



# Nutfield Technology

## Photonics in Motion®



**XLR8 Open Frame Heads**  
For 3, 5, 7, 10, 15, 20, 30 & 45mm

- ◆ 5, 7, 10, 15, 20, 30 & 45mm Apertures Available
- ◆ Fast, Accurate, Repeatable
- ◆ 16-Bit Digital, Analog and PC Interfaces Available
- ◆ Windows Based Software Support
- ◆ Aligned and Match Tuned For Fast, Easy Installation

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## **XLR8™** and **Xtreme™**

### Cost Effective / High Performance Open Frame Heads

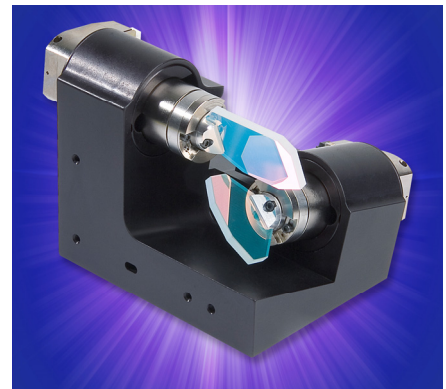
NTI high performance Open Frame Scan Heads offer the system engineer a faster design solution for X/Y scanning. These modules ease manufacturing issues by reducing the need for specialized tooling and highly skilled assemblers.

NTI heads arrive optically aligned, electrically match tuned and ready to bolt up, plug in and operate in a laser system.

The heads can be configured for a variety of applications using different apertures, scan angles and wavelengths. They are available with several electrical interface options and world-class control software.

NTI heads feature our fast, accurate, low drift galvanometers for superior performance. Galvanometer mounting geometry and mirror designs have been optimized to minimize mirror inertia and maximize speed.

For applications which require extra long-life or high resolution, bitmaps or raster scanning, NTI can configure a scan head with long-life flexure suspension galvanometers.



**Xtreme Open Frame Heads**  
For 10, 12, 15 & 20mm

Contact NTI to discuss how we can configure a X/Y Open Frame Scan Head for your application.

#### **Suitable For Laser Based:**

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

**TAKING THE LEAD  
IN PERFORMANCE**



# XLR8 and Xtreme™ Open Frame Head Specifications

MODEL Xtreme >>>	OFH-10	OFH-15	OFH-20
Beam Aperture (mm max)	10	15	20
Scan Angle (Optical Degrees)	+/- 22	+/- 22	+/- 22
Small Step (µsec)* Glass/Silicon	250	390	450
Acceleration Time (µsec) <sup>2</sup>	125	195	225
Repeatability (µRad)	8	8	8
Temp. Drift (µRad/°C typ.)	18	18	18

MODEL XLR8 >>>	OFH-5	OFH-7	OFH-10	OFH-15	OFH-20	OFH-30	OFH-45
Beam Aperture (mm max)	5	7	10	15	20	30	45
Scan Angle (Optical Degrees)	+/- 22	+/- 22	+/- 22	+/- 22	+/- 22	+/- 22	+/- 22
Small Step (µsec)*	225	270	310	600	800	1200	1100**
Acceleration Time (µsec) <sup>2</sup>	125	135	155	300	400	600	550
Repeatability (µRad)	8	8	8	8	8	8	8
Temp. Drift (µRad/°C typ.)	18	18	18	18	18	18	18

\* With QD-4000 Servo Drive Board

\* Faster small step responses can be achieved with silicon carbide or beryllium mirrors.

\* Performance Criteria: Small Step Size = 1% of Field, Settling to 1/1000, Field Size 120x120mm.

\*\* Silicon Carbide Mirrors

## Mirror Specifications

LASER >>>	Ultra- Violet	Nd:YAG (tripled)	Nd:YAG (doubled)	Visible	Near IR to IR	Nd:YAG	CO <sub>2</sub>
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 <sup>2</sup> )	N/A	100	500	50	50	500	500

\*Protected Silver is suitable for YAG and CO<sub>2</sub> at powers less than 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.**

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Specifications subject to change without notice. 2007