



MOVING LIGHT, YEARS AHEAD.™

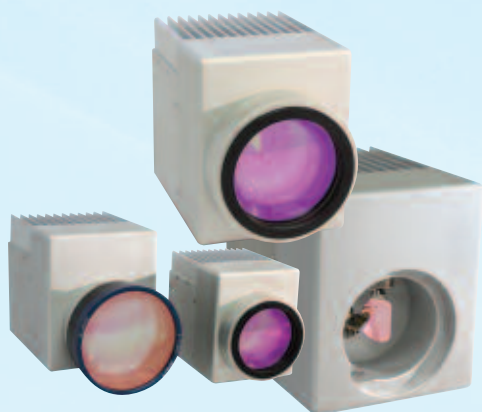
# Scan Head Solutions

- TECHNOLOGY
- PERFORMANCE
- QUALITY
- VALUE
- RANGE OF PRODUCTS
- APPLICATIONS EXPERTISE



[www.camtech.com](http://www.camtech.com)

# Moving Light, Years Ahead.



**ProSeries™**  
Scan Heads

## ProSeries1™ Scan Heads Key Features

- CTI 62XX Galvo Technology
- Highest Analog Speed
- Low Noise and High Accuracy
- Very Good Temperature Stability
- Lowest Cost
- MicroMax Analog Servo



**Lightning™**  
Digital Scan Heads

## LXP™ Digital Servo Scan Heads Key Features

- CTI 62XX Galvo Technology
- Highest Speed
- Flexible Tuning Parameters
- Self-Tuning and Remote Access
- "Zero" Tracking Error
- State Space Digital Servo

ENTRANCE APERTURE		7mm	10mm	14mm	7mm	10mm	14mm
MAX LASER POWER***	Nd:YAG	100W	150W	250W	100W	150W	250W
	CO2	50W	100W	200W	50W	100W	200W
MARKING SPEED (m/s)		4 m/s	3.1 m/s	2.6m/s	6.5 m/s	5 m/s	4 m/s
POSITIONING SPEED (m/s)		24 m/s	17 m/s	12 m/s	36 m/s	26 m/s	18 m/s
WRITING SPEED*	Precision	700 cps	550 cps	470 cps	1100 cps	870 cps	550 cps
	High Quality	1100 cps	1000 cps	750 cps	1350 cps	1100 cps	950 cps
TRACKING ERROR (msec)		0.10 ms	0.13 ms	0.14 ms	0.0 ms	0.0 ms	0.0 ms
RESOLUTION (mrad)		0.012 mrad	0.012 mrad	0.012 mrad	0.02 mrad	0.02 mrad	0.02 mrad
LONG TERM STABILITY**	Baseline	Offset < 0.20mrad Scale < 200ppm			Offset < 0.20mrad Scale < 200ppm		
	Optional						
TEMPERATURE STABILITY**		Offset < 0.25mrad/K, Scale < 50ppm/K			Offset < 0.25mrad/K, Scale < 50ppm/K		
COMMUNICATION		XY2-100 or Analog $\pm 5V$ , $\pm 10V$			XY2-100		
POWER INPUT		$\pm 15V$ ( $\pm 24V$ Optional)			$\pm 15V$ ( $\pm 24V$ Recommended for 14mm)		

\* Single stroke 1mm characters, SIMPLEX font, with f-160 lens for 7-14mm, with f-163 lens for 20-25mm \*\* over 8 hours for PS1 and LXP \*\* over 24 hours for PS2 per axis \*\* after 8



The ProSeries2™ 14mm Scan Head with  
the SM1000 Controller

## Target Applications

- Micro-machining
- Rapid Manufacturing
- Trimming
- Scribing
- Engraving
- Perforating
- Ablating
- Processing on-the-Fly
- High Speed Marking
- Precision Marking
- Surface Texturing
- Structuring & Texturing
- Coding
- Processing on-the-Fly
- Drilling
- Bar Code & Data Matrix Marking





From the day we invented galvanometer scanning over 40 years ago to the present times, Cambridge Technology has been perfecting the state-of-the-art in scanning technology, always staying one generation ahead of market requirements. Whether your primary need is speed, stability, cost, reliability, size, precision, quality, or performance, Cambridge Technology can provide a scanning solution optimized to your specific application.



### ProSeries2™ Scan Heads Key Features

- CTI 83XX Galvo Technology
- Highest Accuracy
- Lowest Noise
- Best Temperature Stability
- Customization Available
- MicroMax Analog Servo

### ProSeries2™-Large Aperture Scan Heads Key Features

- CTI 83XX Galvo Technology
- Highest Accuracy
- Lowest Noise
- Best Temperature Stability
- Customization Available
- MicroMax Analog Servo

7mm	10mm	14mm	20mm	25mm	ENTRANCE APERTURE	
100W	150W	250W	500	600	Nd:YAG	MAX LASER POWER***
50W	100W	200W	400W	450W	CO2	
3.5 m/s	2.9 m/s	1.7 m/s	0.9 m/s	0.9 m/s	Precision High Quality	MARKING SPEED (m/s)
12 m/s	11 m/s	7 m/s	10 m/s	10 m/s		POSITIONING SPEED (m/s)
550 cps	400 cps	300 cps	170 cps	170 cps		WRITING SPEED*
1000 cps	650 cps	550 cps	300 cps	300 cps		TRACKING ERROR (msec)
0.12 ms	0.17 ms	0.18 ms	0.45 ms	0.45 ms		RESOLUTION (mrad)
0.012 mrad	0.012 mrad	0.012 mrad	0.012 mrad	0.012 mrad	Baseline	LONG TERM STABILITY**
Offset < 0.10mrad	Scale < 100ppm		Offset < 0.10mrad	Scale < 100ppm	Optional	LONG TERM STABILITY**
Offset < 0.05mrad	Scale < 70ppm		Offset < 0.05mrad	Scale < 70ppm		TEMPERATURE STABILITY**
Offset < 0.20mrad/K	Scale < 50ppm/K		Offset < 0.20mrad/K	Scale < 50ppm/K		COMMUNICATION
XY2-100 or Analog ±5V, ±10V			XY2-100 or Analog ±5V, ±10V			POWER INPUT
±15V (±24V Optional)			±15V (±24V Optional)			

hour warm-up, ambient variations <1 deg K \*\*\* Maximum laser power in watts for Nd:YAG 1064nm laser or CO<sub>2</sub> 10.6μm CW laser

### Reflective Mirror Coatings

- CO<sub>2</sub> 0.6μm & 10.6μm CW
- Fiber 1064nm
- Broadband Protected Silver
- Nd:YAG pulsed 1064nm
- Nd:YAG 355nm & 532nm
- Protected Gold

### Scan Lenses Supported

- Qioptiq-Linos
- Sill
- Others on request
- Jenoptik
- Wavelength

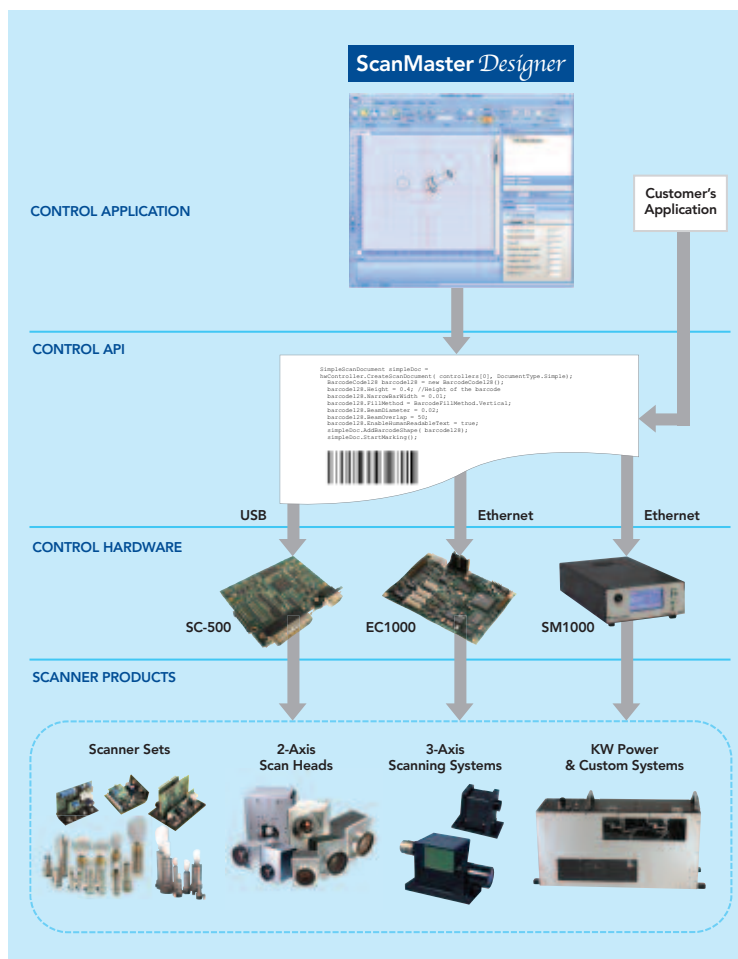


Once you have selected your CTI scanner or scan head, it is time to select your Scan Controller and Software. Cambridge Technology's suite of scan control products enables you to synchronize mirror motion with laser firing, integrate with your own software & hardware, and even provide a graphic user interface. Cambridge Technology has three controllers: the SC500 and EC1000 controller cards and the SM1000 controller module (with user interface, back panel I/O and powers supplies). All three can be used with either our API (including a DLL Library) or the full-featured ScanMaster Designer Software for Material Processing and Marking.

The **ScanMaster Application Protocol Interface (API)** provides access to most of ScanMaster Designer's functionalities if you already have your own user interface. This high-level API will allow you to programmatically incorporate complex objects (such as 1D & 2D barcodes, fonts, arcs, circles and more) into your jobs. This API also supports ScanScript - Cambridge Technology's scripting language that enables complex job structures and flow control.

The SC500's Universal API also includes a new set of function calls that provide improved error handling and better precision computation compared to some of today's 3rd party options.

Offering multiple price / performance options, each of our controllers can drive any of Cambridge Technology's **scanner sets, scan heads and integrated scanning solutions.**



Contact Cambridge Technology to learn more  
about our comprehensive line of products.



## Components



## 2-Axis Scan Heads



## Scan Control



## 3-Axis Scanning Systems



## Lightning II Digital Scanning Platform



MOVING LIGHT, YEARS AHEAD.™

25 Hartwell Avenue • Lexington, MA 02421

P: (781) 541-1600 • F: (781) 541-1601

[www.cambridgetechnology.com](http://www.cambridgetechnology.com)