

# **DEEP SKY DAD FT1 MANUAL**



Making flats can be quite cumbersome, especially if you stride towards automation and simplification of the process. Our flap panel makes making flat frames with your refractor telescopes part of automated routine, without hacks like lcd screens, sky with t-shirt etc.



## Intro

Deep Sky Dad Flat Panel enables automation of making flats. We are currenly offering 2 variations of our flat panel:

- 300mm x 300mm x 11mm
- 600mm x 600mm x 11mm

## Features

- Lightweight design (ALU frame, thin design)
- Easy installation with 2 bolts (in case of wall mounting)
- Dimmable LED light
- Manual control with button
- ASCOM support
- INDI support
- Power requirements: 12V 3A (not included)
- PC connectivity: micro USB cable (not included)

## Installation

Panel contains 4 utility holes and comes with bolts for installation.

## FAQ

# **Basics**

#### What kind of power adapter can I use?

We recommend 12V DC power adapter, as the units are fine tuned to this specific voltage. However, autofocuser will work up to 14V. Socket specification: tip positive, 5.5mm x 2.1mm. Should you not have 12V adapter at hand, the units also work in range from 12V-14V without issues. Current output of the power adapter should be about 3A, but can be more (it will not damage the flap).

#### When I connect the flap to computer, Windows does not recognize it. What can I do?

If you are using Windows 10, the driver will self install. If you are using Windows 7, please install <u>32</u> or <u>64</u> bit driver. Should you experience any problems with detection (COM port not visible, no USB device connected chime), try:

- different USB cable
- direct connection (without USB hub)
- using USB 2.0 port (instead of 3.0)

## How can I upgrade the firmware?

Firmware upgrade is a simple yet delicate procedure. That is why I have put together simple and straightforward step-by-step instructions for installing the latest firmware.



#### disclaimer

Please follow upgrade instructions very carefully. Deviating from the instructions could cause bootloader issues or in worse case unresponsive unit, for which we are not responsible.

- Connect the unit directly to computer (do not use USB hub). In device manager check which COM port was assigned to it and write it down. If unit is not recognized, check FAQ above for details
- 2. Download the latest firmware from our website.
- 3. Download and unzip FP1 Control Panel from our website
- 4. Start control panel as administrator and enter following settings
  - a. COM port choose com port that you have written down



b. Click »FW UPGRADE« and select .dsd file

DSD FP1 CONTRO	DL PANEL V1.0.2.0	×
COM port		
-		

c. Click upload and the process will begin



d. After upload is finished, you will get a confirmation popup



Fir	mware upgra	de
	led version: :DeepSkyDad.FP1, ==1.0.2	ж
UPLOAD		ВАСК

5. If the upload should fail, you will get the error message popup. For example, should you still be connected to the unit in some other program and tried to upload the firmware, you will get »Access is denied«. If you get timeout error, try replugging power and retry the upgrade process.

## **Remote control**

Remote operation is supported via Micro USB cable. Below is a description of current control methods (more will be available in the future)

#### ASCOM (Windows)

In Windows, we recommend you to use ASCOM Cover Calibrator driver for control. This requires ASCOM Platform 6.5, which introduced Cover Calibrator device. This way, you can automate our flap in any of the popular astronomy softwares (N.I.N.A, APT, SGPro, Voyager,...). We will use N.I.N.A. for a short demonstration below.

#### **Basic usage**

- 1. Download, unzip and install latest version of ASCOM driver from our website
- 2. Open N.I.N.A, navigate to Equipment -> Flat Panel
- 3. Select ASCOM Driver for DeepSkyDad.FP1



🧭 N.I.N.A N	Nighttime Im	aging 'N' Astronomy 1.11 NIGHTLY #061 - Default		PREVIEW VERSION !
ø		Flat Panel	ASCOM Driver for DeepSkyDad.F 🔻	<b>*</b> 🗘 🖒
Equipment	Camera	Name		
	Filterwheel	Description	No Flat Panel ASCOM ASCOM Driver for DeepSkyDad.FP1.	· •
Sky Atlas	г٦	Driver Info	ASCOM Coverdalibrator Simulator	Version: 6.5
	+ ∟ ⊐ Focuser	Driver Version	AllPro Software AllPro Spike-a-Flat Panel	
Framing		Flat panel light	Alnitak Astrosystems Flip-Flat Simulator	
Flat Wizard	Rotator	Currently	Alnitak Flat Panel Artesky	
☆= ☆=	Ä	Brightness	Artesky Flat Box Pegasus Astro	0.0 % Set
☆== Sequencer	Telescope		FlatMaster	
		Currently	0%	
Imaging	Guider	Cover	Open Close	
<b>*</b>	iłi	Flat Panel Settings		
Options	Switch	Open cover for dark flats in flat wizard	OFF	
	Flat Panel	Settle Time	0 ms	
	~			

4. Open ASCOM settings and select correct COM port

DeepSkyDad FP1 Setup			×
General settir	General settings		
COM Port	COM1	•	ASCOM
OK Cancel	Advanced >>		$\square$

5. Click OK and connect to the flap



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Ø	Camera	Flat Panel	ASCOM Driver for DeepSkyDad.F - 🗱 🔿 👌 Flat Wizard Tra
Equipment		Name	ASCOM Driver for DeepSkyDad.FP1
	Filterwheel	Description	ASCOM Driver for DeepSkyDad.FP1
Sky Atlas		Driver Info	Information about the driver itself. Version: 6.5
Framing	+ Focuser	Driver Version	6.5
rraming	.5	Flat panel light	OFF
Flat Wizard	Rotator	Currently	Off
ф= ф		Brightness	0.0 % Set
☆== Sequencer	Telescope	Currently	0%
	Guider	Cover	Open Close
Imaging	iłi	Flat Panel Settings	
Options	Switch	Open cover for dark flats in flat wizard	OFF
	$Q_{\circ}$		
	Flat Panel	Settle Time	0 ms
	Weather		$\sim$

6. And you are ready to automate your flaps! You control LED brightness. Opening/closing the cover doesn't do anything – its Flap panel 1 only feature.

#### Built in heater: this is Flap panel 1 feature and is not available for Flat panel.

#### System controls

- 1. Open ASCOM settings, click Advanced
- 2. On the right side you have 2 sections. Heater and System. We are currently interested in System, which contains 4 buttons:
  - a. Reboot FP1 resets the unit
  - b. Firmware version currently installed firmware vesion (in case you have ASCOM connectivity issues, click this button)
  - c. Reset EEPROM resets unit settings to factory defautls
  - d. Check heater checks whether heater is present

System				
Reboot FP1	Firmware version			
Reset EEPROM	Check heater			

## INDI (Linux)

In Linux, you can control our flap panel with Deep Sky Dad FP1 INDI driver.



### **Basic usage**

Select correct ttyUSB device (e.g. ttyUSB0) and click connect. You can the LED brightness (0-4096). Statuses are displayed below the button interface. 1. Park/unpark doesn't do anything – its Flap panel 1 only feature.

🔹 INDI Control Panel — KStars (as superuser) 💿 📾 😣						
Deep Sky Dad FP1						
Main Cor		ction Op <u>t</u> io				
	onnection	<u>C</u> onnect	<u>D</u> isconnect			
	ist Cover	<u>P</u> ark	<u>U</u> npark			
Fla	at Light	<u>O</u> n	Off			
<ul> <li>Bri</li> </ul>	ightness [	Va	lue	1000	1000	<u>S</u> et
He	eater mode	Off	0 <u>n</u>	On <u>i</u> f flap open/LED active		
	[	Co	ver	Ope	n	
	. [	Li	ght	] Off		
Sta	atus (	Mc	tor	Stopp	ed	
	[	He	ater	Conne	cted	
Fir	rmware [	Ver	sion	(Board=DeepSkyDad.I	FP1, Version=1.0.1)	
				#####		
2021-04-1	13T16:41:13: [	NFO] Deep Sk	y Dad FP1 is c	online.		
					Clear	Clos <u>e</u>

Built in heater: this is Flap panel 1 feature and is not available for Flat panel.

#### FP1 Control Panel (Windows)

If you wish to control our panel without 3rd party software, you can do so in Deep Sky Dad FP1 Control panel:



DSD FP1 CONTROL PANEL V1.0.2.0 $ imes$			
COM port	COM31 - DISCON	NECT FW VERSION FW UPGRADE	
Flap position:	LED brightness:	Heater mode:	
Opened	Off	On if flap open/LED active	
Preset	L		
Flap position	Closed		
Brightness (0-4096)		3 <b>+ -</b>	
Heater mode	On	•	
APPLY SETTINGS	SAVE PRESET	EDIT PRESETS	

You can control LED brigtness (0 is off) and heater mode. You can also save presets for different purposes (e.g. different brightnesses for different camera filers, brightness 0 for making darks,...). Flap position and heater mode are Flap panel 1 only features.

# **Manual control**

Manual operation is possible via built in button.

• Long press turns LED light ON/OFF. This can come handy if you need a lamp while working in the dark.

## Warranty and returns

All our products have 2 years warranty. We will replace any malfunctioning units in this period free of charge. Warranty does not apply to any malfunction caused by improper usage (wrong power supply, ) or physical damage to the unit.

The customer covers return shipping costs when sending back the unit for repair or replacement. If the unit was purchased via dealer, the dealer is responsible for customer service.