

# Command:BACKLASH (B)

## Motorized Actuator

MS2000 or RM2000 syntax

<b>Shortcut</b>	B
<b>Format</b>	BACKLASH [axis] = [distance]...
<b>Units</b>	millimeter
<b>Remembered</b>	Using SS Z

Tiger syntax

<b>Shortcut</b>	B
<b>Format</b>	BACKLASH [axis] = [distance]...
<b>Units</b>	millimeter
<b>Type</b>	Axis-Specific
<b>Remembered</b>	Using [addr#]SS Z

This command sets (or displays) the amount of distance in millimeters to travel to absorb the backlash in the axis' gearing. This backlash value works with an anti-backlash routine which ensures that the controller always approaches the final target from the same direction. A value of zero (0) disables the anti-backlash algorithm for that axis. Default depends on motor build but is 0.04 for most common 4 TPI leadscrew pitch, 0.01 for most common 16 TPI leadscrew pitch, and 0.02 for the x-axis of scan-optimized stages.

### Example:

```
B X=.05 Y=.05 Z=0
:A
B x?
:X=0.040000 A
```

The command in this example will make the controller move the X and Y axes to a location 50 microns away from the final target before moving to the final target, while the anti-backlash algorithm for the Z axis is disabled.

## MicroMirror and Tunable Lens Card

<b>Shortcut</b>	B
<b>Format</b>	B [axis]=[0.1 or 650] ...
<b>Units</b>	Frequency in kHz
<b>Type</b>	Axis-Specific
<b>Remembered</b>	Using [addr#]SS Z

This command is "recycled" for a different use in MicroMirror axes than for motor axes. In the context of a MicroMirror axis this command is used to set the cut off frequency of the 5th order Bessel filter. Units are in KHz. The lowest acceptable value is 0.1 (100Hz) and highest is 650

(650kHz). For a typical micro-mirror to avoid mechanical resonance this should be set no higher than 0.8 kHz.

**Example:**

```
B R=0.1 S=0.1
:A
```

Sets 100Hz filter cut off freq for R and S axes

```
B P? Q?
:P=0.4 B=0.4 A
```

Queries the filter cut off freq for P and Q axes

[commands](#), [tiger](#), [ms2000](#), [micromirror](#), [tlens](#)

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