

UPGRADING OLDER KEYPADS TO VERSION 5.

Your control box and keypad both have firmware that enables them to function and to communicate. Each time you upgrade your keypad, you will also need to ensure that your control box has the appropriate version so that all of the necessary commands are available. New control box and keypad firmware versions can be downloaded from this link when they are available: <https://www.astro-physics.com/software-updates>

If you are considering an upgrade from v4.xxx to v5.xxx, please read the information below.

What Mount Control Box Do I Need?

- Only the GTOCP4 and GTOCP5 control boxes have the computing power and required commands to use version 5 of the keypad. Regrettably, the older control boxes (GTOCP1, GTOCP2 and GTOCP3) will not be able to use a keypad with upgraded v5.xx software. Keypad version 4.19.3 or 4.19.5 are recommended for these older control boxes.
- Your GTOCP4 or GTOCP5 must be upgraded to the software version specified in the keypad download instructions.

Can I Upgrade My Present Keypad?

- Keypads with serial numbers 1566GTO and higher (shipped since April 2002) can be upgraded. Keypads with serial number 1565GTO or earlier that have the original 256K circuit board cannot be used with the v5.xx firmware, as they lack the memory capacity. If you have a keypad with a lower serial number that has been repaired and starts with the letter "R", it may have the required memory. Call Astro-Physics for assistance.
- Two of the buttons in the lower row of the newer keypads have different lettering. The text of the former FOCUS button has been changed to RECAL. The button previously labeled RA DEC REV has been relabeled ENTER. The RA DEC REV function will now be accessed through the +- button. The MENU button has been relabeled to include ESC.

If you load v5.xxx.x onto a keypad with the original buttons, you can continue to use it and simply memorize the new function. Alternatively, you may send your keypad to Astro-Physics for an upgrade to new the button pad. Contact Astro-Physics for additional information.



Older Button Labels



Newer Button Labels

What are the Major Differences from Version 4.xx to 5.xx?

- The startup routines are simplified.
- There are no polar alignment routines within the program. However, the various park positions can help you complete the Daytime Polar Alignment Routine. The manual for your mount discusses other options for polar alignment.
- The keypad will automatically adjust to solar or lunar rate when you slew to the sun or moon, respectively. Note that the Main Menu will not display these two rates as current status or provide an option to toggle them. They are only active when you have slewed to the sun or moon.
- Pointing accuracy for stars has improved with proper motion added.
- Time Zone and Daylight Savings are now part of Date/Time setup. Very simple process to change to and from Daylight Savings.
- You don't have to power cycle the mount if you change your location unless you are changing from the northern to southern hemisphere or vice versa.
- What's Up Now and Search have been combined into a more useful function.
- Reverse function can be accessed with the +- button.
- The Sync command is no longer available and the RECAL button is readily available as mentioned above.
- The keypad loader has been updated to a Java-based version that is more user friendly and can be used across

platforms with Windows, Mac and Linux operating systems.

New features include:

- Flip scope option.
- Model options: Point & Track, Drift and Ortho (Keypad Modeling License is required)
- Bookmark favorite objects for quick access or to preplan an observing session.
- Set power level low, medium or high. (GTOCP5 only).

These 4.xx features are no longer available:

- Focus adjustment, illuminated reticle brightness adjustment, Safe Zone, Horizon Limits, RA and Dec backlash adjustment and SmartGuide.

Will Keypad V5 Function the Same for all of My AP Mounts?

Version 5 offers different features depending on your control box.

Mach2GTO with GTOCP5 control box (GTOCP5 not available for other mounts).

- The Autoconnect:NO startup routine is simplified since the mount always knows its position even when the clutches have been loosened.
- All modeling features are enabled: pointing, tracking and orthogonality.
- The Slew Home & Sync function allows you to recover from an incorrect sync or slew commands.
- The power setting feature is available to optimize power usage.
- PEM is not shown since it is not needed.

Mounts with GTOCP4 control box.

- The Autoconnect:NO startup routine requires that you resume from current position or place the mount in one of the park positions.
- PEM (Periodic Error Memory) is an available feature for mounts WITHOUT Absolute Encoders. .
- Mounts with Absolute Encoders: Find Home feature, but should only be used when clutches have not been released.
- Mounts without Absolute Encoders: Home feature is not available.
- The power setting feature is not available since it is not appropriate for the CP4.
- Modeling features: Requires the Keypad Modeling License Key be activated in the GTOCP4. All control boxes with serial number CP4-1423 and later already have this license key. All other control boxes can be upgraded. Refer to information for part # CP4-KEYMODEL-256 on our website.

07-01-22