

commands

id	Revision	Type	Command	Reply	Purpose	Comment
1	0	Date / Time	:SCMM/DD/YY#	0 or 1	Set date	
2	0	Date / Time	:GC#	MM/DD/YY#	Get date	
3	0	Date / Time	:SLHH:MM:SS#	0 or 1	Set time (Local)	
4	0	Date / Time	:Ga#	HH:MM:SS#	Get time (Local, 12hr format)	
5	0	Date / Time	:GL#	HH:MM:SS#	Get time (Local, 24hr format)	
6	0	Date / Time	:SSH:MM:SS#	0 or 1	Set time (Sidereal)	
7	0	Date / Time	:GS#	HH:MM:SS#	Get time (Sidereal)	
8	0	Site/Location	:SgsHH#	0 or 1	Set UTC Offset(for curent site)	The UTC Offset value is the number of hours to add to your Local Time (Standard Time) to get Universal Time.
9	0	Site/Location	:GG#	sHH#	Get UTC Offset(for curent site)	
10	0	Site/Location	:SsDD*MM#	0 or 1	Set Latitude (for curent site)	
11	0	Site/Location	:Gt#	sDD*MM#	Get Latitude (for curent site)	
12	0	Site/Location	:SgDDD*MM#	0 or 1	Set Longitude (for curent site)	
13	0	Site/Location	:Gg#	DDD*MM#	Get Longitude (for curent site)	
14	0	Site/Location	:Smsss...#	0 or 1	Set site 0 name	
15	0	Site/Location	:Snsss...#	0 or 1	Set site 1 name	
16	0	Site/Location	:Sosss...#	0 or 1	Set site 2 name	
17	0	Site/Location	:Spsss...#	0 or 1	Set site 3 name	
18	0	Site/Location	:GM#	sss...#	Get site 0 name	
19	0	Site/Location	:GN#	sss...#	Get site 1 name	
20	0	Site/Location	:GO#	sss...#	Get site 2 name	
21	0	Site/Location	:GP#	sss...#	Get site 3 name	
22	0	Site/Location	:Wn#	[none]	Select site n (0-3)	
23	0	Slewing/Movement	:SrHH:MM:SS#	0 or 1 *	Set target RA	* = Defaults to high precision mode, in low precision mode "HH:MM.M", "sDD*MM", or "DDD*MM" are used as appropriate.
24	0	Slewing/Movement	:Gr#	HH:MM:SS#*	Get target RA	
25	0	Slewing/Movement	:SdsDD:MM:SS#	0 or 1 *	Set target Dec	
26	0	Slewing/Movement	:Gd#	sDD*MM'SS#*	Get target Dec	
27	0	Slewing/Movement	:SzDDD:MM:SS#	0 or 1 *	Set target Azm	
28	0	Slewing/Movement	:SasDD:MM:SS#	0 or 1 *	Set target Alt	
29	0	Slewing/Movement	:GR#	HH:MM:SS#*	Get telescope RA	
30	0	Slewing/Movement	:GD#	sDD*MM'SS#*	Get telescope Dec	
31	0	Slewing/Movement	:GZ#	DDD*MM'SS#*	Get telescope Azm	
32	0	Slewing/Movement	:GA#	sDD*MM'SS#*	Get telescope Alt	
33	0	Limits	:ShsDD#	0 or 1	Set horizon limit	The horizon limit sets how far below (or above) the horizon the telescope will point for a goto. Valid range (in degrees) is +30 to -30.
34	0	Limits	:GhsDD#	sDD#	Get horizon limit	
35	0	Limits	:SoDD#	0 or 1	Set overhead limit	The overhead limit helps keep the telescope tube from hitting the tripod etc. during a goto. Valid range (in degrees) is 60 to 90.
36	0	Limits	:GoDD#	sDD#	Get overhead limit	The overhead limit helps keep the telescope tube from hitting the tripod etc. during a goto
37	0	Movements	:MS#	e *2	Move telescope (to current Equ target)	*2 = Error codes for the MS and MA commands are as follows: e=0 (no error), e=1 (below horizon), e=2 (no object), e=4 (position unreachable), e=5 (not aligned), E=6 (outside limits)
38	0	Movements	:MA#	e *2	Move telescope (to current Hor target)	
39	0	Movements	:Q#	[none]	Stop telescope	
40	0	Movements	:Me#	[none]	Move telescope east (at current rate)	
41	0	Movements	:Mw#	[none]	Move telescope west (at current rate)	
42	0	Movements	:Mn#	[none]	Move telescope north (at current rate)	
43	0	Movements	:Ms#	[none]	Move telescope south (at current rate)	
44	0	Movements	:Qe#	[none]	Stop moving east	
45	0	Movements	:Qw#	[none]	Stop moving west	
46	0	Movements	:Qn#	[none]	Stop moving north	
47	0	Movements	:Qs#	[none]	Stop moving south	
48	0	Rates	:Mgdnnn#	[none]	(from 20 to 16399mS)	Pulse guide (at current rate): D=n,s,e,w, Nnnn=time in mS (from 20 to 16399mS)
49	0	Rates	:RG#	[none]	Set rate to Guide	
50	0	Rates	:RC#	[none]	Set rate to Centering	
51	0	Rates	:RM#	[none]	Set rate to Move	
52	0	Rates	:RS#	[none]	Set rate to Slew	
53	0	Rates	:Rn#	[none]	Set rate to n (0-9)*3	*3 = Slew rates are as follows : All values are in multiples of the sidereal rate: R0=0.25X, R1=0.5X, R2(RG)=1X, R3=2X, R4(RC)=4X, R5=8X(RM), R6=16X, R7(RS)=24X, R8=40X, R9=60X (for the -Dev-Alpha branch of OnStep: R0=0.25X, R1=0.5X, R2(RG)=1X, R3=2X, R4=4X, R5(RC)=8X, R6(RM)=24X, R7=48X, R8(RS)=1/2 MaxRate, R9=MaxRate)
54	0	Pier	:D#	!0x7F#	Get distance bars (indicates slew)	
55	0	Pier	:Gm#	N#, E#or W#	Pier side	

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56	0	Tracking rate	:STdd.dddd#	0 or 1	Set sidereal rate RA	Tracking rate adjustment is as follows: The sidereal rate is default and is always selected on power-up. The T+ and T- commands can adjust any of the rates; however only the sidereal rate, if selected, remembers the adjusted rate through a power cycle. Refraction rate tracking adjusts the RA rate dynamically to best compensate for refraction in a given region of the sky, again this works for any of the rates. This setting isn't remembered between power cycles, but the OnStep firmware can be compiled so that this setting defaults to enabled.
57	0	Tracking rate	:GT#	dd.dddd#	Get sidereal rate RA	
58	0	Tracking rate	:TQ#	[none]	Track sidereal rate RA (default)	
59	0	Tracking rate	:TR#	[none]	Track sidereal rate reset	
60	0	Tracking rate	:T+#	[none]	Track rate increase 0.02Hz	
61	0	Tracking rate	:T-#	[none]	Track rate decrease 0.02Hz	
62	0	Tracking rate	:TS#	[none]	Track solar rate RA	
63	0	Tracking rate	:TL#	[none]	Track lunar rate RA	
64	0	Tracking rate	:TK#	[none]	Track king rate RA	
65	0	Tracking rate	:Te#	0 or 1	Tracking enable	
66	0	Tracking rate	:Td#	0 or 1	Tracking disable	
67	0	Tracking rate	:Tr#	0 or 1	Refraction rate tracking	
68	0	Tracking rate	:Tn#	0 or 1	No refraction rate tracking	
69	0	Sync	:CS#	[none]	Sync. with current target RA/Dec	Note: Sync's that are not allowed fail silently. This can happen due to slews, parking, or exceeded limits.
70	0	Sync	:CM#	N/A#	Sync. with current target RA/Dec	
71	0	Library	:Lonn#	0 or 1	Select catalog no.	
72	0	Library	:LB#	[none]	Move Back in catalog	
73	0	Library	:LN#	[none]	Move to Next in catalog	
74	0	Library	:LCnnn#	[none]	Move to catalog item no.	
75	0	Library	:L\$#	1	Move to catalog name rec.	
76	0	Library	:Ll#	name,type#	Get catalog item id.	
77	0	Library	:LR#	name,type,RA,Dec#	Read catalog item info. (also moves forward)	
78	0	Library	:LWssss,ttt#	0 or 1	Write catalog item info.	ssss=name, ttt=type code: UNK, OC, GC, PN, DN, SG, EG, IG, KNT, SNR, GAL, CN, STR, PLA, CMT, AST
79	0	Library	:LD#	[none]	Clear current record	
80	0	Library	:LL#	[none]	Clear current catalog	
81	0	Library	:L#	[none]	Clear all catalogs	The Ll#and LW#commands also set/get target coordinates (as with :Gr#, :Sr#, :Gd#, :Sd#) Library record storage is in EEPROM. A catalog name record is like any other except the name must start with a '\$'. A special search can then be done with the :L\$#command to move to that record. It's up to the user to not waste EEPROM with more than one name record per catalog. When the default PEC table size of 824 bytes is used, the first 1024 bytes are devoted to settings. The remaining EEPROM is used for catalog records. Each record is 16 bytes. It's often best to divide up large Libraries into several smaller catalogs due to serial interface speed limitations.
82	0	Anti-backlash	:\$BRnnn#	0 or 1	Set RA (Azm) backlash amount (in ArcSec)	
83	0	Anti-backlash	:\$BDnnn#	0 or 1	Set Dec (Alt) backlash amount (in ArcSec)	
84	0	Anti-backlash	:\$QZ+#	[none]	Turn PEC on	
85	0	Anti-backlash	:\$QZ-#	[none]	Turn PEC off	
86	0	Anti-backlash	:\$QZZ#	[none]	Clear PEC data	
87	0	Anti-backlash	:\$QZ!#	[none]	Start recording PEC	
88	0	Anti-backlash	:\$QZ!#	[none]	Save PEC data/settings to EEPROM	
89	0	Anti-backlash	:\$QZ?#	s#	Get PEC status returns: I-Ignore PEC, P-Playing PEC, p-Getting ready to play PEC, R-Record PEC, r-Getting ready to record PEC	
90	0	Anti-backlash	:VRnnnn#	sddd#	Readout PEC data	
91	0	Anti-backlash	:VR#	sddd,ddd#	Readout PEC data at current index (while playing/recording), also returns index	
92	0	Anti-backlash	:VRnnnn,sddd#	0 or 1	Write PEC data	
93	0	Alignment	:AW#	0 or 1	Align, write model to EEPROM	
94	0	Alignment	:A+#	0 or 1	Align, accept#4	
95	0	Park / Unpark	:hQ#	0 or 1	Set park position	
96	0	Park / Unpark	:hP#	0 or 1	Move to park position	
97	0	Park / Unpark	:hR#	0 or 1	Restore parked telescope to operation	
98	0	Home	:hF#	[none]	Set home (CWD)	
99	0	Home	:hC#	[none]	Move to home (CWD)	
100	0	Focus	:fA#	0 or 1	Focuser1 Active?	
101	0	Focus	:fA#	0 or 1	Focuser2 Active?	
102	0	Focus	:fAn#	0 or 1	Select primary focuser n = 1 or 2	
103	0	Focus	:fA#	0 or 1	Get primary focuser	
104	0	Focus	:fT#	M#or S#	Get status M#= moving, S#= stopped	
105	0	Focus	:fI#	0 or 1	Get mode 0 = absolute 1 = pseudo absolute	
106	0	Focus	:fI#	n#	Get full in position (in microns or steps)	
107	0	Focus	:fM#	n#	Get max position (in microns or steps)	
108	0	Focus	:fE#	n#	Get focuser temperature differential	
109	0	Focus	:fT#	n#	Get focuser temperature	
110	0	Focus	:fU#	n,n#	Get focuser microns per step	
111	0	Focus	:fB#	n#	Get focuser backlash amount (in microns or steps)	

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112	0	Focus	:FBn#	0 or 1	Set focuser backlash amount (in microns or steps)	
113	0	Focus	:FC#	n.n#	Get focuser temperature compensation coefficient	
114	0	Focus	:FCsn.n#	0 or 1	Set focuser temperature compensation coefficient in um per deg. C (+ moves out as temperature falls)	
115	0	Focus	:Fc#	0 or 1	Get focuser temperature compensation coefficient enable status	
116	0	Focus	:Fcn#	0 or 1	Enable/disable focuser temperature compensation [n] = 0 or 1	
117	0	Focus	:FD#	n#	Get focuser temperature compensation deadband amount (in microns or steps)	
118	0	Focus	:FDn#	0 or 1	Set focuser temperature compensation deadband amount (in microns or steps)	
119	0	Focus	:FP#	n#	Get focuser DC Motor Power Level (in %)	
120	0	Focus	:FPn#	0 or 1	Set focuser DC Motor Power Level (in %)	
121	0	Focus	:FQ#	[none]	Stops the focuser	
122	0	Focus	:FF#	[none]	Set focuser for fast motion (1mm/s)	
123	0	Focus	:FS#	[none]	Set focuser for slow motion (0.01mm/s)	
124	0	Focus	:Fn#	[none]	Set focuser move rate (n=1 for finest, n=2 for 0.01mm/sec, n=3 for 0.1mm/sec, n=4 for 1mm/sec)	
125	0	Focus	:F+#	[none]	Move focuser in (toward objective)	
126	0	Focus	:F-#	[none]	Move focuser out (away from objective)	
127	0	Focus	:FG#	n#	Get focuser current position (in microns or steps)	
128	0	Focus	:FRsn#	[none]	Set focuser target position relative (in microns or steps)	
129	0	Focus	:FSn#	0 or 1	Set focuser target position (in microns or steps)	
130	0	Focus	:FZ#	[none]	Set focuser position as zero	
131	0	Focus	:FH#	[none]	Set focuser position as half-travel	
132	0	Focus	:Fh#	[none]	Set focuser target position at half-travel	
133	0	Reticule/Accessory	:B+#	[none]	Increase reticule Brightness	
134	0	Reticule/Accessory	:B-#	[none]	Decrease reticule Brightness	
135	0	Misc	:Sbn#	0 or 1	Set baud rate: 1=56.7K, 2=38.4K, 3=28.8K, 4=19.2K, 5=14.4K, 6=9600, 7=4800, 8=2400, 9=1200 :Sbn#Reply: 0 or 1	
136	0	Misc	:U#	[none]	Precision toggle	
137	0	Misc	:GVD#	MM DD YY#	Get firmware date	
138	0	Misc	:GVT#	HH:MM:SS#	Get firmware time	
139	0	Misc	:GVN#	3.160#	Get firmware number	
140	0	Misc	:GVP#	On-Step#	Get firmware name	
141	0	Misc	:GU#	sss#	Get Status	N Not slewing, H At Home position, P Parked, p Not parked, F Park Failed, I park In progress, RPEC Recorded
142	0		:%BD#		Return: n#	Get Dec/Alt Antibacklash value in arc-seconds
143	0		:%BR#		Return: n#	Get RA/Azm Antibacklash value in arc-seconds
144	0		:\$BDn#			Set Dec/Alt backlash in arc-seconds
145	0		:\$BRn#			Set RA/Azm backlash in arc-seconds
146	0		:A?#		Return: mno#	Align status
147	0		:An#		Align n (0 .. 9) stars	Start Telescope Manual Alignment Sequence
148	0					
149	0					Align Write to EEPROM
150	0					Decrease Reticule Brightness
151	0					Increase reticule Brightness
152	0					Synchronize the telescope with the current database object (as above)
153	0				Return: "N/A#" on success, "En#" on failure v	Synchronize the telescope with the current right ascension and declination coordinates
154	0					
155	0		:D#		Return: "\0x7#" if the mount is moving, other	
156	0		:ECs#			Echo string [c] on DebugSer.
157	0		:ENVRESET#			Wipe flash.OnStep must be at home and tracking turned off for this command to work.
158	0		:ESPFLASH#			ESP8266 device flash mode.OnStep must be at home and tracking turned off for this command to work.
159	0					Move focuser out (away from objective)
160	0					Set focuser move rate, where n = 1 for finest, 2 for 0.01mm/second, 3 for 0.1mm/second, 4 for 1mm/second
161	0					Move focuser in (toward objective)
162	0					Select primary focuser where [n] = 1 or 2
163	0					Active?
164	0					Active?
165	0					Get primary focuser
166	0					Set focuser backlash amount (in steps or microns)
167	0				Return: n#	Get focuser backlash amount (in steps or microns)
168	0					Enable/disable focuser temperature compensation where [n] = 0 or 1
169	0					Set focuser temperature compensation coefficient in um per deg. C (+ moves out as temperature falls)
170	0				Return: n.n#	Get focuser temperature compensation coefficient
171	0					Get focuser temperature compensation enable status
172	0					Set focuser temperature compensation deadband amount (in steps or microns)
173	0				Return: n#	Get focuser temperature compensation deadband amount (in steps or microns)
174	0				Return: n#temperature in deg. C	Get focuser temperature differential
175	0					Set focuser for fast motion (1mm/s)
176	0				Return: sn#	Get focuser current position (in microns or steps)
177	0					Set focuser position as half-travel
178	0					Set focuser target position at half-travel
179	0				Return: n#	Get full in position (in microns or steps)
180	0				Return: n#	Get max position (in microns or steps)
181	0					Set focuser DC Motor Power Level (in %)
182	0		:Fp#			Get mode

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183	0		:FP#	Return: n#	Get focuser DC Motor Power Level (in %)
184	0				Stop the focuser
185	0				Set focuser target position relative (in microns or steps)
186	0		:FSn#		Set focuser target position (in microns or steps)
187	0				Set focuser for slow motion (0.01mm/s)
188	0			Return: M#(for moving) or S#(for stopped)	Get status
189	0			Return: n#temperature in deg. C	Get focuser temperature
190	0			Return: n.n#	Get focuser microns per step
191	0				Set focuser position as zero
192	0			Return: sDD*MM#or sDD*MM'SS#(based on	Get Telescope Altitude
193	0		:GB#		Get Fastest Recommended Baud rate
194	0		:Gc#	Return: 24#	Get the current local time format
195	0			Return: sDD*MM#or sDD*MM'SS#(based on	Get Telescope Declination
196	0			Return: sDD*MM#or sDD*MM'SS#(based on	Get Currently Selected Target Declination
197	0		:GDH#	Return: sDD*MM:SS.SSSS#(high precision)	Get Telescope Declination
198	0		:GdH#	Return: sDD*MM:SS.SSSS#(high precision)	Get Currently Selected Target Declination
199	0		:GE#	Return: CC#	Get last command error numeric code
200	0			Return: sHH#	Get UTC offset time, the number of decimal hours to add to local time to convert to UTC
201	0			Return: sDDD*MM#	Get Current Site Longitude, east is negative
202	0		:GgH#	Return: sDD*MM:SS.SSS#(high precision)	Get current site Longitude
203	0		:Gh#	Return: sDD*#	Get Horizon Limit, the minimum elevation of the mount relative to the horizon
204	0		:GLH#	Return: HH:MM:SS.SSSS#(high precision)	Get Local Time in 24 hour format
205	0				Get site 1 name
206	0			Return: E#, W#, N#(none/parked)	Gets the meridian pier-side
207	0				Get site 2 name
208	0				Get site 3 name
209	0		:Go#	Return: DD*#	Get Overhead Limit
210	0			Return: s	Get site 4 name
211	0			Return: HH:MM.T#or HH:MM:SS#(based on	Get Telescope RA
212	0		:Gr#	Return: HH:MM.T#or HH:MM:SS (based on p	Get current/target object RA
213	0		:GRH#	Return: HH:MM:SS.SSSS#	Get Telescope RA High Precision
214	0		:GrH#	Return: HH:MM:SS.SSSS#(high precision)	Get Telescope RA
215	0			Return: HH:MM:SS#	Get the Sidereal Time as sexagesimal value in 24 hour format
216	0		:GSa#	Return HH:MM:SS.ss#	Get the Sidereal Time as sexagesimal value in 24 hour format, with high precision
217	0			Return: n.n#(OnStep returns more decimal pl	Get tracking rate, 0.0 unless TrackingSidereal
218	0			Return: sDD*MM#	Get current site Latitude, positive for North latitudes
219	0		:GtH#	Return: sDD*MM:SS.SSS#(high precision)	Get current site Latitude, positive for North latitudes
220	0			Return: s#	Get telescope Status
221	0		:Gu#	Return: s#	Get bit packed telescope status
222	0			Return: MTH DD YYYY#	Get Telescope Firmware Date
223	0		:GVM#	Return: s#(where s is a string up to 16 chars)	General Message
224	0			Return: M.mp#	Get Telescope Firmware Number
225	0			Return: s#	Get Telescope Product Name
226	0			Return: HH:MM:SS#	Get Telescope Firmware Time
227	0		:GW#	Return: [mount][tracking][alignment]#	Get alignment status
228	0		:GXII#		Get OnStep value where II is the numeric index
229	0			Return: DDD*MM#or DDD*MM'SS#(based on	Get telescope azimuth
230	0				Moves telescope to the home position
231	0				Reset telescope at the home position.This position is required for a cold Start.
232	0				Goto the Park Position
233	0				Set the park position
234	0				Restore parked telescope to operation
235	0				Clear library (all catalogs)
236	0		:L?#	Return: n#	Get library free records (all catalogs)
237	0				Move to catalog name record
238	0				Find previous object and set it as the current target object
239	0		:LCn#		Set current target object to catalog object number
240	0				Clear current record
241	0			Return: s#(string containing the current targe	Get Object Information
242	0				Clear current catalog
243	0				Find next deep sky target object subject to the current constraints.
244	0		:Lon#		Select Library catalog by catalog number n
245	0				Write catalog object information including current target RA,Dec to next available empty record If at the end of the object list (LI
246	0		:LWs#	command returns an empty string "#") a new	Goto the target Alt and Az
247	0			Return: 0..9, see :MS#	Move Telescope East at current guide rate
248	0		:Mgdn#		Pulse guide command where n is the guide time in milliseconds
249	0		:MGdn#		Pulse guide command where n is the guide time in milliseconds
250	0				Move Telescope North at current guide rate
251	0		:MN#	Return: 0..9, see	Goto current RA/Dec but East of the Pier (within meridian limit overlap for GEM mounts)
252	0		:Mp#		Move Telescope for sPiral search at current guide rate
253	0		:MP#	Return: 0..9, see :MS#	Goto the Current Position for Polar Align
254	0				Move Telescope South at current guide rate
255	0				Goto the Target Object
256	0			Return: s#	
257	0				Move Telescope West at current guide rate
258	0				Halt all slews, stops goto
259	0				Halt east Slews
260	0				Halt southward Slews
261	0				Halt north Slews
262	0				Halt westward Slews
263	0		:r-#		Disable derotator
264	0		:rn#		Move increment where n = 1 for 1 degrees, 2 for 2 degrees, 3 for 5 degrees, 4 for 10 degrees
265	0		:r+#		Enable derotator
266	0		:r<#		Move counter clockwise as set by :rn#command
267	0		:r>#		Move clockwise as set by :rn#command, default = 1 deg (or 0.1 deg/s in continuous mode)

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268	0		:RAn.n#		Set Axis1 Guide rate to n.n degrees per sidereal second
269	0		:rBn#		
270	0		:rB#	Return: n#	Get rotator backlash amount in steps
271	0				Set slew rate to Centering rate 8X
272	0		:rC#		Moves rotator to the home position
273	0				Set continuous move mode (for next move command)
274	0		:rD#	Return: n.n#	Get rotator degrees per step
275	0				Set Axis2 Guide rate to n.n degrees per sidereal second
276	0		:REn.n#		
277	0		:rF#		Set slew rate to Fast Rate 48X
278	0				Reset rotator at the home position
279	0		:rG#	Return: sDDD*MM#	Set slew rate to Guiding Rate 1X
280	0		:rI#	Return: n#	Get rotator current position in degrees
281	0				Get min position (in degrees)
282	0		:rM#	Return: n#	Set slew rate to Find Rate 20X
283	0				Get Max position (in degrees)
284	0		:rP#		Set slew rate to n, where n = 0..9
285	0		:rQ#		Move rotator to the parallactic angle
286	0		:rR#		Stops movement (except derotator)
287	0		:rSDDD*MM*SS#		Reverse derotator direction
288	0				
289	0		:rT#	Return: M#(for moving) or S#(for stopped)	Set slew rate to Half Max (VF)?X (1/2 of maxRate)
290	0		:SasDD*MM#		Get status
291	0				
292	0				Set Baud Rate where n is an ASCII digit (1..9) with the following interpretation
293	0		:SdsDD*MM:SS.SSS#		
294	0		:SdsDD*MM:SS#		
295	0		:SdsDD*MM#		
296	0		:Sg(s)DDD*MM:SS.SSS#		
297	0		:Sg(s)DDD*MM:SS#		
298	0		:Sg(s)DDD*MM#		
299	0		:SGsHH:MM#(where MM is 30 or 45)#		
300	0		:SGsHH#		
301	0		:ShsDD#		
302	0		:SLHH:MM:SS.SSS#		
303	0		:SLHH:MM:SS#		
304	0		:SMs#		
305	0		:SNs#		
306	0		:SoDD#		
307	0		:SOs#		
308	0		:SPs#		
309	0		:SrHH:MM:SS.SSSS##		
310	0		:SrHH:MM:SS##		
311	0		:SrHH:MM.T##		
312	0				
313	0		:STH.H#		Set Tracking Rate in Hz where 60.0 is solar rate
314	0		:StsDD*MM:SS.SSS##		
315	0		:StsDD*MM:SS##		
316	0		:StsDD*MM##		
317	0				
318	0		:SXII.n#		Set OnStep value where II is the numeric index and n is the value to set (possibly floating point) to revert an axis to defaults
319	0		:SXA1.R#		to switch between compile and run-time settings
320	0		:SXAC.n#		Set axis settings :SXA1.....#
321	0		:SXAn:#		
322	0		:SzDDD*MM#		
323	0				Master sidereal clock slower by 0.02 Hertz (stored in EEPROM)
324	0				Master sidereal clock faster by 0.02 Hertz (stored in EEPROM)
325	0		:T1#		Track single axis (disable Dec tracking on Eq mounts)
326	0		:T2#		Track dual axis
327	0				Tracking disable
328	0				Tracking enable
329	0				Track rate king
330	0				Track rate lunar
331	0		:To#		Track refraction disable
332	0				OnTrack enable
333	0				Track rate sidereal
334	0				Master sidereal clock reset (to calculated sidereal rate, stored in EEPROM)
335	0				Track refraction enable
336	0				Track rate solar
337	0		:VH#	Return: n#	Toggle between low/hi precision positions
338	0		:VRn#	Return: sn#	PEC index sense position in seconds
339	0		:Vrn#	Return: x0x1x2x3x4x5x6x7x8x9#(hex one by one)	Read PEC table entry rate adjustment (in steps +/-) for worm segment n (in seconds)
340	0			Return: sn,n#	Read out RA PEC ten byte frame in hex format starting at worm segment n (in seconds)
341	0		:VS#	Return: n.n#	Read PEC table entry rate adjustment (in steps +/-) for currently playing segment and its rate adjustment (in steps +/-)
342	0		:VW#	Return: n#	PEC number of steps per second of worm rotation
343	0		:W?#	Return: n#	PEC number of steps per worm rotation
344	0		:Wn#		Queries current site
345	0		:WR-#		Sets current site to n, where n = 0..3
346	0				Move PEC Table back by one second
347	0		:WRn.sn#		Write PEC table entry for worm segment [n] (in seconds) where [sn] is the correction in steps +/- for this 1 second segment
347	0		:WR+#		Move PEC Table ahead by one second