

## iEQ Pro Firmware Upgrade History

The latest iEQ Pro firmware cover both iEQ45 Pro and iEQ30 Pro. Please set the mount to zero position using hand controller after firmware upgrade.

V20140720 Firmware for iEQ45 Pro main board, R.A. and DEC boards (Initial Release)

V20140721 Firmware for Hand Controller (Initial Release)

V20140822 Firmware upgrade for iEQ45 Pro main board, R.A. and DEC boards

V20140825 Firmware upgrade for HC

### **Improvements:**

- Improved guiding performance.
- Improved the algorithm of Two Star Polar Alignment.
- Using the latest (UCAC4) catalog data for calculating position of Polaris and Sigma Oct.
- Optimize the communication protocol.
- Fixed a bug of sometimes PEC recording will fail.
- Fixed a bug in calculating position of pole star.
- Other minor improvements.

### **Note:**

- ASCOM driver 3.0 and iOptron Mount Control Center 3.0 require this firmware release or later.
- SkySafari Plus and Pro will not work with this firmware release until SkySafari updates its communication protocol with the iOptron mount.

V20140930 Firmware upgrade for iEQ45 Pro main board, R.A. and DEC board

V20141008 Firmware upgrade for HC

### **Improvements:**

- Tracking and guiding performance has been further improved.
- PEC now works with guiding command seamlessly.
- Meridian Treatment has been improved:
  - The position limit passed meridian and behavior (stop or flip) could be set. The position limit of iEQ45 Pro is 30 degrees, or 2 hours.
  - The pointing accuracy after meridian flip has been improved.
- Renamed Polar Align to Polar Iterate Align.
- Replaced Display Pole Error to Display Model Error:
  - If a Two Star Pole Alignment is performed, the Display Model Error will show the Pole Error only.
  - If a Multi-Star (3+ stars) Alignment is performed, the Display Model Error will show the Pole Error, Cone Error together. (**Note:** Multi-Star Alignment has been disabled temporarily for development. It will be enabled in the next release in very near future. )
- The maximum slew speed of iEQ45 Pro has been increased to 6 degree/sec now.
- Improved menu browsing.

### **Note:**

- SkySafari 4 Plus and Pro now work with CEM60 and iEQ45 Pro.

V20141229 Firmware upgrade for iEQ Pro HC, main board, R.A. and DEC board

### **New:**

- Now the firmware support iEQ30 Pro.

### **Improvements:**

- Communication between RA/DEC and main board has been improved.
- Meridian flip is smoother, and takes less time.

### **Bug Fixed:**

- Sometime guiding via ST-4 Guide Port not working properly.

- Side of Pier not reported correctly. (Need to work with iOptron .NET ASCOM 3.2, which will be released soon).
- When enter the R.A. and DEC coordinates of an object, the DEC sign could not be changed.

#### V20150112 Firmware upgrade for HC

##### **Updates:**

- Comets update which includes those brightest comets in next 3 years.

#### V20150228 Firmware upgrade for main board and HC

##### **New features:**

- Now "Three Star Alignment" is available;
- Added "Clear Alignment Data" function;
- "View Model Error" will display linear RA error, linear DEC error, polar misalignment, non-perpendicular between OTA and DEC, and non-perpendicular between HA and DEC.

##### **Improvements:**

- When entering any star catalog menu, it will start where the last object has been chosen;
- Improved One Star Alignment;
- Improved RS233 port communication stability;
- The alignment model error and atmospheric refraction will be applied when go to an object using the hand controller;
- Speed and size were optimized for hand controller firmware.

##### **Bug fixed:**

- The hand controller may report incorrect position of Sigma Octantis in the southern hemisphere.

##### **Note:**

- The mount may need ASCOM 4.0 to work properly when connected to a computer.

#### V20150428 Firmware upgrade for main board and motor control boards

#### V20150505 Firmware upgrade for HC

##### **Improvements:**

- Improved Solar System Alignment;
- Reduced waiting time of Polar Iterate Align;
- Improved motor controlling while working at A/A mode.

##### **Bug fixed:**

- Sometimes One Star Alignment will not work properly;
- RA value of objects in Abell Catalog calculated incorrectly;