Revisions to ROM Chip of GTOCP1 and GTOCP2 Control Boxes

Updated: 07-03-06

The GTOCP1 and GTOCP2 Control Boxes utilize the same microprocessor ROM chip. These chips cannot be used in the GTOCP3 Control Box. Please check the front panel of your control box to determine which version you have.

Find your current ROM chip version: Check the version letter and date of the microprocessor ROM chip by opening the top of the GTO control box and looking for a label on one of the large, square chips. If your chip is not dated at all, it was probably programmed prior to July 1999 and is an early version. Some chips will have the letter "K" precede the version number, i.e."KC." These chips are for 400GTO and 600EGTO mounts with a 32:1 gearbox (mounts shipped after 2-16-00).

07-18-05 Version E1 and KE1

This chip is available for upgrade of the GTOCP1 or GTOCP2 control boxes and comes with an extraction tool and instructions. Please specify part # CHIPKITE1 or CHIPKITKE1 (if your present chip version begins with K). The price is $60 plus shipping. You must provide the serial # for your mount when ordering. If you do not wish to extract and replace the chip yourself, please call Astro-Physics to arrange for return of your control box.

- Fixed a bug that caused spurious motion when a “quit” is issued during velocity limit. At 1200x, upon release of a N-S-E-W button or upon a STOP during a slew, a motor may stop, and subsequently resume an uncommanded motion at 1200x. A subsequent STOP has no effect. Greatest susceptibility occurs at cold temperatures or on a heavily loaded mount, which causes the mount to have a more difficult time “keeping up” with 1200x.
- This chip will return “E” in response to version command :V#

08-30-01 Version E and KE

Only a few chips with these versions were shipped.

- Eliminated possibility of extraneous character occurring during a slew. This character was a non-integer and appeared in the declination number where “A” represents a non-integer: -A33*23*15# This character did not affect the accuracy of the slew in any way, it simply affected the computer display of the mount position. Only a few chips with this version were shipped. It was not necessary to replace the D chips that had been purchased since TheSky software ignored the extraneous character and a recommendation to ignore the character was made to the command language document.

05-07-01 Version D and KD (Beta testers 04-05-01)

- Command added to query mount regarding position of telescope on east or west side of pier/tripod. This command is useful for dome control software and remote control.

01-22-01 Version C and KC

- PEM memory was corrected. The new park function introduced in version B was overwriting the PEM memory.

11-13-00 Version B

(the chips issued between 11-13-00 and 01-22-01 are marked "A" but were really version B)

- Chip has higher memory capacity for new functions.
- Error checking code added to indicate stalled motor and low battery conditions.
- Add an extra decimal digit to the returned RA coordinate when in high-precision mode. This increases accuracy of RA format to HH.MM.SS.S

- Added function that allows keypad to determine version of servo controller software.
- Recognize the ASCII 223 symbol (in addition to the asterisk) as the degree symbol when interpreting commands. This will make more compatible with Meade protocol.
- Eliminate extraneous Dec motion when commanding small RA movements.
- Servo control can be commanded using Alt-Azimuth coordinates.
- New park command de-energizes motor and remembers RA/Dec coordinates when power is removed. Restores saved RA/Dec coordinates on next power up and calibrates to them when commanded.

05-22-00

- Allows recalibration even when scope has crossed the meridian and is on the wrong side of the mount.

02-16-00

- Overload protection improved to utilize thermistor, dual red/yellow LED and N-S-E-W button restart of keypad (requires upgrade of circuit board in GTO control box to implement, also two different chip programs depending on which gearhead is installed).

11-30-99

- PEM for Parallax Mounts corrected.

08-09-99

- Allow recalibration during PEM playback without extraneous motion.

07-29-99

- Initialize the COM ports twice to be sure they can establish communication consistently.

5-13-99

- Horizon check - This function is normally used from the keypad. Added it to the chip so that people who are writing software will have access to this command code. Commands:
  :ho# means on
  :hq# means off
- Fix communications interrupts that caused a problem when using DigitalSky Voice™ and TheSky™ software together. This problem occurred with version 5 of TheSky.

12-18-98

- The telescope can now be placed in any of 3 park positions, the power turned off and the keypad removed. When the power and keypad are restored, the mount will stay parked and not resume tracking until the Resume from Park function has been entered on the keypad.a

  Note: We recommend removing all power cords from the mount and/or from the wall socket to prevent damage from direct lightening strikes.

10-30-98

- If motor stalls more than 1 second, the drive will shut off. This is a safety feature to prevent motor burnout in case of severe load on the motor due to an extreme imbalance condition or if the power to the mount has been accidentally left on and the scope has hit a hard stop.

7-17-98

- Fixed PEM (was not recording properly)

7-16-98

- Can slew anywhere in sky with buttons and mount knows where it is (used to get lost if you were pushing N-S-E-W buttons to guide across the meridian or when scope was below mount).

- Made adjustments to allow correct movement (motors and slewing direction) in southern hemisphere.

7-9-98

- Solved 80% of problem - if slew with buttons to various areas of sky, the mount gets lost when asked to slew to object. Just two areas remain that are below mount in areas not likely to slew to.

Disclaimer

Astro-Physics makes every effort to release chips that are free from bugs. However due to complex interactions and situational variables, we might not catch them all. If new bugs are discovered, we will make every effort to fix the error quickly and offer replacement chips at a reasonable cost.