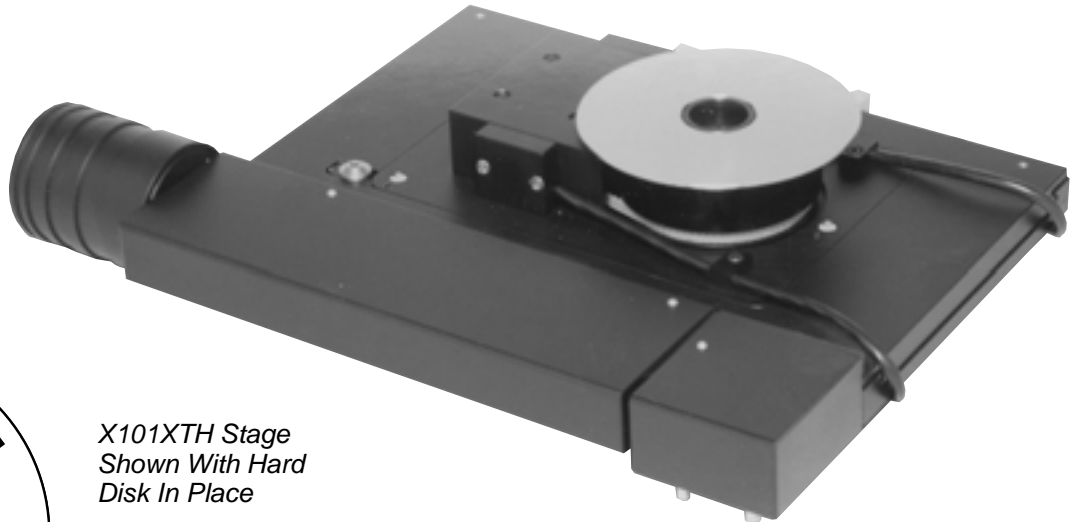


# PRIOR X-THETA STAGE SYSTEM



*X101XTH Stage  
Shown With Hard  
Disk In Place*



## ***Converts Existing Microscopes Into Automated Inspection Stations***

The Prior X-Theta stage system enables your microscope to function as a stand-alone inspection station, with a keypad providing all the necessary tools to program 50 different rotation and/or index patterns. It mounts (or retrofits) onto virtually any microscope and setup is simple. The easy-to-use menu-driven keypad steps you through the programming of the stage. The system, when compared with manual inspection systems, greatly reduces operator fatigue and error. No computer or other external devices are required, making it especially well-suited to hard disk drive inspection.

The X-Theta stage is available with chucks for 65 and 95-millimeter disks and offers precise, repeatable results. points can be input, stored and recalled. A standard communications port allows the system to be controlled from a PC for expanded measurement and data collection techniques.

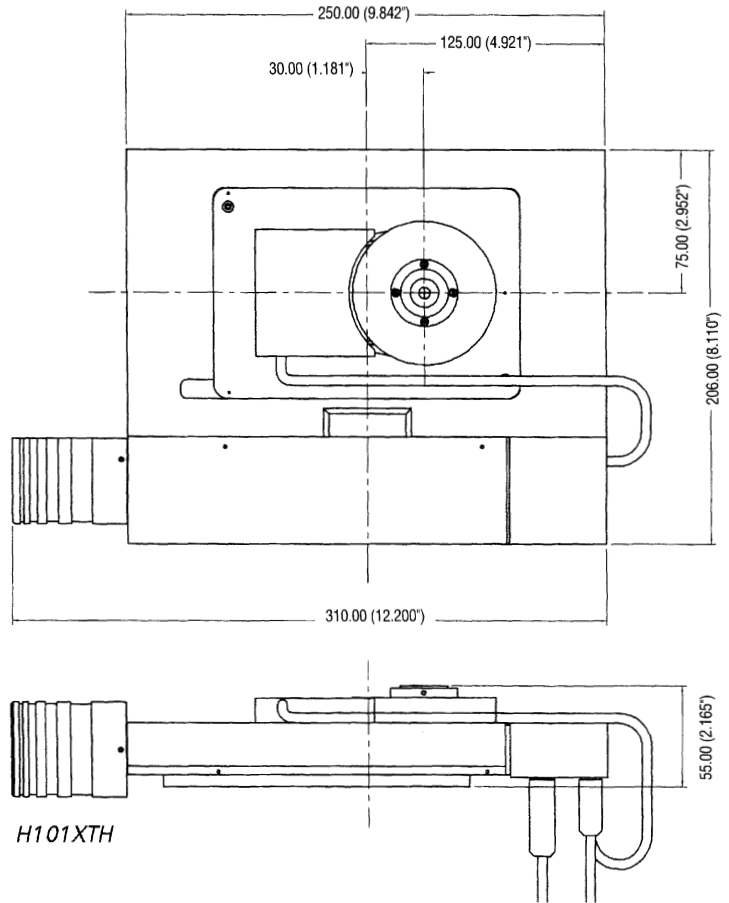
Features of the Prior X-Theta stage, keypad/joystick and controller system are:

- Travel range of 108 mm (4.25 inches) X; 360 degrees Theta
- Repeatability of  $\pm 1 \mu\text{m}$  (micrometer) in X; better than  $\pm 0.20$  degrees ( $0^\circ 12'$ ) in Theta
- Step size (resolution) as small as  $0.1 \mu\text{m}$  in X;  $0.01$  degrees ( $0^\circ 0'36''$ ) in Theta
- Equipped with load and unload button for safe and easy disk replacement
- Ergonomically designed for joystick and/or keypad operation
- LCD provides precise readout of the X and Theta positions

Prior Stages have an established reputation for quality and repeatability. They are manufactured using the highest quality components: crossed roller ways, zero backlash recirculating ball screws, limit switches, two high-precision stepper motors – even a tough, scratch-resistant coating. Stages can be driven by the Prior series of motor controllers or by compatible systems in existing OEM configurations. For the X-Theta stage and all its products, Prior provides full support and service through an extensive network of knowledgeable, professional dealers.

H101XTH

# PRIOR X-THETA STAGE SYSTEM



## Ordering Information

### 500-H101XTH

X-Theta Stage, 108 mm travel  
in X for 95 mm disk

### 500-H138XTH

X-Theta Stage, 230 mm travel  
in X for 95 mm disk

### Options

- Linear scale and rotary encoder
- Manual Y adjustment knob
- 65 mm disk holder

## General Specifications\*

### Travel Range

108 mm (4.25 inches) X  
360 degrees Theta

### Repeatability

$\pm 1 \mu\text{m}$  (micrometer) in X  
Better than  $\pm 0.20$  degrees ( $0^\circ 12'$ ) in  
Theta

### Step Size (Resolution)

As small as  $0.1 \mu\text{m}$  in X  
 $0.01$  degrees ( $0^\circ 0'36''$ ) in Theta

### Load Capacity

0.5 kg (1.1 lbs)

### Slides

Crossed 3 mm roller bearings in X  
Four-point contact ball bearing in Theta

### Drive Mechanism

Zero backlash, recirculating ball screws,  
2mm pitch in X  
Precision timing belt in Theta

### Limit Switch

Standard in X

### Stage Profile

Approximately 55 mm to top of wafer  
chuck

### Weight

Approximately 2.5 kg (5.5 lbs)

### Finish

Plated Electrochromic black on stage

### Chuck Material

Aluminum, black anodize finish

### Flatness

$5 \mu\text{m}$  over 25 mm in X  
 $10 \mu\text{m}$  over  $360^\circ$  in Theta

**PRIOR**  
S c i e n t i f i c

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\*Specifications subject to change without notice.