. The fuse hold only goes back in one-way. If it does not fit easily, turn it upside down and then insert it gently so that it snaps in place.



FUSE HOLDER

FUSE HOLDER REMOVED



FUSES ARE RATED FOR
250V / 5A AC

CUSTOMER SERVICE

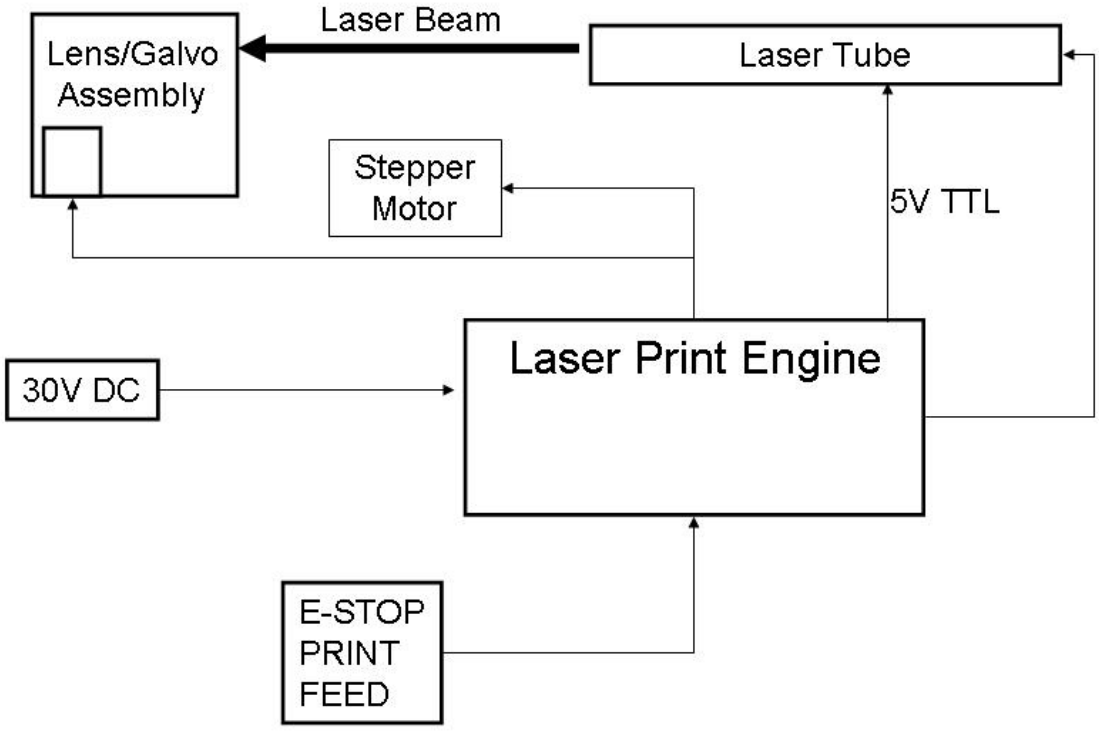
How to reach customer service:

Phone Support	InfoSight Corporation Customer Service offers free phone support to answer questions during normal non-holiday working hours, Monday through Friday 8am to 5pm Eastern time (New York, USA). Call +1.888.642.3600, or outside the USA call +1.740.642.3600.
Emergency Service	After regular business hours, call +1.740.642.4666.
On-Site Service	InfoSight Corporation can dispatch a Field Service Engineer to your facility to perform equipment start-up, repair, maintenance, and training.
Service Contracts	Periodic scheduled on-site maintenance, technical service and extended warranties can be arranged by contacting Customer Service at the number below.
Factory Service	Call Customer Service for a Return Authorization Number before returning equipment to our factory for repair and/or major maintenance.

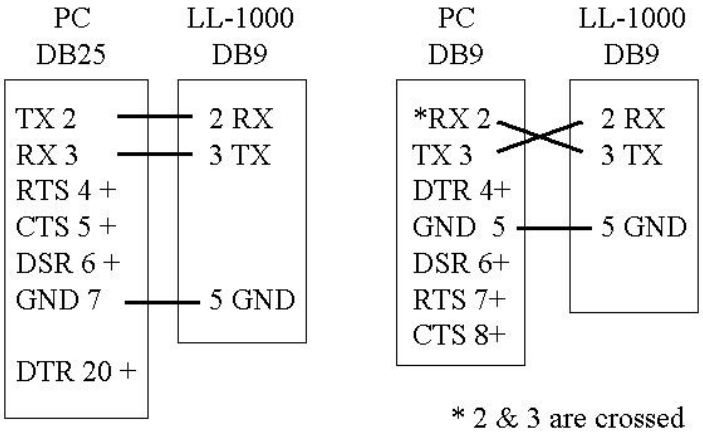
For more information regarding any of these services, call +1.888.642.3600 (outside the USA call +1.740.642.3600) and ask for Customer Service.

Or, visit us on the worldwide web at www.infosight.com

Functional Block Diagram



LABELASE® 1000 SERIAL PORT CONNECTION TO AN IBM-PC OR EQUIVALENT.



Note: Handshake protocol is XON / XOFF. Communications adapters such as USB to RS232 must support XON / XOFF.

XON is DC1 CTL-Q or 11h or 17 decimal
XOFF is DC3 CTL-S or 13h or 19 decimal

LASER SAFETY

04/23/03

Section I: Introduction to Laser Safety

Lasers, like arc welders, are sources of intense light that require certain precautions to insure a safe, comfortable and compliant working environment. This is especially true since the laser included in this marking equipment operates in the infrared (invisible) portion of the light spectrum. The enclosure surrounding the marking area is designed to prevent human exposure to the light emitted by the laser. The following information covers the procedures taken to design a safe, efficient environment for laser marking equipment.

Laser products are categorized into one of four classes based upon the power of the laser light that is accessible to any person during normal operation. These classes range from Class 1, the lowest class requiring no additional safeguards other than those provided by the manufacturer, to Class 4, the highest class that requires additional operator and working environment safeguards for safe operation.

Class 1 laser marking systems include enclosures integral to the workstation that are constructed to prevent human access to the laser beam. Class 1 systems are safe in all working environments; they are installed and operated as any other industrial machine tool. Class 1 laser systems do not require the use of any special laser safety equipment by operators or bystanders during their normal operation.

Class 4 laser marking systems do not incorporate protective enclosures. Extra precautions are required.

The LabeLase®1000 Tag Printer complies with Class 1 during normal use because of the numerous interlocks provided as detailed in section II.

During service and/or alignment the LabeLase 1000 Tag Printer becomes a Class 4 device. Servicing should be performed only by a **Qualified Laser Service/Safety Technician**! Because of the Class 4 classification, InfoSight will provide such a person to be available to the end user of this marker.

The nominal power output of the laser used is 10 watts, with a maximum peak power output of 30 watts. It is a C02 infrared (invisible) laser with a wavelength of 10.57 to 10.63 microns. The Radiant energy and the wavelength are less than Class 1 requirements during normal operation.

Section II: Types of safety interlocks.

There are several types of safety features provided on the InfoSight LabeLase 1000 Tag Printer:

Type 1 includes **mechanical switches**. These switches are located atop the marker and on the rear of the marker. These switches remove power supplied to the laser marker, as shown in electrical drawings.

Switch A -- Large Red, easily accessible, E-STOP operator Emergency Stop Push Button.
Switch B -- Key switch
Switch C -- On/Off rocker switch

Type 2 includes **optical sensors**. Sensors monitor whether tag material is in place and the marker is able to move the tag material. These two sensors are monitored by the marking microprocessor.

Type 3 includes **mechanical design**. Here, narrow slots are provided to minimize the release of laser radiation. The beam path from laser tube to final pass through lens is entirely enclosed in a metal shield, with suitable material that will absorb the heat produced by the beam emitting from the CO2 laser.

Type 4 includes **Password Security access.** The Software requires a **supervisor password** to change layout of tags or to alter the operating parameters of the marker itself.

The features and precautions described above are designed with the safety of the user in mind. Should you have any questions or suggestions please contact InfoSight directly.

Declaration of Conformity
InfoSight Corporation
20700 US Rt 23 Chillicothe, Ohio 45601
(740) 642-3600 TEL (740) 642-5001 FAX

InfoSight herby declares the equipment specified conforms to the Classification(s), Directive(s) and Standard(s) set forth in this document.

InfoSight produces laser systems within one of two classes as identified and classified by the CDRH. These are Class I and Class IV. (see CDRH 21 CFR (J) 1040.1 - 1040 .5). End user of the equipment should be familiar with ANSI, CDRH and OSHA standards for radiation emitting devices as they apply to them also.

ANSI Z136.1 - 1993
We will provide adequate data to the LSO (Laser Safety Officer) enabling LSO to designate NHZ (nominal hazard zone) as required pursuant to Class IV 3.4.1

CDRH 21 CFR (J) 1040.1 1040.5

OSHA Publication 8-1.7
Section II Chapter 6

Certifications:
EMC Emissions
EN 55022:1994/A1:1995/A2:1997 Class A ITE emissions requirements (EU)
FCC 47 CRF Part 15 Class A emissions requirements (USA)
EMC Immunity:
EN 50082-2:1995 EMC heavy industrial generic immunity standard

Note: InfoSight design guidelines are drawn from ANSI and CDRH

1.1.1 LL1000 Declaration of Conformity

Declaration of conformity
Konformitätserklärung
Déclaration de conformité
Declaración de Confomidad
Verklaring de overeenstemming
Dichiarazione di conformità
We/Wir/ Nous/WIJ/Noi: **Infosight Corporation**
20700 US Rt 23
Chillicothe, Ohio 45601 USA
declare under our sole responsibility that the product,
erklären, in alleniniger Verantwortung,daß dieses Produkt,
déclarons sous notre seule responsabilité que le produit,
declaramos, bajo nuestra sola responsabilidad, que el producto,
verklaren onder onze verantwoordelijkheid, dat het product,
dichiariamo sotto nostra unica responsabilità, che il prodotto,

LL1000

to which this declaration relates is in conformity with the following standard(s) or other normative documents.
auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder Richtlinie(n) übereinstimmt.
auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou au(x) document(s) normatif(s).
al que se refiere esta declaración es conforme a la(s) norma(s) u otro(s) documento(s) normativo(s).
waarnaar deze verklaring verwijst, aan de volende norm(en) of richtlijn(en) beantwoordt.
a cui si riferisce questa dichiarazione è conforme alla/e seguente/i norma/o documento/i normativo/i.

EMC Emissions:
• EN 55022:1998/A1:2000/A2:2003 Class A ITE emissions requirements (EU)
• FCC 47 CFR Part 15 Class A emissions requirements (USA)
EMC Immunity:
• EN 55024:1998/A1:2001/A2:2003 ITE - immunity characteristics

1.2 TEST DATES
November 18, 22-24, 29, 30, December 1, 8, and 9, 2004

Edward S. ONeal
2/25/2005
Chillicothe, Ohio

DRAWING ITM19695 – LABELASE 1000 COVER ASSEMBLY

DRAWING ITM19696 – LABELASE 1000 DRIVE ASSEMBLY

DRAWING ITM19697 – LABELASE 1000 OPTICS ASSEMBLY

DRAWING ITM19698 – LABELASE 1000 BASE ASSEMBLY

DRAWING ITM19870 – LABELASE 1000 SPOOL, PAYOFF GENERAL ASSEMBLY

DRAWING ITM19953 – LABELASE 1000 LASER TAG PRINTER WIRING DIAGRAM