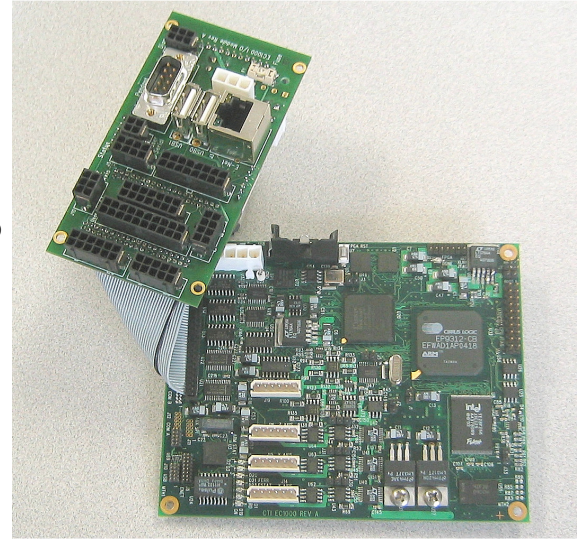


# EC1000



## Single-board, Stand-alone, Real-time Embedded Control Subsystem for Galvanometer-Steered Laser Systems

- State-of-the-Art, Dual-SoC embedded computer architecture
- Can be operated with or without a host PC as a network appliance
- COM-based API Interface and DLL library to third-party and user application software packages
- RTC Emulation Library to simplify integration into existing RTC-3/4 systems
- Ethernet host computer interface to download or stream jobs, and to monitor real-time status
- On-board flash memory *without artificial vector list boundaries* and USB port for job storage and media portability
- Dynamic 16-bit 3-axis analog and digital galvanometer control hardware and software supporting simultaneous XYZ scanning
- Synchronous analog and digital laser control providing pulse, intensity, and gating controls for YAG, CO<sub>2</sub>, Fiber, and other lasers.
- Automatic lens distortion correction during microvectoring.
- Optional I/O “rear panel” board to simplify integration and for scan head modularity



Shown with optional IO board

## EC1000 The Ultimate Embedded Controller for Galvo-Steered Laser Systems

Cambridge Technology's EC1000 is the next generation in galvo-steered laser control systems. This compact, fully integrated dual system-on-a-chip (SoC) control system is ideal for deployment into modern factory environments with distributed automation. In this environment, a single host computer can supervise a factory of networked laser marking appliances. The EC1000 is designed to be completely embedded into a scanning head and does not require a nearby physical host computer for operation. Remote Access, Remote Control, and Remote Monitoring are fully supported for tetherless operation in a distributed laser marking environment. Factory reliability and EMI immunity are ensured through the use of optically isolated digital control ports.

Reconfigurations or job changes are easily made via the browser-based configuration management environment either by downloading via 10/100 base-T Ethernet, temporary connection to a laptop or USB memory stick, or via the optional pendant.

The EC1000 includes a complete library of control features for today's lasers as well as 3-axis of direct dynamic galvanometer servo driver control *without the need for intermediate interface boards such as XY2-100*. The “software agnostic” EC1000 DLL interface to third-party or user software packages simplifies integration into existing automated scanning systems.

### Computer and Peripheral Interface Ports

- 1 Serial Port for Optional Pendant
- 1 Serial Port for Laser Communications
- 2 USB Host Type-A Ports
- 1 10/100 Base-T Ethernet LAN Port

### Galvanometer Control Output Ports

- 3 16-bit DAC outputs (X, Y, Z)
- 1 XY2-100 Port for Dual-Scanning Head Control

### Control Output Ports

- 1 Optically Isolated 8-bit Digital Data Output Control Port for Laser Intensity Control
- 2 12-bit Analog Output Laser Control Ports
- Laser Control Signal Set

### Additional Optically Isolated Signals and Controls

- 4 user input bits
- 4 user output bits
- 4 Interlock bits
- Synchronization and Status bits (STRTMRK, MRKINPROG, ERROR)

### Software Environment

- COM-based API Interface to Third-Party or User Application Software Packages
- Complete Library of Control Features
- Intuitive Browser-based Configuration Environment
- On-line Help and Documentation



## Ordering Information

<b>Part Number</b>	<b>Includes</b>
<b>EC1000</b>	<b>EC1000 Module, EC1000CK</b>
<b>EC1000-IO</b>	<b>Optional IO Board (Board only)</b>
<b>EC1000-CBLKIT</b>	<b>Interconnect cables between EC1000 and EC1000-IO</b>
<b>EC1000-IOKIT</b>	<b>EC1000-IO, EC1000CBLKIT, EC1000-IOCK</b>
<b>EC1000-IOCK</b>	<b>External Mating Connectors for EC1000-IO Board</b>
<b>EC1000-CK</b>	<b>Mating Connectors for EC1000 Module</b>