

***Safety***

***Versa*LASER**<sup>®</sup> VLS3.60, VLS4.60, VLS6.60

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Universal's laser systems are protected under one or more of U.S. Patents: 5,051,558; 5,661,746; 5,754,575; 5,867,517; 5,881,087; 5,894,493; 5,901,167; 5,982,803; 6,181,719; 6,313,433; 6,342,687; 6,423,925; 6,424,670; 6,983,001; 7,060,934. Other U.S. and international patents pending.

The VersaLASER system has been awarded U.S. Design Patent No. D517,474 for the unique design of its external cabinet, which also functions as a Class 1 laser safety enclosure.

# Safety

## Description of Appropriate Use

This device is designed for laser cutting and engraving in an office, laboratory, workshop or light duty manufacturing environment. Materials to be processed must fit completely inside the system for proper operation.

**CAUTION:** This device is not designed, tested, intended or authorized for use in any medical applications, surgical applications, medical device manufacturing or any similar procedure or process requiring approval, testing or certification by the United States Food and Drug Administration or other similar governmental entities.

## General Safety

Use of the equipment in a manner other than described in this manual or failure to follow the operational requirements and safety guidelines listed in this manual can result in injury to yourself and others and may cause damage to the equipment and your facility.

**EXPOSURE TO THE LASER BEAM MAY CAUSE PHYSICAL BURNS AND CAN CAUSE SEVERE EYE DAMAGE.** Proper use and care of this system are essential to safe operation.



**NEVER OPERATE THE LASER SYSTEM WITHOUT CONSTANT SUPERVISION OF THE CUTTING AND ENGRAVING PROCESS.** Exposure to the laser beam may cause ignition of combustible materials which can lead to a fire. A properly maintained fire extinguisher should be kept on hand at all times.

**NEVER LEAVE MATERIALS IN THE LASER SYSTEM AFTER LASER PROCESSING HAS FINISHED.** After laser processing, some scrap materials may retain heat. It is recommended you allow scrap materials to cool prior to leaving the work area. A properly maintained fire extinguisher should be kept on hand at all times.



**A PROPERLY CONFIGURED, INSTALLED, MAINTAINED AND OPERATIONAL PARTICULATE AND FUME EXHAUST SYSTEM IS MANDATORY WHEN OPERATING THE LASER SYSTEM.** Fumes and smoke from the engraving process must be extracted from the laser system and exhausted outside.

**SOME MATERIALS, WHEN ENGRAVED OR CUT WITH A LASER, CAN PRODUCE TOXIC AND CORROSIVE FUMES.** We recommend that you obtain the Material Safety Data Sheet (MSDS) from the materials manufacturer. The MSDS discloses all of the hazards when handling or processing a particular material. **DISCONTINUE** processing any material that causes chemical deterioration of the laser system such as rust, metal etching or pitting, peeling paint, etc. Damage to the laser system from corrosive fumes is **NOT** covered under warranty.



**DO NOT ATTEMPT TO MOVE OR LIFT THIS SYSTEM ALONE.** Obtain assistance from three or four additional people when lifting or carrying (secure motion system and doors before lifting). Bodily injury may occur if improper lifting techniques are used or the system is dropped.

**DANGEROUS VOLTAGES ARE PRESENT WITHIN THE ELECTRONICS AND LASER ENCLOSURES OF THIS SYSTEM.** Access to these areas is not necessary during normal operation. If it becomes necessary to open one of these enclosures for service reasons, please remember to disconnect the power cord from your electrical supply.

**NEVER REMOVE THE GROUND LEAD TO THE ELECTRICAL CORD AND PLUG THE SYSTEM INTO A NON-GROUNDED OUTLET.** A laser system that is not properly grounded is hazardous and has the potential to cause severe or fatal electrical shock. Without proper grounding, the laser system may exhibit sporadic or unpredictable behavior. Always plug the system into a properly grounded (earthed) outlet.



**THE POWER SUPPLY CORD IS THE MAINS DISCONNECT DEVICE; THE EQUIPMENT SHOULD BE LOCATED CLOSE TO AN EASILY ACCESSIBLE WALL SOCKET OUTLET.** To disconnect the equipment from the supply mains, the power cord should be unplugged from the wall outlet or main power inlet (appliance coupler) of the unit.

**THE LASER SYSTEM IS DESIGNED AS A CLASS I, GROUP A, PLUGGABLE DEVICE.** It is also designed for connection to IT power systems which provide the most flexibility to the user.

**THIS DEVICE IS SPECIFICALLY DESIGNED TO COMPLY WITH CDRH PERFORMANCE REQUIREMENTS UNDER 21 CFR 1040.10 AND 1040.11 AND TO COMPLY WITH EUROPEAN LASER SAFETY REGULATIONS UNDER EN60825-1.** CDRH is the Center for the Devices of Radiological Health division of the Food and Drug Administration (FDA) in the USA. No guarantees of suitability or safety are provided for any use other than those specified by Universal Laser Systems, Inc.

## Laser Safety

The device contains a sealed carbon dioxide (CO<sub>2</sub>) laser that produces intense invisible laser radiation at a wavelength of 10.6 microns in the infrared spectrum. For your protection, the laser is contained within a Class 1\* enclosure designed to completely contain the CO<sub>2</sub> laser beam. Improper use of controls and adjustments, or performance of procedures other than those specified, may compromise the safety of this system.

- The intense light that appears during the engraving or cutting process is the product of material combustion or vaporization. **DO NOT STARE AT THIS INTENSE LIGHT OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS SUCH AS BINOCULARS OR MICROSCOPES.**
- This device may contain a visible Red Diode Pointer (Class 3R) to aid in positioning material to be cut or engraved. **DO NOT LOOK DIRECTLY INTO THE RED LASER BEAM OR USE A REFLECTIVE SURFACE TO REDIRECT OR VIEW THE RED LASER BEAM. NEVER ATTEMPT TO VIEW THE RED LASER BEAM USING OPTICAL INSTRUMENTS SUCH AS BINOCULARS OR MICROSCOPES.**
- The user door(s) are safety interlocked which will prevent the CO<sub>2</sub> laser beam from firing when the user door(s) are opened. The Red Diode Pointer is **NOT** safety interlocked and can be automatically activated with the door(s) either open or closed.
- **DO NOT OPERATE THE LASER SYSTEM IF ANY SAFETY FEATURES HAVE BEEN MODIFIED, DISABLED OR REMOVED.** This may lead to accidental exposure to invisible CO<sub>2</sub> laser radiation which may cause severe eye damage and/or severe burns to your skin.
- Always use caution when operating a laser system.

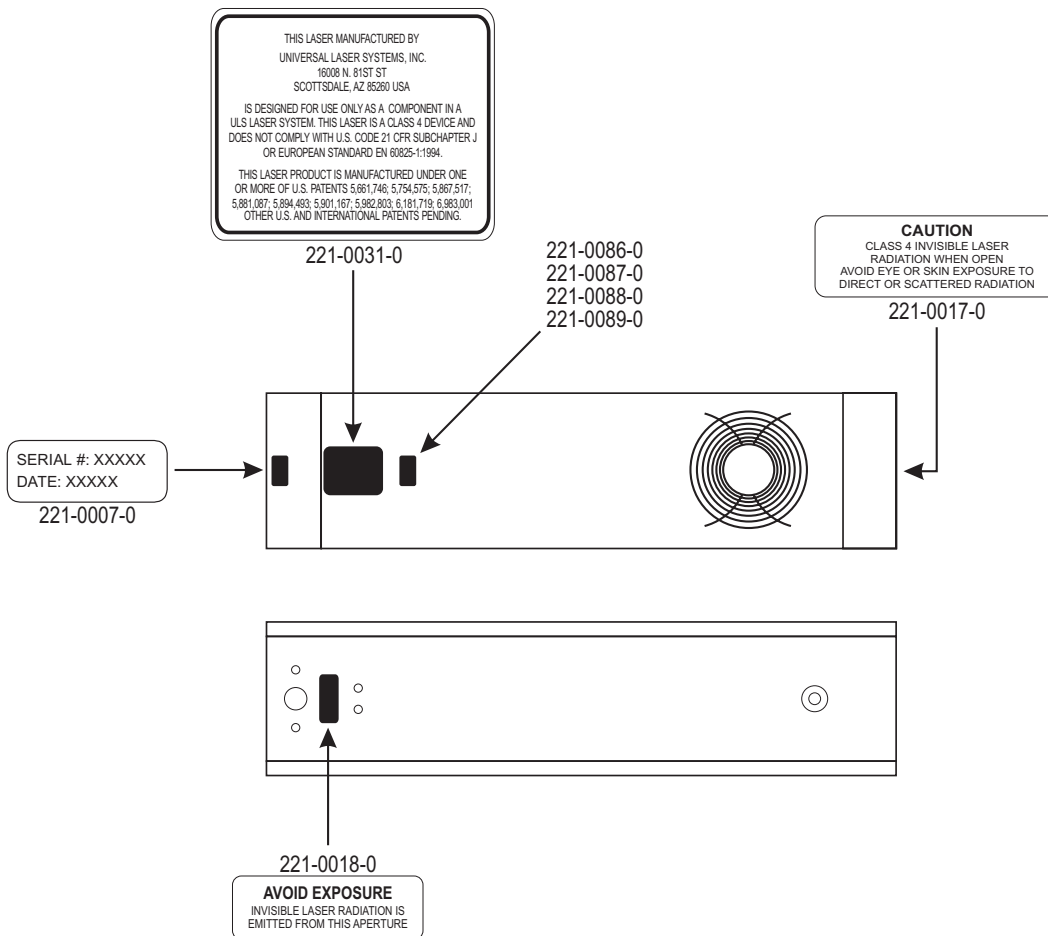
\*An enclosure which does not permit human access to laser radiation in excess of the accessible emission limits of Class 1 for the applicable wavelength and emission duration.

## Tamper Proof Labels

All laser cartridges are equipped with tamper proof labels. There are **NO** field serviceable parts inside a Universal Laser System, Inc. (ULS) laser cartridge. If your laser cartridge needs service, please contact the Customer Service Team at 480-609-0297 (USA), +43 1 402 22 50 (Austria), +81 (45) 224-2270 (Japan) or e-mail us at support@ulsinc.com.

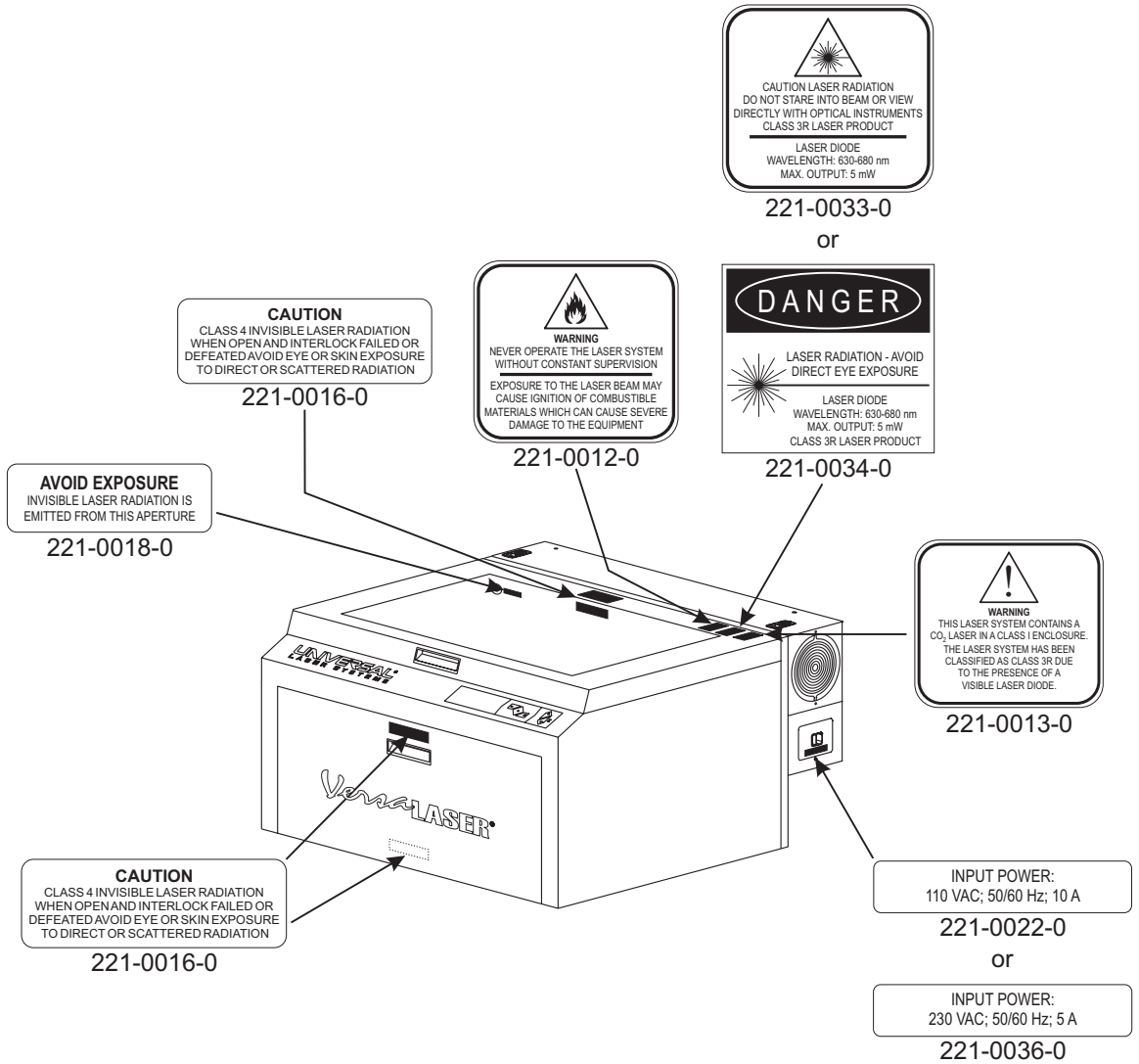
## Safety Labels

CDRH and CE regulations require that all laser manufacturers affix warning labels in specific locations throughout the equipment. The following warning labels are placed on the laser system for your safety. **Do not** remove these labels for any reason. If the labels become damaged or have been removed for any reason, **do not operate** the laser system and immediately contact Universal Laser Systems, Inc. at 480-609-0297 (USA), +43 1 402 22 50 (Austria), +81 (45) 224-2270 (Japan) or e-mail us at support@ulsinc.com for a free replacement.



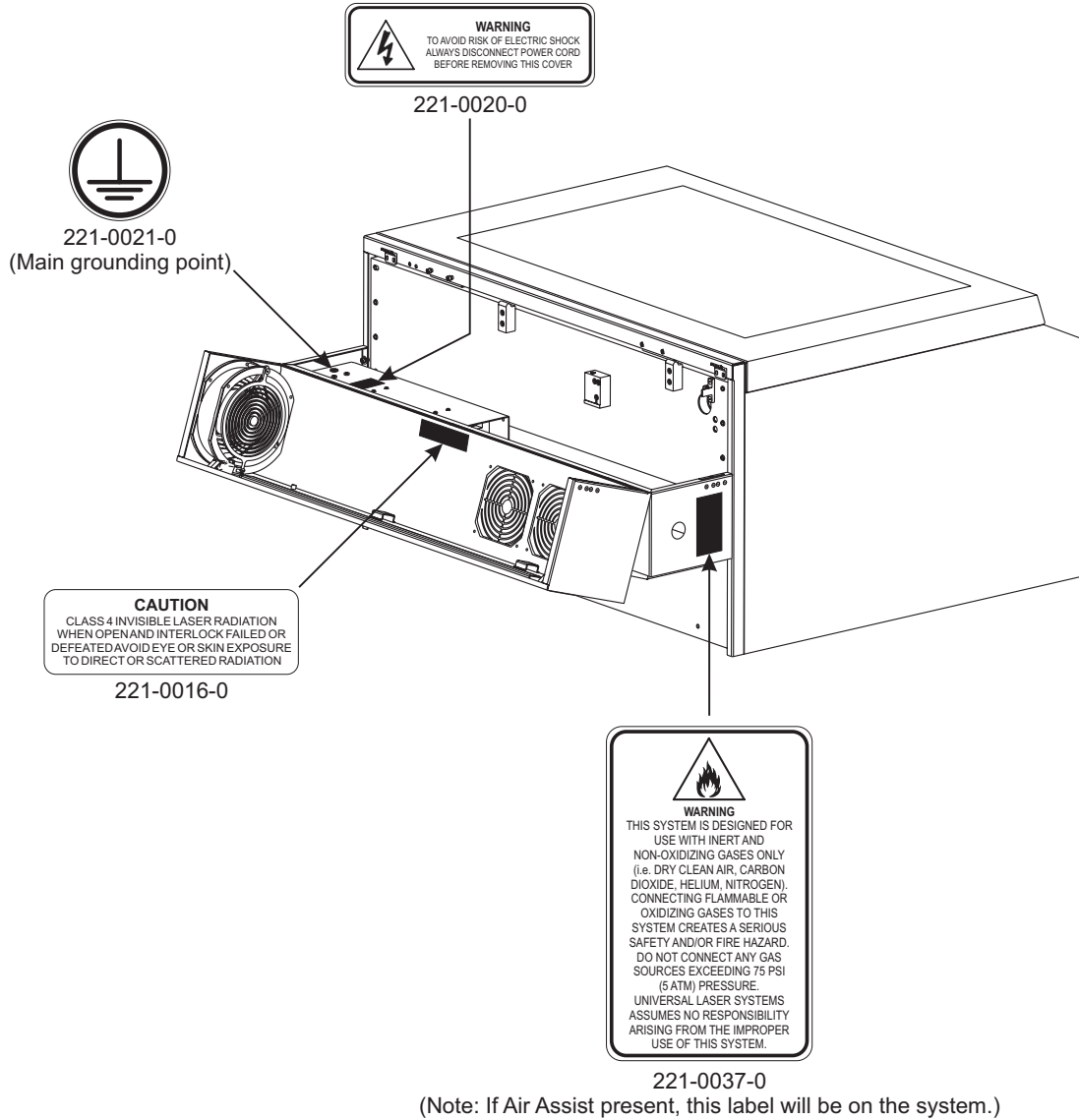
ULS Laser Cartridge Labels

Laser cartridge and labels are not to scale



VersaLASER Platform Front View

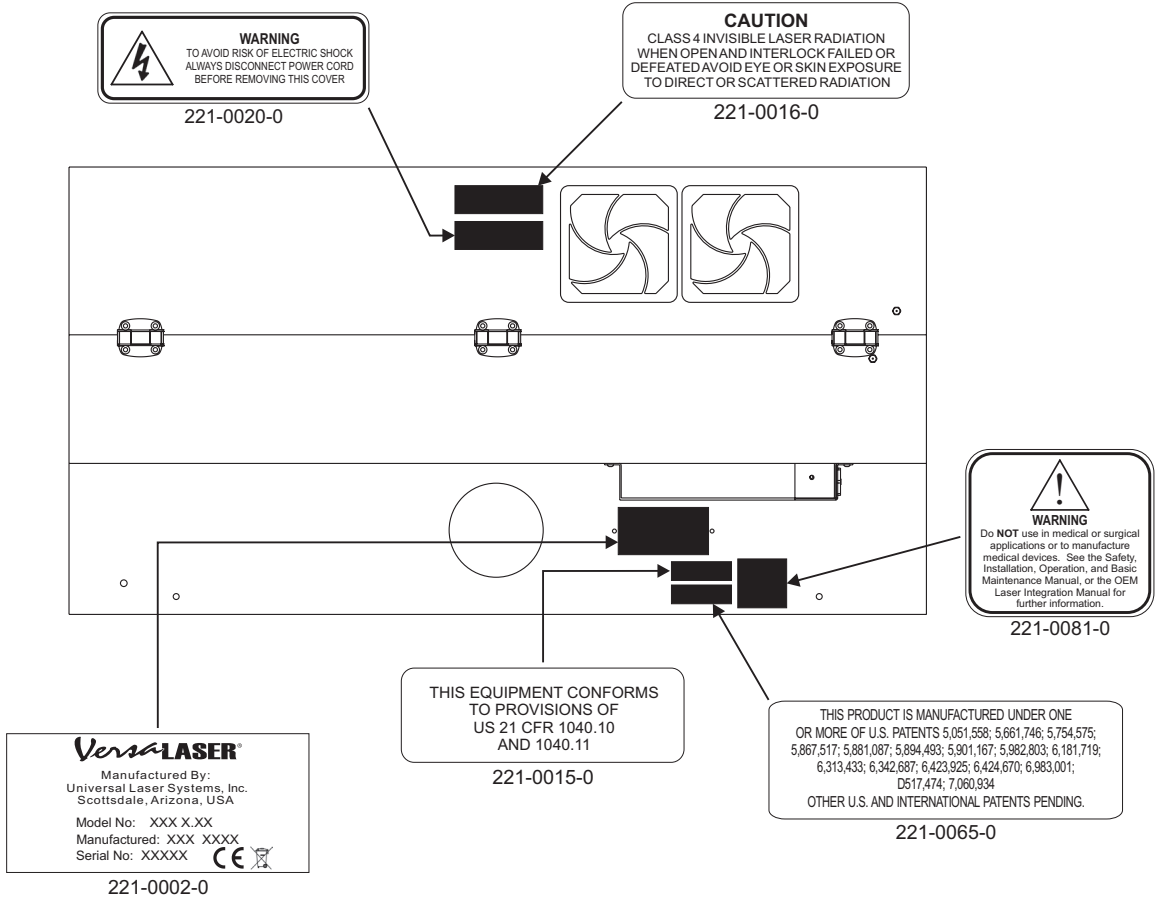
Laser system and labels are not to scale



VersaLASER Platform Back View with Rear Door Open

Laser system and labels are not to scale





VersaLASER Platform Back View

Laser system and labels are not to scale

## EU Declaration of Conformity

### UNIVERSAL® LASER SYSTEMS

**Product Identification:** VLS3.60, VLS4.60, and VLS6.60  
Laser Engraving and Cutting Systems

**Manufacturer:**  
Universal Laser Systems, Inc.  
16008 N. 81st St.  
Scottsdale, AZ 85260  
USA

**European Office:**  
Universal Laser Systems GmbH  
Lerchenfelder Guertel 43  
A-1160 Vienna/Austria

The manufacturer hereby declares that the equipment specified below is in conformity with the following directives:

89/336/EEC	(EMC Directive)
73/23/EEC	(Low Voltage Directive)
98/37/EEC	(Machinery Directive)
2002/95/EEC	(ROHS Directive)
2002/96/ECC	(WEEE Directive)

based on the standards listed.

**Standards Used:**

Safety:

- EN 60950: 2002
- EN 60825-1: 2002 (Class 3R)

EMC:

- EN 55024 1998 (Class A)
- EN 55022: 2003 (Class A)
- EN 61000-3-2: 2001 (class A)
- EN 61000-3-3: 2002
- EN 61000-4-2: 2001 (4kV CD, 8kV AD)
- EN 61000-4-3: 2003 (3 or 10 V/m)
- EN 61000-4-4: 2002 (1 or 2 kV power line)
- EN 61000-4-5: 2001 (class 3)
- EN 61000-4-6: (3 or 10Vrms)
- EN 61000-4-8
- EN 61000-4-11

**Note:** This is not a declaration of conformity. The importer of this equipment supplies the declaration of conformity.

**CAUTION:** This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

## FCC Compliance

This ULS laser system has been tested and found to comply with Federal Communication Commission (FCC) directives regarding Electromagnetic Compatibility (EMC). In accordance with these directives, ULS is required to provide the following information to its customers.

### FCC Compliance Statement and Warnings

This device complied with FCC Rules Part 15. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device as set forth in Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

Users should be aware that changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This equipment has been type tested and found to comply with the limits for a Computing Device per FCC part 15, using shielded cables. Shielded cables must be used in order to insure compliance with FCC regulations.

## Recycling



By placing the above symbol on our products and accessories Universal Laser Systems is indicating that we are committed to helping reduce the amount of waste electronics ending up in municipal landfills. Therefore, Universal Laser Systems urges consumers to recycle this product and its accessories. Universal Laser Systems is equipped to recycle any of its electronic products and accessories and will assist our customers with their recycling options. To arrange for recycling of your ULS product or accessory, please contact Universal Laser Systems for more information at 480-609-0297 (USA), +43 1 402 22 50 (Austria), +81 (45) 224-2270 (Japan) or e-mail us at [support@ulsinc.com](mailto:support@ulsinc.com).

