User's Manual ASCOM Astro Flat Panel

(Models AFP-X)

User's Manual

for the

Astro-Smart

ASCOM Astro Flat Panel Buddy

(Models AFP-X)

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ASCOM Astro Flat Panel Buddy (Model AFP-X)

A. Overview

The ASCOM Astro Flat Panel Buddy(Model: AFP-X) can be setup with your telescope for troublefree operation to control the ADU intensity of your flats automatically via software such as NINA and Sequence Generator Pro. The AFP-X has the ability to control your flat exposure with either 5V or 3.3V selection for all possible optical light path variations needed to match the appropriate gain and full well percentage setting chosen for your light frames.

Typically, you want about 25% of your maximum ADU full well for the chosen gain setting of your camera. For instance, one camera used at zero gain might have a full well of 65K ADU and the matching flat intensity exposure should set to about 16K ADU. However, if a 100 gain setting is used the full well will be less say 25K based on camera gain and full well curves. In this case the flats should be at 6K ADU for instance.

The flat panels come in various sizes for your telescope using a round flat panel design covering 16, 14, 12, 10, 6 and 4 inch telescope optics. For those who prefer a rectangular shape of any size panel can request per special order upon request.

The easiest way is to use the NINA flat panel wizard which automatically moves your telescope to Zenith where you simply place the flat panel on you telescope or dew shield when taking your flats.

Another nice feature of the NINA flat panel wizard is it will adjust the flat panel intensity automatically using the ASCOM interface when a chosen ADU is set.

The **ASCOM Astro Flat Panel Buddy(Model: AFP-X)** is designed for Astronomers and Astrophotography's who want a low cost, compact yet powerful ASCOM Flat Panel controller that can be used for portable or observatory mounted telescopes.

The **ASCOM Astro Flat Panel Buddy (Model: AFP-X)** is designed to be used with any make or model of telescope. Whether you have a refractor, newtonian, schmidt-cassegrain, or a ritchey-chretien, the **AFP-X** will solve your flat panel needs.

The **ASCOM Astro Flat Panel Buddy (Model: AFP-X)** systems comes supplied with a 10ft USB-C interface but can be shortened or extended based on user needs. It also has a 5V or 3.3V selection switch that must be positioned to left for 5V operation or to right for 3.3V operation. The middle switch position turns the Flat panel off which can be used for taking darks.

B. Features

Since, the inception of this unique product at Astro-Smart, the **AFP-X** was many years in the making, over long periods in astronomy using existing products on the market to control dew, identifying their weaknesses and limitations making the product you see before you. The **AFP-X** is finally here!!! The Astro-Smart **ASCOM Astro Flat Panel Buddy**(Model **AFP-X is** designed to be user friendly, serviceable, elegant and reliable and include the following features shown below:

1. ***Worry Free Warranty Program For Life Of Product Sale.***
2. ***ASCOM interface control***
3. ***5Volt or 3.3Volt Selection switch for PWM Flat Panel Intensity upto 255 levels.***
4. ***USB-C style input to USB-A cable PC port interface.***
5. ***Power LED.***
6. ***Price point set below development cost for such a system while providing more features.***

The **ASCOM Astro Flat Panel Buddy** (**AFP-X)** was designed with the same Astro-Smart USER-Friendly design philosophy as all our other products:
- Usable
- Serviceable
- Elegant
- Reliable
- Build with burn in time testing before ship.

... USER-Friendly

C. Base Package Contents

The package contents are shown below.

1. AFP-X Family Flat Panel

2. USB-C cable 10ft standard.

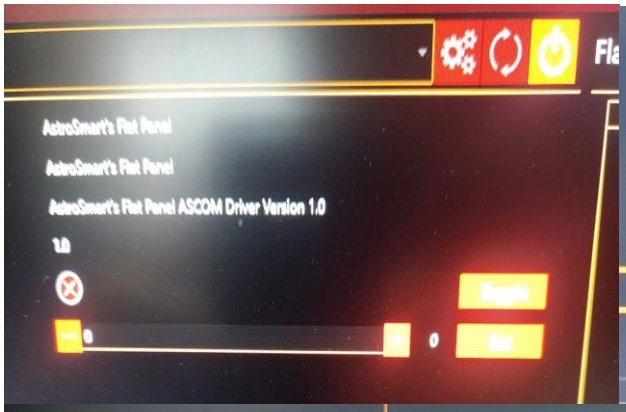
D. AFP-X Front Panel And Connector Diagram

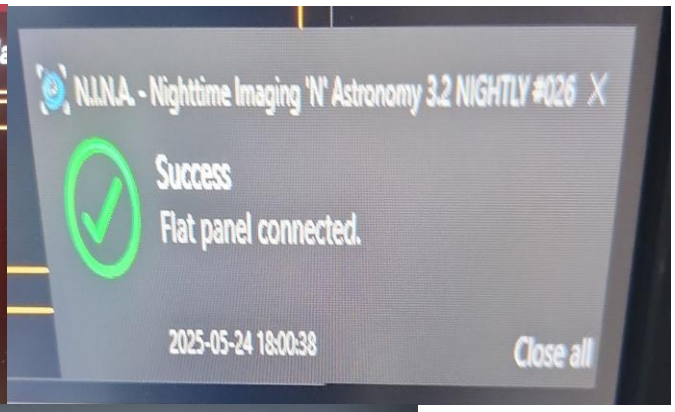
- **ASCOM Astro Flat Panel Buddy (Model AFP-X)** Configuration .

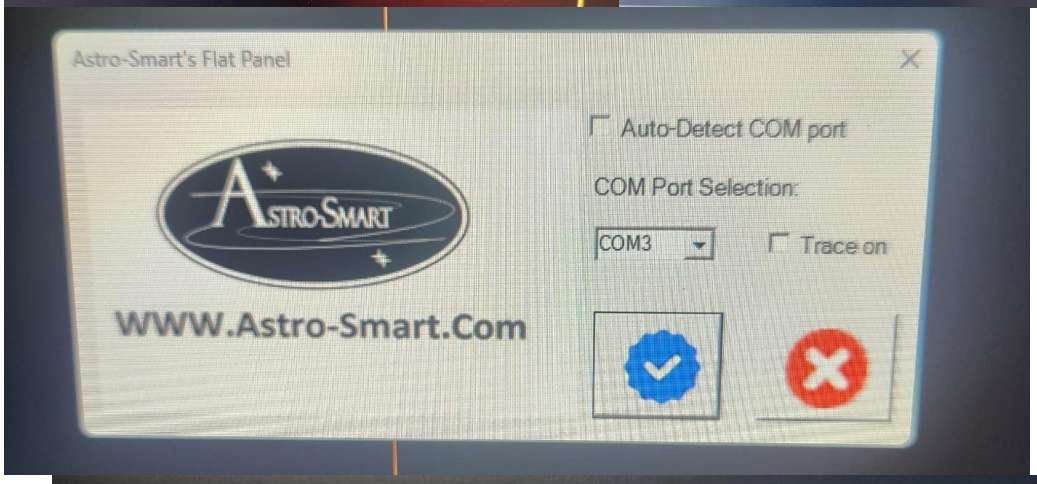
E. Basic ASCOM Functionality

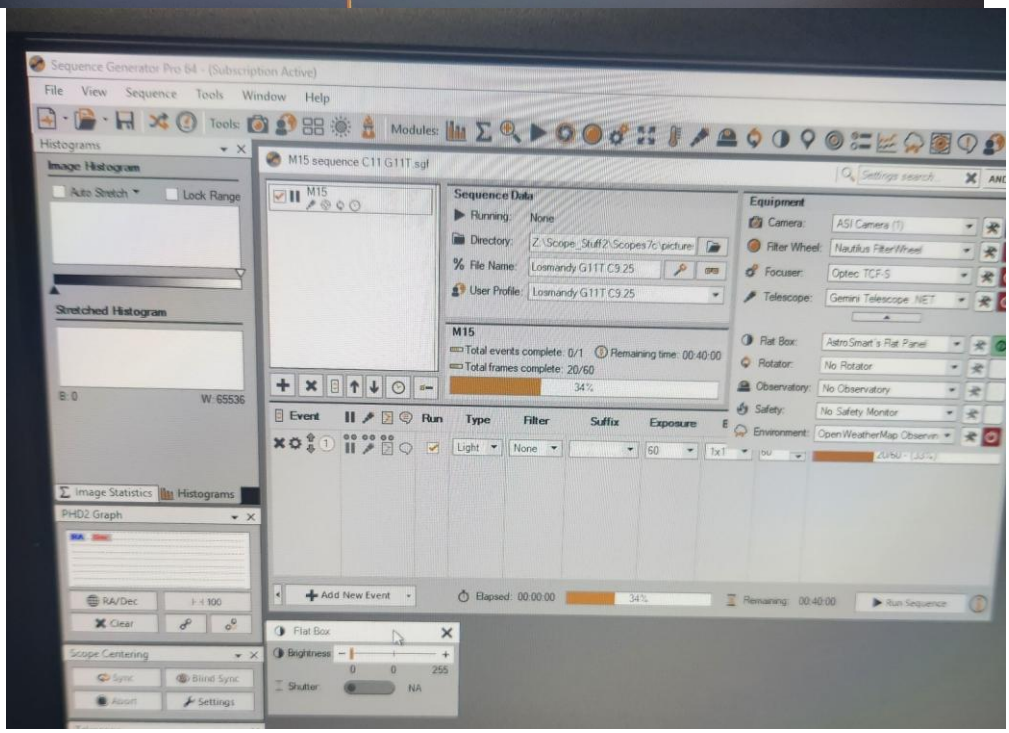
Shown below are some snapshots using the ASCOM interface with NINA and Sequence Generator Pro. Other 3rd party software that support flat panels can also be used such as APT that have a ASCOM interface.

NINA and Sequence Generator Pro…









F. Warranty, Policies, Copyright Notice:

Life Time Warranty

All products are guaranteed to the original purchaser to be free from defects in material and workmanship for the life of the product from the date of original purchase. Simply put, once you buy a Astro-Smart product we make sure it works for as long as you keep the product for free upgrades of software and firmware for the product. Warranty coverage excludes normal wear and tear, or damage caused by improper installation, any modification, abuse, misuse, improper maintenance, and unauthorized repairs or modifications to the original product. Shipper is responsible for proper packaging, shipping and insurance on applicable upgrades or repair items. . Upon receipt of returned product, Astro-Smart will assess the item/s to determine if they comply with the conditions of our warranty. Astro-Smart is not responsible for damage caused by the freight carrier, i.e.: USPS, UPS, FED EX, etc., to our product. A claim to repair or replace the product must be initiated by the recipient. In no event shall Astro-Smart be liable for any claim for incidental or consequential damage arising out of or in connection, manufacture, delivery or use of any product offered on this website or by information received by US mail, E-mail, data files or fax.

Return Policy

Merchandise must be returned in new (mint) condition within 30 days of receipt for exchange/refund which may be subject to 20% restocking charge (Shipper is responsible for proper packaging, shipping, and insurance.). We must receive the returned merchandise within 30 days of the date you received it. All items must be in new (mint) condition when returned and fully functional. Returned items cannot show evidence of use or wear, dirt, or blemishes of any kind. Merchandise must be returned in its original packaging and should include all supplied materials, instructions, original accessories, hardware, and any CD software disks provided. Software purchases via email or download since released are non-refundable. Astro-Smart is not responsible for lost or damaged packages. Return shipping costs are the responsibility of the customer. Any returned items must be in "as new" condition. We ask that you open and inspect your order upon receipt. No insurance or damage claims will be accepted more than 3 days after delivery. All customers MUST email Astro-Smart before returning products for warranty or repair to get an RMA#(Return Merchandise_Authorization).

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