

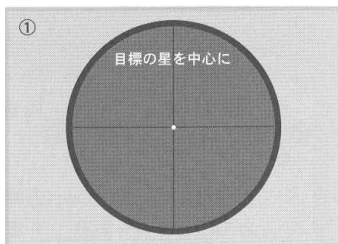
The Equatorial mount (with drive motors) is designed to precisely track the motion of celestial objects. With the equatorial mount you may notice that stars in the field of view of your telescope are moving back and forth very slowly over a period of time (e.g. 10 minutes for GP2 and GPD2). This is a result of viewing them at very high magnification. It is unavoidable since the equatorial mount is driven via gear wheels. However, it may be annoying when you are observing at high magnification.

The PEC (periodic error correction) function electrically rectifies this phenomenon in the equatorial mount. You can correct a drifting motion of the equatorial mount with manual operation of the buttons on the controller and memorize it in the STAR BOOK. It will enable you to track more precisely by using the recorded motion*.

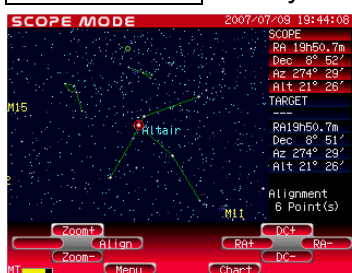
* The tracking accuracy relies on how you correct irregular motions. The tracking may deteriorate if the correction is made inaccurately.

Start the PEC recording

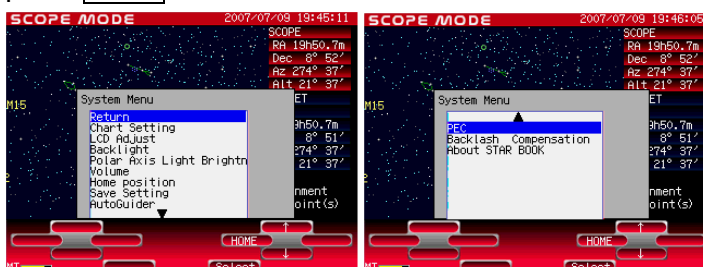
Position a guide star you want to use for the PEC recording in the center cross hairs of your guiding eyepiece. (You can use a Vixen GA-4 illuminated guiding adapter or a Vixen Or-12.5mm with illuminated reticle as a guiding eyepiece.) Use an eyepiece which yields a magnification of approximately 200 power.



Confirm the current screen is in **SCOPE MODE**. Pressing the **Chart** key will change the screen to **SCOPE MODE** when you are in **CHART MODE**.



Press **Menu** to display the System Menu. Move the cursor to **PEC** with the **↑** · **↓** keys and press **Select** to enter the PEC screen.



Choose **Rec. Start** in the PEC screen and press **Select** to start recording while you confirm the guide star is in the center of the cross hairs. Continue tracking the guide star until the recording completes. Since your manual operations are recorded exactly, you need to implement the corrections as precisely as possible. The process takes 8 minutes in full circle.

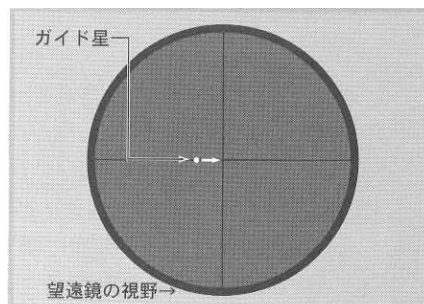
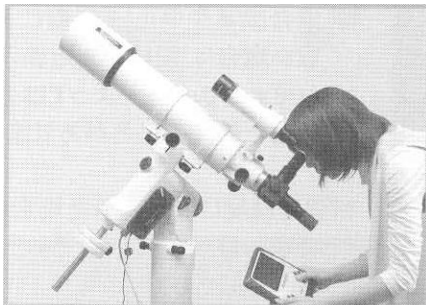


On starting the recording the screen is automatically zoomed to the maximum. You can zoom down for the wide screen with the **Zoom -** key, but be sure to set the zoom level at the maximum when you make the correction. Corrections may be useless in other zoom levels.



During the PEC recording, the guide star may begin slipping out in the direction of the tracking (in the direction of RA). Use the **RA+**, **RA-** keys to keep the guider star at the center of the cross hairs.

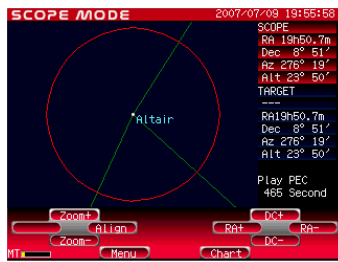
*The guide star may be out of the field of view on the STAR BOOK screen.



When you start recording, the count starts at 480 (PEC: 600) and will count down. The STAR BOOK beeps intermittently for 10 seconds just before the completion of the recording in full circle, until the count reaches 0.

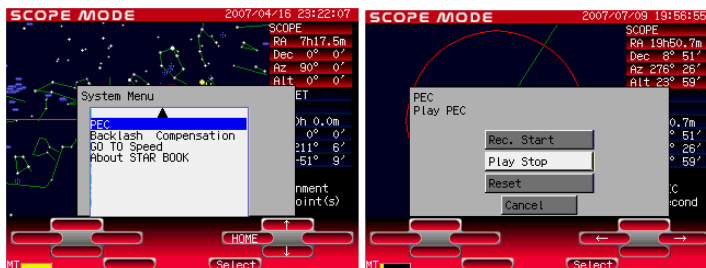
*The count may be skipped and the numbers 480 and 0 may not be displayed due to timing indications.

As soon as the 8 minutes PEC recording has elapsed, PEC Play: xxx (numbers) will come out on the screen. From this stage the recorded PEC compensation value will be reproduced. Continuing corrections with the **RA+**, **RA-** keys will improve the corrections and will make your tracking accuracy increase further.



Stop the PEC recording

Press **Menu** to display the System Menu. Move the cursor to **PEC** with the **↑** · **↓** keys and press **Select** to enter. Choose **Play Stop** (or **Rec. Stop**) in the PEC screen and press the Select key to return to the System Menu.

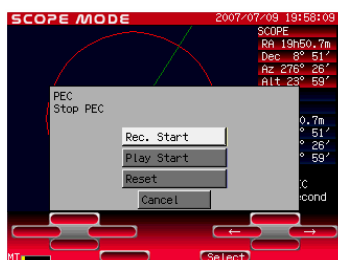


*If the PEC recording is done over one cycle, **Play Stop** will be shown on the screen. If the PEC recording is less than one cycle, **Rec. Stop** will be indicated.

*The PEC recording can be stopped any time after the 10 minutes has elapsed if you are satisfied with the recorded tracking accuracy. As the PEC recording completes in 10 minutes as one cycle, it is best to have the PEC recording stopped at the end of the cycles.

Restart the PEC recording

As you stop the PEC recording, the screen changes to the System Menu. Move the cursor to **PEC** with the **↑** · **↓** keys and press **Select** to enter. Choose **Rec. Start** in the PEC screen and press **Select** to start the PEC recording again.

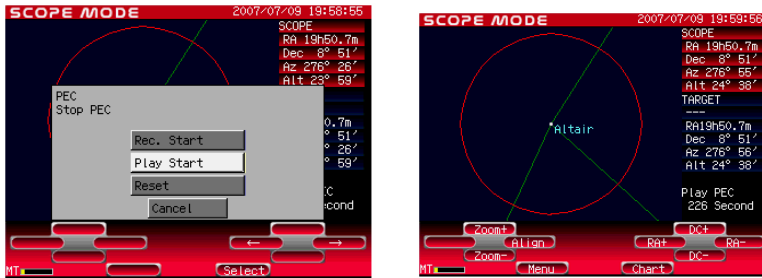


*If the PEC recording is done over one cycle, **Play Start** will be shown underneath the indication of **Rec. Start**. If the PEC recording is less than one cycle, **Play Start** won't be indicated.

Play back the PEC recording

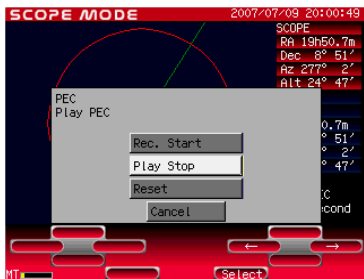
Move the cursor to **PEC** with the **↑** · **↓** keys in the System Menu and press **Select** to enter.

Choose **Play PEC** in the PEC screen and press **Select** to play back the PEC recording. The PEC recording is reproduced.



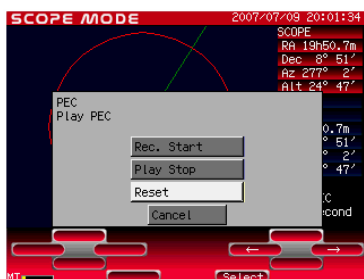
*The motor control on the mount is set at the slowest rate during the play back of the PEC recording and you cannot slew the telescope with the **RA+**, **RA-**, **DC+**, **DC-** keys quickly. Cancel the play back if you need to slew the telescope at higher speed. Automatic Go-To slewing is possible during the play pack.

When you stop the play back of the PEC recording, choose **Play Stop** in the PEC screen and press **Select** to cancel it.



Reset the PEC recording

Press **Menu** to display the System Menu. Move the cursor to **PEC** with the **↑** · **↓** keys and press **Select** to enter. Choose **Reset** in the PEC screen and press **Select** to delete.



*The recorded PEC data will be deleted when you simply turn the power on the STARBOOK-S to off.

*Reset the PEC recording if you halted the PEC recording for the initial 10 minutes or when you were unable to complete the tracking.
End.