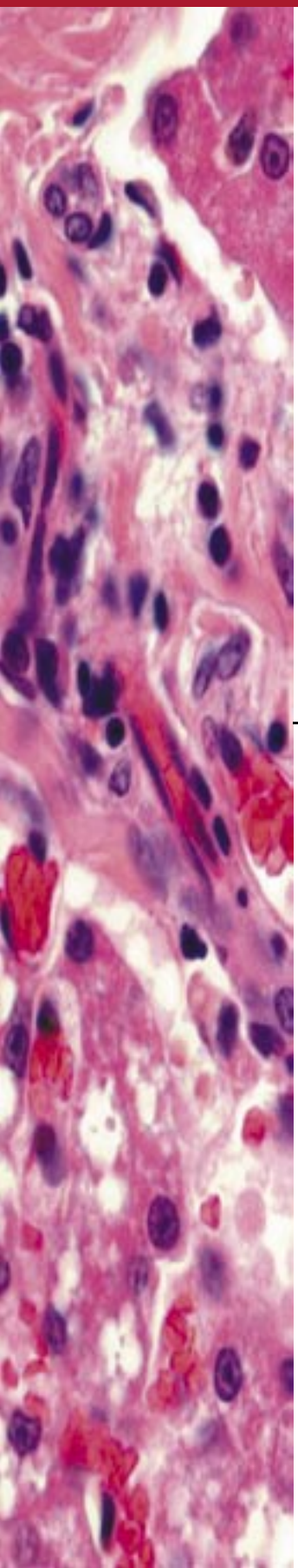
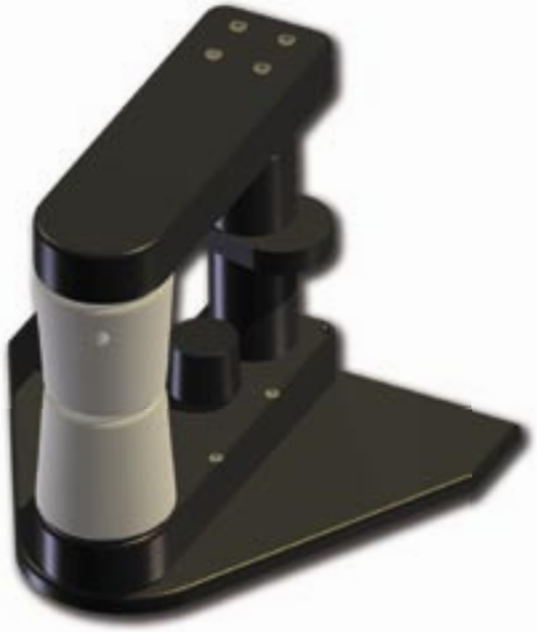
Input Devices

Digital Control for Positioning and Focus



Dual Digipot Control

Most people learn to use a microscope with a compound XY mechanical stage. Control of the stage is often by means of a coaxial knob arrangement where the X and Y axes can be individually controlled with one hand. LEP offers an electronic version of that familiar control with the dual digipot control. The dual digipot control features the same intuitive, comfortable control of the manual version, but with digital 'fly by wire' features. A selectable dynamic gain feature enables quick traverse of long distances without forfeiting the very fine precise control. When used with the precision LEP stages, critical alignments and making full use of the stage precision are easily accomplished.



Catalog Number	Description
73006372	Dual digipot control for XY stage
73006373	Triple digipot control for XY stage with additional focus control

Focus Digipot Control

In applications where the microscope focus is motor driven, precise hand-operated manual control is an essential requirement. The single axis digipot control provides an exceptionally smooth and comfortable means to manipulate the focus without sacrificing the 'feel' of the microscope. The oversized housing is weighted for stability. The wedge shape allows for the digipot control to be used either in the horizontal desktop mode as shown or in a vertical orientation that further mimics the location of the microscope focus knob. A three position toggle switch controls the gain of the digipot to match coarse, fine and super-fine modes. In super-fine mode the digipot control provides up to 10 nanometer resolution in standard configuration; up to 2.5 nanometers when configured for high resolution microstepping.

Catalog Number	Description
73006365	Digpot focus control

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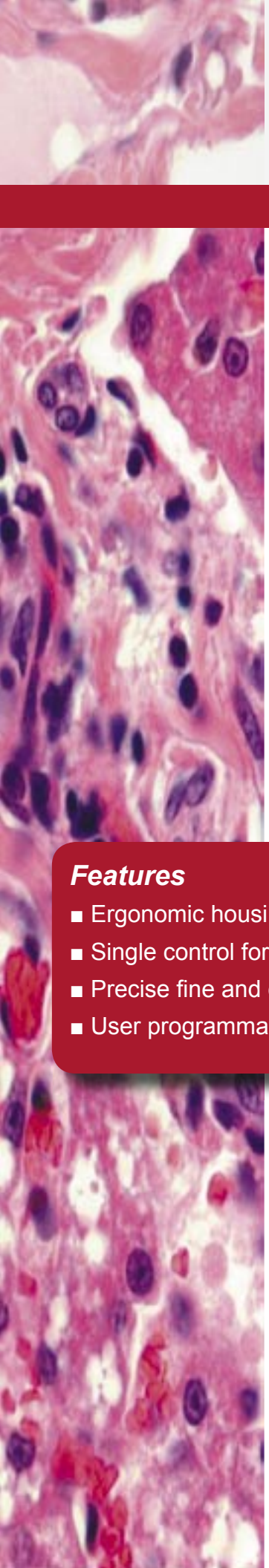
Input Devices

Analog Control for Positioning and Focus

User control for positioning and focus



Analog Joysticks

There is almost always a need to manually interact with a motorized stage. The most popular method is to use a joystick. LEP has always provided a responsive, dynamic yet precise joystick control built into the controller system. Interactive joystick control is always available as a function of the controller design and is not dependent upon application software.

The joystick function is however fully programmable from the host computer. Commands for setting the maximum joystick speeds as well as specific commands to enable and disable the control are available.

While the joystick is dubbed an 'analog input device' it can be described as more digital than analog. The motor controller reads the analog joystick angle and processes the deflection based on tuned behavior condition that provides intuitive and precise control of the stage position at any magnification. At the highest magnification the joystick can be used to easily move in the smallest of increments. At lower magnifications the exponential gain function allows for comfortable control as well.

In addition to the usual XY joystick, LEP offers versions to control up to 4 axes. A three axis analog version of the joystick has a spring loaded rotating knob on the XY joystick stalk. Rotating the knob causes the motor to turn in the respective direction. Release the knob and the spring returns it to the zero position and the motor stops.

Motor response direction is user configurable by the controller system with proper configuration the stage and focus will move intuitively according to the joystick movement.

Features

- Ergonomic housing
- Single control for up to 4 axes
- Precise fine and coarse control
- User programmable buttons

73006361

73006362

Catalog Number	Description	Control Axes
73006360	XY Joystick	2
73006361	XYZ Joystick	3
73006362	XY Joystick with side mounted digipot control	3
73006366	XYZ Joystick with side mounted digipot control	4

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