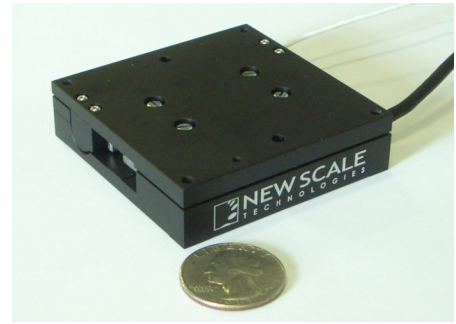




# Ultra-Thin Closed-Loop Nanopositioning Stage with integral motor and optical encoder



## FEATURES

- High axial force (5 N)
- Minimal heating
- Low profile (17 mm)
- 20 nanometer resolution

## APPLICATIONS

- Optical microscopy
- Adaptive optics
- Bio-imaging
- Laser alignment
- Waveguide alignment and assembly
- Wafer inspection and nanolithography

Closed-loop SQUIGGLE motor stages and multi-axis systems provide unmatched precision in an extremely compact design. They support vertical loads up to 0.5 kilograms with high stiffness and negligible heating. They are ideal where space is at a premium, such as microscope stages and vacuum chambers.

The SQ-2115 stage integrates a patented piezoelectric SQUIGGLE motor with crossed roller bearings and glass scale encoder. This tiny linear stage delivers automated, "set and hold" nanopositioning for research and industrial instruments.

The stages are easily assembled to create X-Y and X-Y-Z systems. A high-vacuum compatible option is available for use to  $10^{-7}$  Torr.

## Drive Electronics

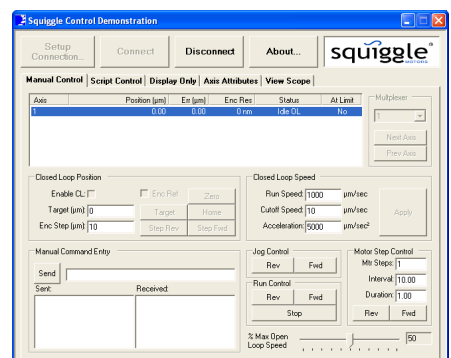
We offer both benchtop controllers for laboratory use, and credit-card sized PCB drive cards for easy integration into OEM systems and instruments. You control the SQUIGGLE motor motion control via computer interface (using an ActiveX command library), analog input, or a manual handset.



**Three SQ-2115 stages** in an x-y-z assembly for "hands-free" three-axis alignment

## SQ-2115 Closed-Loop Stage

<b>Maximum Travel</b>	15 mm
<b>Maximum Speed</b>	2 mm/second
<b>Minimum Resolution</b>	20 nm
<b>Axial Load</b>	5 N
<b>Encoder Type</b>	Glass scale
<b>Stage Bearing Load</b>	5 kg
<b>Bearing Type</b>	Crossed roller
<b>Material</b>	Anodized Aluminum
<b>Dimensions</b>	2.50 x 2.50 x 0.66 inches (63.5 x 63.5 x 17 mm)
<b>Mounting Holes</b>	2.25 x 2.25 inches, #4-40
<b>Cables</b>	Two (encoder and motor)

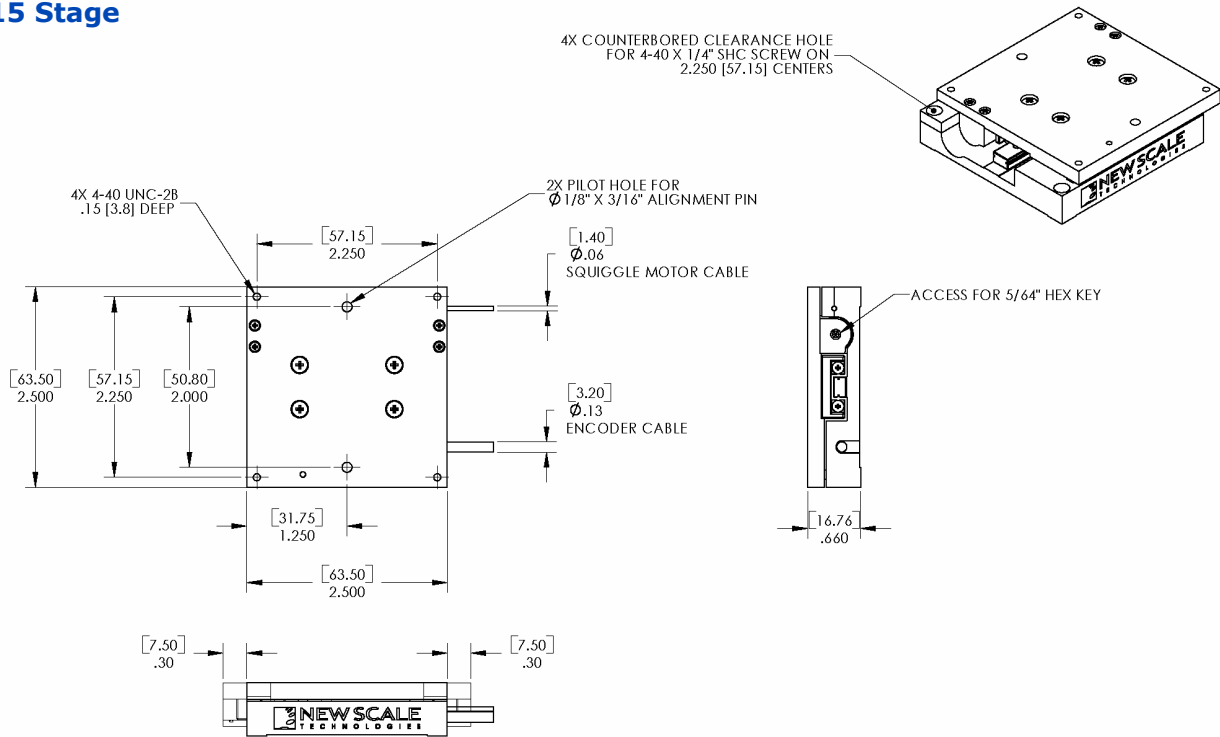


**Computer control** employs an ActiveX command library called from the New Scale application, LabVIEW, or your own scripts.

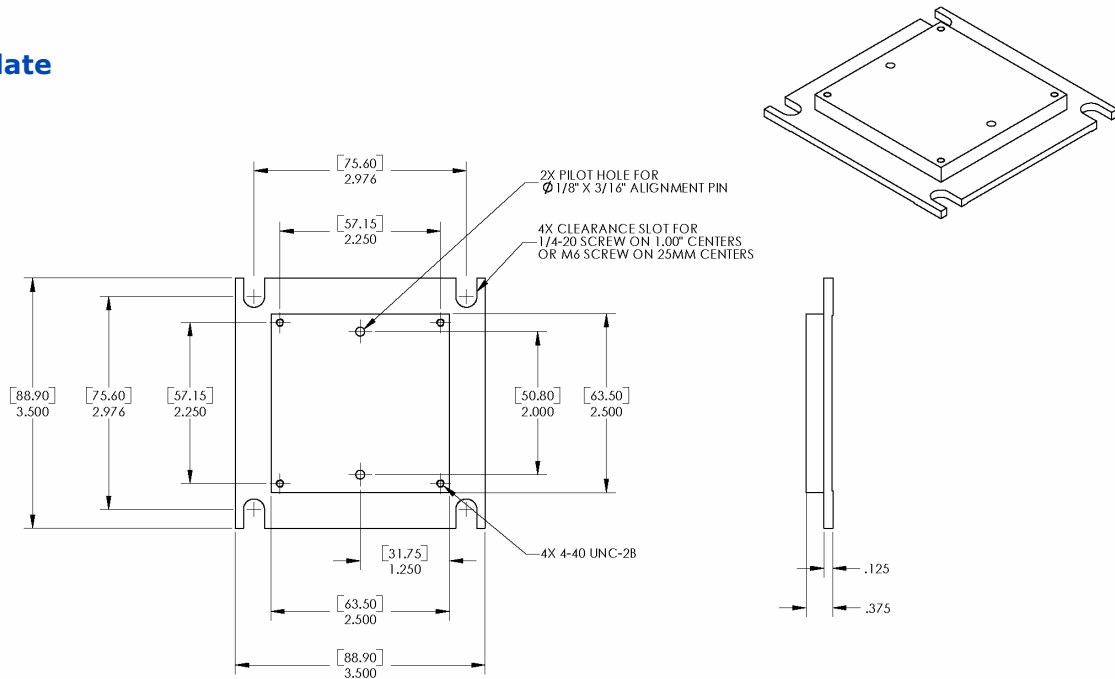


# Ultra-Thin Closed-Loop Nanopositioning Stage

## SQ-2115 Stage



## 01259 Base Plate



### Ordering Information

<b>SQ-2115</b>	Standard stage with motor and encoder
<b>SQ-2115V</b>	Vacuum stage (to $10^{-7}$ Torr). Feed-throughs not included
<b>01259</b>	Base plate / mounting adapter (optional)
<b>01260</b>	Right angle bracket (optional)
<b>MC-1000 or SQ-2300</b>	OEM controller – see MC-1000 data sheet or Benchtop controller – see SQ-2300 series data sheet

SQ-2115\_06-6-5