



Pan Tilt Mount Commands List





Function	Command Character	Input Range
Report status	R	N/A
Set Step Mode	m	1, 2, 4, 8, 16
Pan x degrees	p	float
Tilt x degrees	t	float
Set current position to home (0)	h	N/A
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
Toggle auto homing on start-up	H	N/A
Trigger camera shutter	c	N/A
Auto Home	A	N/A
Run pan at x speed (deg/s)	k	float
Run tilt at x speed (deg/s)	K	float
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 to the current position in the moves array (ms)	D	0-32767
Clear all position in the moves array	C	N/A
Scale all pan speeds in the moves array to a new maximum (deg/s)	M	float
Scale all tilt speeds in the moves array to a new maximum (deg/s)	N	float
Save the current settings in EEPROM	U	N/A
Start a panoramic-lapse	L	N/A
Toggle axis limits	y	N/A
Set pan min limit (deg)	f	float
Set pan max limit (deg)	F	float
Set tilt min limit (deg)	g	float
Set tilt max limit (deg)	G	float
Set slider min limit (mm)	z	float
Set slider max limit (mm)	Z	float
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



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).

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 setting and stored values before and after setting appropriate EEPROM values.

COM4	COM4
<pre> Setting values from EEPROM... Values set. Invalid step mode... Enter a 1, 2, 4, 8, 16 for corresponding step mode. Pan inversion set to: 1 Tilt inversion set to: 1 Slider inversion set to: 1 Motors enabled. Setup complete. ---Debug Report--- Motor enable state: 1 Step Mode: -1 Pan angle: 0.000° Tilt angle: 0.000° Slider position: 0.000mm Pan steps per °: 75.294 Tilt steps per °: 27.090 Slider steps per mm: 80.000 Pan max speed: nan°/s Tilt max speed: nan°/s Slider max speed: -26843546.000mm/s Battery voltage: 1.989V Battery percentage: 0.000% Homing on start-up: 255 Angle between pictures: nan° Panoramicalapse delay between pictures: 4294967295ms Version: 3.0.0 ---Saved Values--- Step mode: -1 Pan max speed: nan°/s Tilt max speed: nan°/s Slider max speed: -26843546.000mm/s Pan Hall offset: nan° Tilt Hall offset: nan° Angle between pictures: nan ° Delay between pictures: -1ms Pan invert: 255 Tilt invert: 255 Slider invert: 255 Homing on start-up: 255 Enable limits: 255 Pan min limit: nan° Pan max limit: nan° Tilt min limit: nan° Tilt max limit: nan° Slider min limit: nanmm Slider max limit: nanmm ---Program Elements--- Moves array index: -1 </pre>	<pre> Setting values from EEPROM... Values set. Set to 16 step mode. Pan inversion set to: 0 Tilt inversion set to: 0 Slider inversion set to: 1 Motors enabled. Setup complete. ---Debug Report--- Motor enable state: 1 Step Mode: 16 Pan angle: 0.000° Tilt angle: 0.000° Slider position: 0.000mm Pan steps per °: 75.294 Tilt steps per °: 27.090 Slider steps per mm: 80.000 Pan max speed: 20.000°/s Tilt max speed: 50.000°/s Slider max speed: 10.000mm/s Battery voltage: 12.312V Battery percentage: 92.354% Homing on start-up: 0 Angle between pictures: 18.000° Panoramicalapse delay between pictures: 5000ms Version: 3.0.2 ---Saved Values--- Step mode: 16 Pan max speed: 20.000°/s Tilt max speed: 50.000°/s Slider max speed: 10.000mm/s Pan Hall offset: -5.200° Tilt Hall offset: -8.000° Angle between pictures: 18.000 ° Delay between pictures: 5000ms Pan invert: 0 Tilt invert: 0 Slider invert: 1 Homing on start-up: 0 Enable limits: 0 Pan min limit: -360.000° Pan max limit: 360.000° Tilt min limit: -360.000° Tilt max limit: 360.000° Slider min limit: -1200.000mm Slider max limit: 1200.000mm ---Program Elements--- Moves array index: -1 </pre>