



Nutfield Technology

Photonics in Motion®



XLR8 and Xtreme™

Cost Effective / High Performance Scan Heads

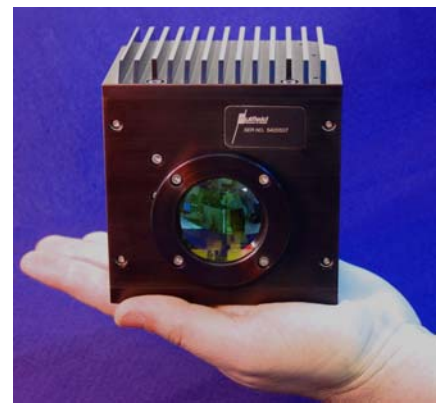
Introducing two new scan heads from NTI. The Xtreme is NTI's fastest new scan head, which boasts industry leading scan speed and accuracy. The compact, low cost XLR8 has been upgraded and now offers 50% faster scan speeds than the previous generation.

NTI Scan Heads offer high performance in a smaller package. They ease design-in and manufacturing issues by reducing the need for specialized tooling and skilled assemblers.

All NTI Scan Heads must pass rigorous testing and an extensive over night burn-in. Packaged in a class-IV enclosure, these Scan Heads can operate in harsh environments. They arrive optically aligned, electrically match tuned and ready to bolt up, plug in and operate with most laser systems.

These heads can be configured for digital or analog control, various wavelengths and 7, 10, and 15mm input beams.

XLR8 Scan Heads feature NTI's fast and accurate QS-7 and 10 galvanometers. The Xtreme Scan Head offers our fastest QS-12 galvo. These galvos have high quality ceramic ball bearings for long life operation.



XLR8 7, 10 & 15mm Scan Head
Compact, Cost Effective

Contact NTI to discuss how we can configure a Scan Head for your application.

Suitable For Laser Based:

- ◆ Coding Cutting
- ◆ Drilling Imaging
- ◆ Marking Welding



Xtreme 10 & 15mm Scan Head
Extremely High Performance

- ◆ Rugged IP-65 Package
- ◆ XLR8 7 & 10mm Head Only 9.6 x 11.4 x 11.4cm
- ◆ XY2-100 16-Bit Digital or Analog Interface
- ◆ Compact Mounting or Industry Standard 2 Bolt, 2 Pin Alignment
- ◆ Available with Fiber Laser Integration Kit

NUTFIELD TECHNOLOGY, INC.
sales.info@nutfieldtech.com
www.nutfieldtech.com
603-893-6200

XLR8 and Xtreme Scan Head Specifications

Scan Head	Mirror Aperture	Weight	Dimensions	Small Step	Mark Speed	Positioning Speed	Char/Sec Possible	Char/Sec Good	Char/Sec Excellent
Xtreme	10mm	1.6kg	117x115x169mm	250µs	6000	10000	850	700	550
Xtreme	15mm	1.6kg	117x115x169mm	390µs	4500	8000	650	550	450
XLR8	7mm	1.2kg	97x113x114mm	270µs	6000	11000	1000	800	650
XLR8	10mm	1.2kg	97x113x114mm	310µs	5000	8000	700	600	500
XLR8	15mm	1.4kg	117x115x169mm	600µs	3500	6000	450	350	300

Performance Criteria: Step Size = 1% of Field, Settling to 1/1000, Field Size 120x120mm, 1mm Single Stoke Text

LASER>>>	Nd:YAG tripled	Nd:YAG tripled	Nd:YAG doubled	Nd:YAG doubled	Nd:YAG			CO ₂		
Wavelength (nm)	355	355	532	532	1,064	1,064	1,064	10,600	10,600	10,600
Objective Lens (f in mm)	f = 103	f = 160	f = 100	f = 160	f = 100	160/163	f = 254	f = 100	f = 200	f = 300
Maximum Field Size (mm)	50x50	100x100	70x70	120x120	70x70	120x120	180x180	70x70	140x140	210x210
Spot Diameter (µm) TEM ₀₀ 7/10/15 mm Aperture	8/6/n.a.	16/12/n.a.	18/12/8	22/15/11	33/23/16	44/31/22	59/41/33	329/230/170	n.a./380/230	n.a./570/370
Working Distance (mm) ¹	126	222	126	206	126	204/226	356	88	190	288
Resolution (µm)	< 4	< 8	< 4	< 8	< 4	< 8	< 12	< 4	< 8	< 15
Temperature Drift (µm/C°) ² (max mm/C°) ²	9	15	9	15	9	15	23	9	19	28
Protection window	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	No

¹Distance between edge of head and working surface. This distance will vary with laser divergence and lens tolerance.

²Maximum temperature induced gain drift is 0.01 %/C; maximum offset drift is 25µR /C°. Drift is specified per axis.

Mirror Specifications

LASER >>>	Ultra- Violet	Nd:YAG	Nd:YAG	Visible	Near IR to IR	Nd:YAG	CO ₂
Wavelength (nm)	Call NTI	355	532	400 - 750	750 - 10,600	1,064	10,600
Mirror Coatings	Dielectric	Dielectric	Dielectric	Protected Silver*	Protected Silver*	Dielectric	Dielectric on Metal
Reflectance (min.) @Wavelength (nm)	N/A	99% @ 355	99.5% @ 532	90-95% @ 400-750	95-98% @ 750-10,600	99.5% @ 1,064	99.5% @ 10,600
Pointer @ 633nm	N/A	80%	50%	95%	95%	80%	80%
Flatness @ 633nm	λ/4	λ/4	λ/4	λ/4	λ/4	λ/4	λ
Max. Power CW (W/cm ²)	N/A	100	500	50	50	500	500

*Protected Silver is suitable for YAG and CO₂ at powers up to 50 watts.

Custom Coatings Available Upon Request. Contact NTI for Further Information.

For Outline Drawings and Mounting Details Contact Nutfield Technology or Go On-Line.

NUTFIELD TECHNOLOGY, INC.
49 Range Road
Windham, NH USA 03087

Phone: 603.893.6200
Fax: 603.893.6214

WWW.NUTFIELDTECH.COM

Specifications subject to change without notice. 2007