GOTONOVA RS-232 COMMAND LANGUAGE

Version 1.01

Abbreviations used:

DD or DDD degrees or day of the month depending on the context
HH hours
MM minutes or month depending on the context
MM.M minutes and tenths of minutes
s + or - sign , assumed to be + if omitted
SS seconds
SS.S seconds and tenths of seconds
YY last two digits of the year

General Telescope Information:

Command: :SG sHH#
Response: "1"
Sets the offset from Greenwich mean time. The offset can be entered in signed format (-12 to +12) hours.

Command: :Sg sDDD*MM:SS#
Response: "1"
Sets the current longitude. The east is positive while the west is negtive.

Command: :St sDD*MM:SS
Response: "1"
Sets the current latitude.

Command: :SL HH:MM:SS#
Response: "1"
Sets the current local time.

Command: :SC MM/DD/YY#
Response: 32 spaces followed by "#", followed by 32 spaces, followed by "#"
Sets the current date.

Command: :GG#
Response:
East Longitude E HH:00#
West Longitude W HH:00#

Gets the offset from Greenwich mean time.

Command: :Gg#
Response: sDDD*MM:SS#
Gets the current longitude.

Command: :Gt#
Response: sDD*MM:SS#
Gets the current latitude.

Command: :GL#
Response: HH:MM:SS.S#
Gets the current local time in 24 hour format. Overflows from 23:59:59 to 00:00:00.

Command: :GS#
Response: HH:MM:SS.S#
Gets the current local sidereal time in 24 hr. format.

Command: :GR#
Response: HH:MM:SS.S#
Gets the current Right Ascension of mount.

Command: :GD#
Response: sDD*MM:SS#
Gets the current Declination.

Command: :GA#
Response: sDD*MM:SS#
Gets the current Altitude.

Command: :GZ#
Response: sDD*MM:SS#
Gets the current Azimuth.

Command: :GC#
Response: MM:DD:YY#
Gets the current calendar day.

Telescope Motion

Command: :MS#
Response: “0” if command accepted,
"1Object is below horizon #" the desired object is below 0 degrees altitude. (8 trailing spaces before “#”, 32 total characters plus “#”)
Target command: Slew to the most recently defined RA and DEC coordinates in RA-DEC mode,

Command: :Mn# :Ms# :Me# :Mw#
Response: (none)
Command motion in the direction specified (n=north, s=south, e=east, w=west) at the currently selected guide or centering
rate. Motion will continue until a quit command is issued.

Command: :Qn# :Qs# :Qe# :Qw#
Response: (none)
Stop motion in the specified axis. Note that :Qn# is identical to :Qs#, and :Qe# is identical to :Qw#. Motion is terminated only if it was not started by a slew (:MS#) command.

Command: :Q#
Response: (none)
Motion in both axes is stopped, regardless of how the motion was invoked.

Command: :RG#
Response: (none)
Selects guide. If tracking is stopped , turn tracking on

Command: :RC#
Response: (none)
This command to quit guide mode.

Command: :RCn#
Response: (none)
:RC0 # Set moving speed by N-S-E-W Keys to 16x
:RC1 # Set moving speed by N-S-E-W Keys to 64x
:RC2 # Set moving speed by N-S-E-W Keys to 256x
:RC3 # Set moving speed by N-S-E-W Keys to 512x

Command: :pS#
Response: “East#” or “West#”
This command returns the side of the pier on which the telescope is currently positioned.

Position

Command: :CM#
Response: “Coordinates matched. #”
(there are 5 spaces between “Coordinates” and “matched”, and 8 trailing spaces before the “#”, the total response length is 32 character plus the “#”.
Calibrate mount. Current Right Ascension and Declination become the commanded Right Ascension and Declination. This command do the same thing as synchronize to target. This command should be used after a “:MS#” command has been finished. This means a GOTO must be done first.

Command: :CMR#
Response: “Coordinates matched. #”
(there are 5 spaces between “Coordinates” and “matched”, and 8 trailing spaces before the “#”, the total response length is 32 character plus the “#”.
Calibrate mount. Current Right Ascension and Declination become the commanded Right Ascension and Declination. This command synchronize HC coordinate to commanded coordinate. No GOTO need to be done first.

Command: :Sr HH:MM:SS.S#
Response: “1”
Defines the commanded Right Ascension, RA.

Command: :Sd sDD*MM:SS#
Response: “1”
Defines the commanded Declination.
Miscellaneous

Command: :Sa sDD*MM# or :Sa sDD*MM:SS#
Response: “1”
Defines the commanded Altitude, ALT.

Command: :Sz DDD*MM# or :Sz DDD*MM:SS#
Response: “1”
Defines the commanded Azimuth, AZ.

Miscellaneous

Command: :V#
Response: (current servo controller software RS232 command language version number)
This command returns the current servo controller software RS232 command language version.

Command: :Vs#
Response: (current servo controller software infomation)
This command returns the current servo controller software information.

Command: :STR0#,:STR1#,:STR2#
Response: '1'
This command set the track rate.
0 - sidereal
1- solar
2- lunlar

Command: :GTR#
Response: '0','1','2'
This command get the current tracking rate.
0 - sidereal
1 – solar
2 - lunlar

Command: :SGS0#,:SGS1#,:SGS2#,:SGS3#,
Response: (none)
This command set the guide rate.
0 – 1.0X of sidereal
1 – 0.8X of sidereal
2 – 0.6X of sidereal
3 – 0.4X of sidereal

Command: :GGS#
Response: '0','1',2,'3'
This command get the current guide rate.
0 – 1.0X of sidereal
1 – 0.8X of sidereal
2 – 0.6X of sidereal
3 – 0.4X of sidereal

Command: :SE?#
Response: '0','1',

This command get the slewing status.
‘1’ in slewing
‘0 ‘ not in slewing

Command: :GAM#
Response: ‘0’,’1’, ‘2’
This command get the current mount type.
0 – Altitude/Azimuth type
1 – fork mount
2 – Germany equator mount

Command: :PK#"
Response: ’1’
This command park the telescope .

Command: : STPKP0#, :STPKP1#, :STPKP2#, :STPKP3#, :STPKP4#,
Response: ’1’
These command set the mount park position.
0 – original to north pole
1 - Left and vertical
2 - Left and horizon
3 - Right and vertical
4 - Right and horizon

RS-232 Port Settings:

Baud Rate: 9600
Parity: none
Data bits: 8
Flow Control: none (does not support Xon/Xoff or hardware flow control)
Start Bits: 1
Stop Bits: 1