System Overview

Lanmark Controls introduces two new products developed specifically to meet the challenges of high-speed laser marking environments. Based on feedback from OEMs and integrators, the LEC-2 controller board and WinLase 6 laser marking software have been redesigned from the ground up.

Featuring a brand new architecture and CPU, the LEC-2 is the highest performance FPGA-based scan controller board on the market. The LEC-2 comes with 600 MHz of processing power, 512 megabytes of storage (up to 4 GB optional), and a 20-bit architecture. The LEC-2 and the LEC-1 are the only products on the market that deliver the stand-alone capabilities today's high-volume automation applications demand.

Completely rewritten, WinLase 6.0 is based on Microsoft® .NET framework and delivers ease of use with powerful functions. Create a UI in any language supported by the framework and easily edit graphics, includes nodes and vectors, in the brand new graphics engine. WinLase 6 works seamlessly with the LEC-2 and is backward compatible with the LEC-1.

For over 15 years, Lanmark has been delivering laser marking products that change industry paradigms. From a completely rebuilt UI to modern chip architecture, WinLase 6 and the LEC-2 meet tomorrow's high-speed laser marking challenges today.
System Overview

Lanmark Controls introduces new products developed specifically to meet the challenges of high-speed laser marking environments. Based on feedback from OEMs and integrators, the control boards and WinLase® 6 laser marking software have been redesigned from the ground up.

The new board line is comprised of the LEC-2, the USB-2, the PCI-2 and the LANCoder™. All of the boards utilize a new 20 bit-architecture and the proprietary high-performance Accu-Gen20™ marking engine, delivering improved field marking accuracy and on-board real-time processing of vector and laser control. The LEC-2 is the highest performance FPGA-based scan controller board on the market. The LEC-2 comes with 600 MHz of processing power, 512 megabytes of storage (up to 4 GB optional), Ethernet connectivity and full stand alone capabilities, eliminating the need for a PC on the factory floor.

Completely rewritten, WinLase 6 is based on Microsoft’s® .NET framework and delivers ease of use with powerful functions. Create a User Interface in any language, easily edit graphics, including nodes and vectors, in the new graphics engine. WinLase 6 works seamlessly with all of Lanmark’s new controllers and is backwards compatible with the LEC-1.

Lanmark’s new line offers flexibility in laser marking system connectivity, providing powerful laser marking control over Ethernet, USB or PCIexpress. From a completely rebuilt UI to modern chip architecture, WinLase 6 and the new line of boards meet tomorrow’s high-speed laser marking challenges today.
LEC-2 Embedded Laser Marking Controller
Smart design for smart manufacturing environments

Designed for high-speed manufacturing environments that require flexible laser marking capabilities, the LEC-2 eliminates the need for a PC on the factory floor. Execute jobs remotely over the network or store jobs on the LEC-2, which comes with 600 MHz of processing power and 512 megabytes of storage (up to 4 GB optional). The LEC-2 is the only product of its type to deliver the stand-alone capabilities today’s high-volume automation applications demand.
USB-2 Embedded Laser Marking Controller

*High performance, lower cost*

Ideal for low volume production applications, the USB-2 lets you plug into a PC and go. The USB-2 has the same high performance Accu-Gen 20™ marking engine and seamless integration with WinLase 6 as the LEC-2 – at a lower price point.

**USB-2 System Overview**

- PC
- USB
- Discrete I/O
- Automation
- Hardware
- Laser Scan Head

**Dimensions:**
- USB-2: 102mm (4in) x 127mm (5in)
PCI-2 Laser Marking Controller

*High performance, lowest cost*

Designed for high volume applications requiring a PC, the PCI-2 plugs directly into the PC using the smaller footprint, high speed PCIe bus and uses the Accu-Gen 20™ marking engine to deliver accurate and precise laser marks. The PCI-2 is XY/2 – 100 compatible and has analog scan head control.
LANCoder™ Embedded Laser Marking Controller
Smaller board, same high performance

Ideal for companies that need a basic laser marking solution, the LANCoder features the LEC-2's stand alone capabilities with a customizable remote API. Designed for the coding market the LANCoder has RS-422 digital quadrature inputs for mark on the fly encoder.
# LEC Control Board Comparison Chart

<table>
<thead>
<tr>
<th>Feature</th>
<th>LEC-1</th>
<th>LEC-2</th>
<th>USB-2</th>
<th>PCI-2</th>
<th>LANCoder™</th>
</tr>
</thead>
<tbody>
<tr>
<td>16-bit Digital Scan Head Control</td>
<td>XY/2=100</td>
<td>XY/2=100</td>
<td>XY/2=100</td>
<td>XY/2=100</td>
<td>XY/2=100</td>
</tr>
<tr>
<td>20-bit Digital Scan Head Control</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>XY Analog Servo Outputs</td>
<td>Optional</td>
<td>w/daughter board</td>
<td>N</td>
<td>Y</td>
<td>w/daughter board</td>
</tr>
<tr>
<td>Mark Engine Resolution</td>
<td>16-bit architecture</td>
<td>Accu-Gen 20™ 20-bit architecture</td>
<td>Accu-Gen 20™ 20-bit architecture</td>
<td>Accu-Gen 20™ 20-bit architecture</td>
<td>Accu-Gen 20™ 20-bit architecture</td>
</tr>
<tr>
<td>Processor Speed</td>
<td>200 MHz</td>
<td>600 MHz</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>600 MHz</td>
</tr>
<tr>
<td>RAM</td>
<td>32MB</td>
<td>256 MB</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>256 MB</td>
</tr>
<tr>
<td>FLASH for local job storage</td>
<td>32 MB</td>
<td>512 MB</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>128 MB</td>
</tr>
<tr>
<td>Connectivity</td>
<td>Ethernet</td>
<td>Ethernet</td>
<td>USB</td>
<td>PClExpress</td>
<td>Ethernet</td>
</tr>
<tr>
<td>USB Expansion (Job Storage)</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>COM Ports</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Streaming Mode</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Stand Alone Mode</td>
<td>Optional*</td>
<td>Optional*</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Remote API</td>
<td>Optional*</td>
<td>Optional*</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Browser Interface</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Software selectable laser parameters</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Max Laser Frequency</td>
<td>2 MHz</td>
<td>20 MHz</td>
<td>20 MHz</td>
<td>20 MHz</td>
<td>20 MHz</td>
</tr>
<tr>
<td>Optically isolated User Outputs</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Optically isolated User Inputs</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Additional 16 Outputs and 16 Inputs</td>
<td>w/daughter board</td>
<td>w/daughter board</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>4 Optically isolated hardware interrupt Interlock inputs</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>RS-422 Digital quadrature inputs for Mark on the Fly encoder*</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>On-board Watchdog, signals Error port</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

*Requires Proper License
WinLase® Software – WinLase 6.0
Completely redesigned and based on Microsoft .NET

To meet the needs of smart manufacturers, Lanmark completely redesigned its’ WinLase laser marking software. Built on Microsoft’s .NET framework, WinLase 6 enables customization of the user interface. The translation program allows local language support. Currently WinLase 6 displays in English, German, Chinese, Korean, Japanese, Italian, Spanish, and French.

The software features full 3-D marking – enabling you to edit nodes and vectors and change properties without using an external graphics software package. Keep multiple instances of the software open for side-by-side editing of jobs. WinLase 6 seamlessly integrates with all of Lanmark’s control boards.

WinLase 6.0 Key Benefits

- Based on .NET framework for ease of use
- Brand new graphics engine allows quick editing of jobs, eliminates need for external graphics package
- Scalable code (Windows CE) runs LEC and WinLase, reducing errors
- Flexible architecture
- Highest marking quality
- Low level DLL
- Simplified user interface
- .NET user controls for customized user interface
WinLase 6.0 Standard Features

- CAD-based software based on .NET framework
- Seamless integration with all of Lanmark’s controller cards
- Custom UI in any language supported by .NET
- Easy configuration of laser parameters for specific lasers
- No limit on the number of software instances open at any given time
- Automation objects enable powerful integration into automation system environments
- Group objects and set properties as a common group
- “Fill” algorithms allow dots, circles, spirals and islands
- Supports TrueType, OpenType and Laser fonts
- Edit graphics, including nodes and vectors
- Supports graphic file import of DXF (versions 13, 14, 2000, 2004, 2007), DWG (versions 13, 14, 2000), PLT, EMF, WMF, EX2, MCL, BMP, JPG, GIF, PCX
- Supports linear barcode types: Code 39, CodaBar, Code 93, Code 128, Interleaved 2 of 5, POSTNET, UPC A, UPC E, EAN 8, EAN 13, BookLan
- Supports 2D barcode types: DataMatrix, Denso QR Code, PDF417
- Extensive array of Automation objects: Wait for Input, Set Output, Time Delay, Message Box, XY Motion, Rotary Motion, Linear Motion, Serial Communication, Run Application, Alignment Tool, Laser Control
- Interfaces with intelligent motion controllers for multiple axis control
- Host Interface control via RS-232 or TCP/IP
- Remote diagnostic capabilities for worldwide support
- Requires Windows Vista®, Windows® 7, and Windows® 8 Pro

WinLase 6.0 Specifications

- Requires Windows Vista, Windows 7, and Windows 8 Pro
- Requires network interface card supporting TCP/IP and 10/100 BaseT or higher
- Recommended screen resolution 1024x768 or higher
- License key required for full operation
About Lanmark Controls

Lanmark Controls, Inc. works closely with laser marking systems’ integrators and product managers to develop effective, practical solutions for today’s complex and demanding laser marking production challenges. The result is a suite of integrated laser marking solutions that:

• Lower PC costs
• Free up production space
• Simplify laser management
• Facilitate smart manufacturing

Laser marking systems integrators, automation engineers, and production managers worldwide depend on Lanmark Controls for laser marking solutions that are easy to implement, powerful, networkable, reliable and cost effective.

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Follow us a Twitter: @LanmarkControls

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