

Code	Action	Return
:A?#	Align status	Returns: mno# where m is the maximum number of alignment stars n is the current alignment star (0 otherwise) o is the last required alignment star when an alignment is in progress (0 otherwise)
:A+#	Manual Alignment, set target location	Returns: 1: If correction is accepted 0: Failure, Manual align mode not set or distance too far
:An#	This is to initiate a one or two-star alignment: 1) Before calling this function, the telescope should be in the polar-home position 2) Call this function 3) Set the target location (RA/Dec) to a bright star, etc. (near the celestial equator in the western sky) 4) Issue a goto command 5) Center the star/object using the guide commands (as needed) 6) Call :A+# command to accept the correction for two-star alignment) 7) Set the target location (RA/Dec) to a bright star, etc. (near the celestial equator in the southern sky) 8) Issue a goto command 9) Center the star/object using the guide commands (as needed) 10) Call :A+# command to accept the correction	Returns: 1: When ready for your goto commands 0: If mount is busy
:AW#	Align Write to EEPROM	Returns: 1 on success
:B-#	Decrease Reticule Brightness	Nothing
:B+#	Increase reticule Brightness	Nothing
:CM#	Synchronize the telescope with the current database object (as above)	Returns: "N/A#" on success, "En#" on failure where n is the error code per the :MS# command
:CS#	Synchronize the telescope with the current right ascension and declination coordinates	Nothing
:D#	Distance bars	Returns an "\0x7f#" if the mount is moving, otherwise returns "#".
:ESPFLASH#	ESP8266 device flash mode	Nothing, needs reboot after Flash
:F-#	Move focuser 1 out (away from objective)	Nothing
:f-#	Move focuser 2 out (away from objective)	Nothing
:F+#	Move focuser 1 in (toward objective)	Nothing
:f+#	Move focuser 2 in (toward objective)	Nothing
:FA#	Focuser 1 Active ?	Return: 0 on failure, 1 on success
:fA#	Focuser 2 Active ?	Return: 0 on failure, 1 on success
:fAn#	Select focuser 1 or 2	Return: 0 on failure, 1 on success
:FAn#	Select focuser 1 or 2	Return: 0 on failure, 1 on success
:FF#	Set focuser for fast motion	Nothing
:fF#	Set focuser for fast motion	Nothing
:FG#	Get focuser current position (in microns)	Returns: snnn#
:fG#	Get focuser current position (in microns)	Returns: snnn#
:FI#	Get full in position (in microns)	Returns: n#
:fI#	Get full in position (in microns)	Returns: n#
:FM#	Get max position (in microns)	Returns: n#
:fM#	Get max position (in microns)	Returns: n#
:Fn#	Movement rate, 1=finest, 2=0.01mm/second, 3=0.1mm/second, 4=1mm/second	Nothing
:fn#	Movement rate, 1=finest, 2=0.01mm	Nothing
:FQ#	Stop the focuser	Nothing
:fQ#	Stop the focuser	Nothing
:fRsnnn#	Set focuser target position relative (in microns)	Nothing
:FRsnnn#	Set focuser target position relative (in microns)	Nothing
:FS#	Set focuser for slow motion	Nothing
:fS#	Set focuser for slow motion	Nothing
:fSsnnn#	Set focuser target position (in microns)	Nothing
:FSsnnn#	Set focuser target position (in microns)	Nothing
:FT#	Get status	Returns: M# (for moving) or S# (for stopped)
:fT#	Get status	Returns: M# (for moving) or S# (for stopped)
:FZ#	Set focuser zero position (half travel)	Nothing
:fZ#	Set focuser zero position (half travel)	Nothing
:GA#	Get Telescope Altitude	Returns: sDD*MM# or sDD*MM'SS# (based on precision setting)
:Ga#	Get Local Time in 12 hour format	Returns: HH:MM:SS#
:GC#	Get the current date	Returns: MM/DD/YY#
:Gc#	Get the current time format	Returns: 24#

:GD#	Get Telescope Declination	Returns: sDD*MM# or sDD*MM'SS# (based on precision setting)
:Gd#	Get Currently Selected Target Declination	Returns: sDD*MM# or sDD*MM'SS# (based on precision setting)
:GG#	Get UTC offset time	Returns: sHH#
:Gg#	Get Current Site Longitude	Returns: sDDD*MM#
:Gh#	Get Horizon Limit	Returns: sDD*#
:GL#	Get Local Time in 24 hour format	Returns: HH:MM:SS#
:GM#	Get Site 1 Name	Returns: <string># a # terminated string with the name of the requested site.
:Gm#	Gets the meridian pier-side	Returns: E#, W#, N# (none/parked), ?# (Meridian flip in progress)
:GN#	Get Site 2 Name	Returns: <string># a # terminated string with the name of the requested site.
:GO#	Get Site 3 Name	Returns: <string># a # terminated string with the name of the requested site.
:Go#	Get Overhead Limit	Returns: DD*#
:GP#	Get Site 4 Name	Returns: <string># a # terminated string with the name of the requested site.
:GR#	Get Telescope RA	Returns: HH:MM.T# or HH:MM:SS# (based on precision setting)
:Gr#	Get current	Returns: HH:MM.T# or HH:MM:SS (based on precision setting)
:GS#	Get the Sidereal Time	Returns: HH:MM:SS#
:GT#	Get tracking rate	Returns: dd.ddddd# (OnStep returns more decimal places than LX200 standard) Returns the tracking rate if siderealTracking, 0.0 otherwise
:Gt#	Get Current Site Latitude	Returns: sDD*MM#
:GU#	Get telescope Status	Returns: SS#
:GVD#	Get Telescope Firmware Date	Returns: mmm dd yyyy#
:GVN#	Get Telescope Firmware Number	Returns: d.dc#
:GVP#	Get Telescope Product Name	Returns: <string>#
:GVT#	Get Telescope Firmware Time	returns: HH:MM:SS#
:GXnn#	Get OnStep value	config settings and other ...
:GZ#	Get telescope azimuth	Returns: DDD*MM# or DDD*MM'SS# (based on precision setting)
:hC#	Reset telescope at the home position. This position is required for a Cold Start. Point to the celestial pole with the counterweight pointing downwards (CWD position).	Nothing
:hF#	Reset telescope at the home position. This position is required for a Cold Start.	Nothing
:hP#	Goto the Park Position	Return: 0 on failure 1 on success
:hQ#	Set the park position	Return: 0 on failure 1 on success
:hR#	Restore parked telescope to operation	Return: 0 on failure 1 on success
:L#	Clear library (all catalogs)	Nothing
:L\$#	Move to catalog name record	Returns 1
:LB#	Find previous object and set it as the current target object.	Nothing
:LCNNNN#	Set current target object to deep sky catalog object number NNNN	Nothing
:LD#	Clear current record	Nothing
:LI#	Get Object Information	Nothing
:LIG#	Get Object Information and goto	Nothing
:LL#	Clear current catalog	Nothing
:LN#	Find next deep sky target object subject to the current constraints.	Nothing
:Lonn#	Select Library catalog where nn specifies user catalog number	Return: 0 on failure 1 on success
:LR#	Get Object Information including RA and Dec, with advance to next Record	Returns: <string># a string containing the current target object's name, type, RA, and Dec.
:LWss#	Write Object Information including current target RA,Dec to next available empty record	Return: 0 on failure 1 on success
:MA#	Goto the target Alt and Az	Returns: 0..9, see :MS#
:Me#	Move Telescope West at current slew rate	Nothing
:Mgdnnnn#	Pulse guide command	Nothing
:Mn#	Move Telescope North at current slew rate	Nothing
:MP#	Goto the Current Position for Polar Align	Returns: 0..9, see :MS#
:Ms#	Move Telescope South at current slew rate	Nothing

:MS#	Goto the Target Object	Returns: 0=Goto is possible 1=below the horizon limit 2=above overhead limit 3=controller in standby 4=mount is parked 5=Goto in progress 6=outside limits (MaxDec, MinDec, UnderPoleLimit, MeridianLimit) 7=hardware fault 8=already in motion 9=unspecified error
:Mw#	Move Telescope East at current slew rate	Nothing
:Q#	Halt all slews, stops goto	Nothing
:Qe#	Halt east	Nothing
:Qn#	Halt north	Nothing
:Qs#	Halt south	Nothing
:Qw#	Halt west	Nothing
:r-#	Disable de-rotator	Nothing
:r+#	Enable de-rotator	Nothing
:r<#	Move counter clockwise as set by :rn# command, default = 1 degree	Nothing
:r>#	Move clockwise as set by :rn# command, default = 1 degree	Nothing
:RAdd.d#	Set Axis1 Guide rate to dd.d degrees per second	Nothing
:RC#	Set Slew rate to Centering rate (2nd slowest) 8X	Nothing
:rC#	Moves rotator to the home position	Nothing
:REdd.d#	Set Axis2 Guide rate to dd.d degrees per second	Nothing
:rF#	Reset rotator at the home position	Nothing
:RG#	Set Slew rate to Guiding Rate (slowest) 1X	Nothing
:rG#	Get rotator current position in degrees	Returns: sDDD*MM#
:RM#	Set Slew rate to Find Rate (2nd Fastest) 24X	Nothing
:Rn#	Set Slew rate to n, where n=0..9	Nothing
:rn#	Move increment, 1=1 degrees, 2=5 degrees, 3=10 degrees	Nothing
:rP#	Move rotator to the parallactic angle	Nothing
:rR#	Reverse de-rotator direction	Nothing
:RS#	Set Slew rate to max (fastest) ?X (1	Nothing
:rSsDDD*MM'SS#	Set position	Return: 0 on failure 1 on success
:SasDD*MM#	Set target object altitude to sDD*MM# or sDD*MM'SS# (based on precision setting)	0 if Object is within slew range, 1 otherwise
:SBn#	Set Baud Rate n for Serial-0, where n is an ASCII digit (1..9) with the following interpretation	Returns: "1" At the current baud rate and then changes to the new rate for further communication
:SCMM/DD/YY#	Change Date to MM/DD/YY	Return: 0 on failure 1 on success
:SdsDD*MM#	Set target object declination to sDD*MM or sDD*MM:SS depending on the current precision setting, automatically detects low/high precision	Return: 0 on failure 1 on success
:SgDDD*MM#	Set current sites longitude to sDDD*MM an ASCII position string, East longitudes can be as negative or >180 degrees	Return: 0 on failure 1 on success
:SgsDDD*MM#	Signed Longitude Set current sites longitude to sDDD*MM an ASCII position string, East longitudes can be as negative or >180 degrees	Return: 0 on failure 1 on success
:SgsHH#	Set the number of hours added to local time to yield UTC	Return: 0 on failure 1 on success
:SGsHH:MM#	Set the number of hours added to local time to yield UTC where MM is 30 or 45	Return: 0 on failure 1 on success
:Sh+DD#	Set the lowest elevation to which the telescope will goTo	Return: 0 on failure 1 on success
:SLHH:MM:SS#	Set the local Time	Return: 0 on failure 1 on success
:SM<string>#	Set site name to be <string>, up to 15 characters.	Return: 0 on failure 1 on success
:SN<string>#	Set site name to be <string>, up to 15 characters.	Return: 0 on failure 1 on success
:SO<string>#	Set site name to be <string>, up to 15 characters.	Return: 0 on failure 1 on success
:SoDD#	Set the overhead elevation limit to DD#	Return: 0 on failure 1 on success
:SP<string>#	Set site name to be <string>, up to 15 characters.	Return: 0 on failure 1 on success
:SrHH:MM:SS#	Set target object RA to HH:MM.T or HH:MM:SS based on precision setting, automatically detects low/high precision	Return: 0 on failure 1 on success
:SrHH:MM.T#	Set target object RA to HH:MM.T or HH:MM:SS based on precision setting, automatically detects low/high precision	Return: 0 on failure 1 on success
:SSH:MM:SS#	Sets the local (apparent) sidereal time to HH:MM:SS	Return: 0 on failure 1 on success
:STdd.dddd#	Set Tracking Rate	Return: 0 on failure 1 on success
:StsDD*MM#	Sets the current site latitude to sDD*MM#	Return: 0 on failure 1 on success
:SXnn,VVVVVV...#	Set OnStep value Check in Software for these	
:SzDDD*MM#	Sets the target Object Azimuth	Return: 0 on failure 1 on success
:T-#	Master sidereal clock slower by 0.02 Hertz (stored in EEPROM)	Return: 0 on failure 1 on success
:T+#	Master sidereal clock faster by 0.02 Hertz (stored in EEPROM)	Return: 0 on failure 1 on success

:T1#	Track single axis (disable Dec tracking on Eq mounts)	Return: 0 on failure 1 on success
:T2#	Track dual axis	Return: 0 on failure 1 on success
:Td#	Tracking disable	Return: 0 on failure 1 on success
:Te#	Tracking enable	Return: 0 on failure 1 on success
:TK#	Track rate king	Return: 0 on failure 1 on success
:TL#	Track rate lunar	
:Tn#	Track refraction disable	Return: 0 on failure 1 on success
:To#	OnTrack enable	Return: 0 on failure 1 on success
:TQ#	Track rate sidereal	Return: 0 on failure 1 on success
:TR#	Master sidereal clock reset (to calculated sidereal rate, stored in EEPROM)	Return: 0 on failure 1 on success
:Tr#	Track refraction enable	Return: 0 on failure 1 on success
:TS#	Track rate solar	Return: 0 on failure 1 on success
:U#	Toggle between low/hi precision positions Low - RA/Dec/etc. displays and accepts HH:MM.M sDD*MM High - RA/Dec/etc. displays and accepts HH:MM:SS sDD*MM:SS	Nothing
:VH#	Read RA PEC sense index (seconds)	Returns: DDDDD#
:Vl#	Read RA PEC record index start (steps)	Returns: DDDDDD#
:VRNNNN#	Read out RA PEC Table Entry	Returns: DDDDDD#
:VrNNNN#	Read out RA PEC ten byte frame in hex format starting at worm segment NNNN	Returns: x0x1x2x3x4x5x6x7x8x9# Rate Adjustment factor for worm segments. PecRate = Steps +/- for each 1 second segment, hex one byte integer (PecRate=b-128) Eave a delay of about 10ms between calls
:VS#	PEC Readout StepsPerSecondAxis1	Returns: DDD.DDDDDD#
:VW#	PEC Readout StepsPerWormRotationAxis1	Returns: DDDDDD#
:WIDDDDD#	Write RA PEC index start (Steps)	Nothing
:Wn#	Sets current site to n, 0..3 or queries site with ?	Returns: Nothing or current site ?#
:WR-#	Move PEC Table ahead by one second	Nothing
:WR+#	Move PEC Table back by one second	Nothing
:WRNNNN,sDDD#	Write RA PEC Table Entry	Nothing