



Installing The Power x Switch

The Single or Dual Arm Power X Switch™ is threaded onto the Denk Binoviewer by way of the threaded male section. Be sure to remove the nosepiece from the Denk Binoviewer first. After the nosepiece is removed, the Power x Switch may be threaded directly into the Binoviewer but be sure that you are *not* cross threading. Check to see that the underside of the Power Switch is parallel with the faceplate of the Binoviewer as you are threading the Power Switch on. The Power x Switch should be firmly seated and should not rotate easily once the installation is complete. Note: If the Power x Switch orientation is not in the desired position for use with a particular telescope after it is completely threaded onto the Binoviewer, shimming instructions are provided below. This orientation is a matter of user preference but a position that places the Power x Switch horizontally is usually most preferred.

SHIMMING

The orientation of the Power X Switch in relation to the Binoviewer may be adjusted by applying stickers to the underside of the Power x Switch. These are included. Place the stickers on the underside of the Power x Switch as shown in the illustration below (use 3 evenly distributed stickers in the case of a Single Arm Power x Switch). You may stack stickers until the Power x Switch is oriented in the position desired and achieving this final orientation may require threading and unthreading the power x Switch several times after each layer of shims are applied.

CLEANING

You may notice that dust settles on the prism of the binoviewer after you have installed the Power x Switch. If this is the case, use a compressed “Air Duster” available at many stores to blow off the debris. Be careful to “clear” the air can before aiming at the prism by giving a few short blasts in a direction away from the binoviewer. Hold the air duster in an upright position tilted back a bit and do not shake the can. Move the Power x Switch arm(s) to the “out” position and blow a few blasts of air onto the prism to clear any material that has settled on the glass surface while the Power x Switch was being threaded into the binoviewer.



Picture showing location of shim stickers applied to the Dual Arm Power x Switch.

2” Nosepiece

If a large black flat washer is supplied, it *must* be placed on the male threaded part of the 2” Nosepiece before the nosepiece is threaded into the Power x Switch or the Power x Switch arms travel will be restricted rendering the Power x Switch non-functional. If each Arm is not traveling fully inward, omission of the washer on the nosepiece threaded male section is likely the cause. This large washer is not needed when using a 1.25” nosepiece. At the time of writing, eliminating the need for using this large washer is underway. If the washer is needed, it will be included with The Dual Arm Power x Switch when ordered.



Installing The Power x Switch

The Dual Arm Power x Switch

Definition

The Power x Switch (the “x” is silent): A Patent Pending innovation that allows Denk Binoviewers and any single pair of eyepieces to operate at varying magnifications instantly. This allows low, mid-range and high magnifications to be used very conveniently while viewing any object with a single set of eyepieces. This is accomplished by moving the Power x Switch arms to an “IN” or “OUT” position. Each Denk II Power Switch contains two Fully Multi-Coated (FMC) doublets. U.S. Patent Application Number: **20040150882**

Basics

The Power x Switch contains internal lenses that may be positioned either in or out of the optical path of the Denk Binoviewer and telescope. Each Power x Switch Arm must be positioned completely “IN” to be used properly. Moving to the “OUT” position removes the optic from the telescope light path. **In either the “OUT” or “IN” position, the arm must be pushed or pulled until it is completely inserted or retracted.**

In the case of a Refractor or Newtonian telescope, the Power x Switch must be used in conjunction with a second optical system called the Multi-Purpose OCS (Newtonians), or with Refractors, SR/Low Power S (depending on star diagonal used. Use of these optical components is necessary to move the focal plane through the binoviewer. In a Refractor or Newtonian (or other related designs), when the Power x Switch arms are in the “OUT” position, only the additional optical components mentioned above remain in the light path. To learn what magnifications will result, see “Refractor Use” or “Newtonian Use” in the Power x Switch Package Manual. “OCS” stands for “Optical Corrector System”.

When using an SCT, there is no need for use of the additional optical cells mentioned above. This is because most SCT mirrors can adequately move the focal plane formed by the telescope through the binoviewer without use of the Multi-Purpose OCS Cell or SR/Low Power S. For specific instructions and to learn what magnifications will result, see “SCT Use” in the Power x Switch Package Manual. The SCT Dual Arm Power x Switch contains both an internal Star*Sweeper reducer and also a 2X Multiplier.

Using The Power x Switch Arms

When using the *Dual Arm Power x Switch* included with all Denk II Power x Switch Packages, there are three possible positions that the arms can be in:

1. Logo-Side Arm “IN” (figure 1)
2. Opposite Arm “IN” (figure 2)
3. Both arms “OUT” (figure 3)

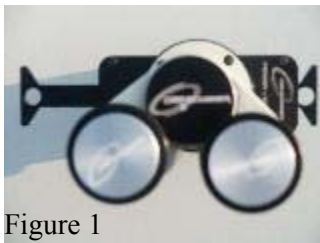


Figure 1



Figure 2



Figure 3

Both arms cannot be placed to the “IN” position at the same time. Anytime that an arm is pushed to the “IN” position or pulled to the “OUT” position, it should be completely set to the end of its travel or the light path of the telescope will be obstructed and degraded images will occur.

Resulting Magnifications

The Power x Switch will create different magnifications depending on telescope used. Please see instructions for a particular telescope design to determine what those factors are.



Installing The Power x Switch

The Standard Power x Switch (Single Arm)

This is a brief introduction to the Power x Switch. See instructions included for the specific telescope type being used with the Denkmeier Power Switch System for more details.

Definition

The Power x Switch (the “x” is silent): A Patent Pending innovation that allows Denk Binoviewers and any single pair of eyepieces to operate at varying magnifications instantly. This allows low and high magnifications to be used very conveniently while viewing any object with a single set of eyepieces. This is accomplished by moving the Power x Switch arm to an “IN” or “OUT” position. Each Standard Power x Switch contains one fully multi-coated doublet. USPTO Patent Application Number: **20040150882 (Lederman/Dankmeyer)**

Basics

The Power x Switch contains an internal lens that may be positioned either in, or out of the optical path of the Denk Binoviewer and telescope. The Power x Switch Arm must be positioned completely “IN” or completely “OUT” to be used properly. Moving to the “OUT” position removes the optic from the telescope light path. **In either the “OUT” or “IN” position, the arm must be pushed or pulled until it is fully stopped.**

In the case of a Refractor or Newtonian telescope, the Power x Switch must be used with a second optical component called the Multi-Purpose OCS* Cell that is included in your package. This must be used to move the focal plane through the binoviewer. In a Refractor or Newtonian (or other related designs) that use the Multi-Purpose OCS Cell, when the Power x Switch arm is in the “OUT” position, only the Multi-Purpose OCS Optic is being used. **To learn what magnifications will result, see “Refractor Use” or “Newtonian Use” in the Standard and Denk II Power x Switch Package Manual.**

*“OCS” stands for “Optical Corrector System”.

When using an SCT, there is no need for use of the Multi-Purpose OCS Cell. This is because most SCT mirrors can adequately move the focal plane formed by the telescope through the binoviewer without use of the Multi-Purpose OCS Cell. **For specific instructions and to learn what magnifications will result, see “SCT Use”.**

Using The Power x Switch Arm

When using the *Single Arm Power x Switch* included with all Standard Power x Switch Packages, there are two possible positions that the arm can be in:

3. Power x Switch Arm “IN” (**Figure 1-S**) for Low Power
4. Power x Switch Arm “OUT” (**Figure 2-S**) For Higher Power



Figure 1-S



Figure 2-S

The Power x Switch will create different magnifications depending on telescope used. **Please see instructions for a particular telescope design to determine what those factors are.**