

MENUS

Mount Menu

Pressing the MOUNT button will turn up the brightness of the button itself and it allows you to access various Mount menus that can be selected with the direction keys. At the same time, the direction keys are disabled for slewing, except in reference to adjustments for the duration of a PEC recoding. Press the MOUNT button again to return to slewing with the direction keys. The brightness of the MOUNT button will dim and the new settings are saved to the flash memory.

Your settings are not saved in the following status:

- Power is turned off without completing saving.
- Recorded PEC data is not saved if you shut off the power.

Tracking Speed

This allows for changing the tracking speed. The setting is defaulted to "Star".

Procedure:

Pressing the MOUNT button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Mount menu. The subsidiary menu appears as you press the left or right direction key each time and display the "TrackSpd Star" to choose the Tracking Speed setting.

Press the up or down direction key to choose your desired tracking speed other than the sidereal rate ("Star"). The new tracking speed is saved as indicated.

The following tracking speeds are available.

Kings rate (mean sidereal time): "TrackSpd King"

Atmospheric refraction is compensated in the Kings rate.

Lunar rate (mean lunar time): "TrackSpd Lunar"

Solar rate (mean solar time): "TrackSpd Solar"

Faster tracking speed: "TrackSpd StarX1.0"

You can track the mount a maximum of 10 times faster than the sidereal rate. The tracking speed can be changed from X0.1 to X10. This is useful for starscape photography and time-lapse photography. The setting is defaulted to "X10".

The tracking speed is divided into three ranges from low to high speed and allows you to choose your desired speed with the plus or minus buttons.

Tracking Speed Range:

From X0.1 to X2.0 at 0.1 increment

From X2.0 to X5.0 at 0.5 increments

From X5 to X10 at 1 increment

Stop tracking: "TrackSpd Stop"

It is convenient for viewing terrestrial objects in the daytime.

Tracking Direction

The slewing direction of a telescope differs in the northern and southern hemispheres. This allows for changing the rotation of the motors to slew the telescope correctly in your observing site. The setting is defaulted to the motion in the northern hemisphere “TrackDir N Hemis”.

Procedure:

Pressing the MOUNT button will turn up the brightness of the button and it enables you to choose a subsidiary menu in the Mount menu. The subsidiary menu appears as you press the left or right direction key which displays the “TrackDir N Hemis” to choose the Tracking Direction setting.

For using the mount in the southern hemisphere, you need to revise the rotation of the motor. Display the “TrackDir S Hemis” with the up or down direction key to choose.

Setting in the northern hemisphere: “TrackDir N Hemis”

Setting in the southern hemisphere: “TrackDir S Hemis”

Motor Power

This allows for changing electricity consumption of the mount as the need arises. The setting is defaulted to “3”. The smaller the chosen value, the lower the electricity is consumed. However, setting the power too low may cause a tracking failure due to the drop of the motor torque.

Procedure:

Pressing the MOUNT button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Mount menu. The subsidiary menu appears as you press the left or right direction key each time and displays the “Motor Power” option.

Note:

- The wattages are based on the loading weight of 8kgs (17.6 lbs) approximately. The electricity consumption is affected by the size of a telescope mounted and the temperature.

- At the maximum loading weight of 12kg (26.4 lbs), it would be about 0.4A to 2.0A (6.0W to 24W) at 12V.

Slewing Speed

This allows for changing a slewing speed by using the plus or minus buttons. The slewing speed can be chosen from either a preselected speed variation or your defined speed from the listed slewing speed variations. The setting is defaulted to “Slew 4-Speed”.

Procedure:

Pressing the MOUNT button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Mount menu. The subsidiary menu appears as you press the left or right direction key each time and display the “Slew 4-Speed” option.

The slewing speed can be selected between the preset “Slew 4-Speed” and optional “Slew VariSpd” each time you press the up or down direction key (or the plus or minus button). The new slewing speed is saved as indicated.

Slewing is preset at four different speeds variation:

“Slew 4-Speed”

X0.5, X1.0, X30 and X999 of sidereal rate

Slewing at your desired speed variation from the following ranges:

“Slew VariSpd”

X0.5 to 2.0 at 0.1 increments

X2.0 to 5.0 at 0.5 increments

X5.0 to 10 at 1 increment

X10 to 30 at 5 increments

X30 to 100 at 10 increments

X100 to 300 at 50 increments

X300 to 900 at 100 increments

X999

Backlash Compensation

Backlash is a momentary stoppage of the tracking motion of the mount that occurs when the motor gears reverse their rotation. The backlash does not occur while the mount continues tracking at a constant speed as the gears keep contact with each other, however, it may occur when the telescope is slewed with different speeds.

The backlash compensation provides a reduced time lag at the point of reverse motion where the gears lose the contact. It gives smoother rotation of the gears on the mount.

Too much tight engagement of the gears will halt their rotation.

- The backlash compensation is not compatible with an autoguider in most cases. Cancel using this option when you use an autoguider.

Setting for Autoguider

The STAR BOOK ONE can be used for auto guiding in conjunction with an external autoguiding system that is compatible with the SBIG autoguiders. Available setting rates for compensating guide errors are described here.

Auto guiding allows you to automatically guide a telescope on an equatorial mount by means of an Autoguider. The mount receives signals from a CCD video camera attached to a guide scope to achieve uniform and precise tracking speed of the mount. The advantages of the autoguider are most apparent during long exposure astrophotography.

PEC (Periodic Error Correction)

Equatorial mounts with drive motors are designed to precisely track the motion of celestial objects. With the use of a telescope mounted on the equatorial mount, you may notice that stars in the field of view of the telescope at high magnification are drifting back and forth very slowly over a period of time (e.g. 480 seconds with the SX2 mount) in the direction of R.A. This is caused by the motion of the tracking gear wheels and it is part of the design of equatorial mounts. The PEC (periodic error correction) rectifies this

phenomenon on the equatorial mount and records the correction electronically.

The tracking accuracy varies in irregular motion and must be corrected as precisely as possible.

- The SX2 mount does not detect a start point of the PEC recording until the R.A and DEC axes are rotated electrically at an angle of one degree and more. Be sure to confirm this before you start the PEC recording.

Display Menu

Pressing the DISP. button will turn up the brightness of the button itself and it allows you to access various Display menus with the direction keys. At the same time, it makes the direction keys disabled for slewing the mount. Press the DISP. button again to return to the slewing with the direction keys. The brightness of the DISP. button will turn down and the new settings are saved to the flash memory.

Contrast Adjustment

This allows for adjusting the contrast of the LCD screen on the controller. The contrast is adjustable between 1 (low) and 10 (high). The setting is defaulted to "07".

Procedure:

Pressing the DISP. button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Display menu. The subsidiary menu appears as you press the left or right direction key each time and display the "Contrast LCD" to choose the Contrast Adjustment setting.

Pressing the up or down direction key will increase or decrease the value to set and adjust to your desired contrast setting. The new setting is saved as indicated.

Brightness Adjustment

This allows for adjusting the brightness of the LCD screen on the controller. The brightness is adjustable between 1 (low) and 10 (high). The setting is defaulted to "07".

Procedure:

Pressing the DISP. button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Display menu. The subsidiary menu appears as you press the left or right direction key each time and display the "Bright LCD" to choose the Brightness Adjustment setting.

Pressing the up or down direction key will increase or decrease the value to set and adjust to your desired brightness setting. The new setting is saved as indicated.

Backlight Adjustment

This allows for adjusting the backlight of the keys and buttons on the controller. The backlight is adjustable between 1 (low) and 10 (high). The setting is defaulted to "07".

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Pressing the DISP. button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Display menu. The subsidiary menu appears as you press the left or right direction key each time and display the “Bright Key” to choose the Backlight Adjustment setting.

Pressing the up or down direction key will increase or decrease the value to set and adjust to your desired backlight setting. The new setting is saved as indicated.

Red LED Light Adjustment

This allows for adjusting the brightness of the red LED light on back of the controller. The brightness is adjustable between 1 (low) and 10 (high). The setting is defaulted to “07”.

Procedure:

Pressing the DISP. button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Display menu. The subsidiary menu appears as you press the left or right direction key each time and display the “Bright Lamp” to choose the red LED light adjustment setting.

Pressing the up or down direction key will increase or decrease the value to set and adjust to your desired brightness setting. The new setting saved as indicated.

Polar Scope Illumination Adjustment

This allows for adjusting the brightness of the illumination reticle for an optional Polar axis scope on the mount installed. The brightness is adjustable between 1 (low) and 10 (high). The setting is defaulted to “07”.

Procedure:

Pressing the DISP. button will turn up the brightness of the button itself and it enables you to choose a subsidiary menu in the Display menu. The subsidiary menu appears as you press the left or right direction key each time and display the “Bright PlrScp” to choose the Polar scope illumination adjustment setting.

Pressing the up or down direction key will increase or decrease the value to set and adjust to your desired brightness setting. The new setting saved as indicated.

Other Functions

Field of View Orientation

When you try to put your target celestial object in the center of the eyepiece’s field of view on your telescope at high magnification, you may occasionally move the telescope away from object due to the misleading orientation in the eyepiece’s field of view when you use a mirror diagonal. This menu item allows you to instantly reverse the direction of the mount.

Pressing the RA Reverse button will turn up the brightness of the button itself and it allows you to reverse the direction of the RA so that you can change the tracking orientation in the field of view to an opposite direction. Press the RA Reverse button again to return the tracking to the original direction.

Pressing the DEC Reverse button will turn up the brightness of the button itself and it allows you to reverse the direction of the DEC so that you can change the tracking orientation in the field of view to an opposite direction. Press the DEC Reverse button again to return the tracking to the original direction.

Reset

All the settings for the mount and controller can be initialized to the defaulted settings at the Vixen factory. To reset the settings, turn on the power while pressing the plus button and the red LED light button simultaneously for more than one second. Secure your necessary setting values, before you proceed to initialization.