

Easy-to-use interface takes you from design to production in minutes.

Engineered exclusively for use in LasX Industries' LaserSharp® laser processing equipment, LightGuide control software simplifies industrial laser processing to reduce operating costs by minimizing machine setup time and maximizing productivity. This powerful yet easy-to-use tool saves money at every stage of the production process, from initial file preparation to automated material handling of finished parts.

LightGuide starts saving money by directly importing .DXF or .PDF pattern design files to guide the laser beam around the material—no special file preparation or handling is required. Because it can independently control multiple laser modules in the same job, LightGuide's integrated process parameter-based workflow can combine multiple laser processes—cutting, scoring, perforating, or ablating—in one production job, creating finished parts in a single pass. Run different patterns on each laser module or combine crossweb and straight line downweb processing modes to optimize scalability while increasing productivity and throughput.

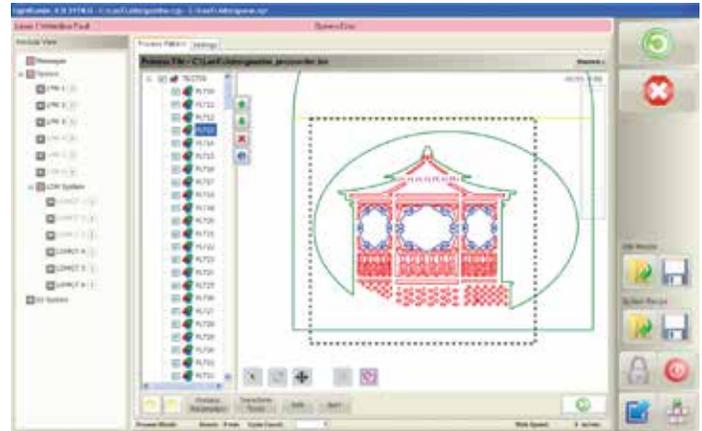
Depending on application requirements and equipment configuration, LightGuide can also initiate and monitor automated material handling from material in-feed to part stacking and scrap removal.

Finally, because LightGuide's workflow is entirely digital, expensive downtime for production changeover is eliminated. Mid-run job changeover can even be triggered "on the fly" through job—queue control or optional bar code readers.

Available Modules

LightGuide's flexible modular design lets you customize the software for your exact LaserSharp hardware configuration. Software modules include:

- **Integrated Vision** – Provides complete control over cameras for superior vision registration and material correction.
- **Job Queue** – Quickly builds custom production queues that control processing with minimal supervision.
- **Barcode** – Customizes the production line with instant and automated order change.
- **Flex** – Automatically refocuses laser modules when switching to a different processing field of view.
- **Robotics** – Integrates directly with robotic arms and material handling for direct control over loading, sorting, and stacking processes.



Features

- Alarm, warning, and status messages instantly update you on the system's health, minimizing downtime. Messages are color-coded to indicate severity.
- Tabs simplify access to module controls making it easy to jump to and change settings without opening a sea of dialog boxes.
- Convenient tree-based navigation displays system component modules (like vision cameras or robotics) and combines multiple laser processing or mixed processing modes.
- Comprehensive lists give access to entity properties and allow you to change processing order by dragging and dropping or easily deleting unneeded entities.
- Entity processing parameters are easily assigned manually, or can be assigned automatically on pattern import based on layer names.
- Transform tools rotate, mirror, scale, group, and move pattern arcs and lines or change processing direction and start point.
- Color visually identifies entities using different process parameters or cutter compensation settings.
- The bold dashed line identifies the size of the work area for each laser module. Tiling splits patterns into smaller sections, allowing you to process parts larger than the laser's field of view.
- LightGuide's control panel puts processing start, stop, job file load and save, and user access commands at your fingertips.

continued on next page

Optional Import Bundles

LightGuide fits seamlessly into your workflow. Three import bundles are available to import pattern entities from design files into LightGuide:

- **PDF Lite:** Import pattern vector entities from .DXF and .PDF design files (included with LightGuide).
- **PDF +:** Import raster images embedded in .PDF files.
- **Image +:** Import raster images directly from popular graphic files including .JPG, .GIF, .BMP, .PNG, .TIF.

LightGuide Tools and Features Flexible Setup and System Options

- Modular software configuration developed with .NET Framework 4.0 for future upgrade flexibility.
- Compatibility with Microsoft® Windows® 7® or XP® works with the equipment and software you already own.
- Independent control over each laser module on the system in either crossweb or downweb processing modes.
- Support for multiple fields of view with automatic focus to minimize job changeover time.
- Offline installation for design testing.
- LaserSharp Ripping Engine (LRE) automatically checks, prepares, and pushes verified patterns to the system for laser processing.
- Configurable, multi-level user access control for security.
- Automatic logging of alarm and warning messages for superior system diagnostics.
- Integration with enterprise SQL databases for message logging.
- Comprehensive production metric reporting tracks productivity and throughput.
- Integration with sheet-fed or roll-fed material handling equipment or robotics for customized handling of finished parts.

Robust Pattern and Entity Management

- Basic entity or vector creation.
- Comprehensive pattern entity manipulation tools: move, mirror, scale, rotate, copy, cut, group, and paste entities.
- Automatic and manual entity sort options maximize processing efficiency.
- Reverse processing direction or entity start and stop points for efficient processing.
- Automatic order changes through printed barcodes and barcode readers (2d & 1d), external triggers, job queues, or batching.

Parameter-Based Laser Processing

- Separate parameter sets for drilling, scoring, perforating, rastering, cutting, and ablating with full control over power, duty cycle, processing speed, and frequency (among others).
- Color identification of entities using different process parameters for instant visual recognition.
- Real-time editing and parameter changes, even while processing.
- Combine different processing methods or both scanhead and fixed-beam processing in the same job run.

Dynamic Process-on-the-Fly Controls

- Velocity-based laser score control ensures consistent score depths, even during web start-up and slow down.
- Tiling divides patterns into smaller sections, processing parts larger than the laser's field of view and creating a continuous, infinite work area.
- Real-time "nudge" repositioning of pattern entities and vision triggers.
- Trigger controls start processing based on repeat distance or on eyemark registration triggers with initial offsets and masking options.
- Missed trigger detection warns you when parts have been missed or skipped.
- Dynamic web control and gradient power control maximize material usage while ensuring superior cuts and scores.
- TracSoft® edge monitoring enforces consistent pattern placement relative to the material's edge or print line.
- Superior registration and correction.
- Single- or multiple-camera registration for superior accuracy and pattern matching.
- Integrated X, Y, and Θ vision part registration.
- Non-linear pattern correction precisely matches printed details on distorted materials.
- Cutter compensation tools apply outsets for laser kerf width for precise part measurements.

Microsoft, Windows, Windows 7 and Windows XP are registered trademarks of Microsoft Corporation.
LaserSharp, LightGuide and TracSoft are registered trademarks of LasX Industries.

