



3-Axis Slider Commands List





Function	Command Character	Input Range
Report status	R	N/A
Set Step Mode	m	2, 4, 8, 16
Pan x degrees	p	float
Tilt x degrees	t	float
Toggle enable motors	e	N/a
Set maximum pan speed (deg/s)	s	float
Set maximum tilt speed (deg/s)	S	float
Invert pan direction	i	bool
Invert tilt direction	I	bool
Set pan hall effect offset (deg)	o	float
Set tilt hall effect offset (deg)	O	float
Set homing mode (0: No homing, 1: Slider, 2: Pan & Tilt, 3: All axis)	H	0-3
Trigger camera shutter	c	N/A
Auto home the axis	A	N/A
Execute moves array	;	1-32767
Add current position to moves array	#	N/A
Step forward a position in the moves array	>	N/A
Step backward a position in the moves array	<	N/A
Move to the first position in the moves array	[N/A
Move to the last position in the moves array]	N/A
Edit the current position in the moves array with current position	E	N/A
Add a delay in the moves array (ms)	d	0-32767
Edit a delay at the current position in the moves array (ms)	D	0-32767
Clear all position in the moves array	C	N/A
Save the current settings in EEPROM	U	N/A
Start a panoramic-lapse	L	N/A
Set angle between pictures (deg)	b	float
Set delay between pictures (ms)	B	0-32767
Start a time lapse with x pictures	l	1-32767
Move slider x mm	x	float
Invert slider direction	j	bool
Set maximum slider speed (mm/s)	X	float
Auto Home the slider axis	Z	N/A
Calculate the intercept of the first 2 keyframes	T	N/A
Move between the 2 keyframes, keeping pointed at the intercept	@	0-32767
Toggle axis acceleration on/off	a	N/A
Pan acceleration increment delay (μs)	q	0-32767
Tilt acceleration increment delay (μs)	Q	0-32767
Slider acceleration increment delay (μs)	w	0-32767
Scale the speed of all keyframed movements	W	float



To use a function listed in the table you need to send the appropriate command over the serial connection to the Arduino. The serial connection can be over USB or Bluetooth as they both work the same. You can simply use the serial monitor provided in the Arduino IDE or one of many Android apps (I use Arduino Bluetooth controller by Giumig Apps). Bluetooth modules commonly have a default baud rate of 9600 which will need to be changed to 57600 to avoid any timing issues with the code.

Examples:

To get the pan tilt mount to print out its current status just send "R" (without quotes).

To set the step mode to 16th stepping move send: "m16" (without quotes).

To move the pan axis -22.5 degrees send: "p-22.5" (without quotes).

Important:

When the code is first uploaded the EEPROM values will not have been properly set and will result in unusable values. You will need to set appropriate values then save them to the EEPROM (by sending the command character U). A restart may then be required.

To see the current setting and stored EEPROM values send the command character R. The screenshots below show the settings and stored values before and after setting appropriate EEPROM values.

Before Setting EEPROM Values	After Setting EEPROM Values
Invalid mode. Enter 2, 4, 8 or 16	Set to 16 step mode.
Pan inversion: 1	Keyframes cleared
Tilt inversion: 1	Pan inversion: 0
Slider inversion: 1	Tilt inversion: 0
Status	Slider inversion: 0
Enable state: 1	Status
Pan angle: 0.000°	Enable state: 1
Tilt angle: 0.000°	Pan angle: 0.000°
Slider position: 0.000mm	Tilt angle: 0.000°
Pan max steps/s: nan	Slider position: 0.000mm
Tilt max steps/s: nan	Pan max steps/s: 1505.882
Slider max steps/s: 2147483648.000	Tilt max steps/s: 406.349
Pan max speed: nan°/s	Slider max steps/s: 888.000
Tilt max speed: nan°/s	Pan max speed: 20.000°/s
Slider max speed: -48318384.000mm/s	Tilt max speed: 15.000°/s
Battery: 0.000%	Slider max speed: 19.980mm/s
Angle between pics: nan°	Battery: 0.000%
Panoramiclapse delay between pics: 4294967295ms	Angle between pics: 18.000°
Version: 3.9.8	Panoramiclapse delay between pics: 5000ms
EEPROM:	Version: 3.9.8
Step mode: -1	EEPROM:
Pan max: nan°/s	Step mode: 16
Tilt max: nan°/s	Pan max: 20.000°/s
Slider max: nanmm/s	Tilt max: 15.000°/s
Pan offset: nan°	Slider max: 20.000mm/s
Tilt offset: nan°	Pan offset: -5.200°
Angle between pics: nan°	Tilt offset: -9.000°
Delay between pics: -lms	Angle between pics: 18.000°
Pan invert: 255	Delay between pics: 5000ms
Tilt invert: 255	Pan invert: 0
Slider invert: 255	Tilt invert: 0
Homing mode: 255	Slider invert: 0
Accel enable: 255	Homing mode: 3
Pan accel delay: -lus	Accel enable: 1
Tilt accel delay: -lus	Pan accel delay: 4000us
Slider accel delay: -lus	Tilt accel delay: 3000us
Keyframe index: -1	Slider accel delay: 3500us
	Keyframe index: -1