

BUG LISTS FOR KEYPAD VERSIONS 4.07 AND ABOVE

Updated: 09-16-11

V4.17

- **Eastern Longitudes** The accuracy of eastern longitude values that are sent to the mount has been improved by including minutes in the calculation. We are unable to add seconds into the calculation at this time, due to memory space limitations in the keypad.
- **Eastern Time Zones When Polling the Mount** The 3=Get Time/Loc FrMnt command (how you “poll” the mount) now returns correct time zone values for people in eastern longitudes using the GTOCP3 control box. (GTOCP1 & 2 control boxes already returned the correct time zone values in version 4.12 and continue to do so in version 4.16)
- **Remaining Keypad issues to be resolved with V4.20 release:**
 - Slightly inaccurate eastern longitude values are still being sent to the mount. Accuracy has been improved to within +/- an arc minute.
 - Western longitudes with Eastern Time zones – a remaining issue. We suggest operating on GMT with no offsets.
 - Polling the Mount (3=Get Time/Loc FrMnt command) returned incorrect GMT offset values
 - General issue resolution for most users.
 - Special problems with time zone zero and west longitudes
 - Issue with time zone 12 East and Daylight Savings Time
 - Longitude limit for people near 180° East Longitude
 - Dealing with the International Date Line and fractional time zones

V4.16

- A bug was discovered in the initialization process of version 4.16. It likely was also present in v.4.15, but this has not been confirmed, since very few keypads were ever programmed with v.4.15. Keypads would sometimes freeze up during initialization, especially when resuming from reference Park 1. A calculation routine in the firmware was corrected. No damage was done to the keypad from this bug.

V4.15

- Older keypads with Serial number 1490GTO and earlier may lose the function of the real time clock when this version is installed. Newer keypads are not affected. Clock function is restored by re-loading v.4.12 and no damage is done to the clock module itself.

V4.12

- LST and GMT will not compute properly when you poll the mount under the following conditions: time zone 0, daylight savings =1 (for Summer). You are polling the mount when you use the external startup sequence (Auto-connect set to EXT) or when you follow this sequence: select 2=Setup, then 1=Locations and Time, then 3=Get Time/Loc FrMnt. Both of these procedures get the date, time and location information that is stored on the chip of the GTO control box. If an external computer program initialized the mount, the LST/GMT will be off 2 hours, if the mount was initialized by the keypad, the

error will be 1 hour. The erroneous LST will affect Park -- position, meridian swap and horizon settings. This bug does not occur when daylight savings is set to 0 (for Winter) or in any other time zone.

V4.11

- For E longitude locations, the GMT display will be incorrect if the local hour time is lower than the time zone (GMT offset). For instance if the time is 7AM and the time zone is 08. This is strictly a display issue and does not affect the LST or performance of the mount.
- For E longitude locations and Auto-start is set to EXT, the GMT and LST will be incorrect. As a result, the horizon check will not be accurate. The keypad may indicate incorrectly that some correct objects are below the horizon and allow you to slew to other objects that are really below the horizon. This is the result of the way the GMT is recognized by the chip in the control box. All software programs that read the GMT from the mount must compensate for this.
- After 4.11 is loaded, you may not be able to Set Date & Time. You may get an error message that states "Date/Time Edit Not Permitted on LOC:E". If you go to the Main Menu and press 4=Time/LST, you may see LOC=-3 in the lower right corner. This is an invalid default location that is causing the problem.
Workaround: Please go to the procedure later in this document to resolve this issue.
- Auto-Connect YES does not work correctly for locations 2-9.
- The keypad RESET command only resets the location data fields in real time, the other values are reset when the mount is powered down and up again. As a result, Auto-start may not work in the expected manner if the value was changed after the keypad was reset.
- It is possible to save a value other than N-S-E-W into the Site Location Data screen. Error checking not present.

V4.10

- After you park the mount, it will not Resume from Park when you press MENU within the Park menu screen. **Workaround:** Turn the power off.
- If you go into the Location Selection screen (where you enter the number of the location you want to change), then press MENU to back out because you changed your mind, the location on the Time/LST screen will change to LOC:0. However, the keypad will still know that it is at the location you selected when you started your session. The marker simply changes.
- The Sync command in the Messier, NGC and IC input screens does not work properly. If you sync on this screen, the RA and Dec numbers of the last object that you entered will be used.
- For E longitude locations, the GMT display will be incorrect if the local hour time is lower than the time zone (GMT offset). For instance if the time is 7AM and the time zone is 08. This is strictly a display issue and does not affect the LST or performance of the mount.
- For E longitude locations, Auto-start is set to EXT, the GMT and LST will be incorrect. As a result, the horizon check will not be accurate. The keypad may indicate incorrectly that some correct objects are below the horizon and allow you to slew to other objects that are really below the horizon. This is the result of the way the GMT is recognized by the chip in the control box. All software programs that read the GMT from the mount must compensate for this.
- After 4.10 is loaded, you may not be able to Set Date & Time. You may get an error message that states "Date/Time Edit Not Permitted on LOC:E". In fact, if you go to the Main Menu and press 4=Time/LST, you may see LOC=-3 in the lower right corner. This is an invalid default location that is causing the

problem. **Workaround:** Please go to the procedure later in this document to resolve this issue.

- Auto-start “yes” does not work correctly for locations 2-9.
- The keypad RESET command only resets the location data fields in real time, the other values are reset when the mount is powered down and up again. As a result, Auto-start may not work in the expected manner if the value was changed after the keypad was reset.
- It is possible to save a value other than N-S-E-W into the Site Location Data screen. Error checking not present.

v4.07

Some of these are not really bugs, but may be different than prior versions. These are unintended changes that will be rectified in future versions.

- PEM state does not automatically change to play after recording, even though the screen indicates that it does. **Workaround:** After you record PEM, you must turn the keypad off, wait a few seconds, then turn it back on to activate the PLAY function.
- When using RA/DEC readout, the servo may, at times, not accept N-S-E-W button commands. May not stop when releasing one of 4 buttons or when pressing STOP. This may result in a runaway mount.
- The keypad does not send the proper Re-calibrate command from the RA/DEC/REV menu. It sends the SYNC command instead. This may cause your mount to go upside down when going to another star.
- The mount will track at sidereal speed when you resume from park (after powering off), regardless of the tracking rate when you parked. **Workaround:** You will need to check the tracking rate and change it if needed.
- The Meridian Delay settings are saved from one session to another. As long as you remember this, it is not a problem. However, if you do not remember, you could experience the mount moving in the wrong direction. It is best to set the Meridian Delay to zero before ending your session.
- After you park the mount, it will not Resume from Park when you press MENU within the Park menu screen. **Workaround:** Turn the power off.
- If you go into the Location Selection screen (where you enter the number of the location you want to change), then press MENU to back out because you changed your mind, the location on the Time/LST screen will change to LOC:0. However, the keypad will still know that it is at the location you selected when you started your session. The marker simply changes.
- The Sync command in the Messier, NGC and IC input screens does not work properly. If you sync on this screen, the RA and Dec numbers of the last object that you entered will be used.
- The GMT display will be incorrect for all locations with an E longitude. The calculation of GMT is for display only and will not affect the function of your mount.
- For E longitude locations, the GMT display will be incorrect if the local hour time is lower than the time zone (GMT offset). For instance if the time is 7AM and the time zone is 08. This is strictly a display issue and does not affect the LST or performance of the mount.
- For E longitude locations, Auto-start is set to EXT, the GMT and LST will be incorrect. As a result, the horizon check will not be accurate. The keypad may indicate incorrectly that some correct objects are below the horizon and allow you to slew to other objects that are really below the horizon. This is the result of the way the GMT is recognized by the chip in the control box. All software programs that read

the GMT from the mount must compensate for this.

- After 4.07 is loaded, you may not be able to Set Date & Time. You may get an error message that states "Date/Time Edit Not Permitted on LOC:E". In fact, if you go to the Main Menu and press 4=Time/LST, you may see LOC=-3 in the lower right corner. This is an invalid default location that is causing the problem. **Workaround:** Please go to the procedure later in this document to resolve this issue.
- Auto-start "yes" does not work correctly for locations 2-9.
- The keypad RESET command only resets the location data fields in real time, the other values are reset when the mount is powered down and up again. As a result, Auto-start may not work in the expected manner if the value was changed after the keypad was reset.
- It is possible to save a value other than N-S-E-W into the Site Location Data screen. Error checking not present.

Fix Set Date & Time Problem

If you have just loaded the new 4.07 or 4.1 program into your keypad and attempt to Set Date & Time, you may encounter the following message:

Date/Time Edit Not
Permitted on LOC:E
Press MENU to Exit

This message is only valid in the Set Date & Time screen if you have selected 3=Get Time/Loc FrMnt (get time and location from mount). If you have not issued this command, follow the procedure below to correct the problem. You will only have to do this the first time you use the keypad.

Look at 4-Time/LST. In the lower left corner, you should see LOC:-3. This confirms that the bug has caused the problem. If you see LOC:E, then you have selected 3=Get Time/Loc FrMnt and you are in an external mode. If that is the case, your keypad is operating properly and you should not follow these instructions.

1. Select MENU | 3=Keypad Options | 1=Auto-Connect: YES
2. Change to 1=Auto-Connect=No (Press 1 to scroll through the options).
3. Press MENU.
4. Turn off power.
5. In the Location Selection screen, enter 0. This is the secret built-in location data for Astro-Physics. We use this to test the keypads. Press GOTO.
6. Select 3=Resume from Park.
7. Go to Setup | 1=Locations & Time | Set Date & Time.
8. You will be able to change the date and time as usual.
9. Enter your location data, if you have not already done so.
10. Turn off the power and wait a few seconds.
11. Turn on the power and follow your normal startup procedure.