UNIVERSAL®
LASER SYSTEMS

DLMP™ TECHNOLOGY
CUTTING • ENGRAVING • MARKING

Creating Opportunities with Digital Laser Material
Processing Technology

DLMP™ (Digital Laser Material Processing) Technology

DLMP™ technology enables users to laser cut, engrave and mark on almost any material. The capabilities of Universal Laser Systems' unique DLMP systems expand the potential for applications across organizations and in multiple departments including production, R&D and engineering, sales, marketing and facilities management.

DLMP technology offers various benefits as part of any business solution, such as:

SOFTWARE CONTROLLED

Virtually any design can be printed from your graphic software to the laser system software. Additionally, .DXF and .PDF file formats can be imported directly into the Universal Control Panel (UCP).

MULTI-MATERIAL

An endless number of materials are compatible with Universal's laser system, including plastics, metals, silicone rubbers, fabrics, composites, laminating adhesives and other advanced materials to name a few.

MULTI-PROCESS

Cut, engrave and mark in one step. Additionally, you can engrave or mark a high-resolution image on material. The laser systems can perform many different types of operations in a single step by seamlessly changing power, speed and other parameters with one click.

NON-CONTACT

Ablate or modify material without applying any physical force. Using a non-contact method for cutting, engraving and marking, the laser system eliminates the need for physical tooling with dies, blades and cutters or permanent holding fixtures.
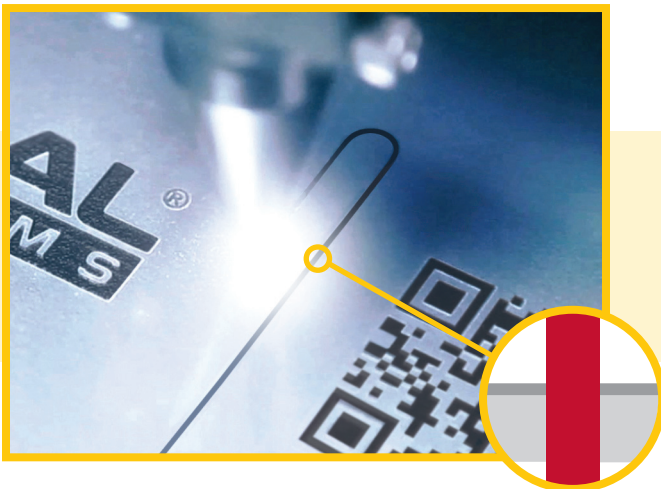
ON DEMAND

Process material in real time. Laser systems do not depend on physical tooling and are driven by software files. Getting started is as easy as placing the material in the laser system and processing the graphics file.

Laser Processes

LASER CUTTING

Removing and separating material along a designated path.

LASER ENGRAVING

Removing material to a user-controlled depth.

Extensive Material Processing

Digital Laser Material Processing technology provides an efficient, non-contact method for working with a wide variety of materials. The following list is a small sample of the materials that can be effectively processed with DLMP technology using a CO_2 and/or fiber lasers. To learn more about additional compatible materials, go to www.ulsinc.com or contact a local representative.

ABS	Laminating Adhesives
Acetal Copolymer (Delrin®)	Latex
Acrylic	Leather
Adhesive Transfer Tape	Maple Wood
Alder Wood	Microsurface Plastic
Alkali-aluminosilicate (Gorilla Glass™)	Mother of Pearl
Alumamark™	Nylon
Alumina	Optical Materials
Aluminum	Painted Metal
Aluminum Silicate	Paper
Anodized Aluminum	PEEK
Balsa Wood	PET Foam
Birch Wood	Photopolymer
Bonding Tapes	Pine Wood
Borosilicate	Polycarbonate
Carbon Fiber	Polychloroprene (Neoprene)
Cherry Wood	Polyester
Cotton	Polyethylene Foam (Tool Foam™)
Cork	Polyisocyanurate Foam
Denim	Polyurethane Foam
Felt	Powder Coated Metal
Film with Heat Activated Backing	PTFE (Teflon®)
FR4/G10 Composite	Silicone Rubber
Fused Silica Glass	Soda Lime Glass
Graphic Overlay Materials	Stainless Steel
Hastelloy™	Stone
Inconel™	Titanium
Iron	Twill
Kapton	Walnut Wood
Kevlar	Zirconia…

LASER MARKING (DEPTH AND SURFACE)

Modifying a material surface to create a permanent mark.
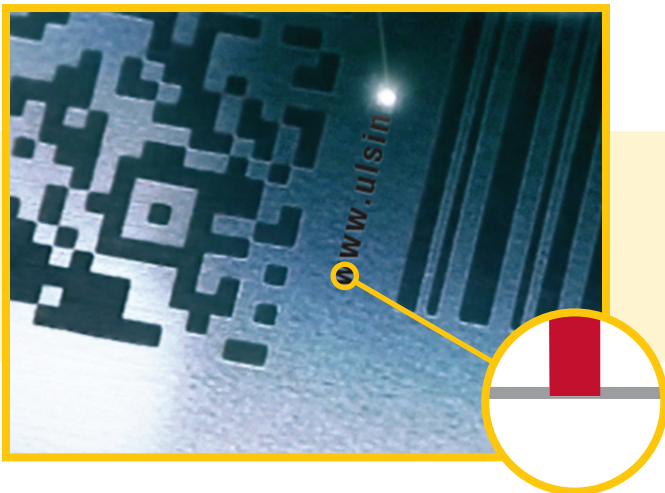
UNIQUE APPLICATION: PHOTO IMAGING

Using special software to produce a permanent photographic image by engraving or marking.

How Universal's DLMP Technology Works

To perform a single laser process or multiple processes (in any combination), simply follow these steps:

1

DESIGN YOUR FILE

Virtually any graphic or CAD software with a functional print feature can be used including Adobe® Illustrator®, Adobe® Photoshop®, AutoCAD®, CorelDRAW® and many others.

2
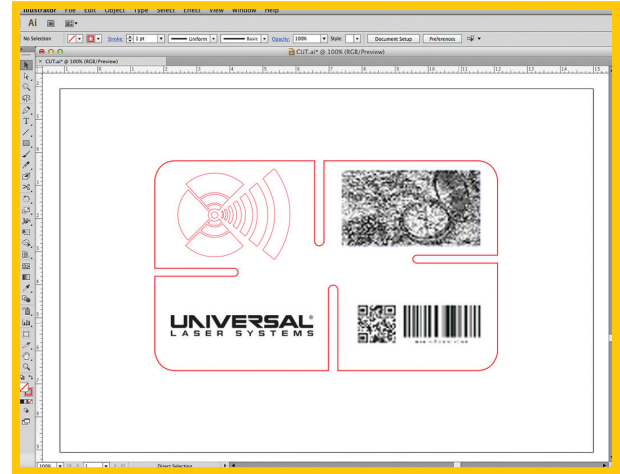
PRINT OR IMPORT YOUR FILE

Print via a Windows driver or import a .PDF or .DXF using Universal's Direct Import software. Imported files can be created in any operating system including Windows and Mac OS. Printed or imported files are displayed on the Universal Control Panel. The UCP allows you to preview the file before processing your material.
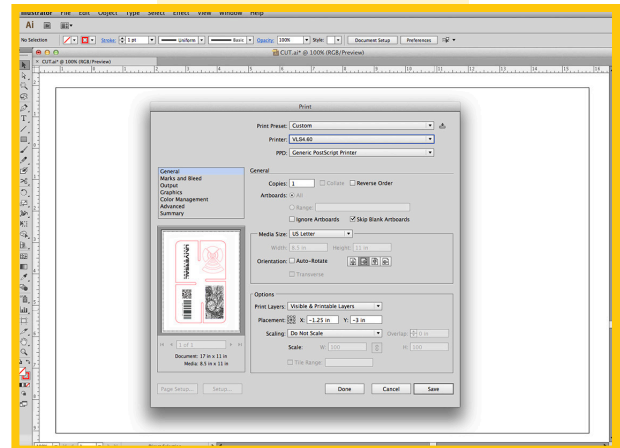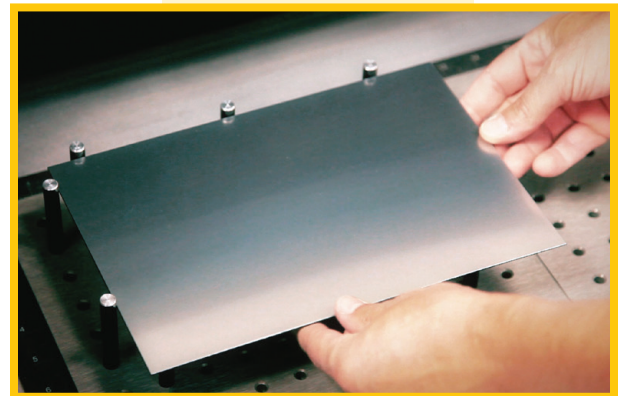
3

SELECT MATERIAL

Select a material from Universal's extensive database of materials.
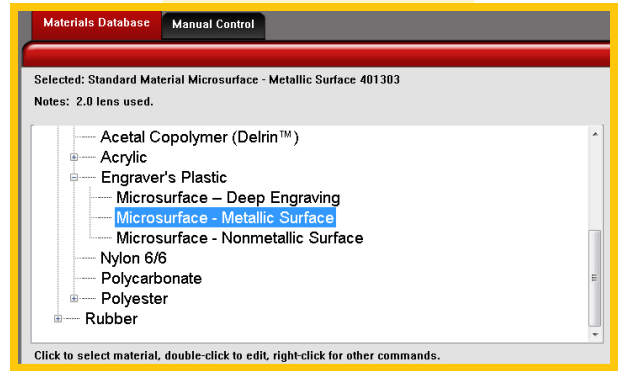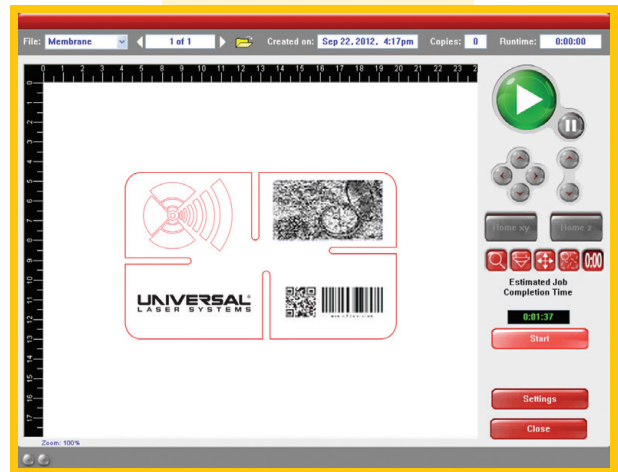

4

LOAD MATERIAL

Place the material in the laser system. No additional tooling is required.

5

PRESS GO

Press go – the laser system processes the material based on the graphic file sent to the UCP software.

JOB COMPLETE

Remove the finished product–the system immediately is ready for processing the same graphic file or a different one on the same or different material.

Uniquely Universal Overview

Universal Laser Systems has developed innovative laser technology since 1988. Dedicated to the advancement of laser systems, Universal's patented technology improves the user's experience and makes material processing more effective and productive. The following features are a few of the unique innovations offered only by Universal Laser Systems.

CONTROL, MANAGEMENT AND USABILITY SOFTWARE

Universal provides the world's most advanced, powerful and flexible software for laser material processing systems. DLMP systems include a materials-based print driver that gives you the choice of automatic or manual control over power, speed, pulses per inch and other system settings. This gives the user complete control over the laser processing system.

Additionally, access to an accurate, reliable and extensive database of material pre-sets is available. Through years of research and development with a team of highly trained material scientists, Universal provides a comprehensive materials' database with a broad range of categories and even materials by brand name, product name and part number.

To get great laser processing results, all you need to do is select your material from the database, enter the material thickness and press "Start."

MODULAR DESIGN ARCHITECTURE

Universal products consists of platforms, lasers, productivity enhancement, safety and other modules that can be combined in various ways to create the ideal laser system for present and future business needs.

INTERCHANGEABLE LASERS

10.6μ CO_2 lasers are available for laser systems, in either single or multiple laser configuration. The lasers in the system can be individually or simultaneously controlled, quickly delivering a wide power range from 10 to 150 watts. Also available are 9.3μ CO_2 and 1.06μ fiber lasers. Every laser source is factory pre-aligned for easy integration into Universal's laser platform depending on wavelength and power.

DUAL LASER CONFIGURATION

A Dual Laser system combines the beams from two lasers into a single beam. This maximizes cutting, engraving and marking power. Using a patented technology, the system configuration eliminates polarization effects and delivers beam quality superior to that of a single laser.

MULTI-WAVELENGTH TECHNOLOGY

Universal's multi-wavelength technology is designed to support three different types of wavelengths to process the broadest possible spectrum of materials: 10.6μ, 9.3μ and 1.06μ.

SUPERSPEED™

The SuperSpeed option requires Dual Lasers. Beam combiner optics create two, parallel laser beams that are slightly offset from one another. Each beam is controlled independently in order to produce two raster scan lines simultaneously. In vector mode, the two beams are automatically combined to provide higher cutting power.

HPDFO™
(HIGH POWER DENSITY FOCUSING OPTICS)

The HPDFO option delivers the smallest laser spot size available for CO_2 and fiber lasers. This enables very finely detailed marking and engraving and is also viable for cutting on CO_2 systems. The small spot size concentrates the laser beam to allow a CO_2 laser process to mark directly on steel, stainless steel and titanium without the need for metal marking compound.

1-TOUCH LASER PHOTO™

1-Touch Laser Photo is an exclusive software application optimizing any photograph for laser engraving onto a material. The software applies special filters to the image and adjusts the contrast and definition appropriately for the material being processed. Using the software is as simple as selecting your target material from a list and cropping, resizing, rotating or mirroring the image as needed.

CAMERA BASED REGISTRATION

Universal's Camera Registration (UCR) features a camera, mounted inside the laser system, to locate and determine the exact positions of registration marks on printed materials. The software adjusts the predefined cut path to fit the material. The user simply places material close to the correct position in the laser system, and the UCR automatically makes adjustments to the cut path to fit the material where it is placed.

Learn more at www.ulsinc.com

ABOUT UNIVERSAL LASER SYSTEMS

Headquartered in Scottsdale, Arizona, Universal Laser Systems has provided laser solutions since 1988. The company's commitment to innovation and customer service established a market-leading position with thousands of customers in various industries across the globe.

Universal Laser Systems is committed to advancing the application of modern CO_2 and fiber laser technology. The R&D efforts have resulted in numerous patents, with several pending, in our continual pursuit to develop and enhance laser systems that benefit the customer. The R&D philosophy and execution is based upon designing highly modular platforms that can be easily configured with interchangeable laser power sources and field upgradeable system options. This robust system configuration capability, unique to Universal, gives customers the flexibility and investment protection to optimize laser systems as their business evolves.

As the leading provider of CO_2 laser technology solutions, Universal Laser Systems continuously searches for new ways to improve the performance, effectiveness and quality products to help companies of all sizes worldwide meet their most challenging business needs.

Universal's laser systems are protected under one or more of U.S. Patents: D517,474; 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; 7,415,051; 7,469,000; 7,715,454; 7,723,638; 7,947,919; 8,101,883. Other U.S. and international patents pending.

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CE

CAUTION LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT
LASER DIODE
WAVELENGTH 635-660 nm
MAX OUTPUT 1 mW

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