ASIAIR Mini

User Manual

2022.07

Quick Keyword Search

Keyword search is supported within this document. You can use the keyboard shortcut Command + F on a Mac, or Control + F on Windows to find what you need.

Section Jump

You can quickly access sections of this document by clicking the relevant section in the contents table.

Print This Document

This is a high-resolution printable document.

Icon Usage

Symbols

Forbid Attention Tips Further Reading

Supporting Material

ZWO Provides instructional videos and the following supporting documents for ASIAIR Mini users:

1. Quick Start Guide
2. User Manual (including disclaimer and safety summary)

It is recommended that users watch the instructional video first, and then read the "Quick Start Guide" to understand the installation and basic setup.

For detailed product information, please read the User Manual.

YouTube Videos

To watch some very useful videos: https://www.youtube.com/results?search_query=asiair

Download the ASIAIR App

Scan the QR code to download the app, iOS users can search and download the app in the App Store,

Android users will find the app in the Google Play Store.
ASIAIR app requires Android 6.0 and above, iOS 11 and above.

ASIAIR is able to run on iOS and Android device.
In order to provide the best user experience, we will adjust the minimun system requirements for running ASIAIR app in stages.

First Stage

From v2.0 and later new versions before 1st October, 2022, the minimun system requirements below is needed for running ASIAIR.

	OS Verson	Phone	iPad/Tablet
iOS/ipadOS	11 and upper	iPhone 6 and later series	iPad/iPad Mini/iPad Pro
Android	7 and upper	All Android phones RAM ⩾ 4GB	Tables with Android OS RAM ⩾ 4GB

Second Stage

From 1st October, 2022, the minimun system requirements below is needed for running ASIAIR.

	OS Verson	Phone	iPad/Tablet
iOS/ipadOS	12 and upper	iPhone 6s and later series	iPad/iPad Mini/iPad Pro
Android	8 and upper	All Android phones RAM ⩾ 4GB	Tables with Android OS RAM ⩾ 4GB

iOS / iPadOS requires 1GB and above: iPhone 5 and above full series, iPod sixth generation and above, iPad third generation and above, iPad Air series, iPad Pro series.
Android devices: 4 GB or more of RAM is recommended.

Table of Contents

01.Product Overview

Introduction
Features
Preparation
Device Component
Indications

02.Initial Setup

Data Cable Connections
Power Cable Connections
Network Connection

Mount Connection via Cables
Mount Connection via Network
DSLR Camera Connection

03.ASIAIR App

Homepage
Basic Configuration
Guiding
Mount Control Panel
Additional Tools
Quick Start Guide to Imaging
Live Stacking
Autorun

04.Appendix

Export Image File
Software Updates
ASIAIR OS Restore
Security Essentials
Disclaimer
After Sale Support

Product Description

This section introduces the ASIAIR Mini.

Introduction

ASIAIR Mini is a smart Wi-Fi device. It is equipped with a power management module, ample USB connectivity, telescope mounting foot and ASIAIR App's rich feature set. ASIAIR Mini is the third generation of ASIAIR since its first release in July 2018.

Features

The ASIAIR Mini case is constructed of CNC milled aviation aluminum. The case is finished in a rugged and pleasing anodized finish. The case measures 100*70*26.5mm, which makes it excellent in size and weight, and easily mounted on almost any telescope.

A laser engraved star maps of the Ursa Major and Ursa Major Polaris adorn the front of the unit. M4 and 1/4-inch threads in the bottom and sides, combined with the supplied dovetail plate, make for easy installation and removal .

The built-in power management module makes cable management easy. A variety of USB ports makes connecting equipment a simple task. In addition to the USB ports, it also provides a shutter release port for SLR cameras, which supports exposure over 30s.
LED status lights provide indications to the operator which are easily viewable.

Preparation

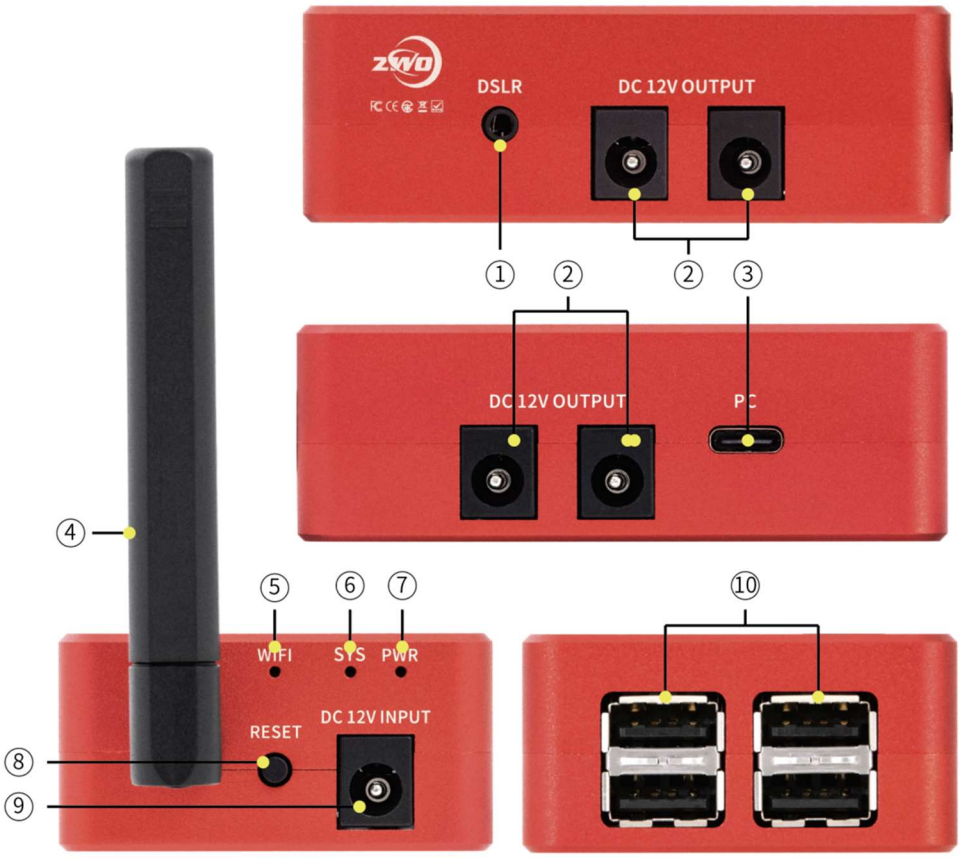
When shipped from the factory, the SD card, and the side dovetail plate on which the system is mounted are preinstalled. Before first use please ensure the SD Card is correctly and the dovetail is tight as they may have moved in shipping.

Do not use excessive force when tightening the dovetail bolts as these may become damaged.

Product certifications

" **FCC ID:** 2A7R3-ASIAIRMINI"
"**IC:** 28392-ASIAIRMINI"
"This device complies with Part 15 of FCC Rules. Operation is Subject to following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received including interference that cause undesired operation."

Device Component



1. DSLR Camera Shutter Release Port (2.5mm)
2. DC 5.5x2.1mm Power Output x4
3. Type-C Port
4. External Hinged WiFi Dual-band Antenna
5. Wi-Fi Status Indicator
6. System Status Indicator
7. Power Status Indicator
8. Reset
9. DC 12V Input
10. USB 2.0 x4

Indications

LED	Function	State	Description
PWR	Power LED	On	Power on normally
		Blinking/Off	Under voltage or power error
SYS	SYS LED	Irrugular Blinking	System working normally
WIFI	WiFi LED	On	Normal
		Off	WiFi not transmitting
		Blinking	Resetting

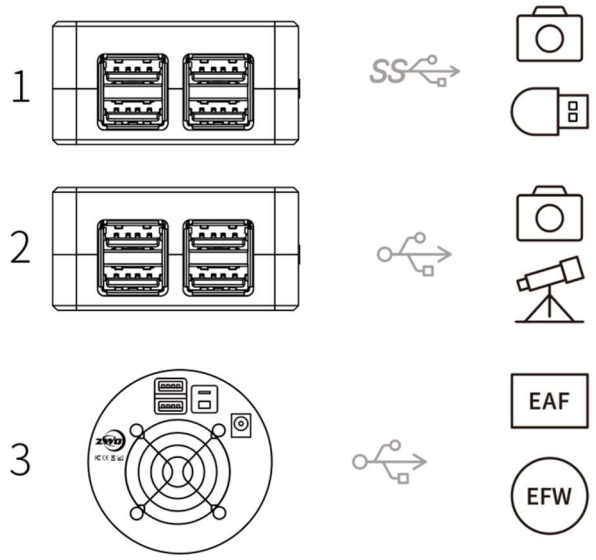
Issues with Wi-Fi can be corrected by pressing the RESET button and releasing it after the light flashes. The Wi-Fi hotspot, password and the details for station mode will be reset after 5 seconds.

Initial Setup

This section describes the initial setup and connects to ASIAIR Mini.

Connections

Data Cable Connections



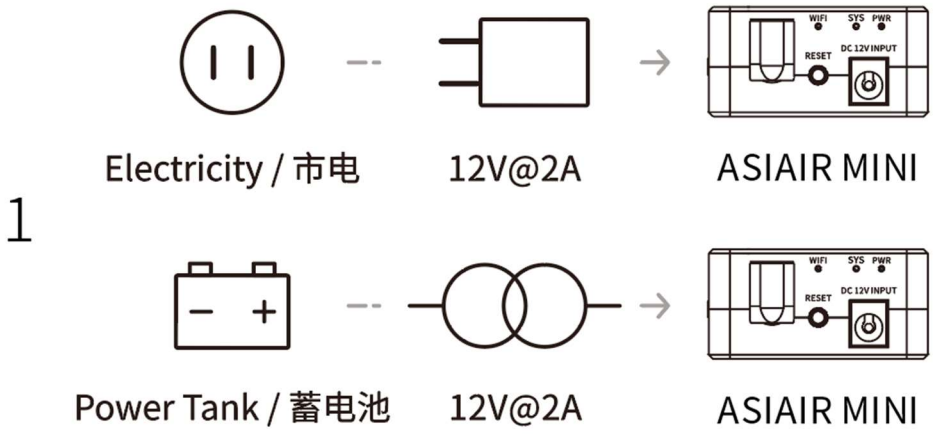
Connect the main camera and memory stick to USB 2.0 port.

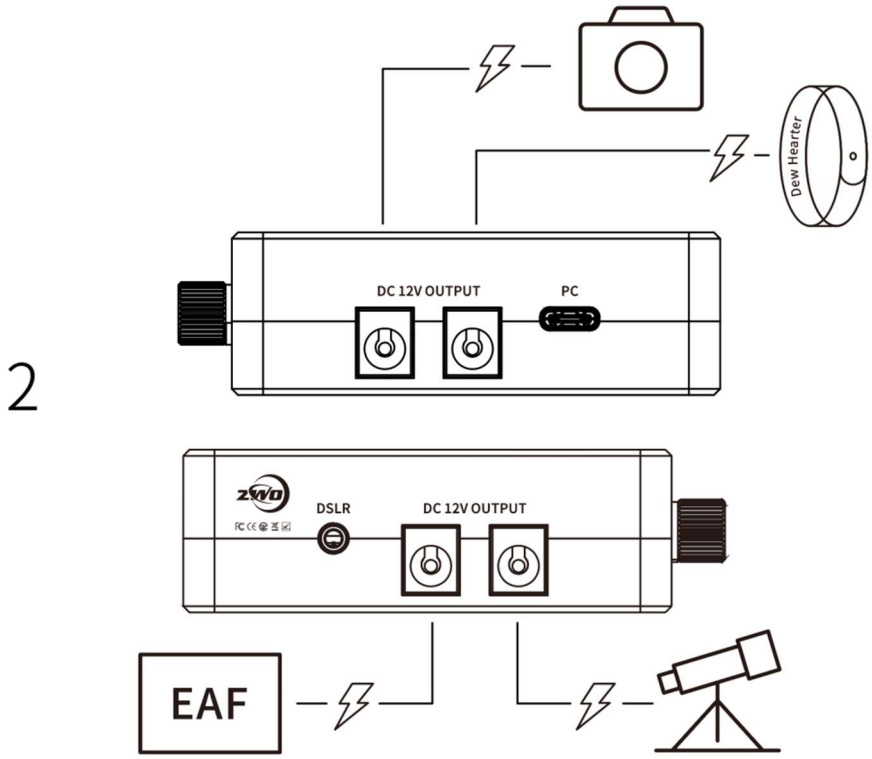
Connect guide camera and telescope mount to USB 2.0 port.

EFW/EAF connect via the main camera hub.

DC 12V@3A~5A power adapter is required for cool cameras.

Power Cable Connections



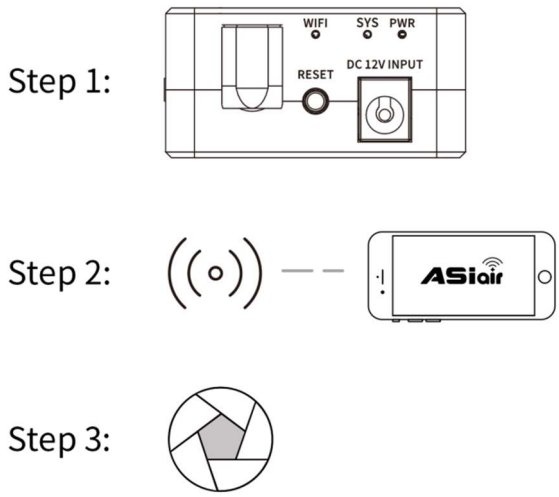


ASIAIR Mini requires 12V@5A power supply.

ASIAIR Mini power outlets can provide power to connected equipment such as the main camera cooling, EAF, EFW and dew heaters.

Pay attention to cable management to avoid entanglement when the equatorial mount rotates.

Network Connection



Step 1: After electrify and wait for the ASIAIR to beep once.
Step 2: Connect your mobile device to ASIAIR network using 12345678 as the password then open the ASIAIR app.
Step 3: Start your journey into astrophotography!

Mount Connection via Cables

1. Connecting RS-232

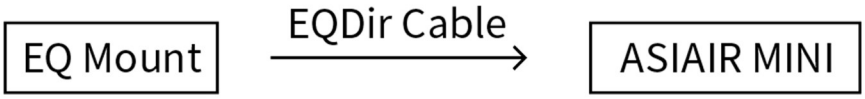
EQ Mount → HC → RS232-USB → ASIAIR MINI

Most equatorial mounts have a hand controller used to manage mount settings and control. Common ones are ARGO VAVIS, GTOCP series, StarGo, NexStar series, SynScan V 3 / V4 series, Pulsar2 GoTo, Go2Nova series, Gemini series, AutoStar Series, AudioStar series, PMC-8 and Electronic FS-2 commonly used by DIY telescope builders.
Many mounts now support direct USB connection, but you can also use the included RS232-USB adapter to connect to your mount.
SynScan V5 needs to use a USB Type B – Type A printer data cable. If the connection type or baud rate is incorrect, it will fail to connect in the app.

2. Direct USB Connection to the mount

Many equatorial mounts now have their control system built into the equatorial mount body and allow direct USB connection. The equatorial mount is connected to ASIAIR Mini by direct USB connection.
To confirm whether your mount is supported by ASIAIR Mini or not, you may need to check the documents of the mount first.

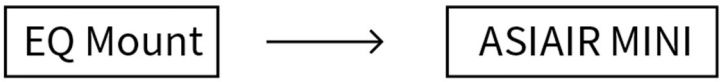
3.EQMod with EQDir cable



For the EQMOD system, use an EQDir cable and connect your mount with ASIAIR Mini. Select [EQMod Mount] or [EQMod with SkySafari] in the app.
Supported EQMod Mounts:
EQ3-2
NEQ3
HEQ3
SkyView Pro EQ
EQ4
EQ5
HEQ5
EQ6
EQ6 Pro
NEQ6
EQ6-R PRO
AZ-EQ5GT
AZ-EQ6GT
EQ8
EQM-35 Pro
AZ-GTi*
M-Uno Fast Reverse Single Fork Arm EQ
Linear Fast Reverse EQ
Vixen GPDX/ Vixen SP fitted with SynScan Upgrade kit (EQ5)
EQMod baud are 9600，except ZEQ5 which is 115200.
For AZ-GT via network connection the correct baud rate is 11880and UDP protocol.

Mount Connection via Network

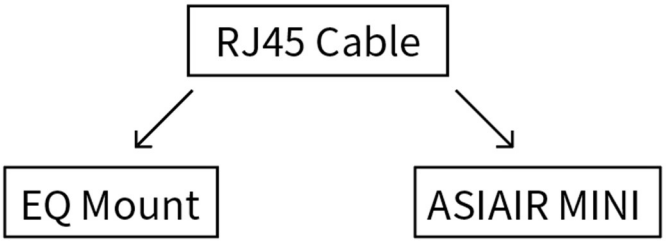
1. Connecting via WiFi



Some mounts now have built-in Wi-Fi modules or provide an external Wi-Fi accessory, such as AZ-GTi with SynScan WiFi module, StarFi Wi-Fi Adapter, SkyPortal Wi-Fi Module, StarGo Wi-Fi mode, PMC-8 Wi-Fi mode etc.

For a detailed description of ASIAIR Mini connections, please refer to the relevant documents on the support page of ZWO official website.

2. Network Cable Connection



This method is mainly aimed at Vixen's StarBook series control system, including StarBook, StarBook One, StarBook-S, StarBook Ten, etc. Specific steps are as follows:

① Power on the StarBook control system.

② Directly connect the ASIAIR Mini and StarBook control systems via an RJ45 standard (Crystal connector is also in A or B mode).

③ Open the ASIAIR App, select wired ethernet on the connection settings page to automatically obtain an IP address.

④ Select the corresponding StarBook control system option and fill in the StarBook control system IP in the IP input box (obtained at "Menu-About LAN"), for example, 169.254.0.1, port 80.

If the ASIAIR prompts that the connection failed reconfirm on the 'About LAN' page in the StarBook, that it obtained an IP address.

DSLR Camera Connection

Canon			
MODEL	STATUS	MODEL	STATUS
1D X	Tested	100D	Tested
1D X Mark II	Tested	200D	①
1D Mark III	①	450D	Tested
1D Mark IV	①	500D	Tested
5D Mark II	Tested	550D	Tested
5D Mark III	Tested	600D	Tested
5D Mark IV	Tested	650D	Tested
6D	Tested	700D	Tested
6D Mark II	①	750D	Tested
7D	Tested	760D	Tested
7D Mark II	Tested	800D	Tested
40D	Tested	1000D	Tested
50D	Tested	1100D	Tested
60D	Tested	1200D	Tested
70D	Tested	1300D	Tested
77D	Tested	2000D	①
80D	Tested	4000D	Tested

Nikon			
MODEL	STATUS	MODEL	STATUS
Df	①	D7100	Tested
D4	①	D7200	①
D5	①	D7500	Tested
D500	①	D300	Tested
D600	Tested	D300s	① Ⓑ
D610	Tested	D3200	Tested Ⓑ
D750	Tested	D3300	Tested Ⓑ
D800	①	D3400	① Ⓑ
D800E	①	D700	Tested Ⓑ
D810	Tested	D90	① Ⓑ
D810A	Tested	D5000	① Ⓑ
D850	Tested	D5100	Tested Ⓑ
D5200	Tested	D7000	Tested Ⓑ
D5300	Tested	D3	Tested Ⓑ
D5500	Tested	D3s	Tested Ⓑ
D5600	Tested	D3x	Tested Ⓑ

① Untested
Ⓑ It means you need to use Shutter Release Cable with ASIAIR PRO

DSLR cameras can only be used as the main camera, using Preview, Autorun, Live.

Connect the DSLR camera to ASIAIR Mini through the camera data cable. Before connecting in the app, select the following camera settings before launching the app:

Camera Mode: M

Shutter Mode: Bulb

Image Format: RAW (RAW + JPEG not available)

Image Quality: L (maximum size)

In addition, turn off any power saving mode or long exposure noise reduction. If using a DSLR camera with mirror lock functions, you should also turn these functions off.

To ensure that the remaining space of the camera's SD card is sufficient refer to the "estimated space" in the ASIAIR plan shooting settings interface and ensure your DSLR battery is sufficiently charged or use an external power source.

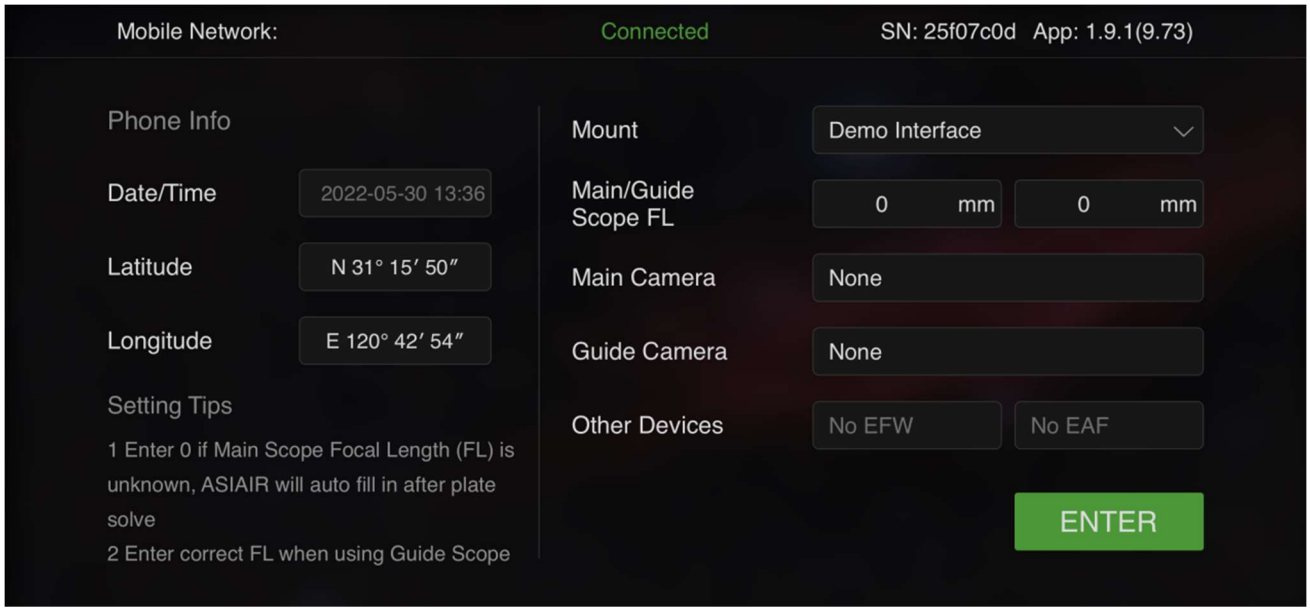
ASIAIR Mini supports shutter release cable which will break the limitation of 30s exposure.

ASIAIR App

This section introduces the main features of the ASIAIR App.

Homepage

With the ASIAIR Mini switched on and the mobile device connected to the ASIAIR network – select the ASIAIR App:



Click Enter to enter the app homepage.

① Top Menu Bar

At the top of the screen you will see a selection of icons - From left to right these are: ASIAIR Settings, Main Camera Settings, Guide Settings, Telescope Settings, Filter Wheel Settings, Focuser Settings, Storage settings. If a device is connected and enabled, the icon will be "lit", otherwise it will be grayed out.

② Right Side

Switch between main functions. Touch “preview” to switch between main function modes such as focus adjustment, polar axis calibration, multi-targets, live stacking, plan mode and video mode.

③ Bottom – Information Bar

Displays current ASIAIR Mini working status information and camera information such as resolution, gain,

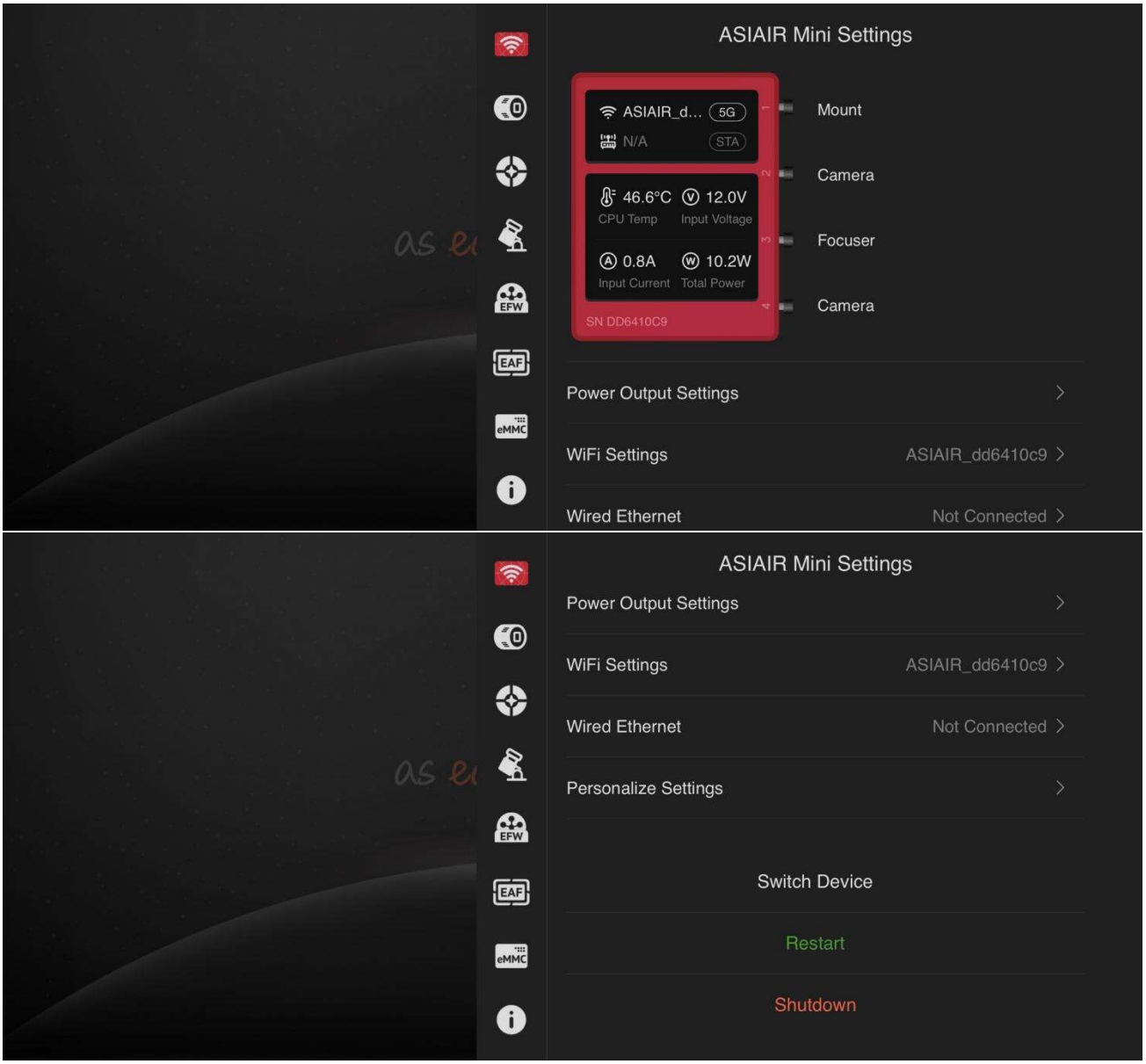
temperature, cooling power, etc.

④ Left Side

Show tools available in the current function mode, including Histogram, Guiding, Crosshair, Annotate etcs. Touch the icon to open/close the current tool.

Base Configuration

Network Settings



This area contains most of the basic settings related to ASIAIR.

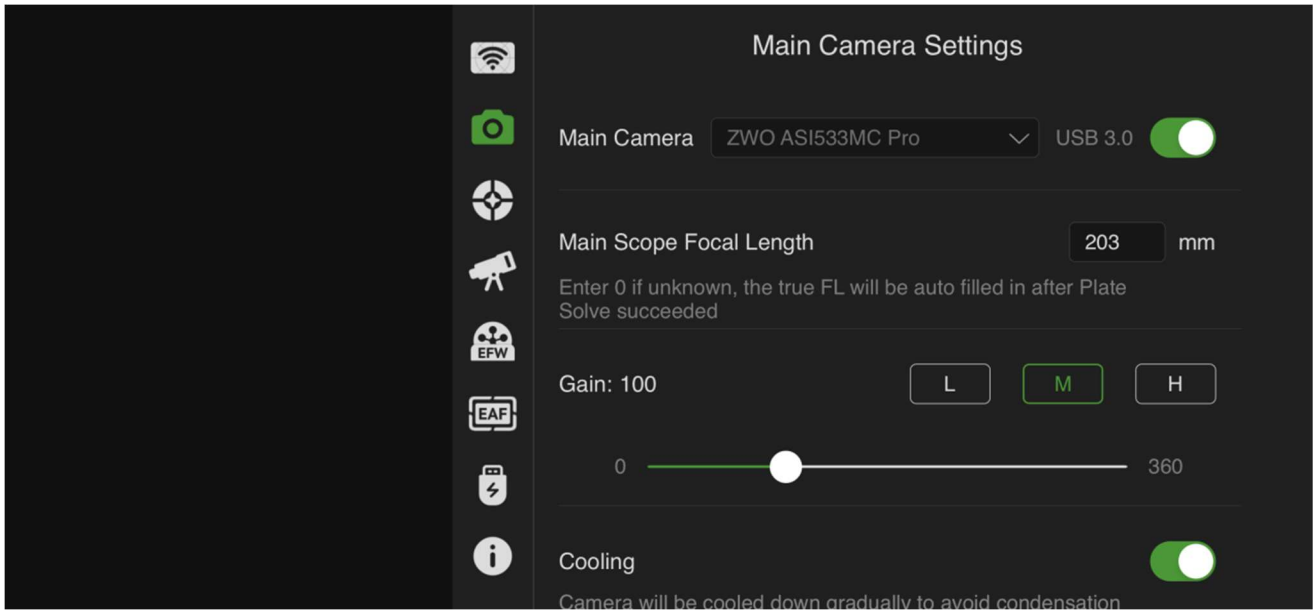
Info Display : ASIAIR box serial number, CPU temperature, input voltage, input current, total power and etc.

Network Settings：You can customize ASIAIR Mini wireless hotspot name and password, switch Wi-Fi hotspot band between 2.4Ghz and 5Ghz, configure Wi-Fi STA mode and Ethernet cable network.

Device Operation: Switch Device – After completing the setting for Station mode, you can switch between multiple devices in the home area network. Shutdown – For safety reasons, the option of shutdown in APP is provided.

Station Mode: After you complete the settings above, you can connect the ASIAIR device to home area network via Station Mode. By doing that, you are now able to control your gear and photograph targets anywhere of your home, breaking the distance limitation of AP connection! Also, you will still have access to network in your phone or other mobile devices while ASIAIR doing astrophotography for you. Just be aware that the Station Mode can only work with 2.4Ghz WiFi.
Shut down the ASIAIR device and exit the app, please wait for 5-10s before disconnecting the power of the ASIAIR Mini.

Main Camera Settings



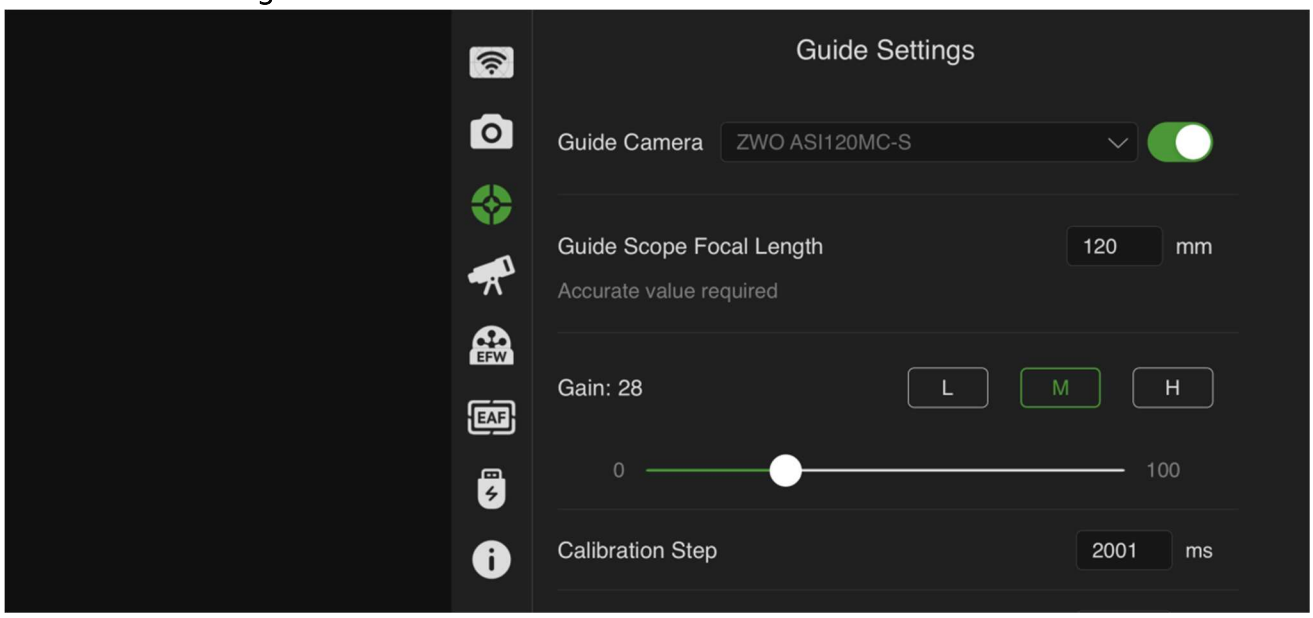
Select the main camera and slide the slider switch to the right to connect it.
When switching cameras, please set the switch to off first. Then change camera, followed by sliding the slider switch on again.
Enter main scope focal length and choose gain setting.
If you're using a cooled camera, the cooling function is on after you open the APP by default. In addition, some cameras also have heating and anti-dew functions.
To use a DSLR camera as the main camera please refer to the "DSLR Camera Connection" section for the DSLR camera models supported by ASIAIR. For models that do not support long exposure, you need to use

the shutter release connection.

To customize the file name, you can refer to "Customize File Name" option. The components that can be added in the file name includes camera model, gain, date and temperature.

It is recommended to open the advanced settings, which includes Auto White Balance, Mono Bin and Continuous Preview.

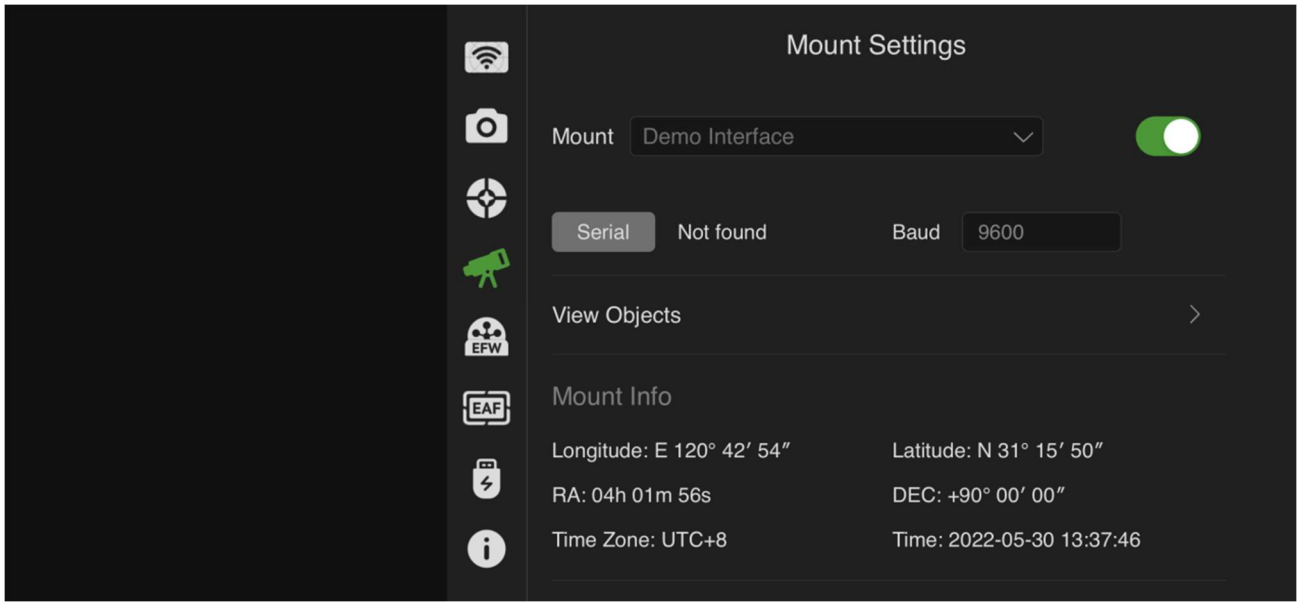
Guide Camera Settings



Select and connect the guide camera. Be sure to fill in the focal length of the guidescope.

You can enable dithering according to your needs. If you are just starting to use ASIAIR for the first time, we recommended to keep this feature off until you are more familiar with its operation.

Mount Settings

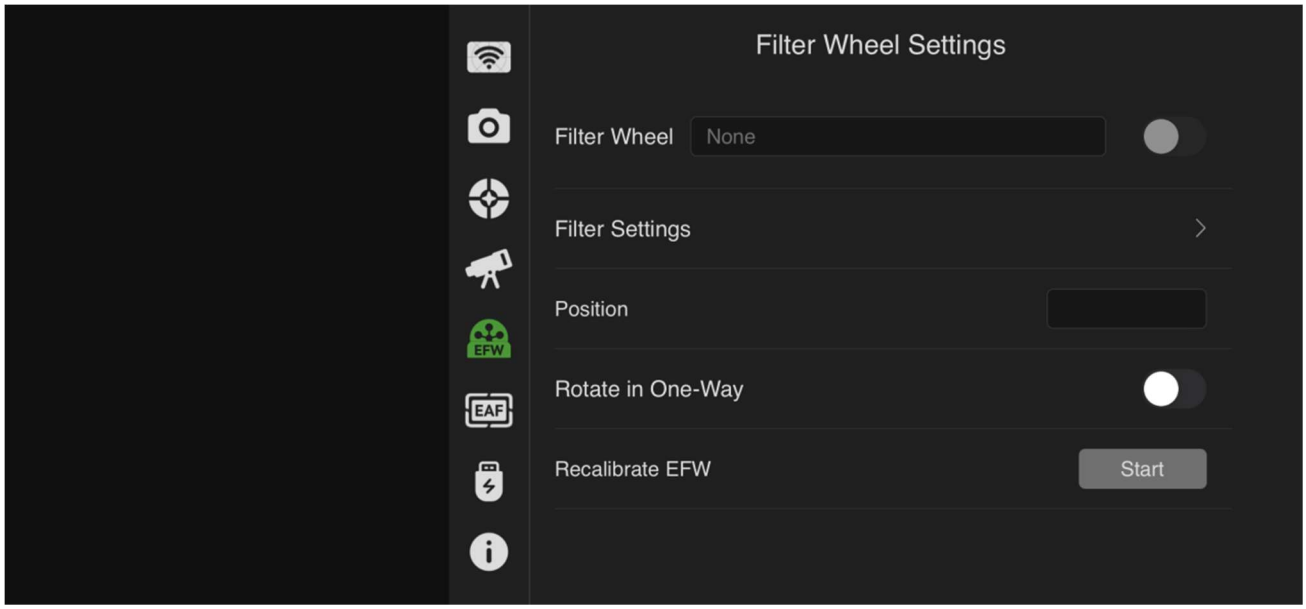


Select the corresponding mount model and connection method here, and slide the switch to connect it. For the specific connection method of the mount, please refer to section 2 of "Mount Connection".

If the information such as the geographic location and time is inaccurate. You can also synchronize the GPS information of the phone to the equatorial mount. If the Right Ascension and Declination display is 0 0 ° 00 '00″ please restart the mount and reconnect after checking your connections.

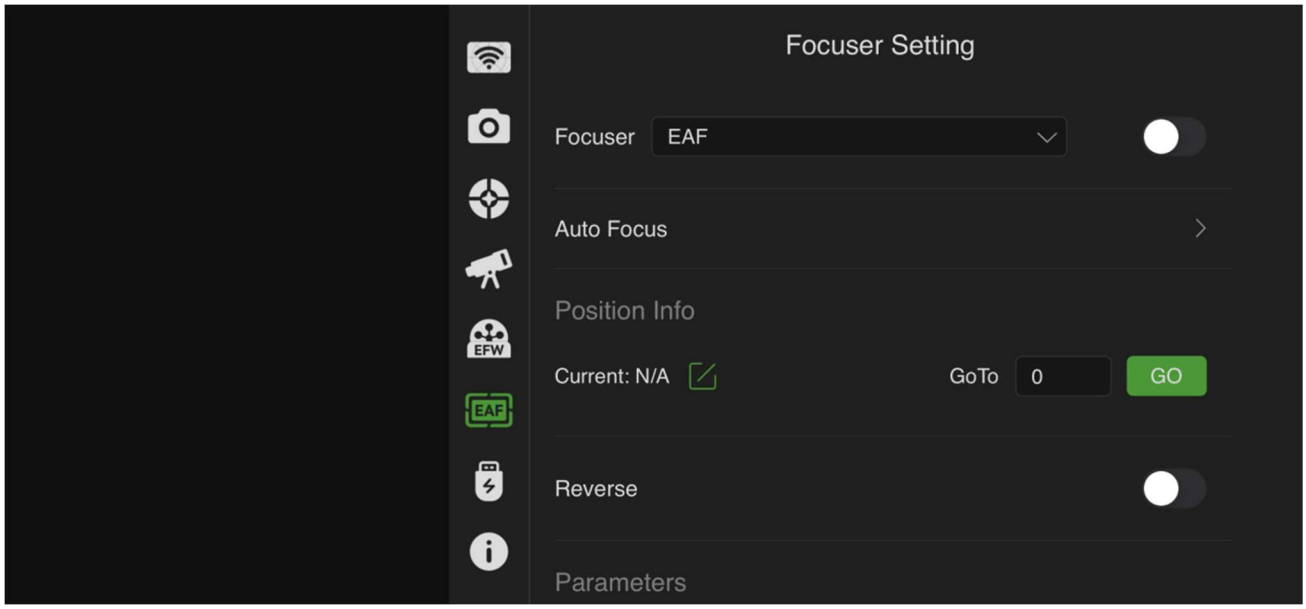
It is recommended to turn on Auto-Center GoTo commands and keep tracking enabled.

Filter Wheel Settings



After selecting and connecting your filter wheel you can customize the name of the filter wheel positions. You can select a filter position and the wheel will rotate to the filter hole position. Tap Calibrate EFW if you need to recalibrate your wheel positions.

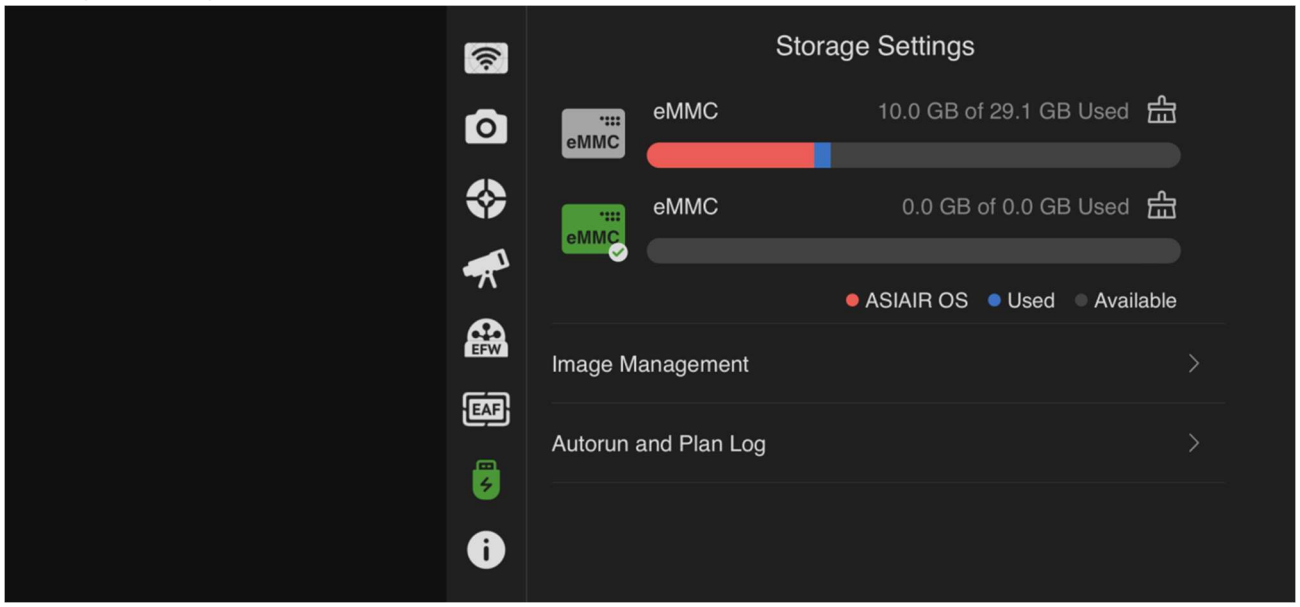
Focuser Settings



After connecting the focuser, you can change parameters such as fine and coarse steps, backlash settings and send the focuser to a specific position, or reverse the focuser In/Out commands. Please refer to ZWO EAF Manual for detailed operating instructions.

It is recommended to turn on the beep.

Storage Settings



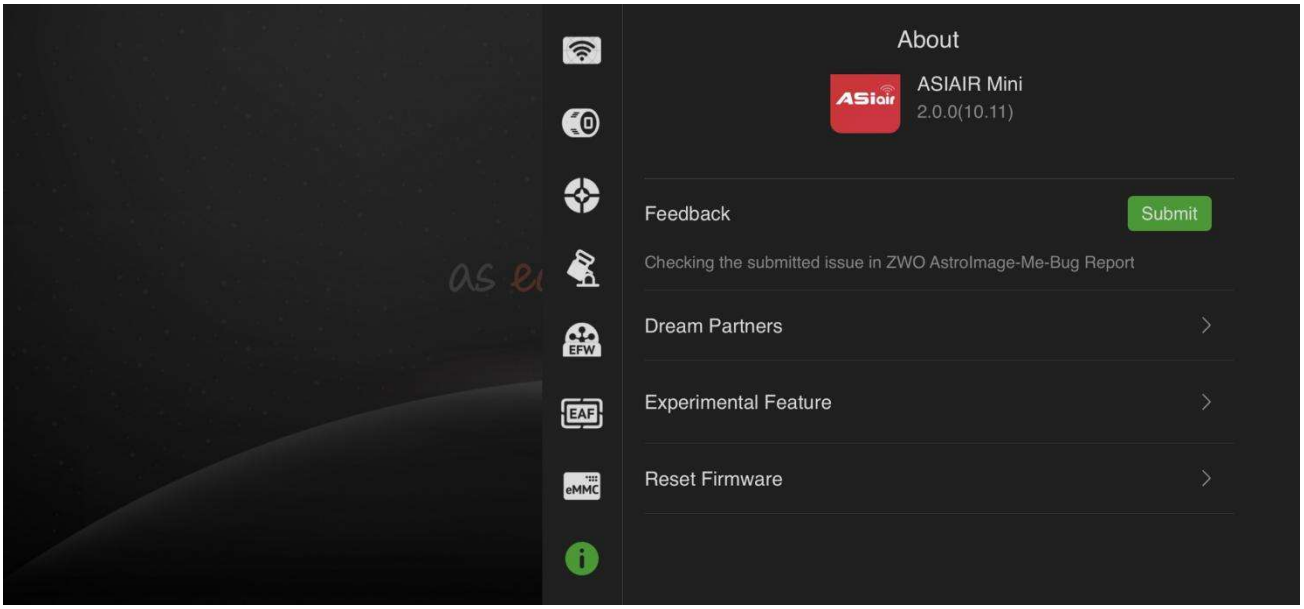
Shows the location and usage of ASIAIR storage space. You can choose to store the image files in eMMC storage of ASIAIR or SD card.

In Image Management, you can sort the images files you've captured, and preview, export or delete the files in storage.

The USB Memory Stick supports FAT32 , exFat and NTFS formats, if you use a storage device with a large

capacity such as 128GB to 512GB external drive, please ensure that the device has a power supply connected, ASIAIR Mini USB power supply is not capable of supporting reliable memory operations.

About

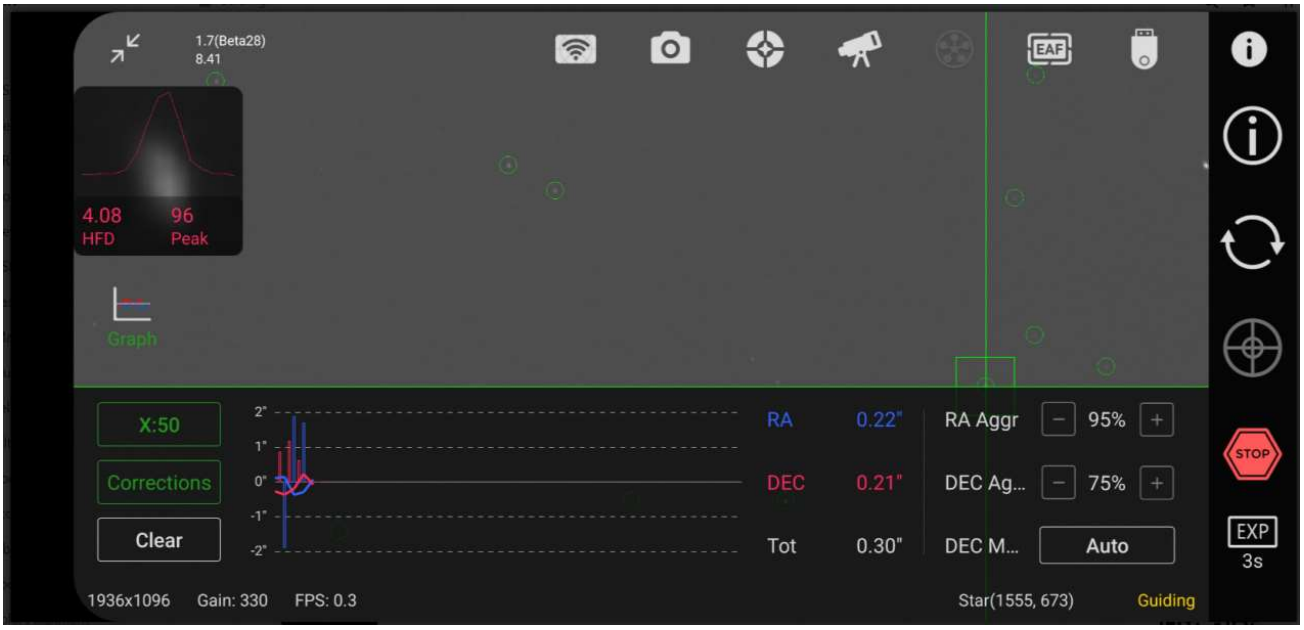


Selecting the Update Log will display the ASIAIR update log and terms of service.

Guiding

Touch Preview/Autorun/Live/Plan mode, there will be a floating window popping up that showing the brief guiding information. Touch this guiding floating window to enter the guiding page.

On the guiding page: On the left side you can turn the guiding graph on and off, and on the right is the guide cameras settings.



Tap this button for the guider calibration data. The graph shows the movement of the star formed by the guide pulse sent by ASIAIR during calibration. The line represents the RA and Dec guide star rates calculated as a result of the calibration. They should generally be approximately vertical.

After setting the EXP exposure time, touch this button to start refreshing the image captured by the guide camera in real time. It is generally recommended to set the exposure time to 1-4s.

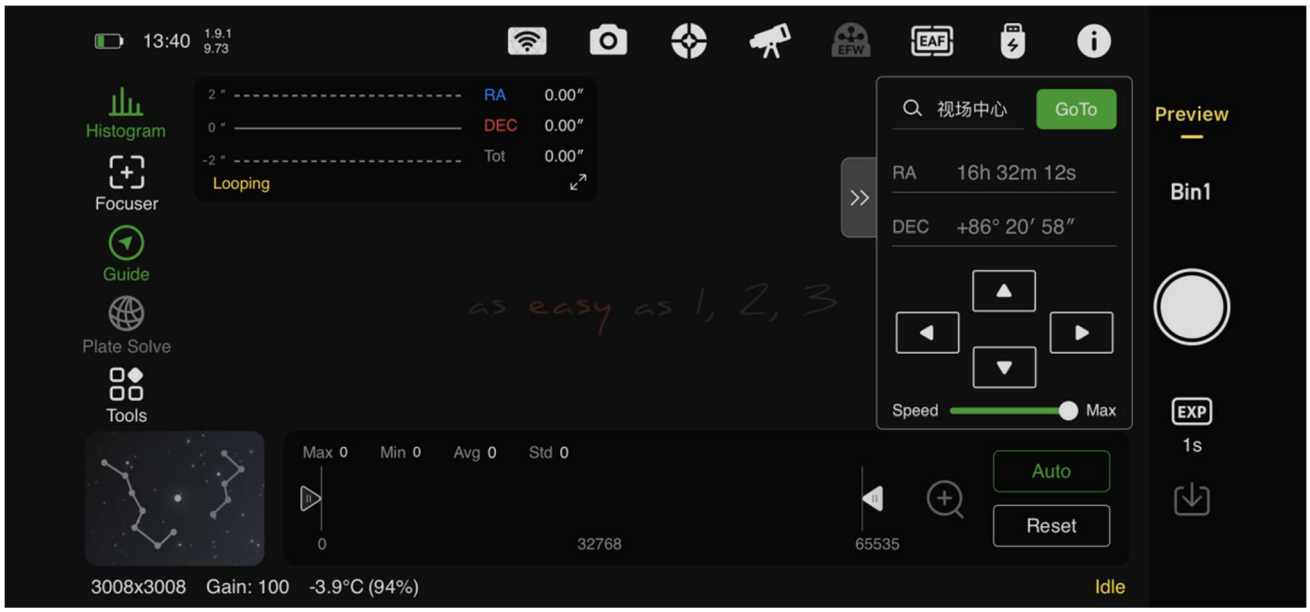
Start calibration. Before tapping calibration, you can also manually select a star. Note, do not select the brightest star, generally choose the medium brightness on the image with a HFD of 3-6. You can also tap the button directly, and ASIAIR will automati cally select a suitable star for you to start the calibration process. After the calibration is completed, guiding will be turned enabled.

Touch this button if you want to stop guiding.

Normally you just need to keep the default setting of these options. However, some- times the guiding graph can be very volatile. In this case you can tap the "show/hide" button on the far right, see the corrections signs and slightly adjust the value of "DEC Aggr"and"RA Aggr" to help flatten the guiding graph. When you complete the calibration work and get the ready for guiding, please first wait for 10-20 frames and then tap the clear button on the left side of the guiding graph for the previous guiding graph and the value of total error might not be that correct.

Mount Control Panel

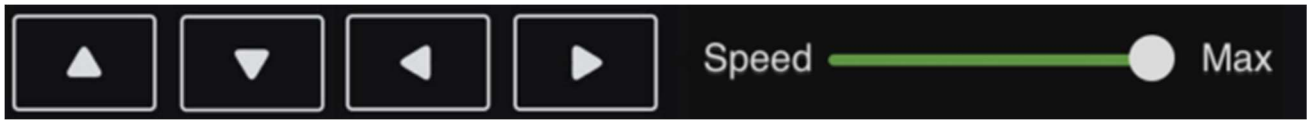
The ASIAIR app provides a range of features to you to move your mount via the mobile device, select a shooting target, complete a GoTo and target composition. We call it the "Mount Control Panel (MCP)". Meet the control panel from top to bottom:



Target search box: Touch to enter the "celestial library" interface, we have carefully selected more than 14,000 solar systems and deep sky objects, and there is a "best tonight" list, making the choice of shooting targets even easier.

Some users may shoot targets that are not included in the celestial library, in this case a custom target is added.

GoTo button: When the target object has been selected in the library, it will return to the MCP interface, touching the button ASIAIR will command the mount, move to the co-ordinates where the target is located and complete the automatic centering routine.



Direction buttons and speed slider: Through adjusting the direction and move speed, you can move the right ascension axis and declination axis of your mount, allowing you to make the composition you want or fulfilling your other needs.

The library includes NGC , IC , M catalogs, solar system objects and well-known star names . Future updates add more. To enable GoTo's an equatorial mount with serial/USB connection is required and ST4 commands are not supported

Additional Tools

Histogram

The histogram area displays the statistical values of the currently displayed image, including the maximum value, minimum value, average value, and mean square deviation, where the peak indicates the maximum brightness of the image. Using the AUTO button, you can perform an automated stretch operation to display the image correctly before processing and using the Mini symbol you can enlarge the graph for finer adjustment of the image. It is recommended to keep "Automatic" on. The Reset button- resets the stretch if required.

Guide

Enable the guiding floating window

Plate Solve

Press the Plate Solve button to analyze the current displayed image to determine the center coordinates (Right Ascension and Declination) of the image – which shows your current mount pointing position. You can use this to calibrate the mount by pressing the "Sync to Mount" option in the pop-up box when the plate solve is complete.

Plate solving also provides the basis for the Polar Alignment feature.

Crosshair

Creates a crosshair over the image to allow accurate centering of the image.

Annotate

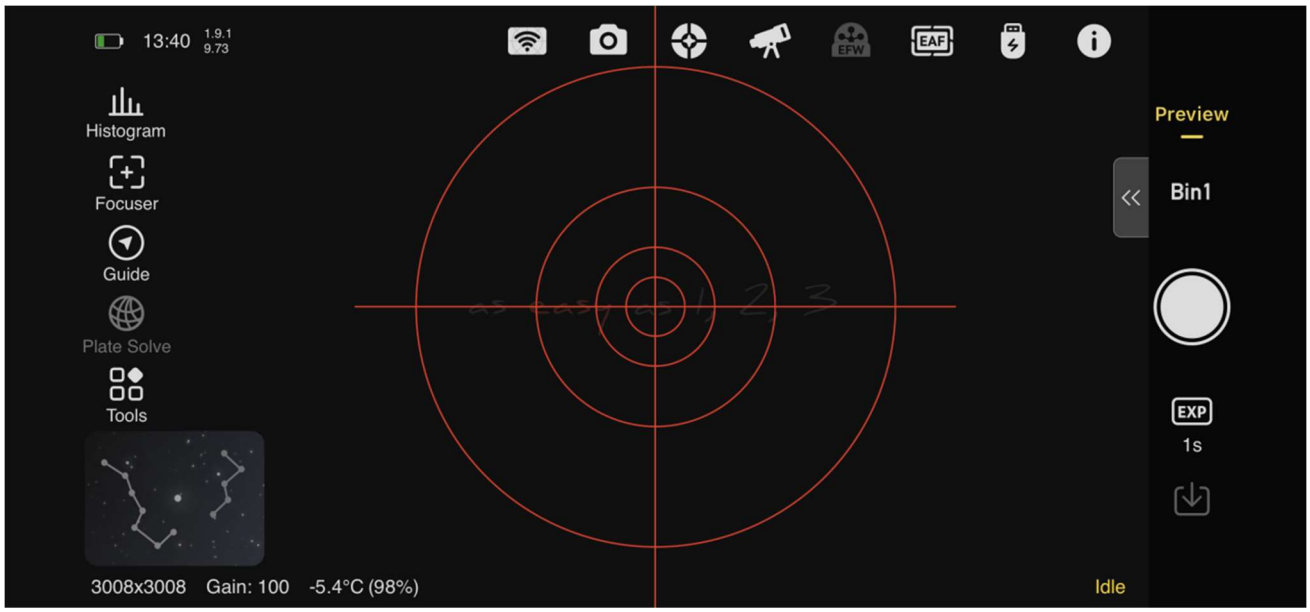
Annotate the stars in it after you captured an image.

Detect Star

Show the sizes of stars you captured.

Focus Control

When the ZWO EAF focuser is connected you can press this button to enter the focus control – it will overlay the main page or focus page until turned off again.



Quick Start Guide to Imaging

The main aim of ASIAIR is to simplify the complicated process of astrophotography. To get you started quicker we have prepared the following Quick Start Guide to Imaging.

First, let us understand the general shooting process in the deep space field (assuming that the equipment has been setup), this does not include post-processing techniques.

1.Focus main scope and guidescopes

2.Polar Alignment

3.Select the Mount and GoTo

4.Preview the image

5.Guiding

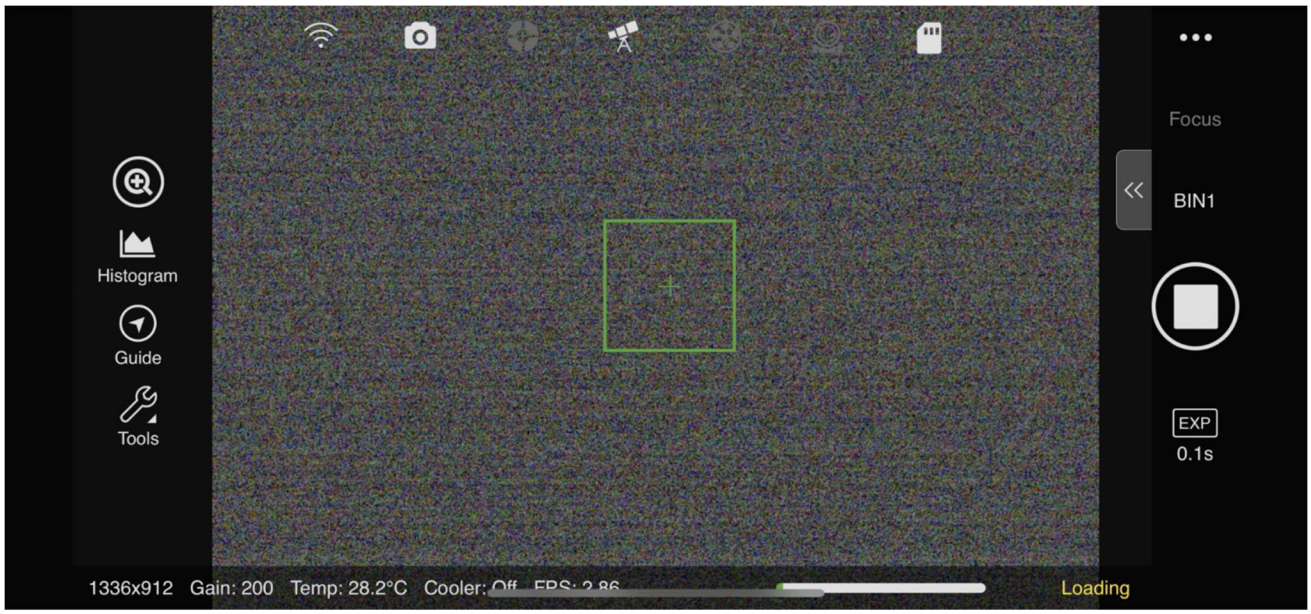
6.Setup the plan shooting schedule

With the ASIAIR we can divide this guide into three major steps:

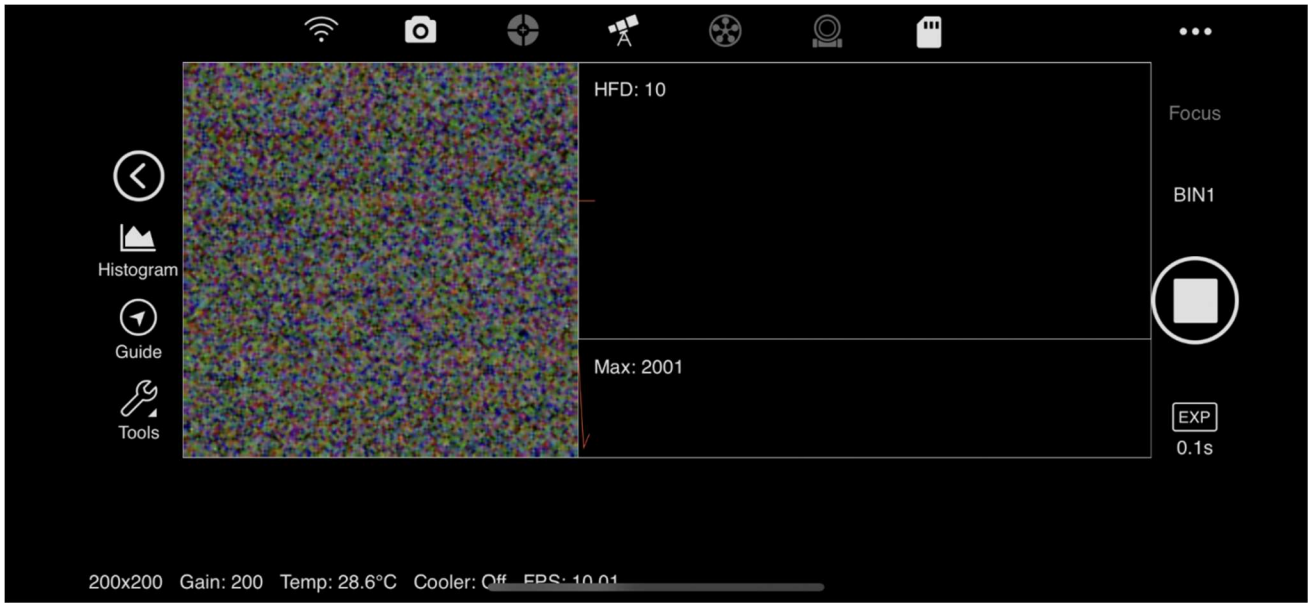
1.Focusing

① Open the ASIAIR App, select “Main Camera Settings” in the top device setting area, and connect.

② Switch to "Focus" mode, touch the "Start" button, view the real-time refreshed image and adjust the focus until the star is roughly in focus.



③ With BIN1 selected, better focus is attained with a SMALLER HFD value.

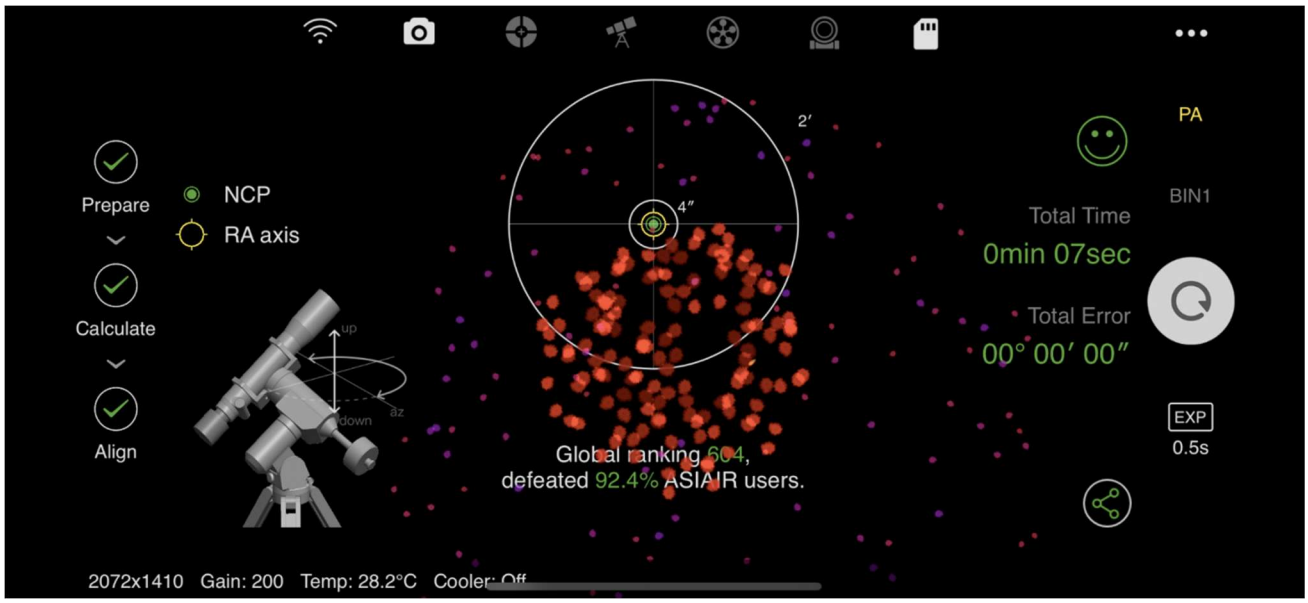


2.Polar Alignment

① Ensure the main camera and mount are connected.

② In preview mode take a short test image to ensure the main camera is in focus and downloading correctly.

③ Switch to Polar Alignment mode and complete the calibration using the onscreen prompts. An error of 2 arc minutes or better is a good accuracy to aim for.

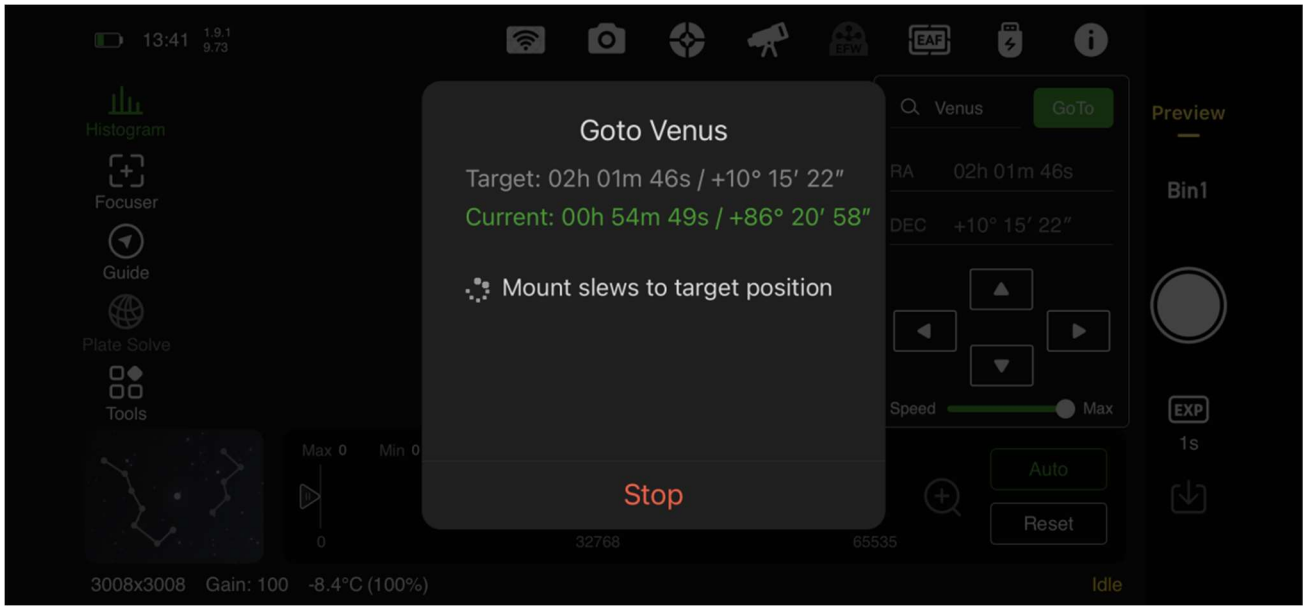


3.GoTo and Preview

① After the polar axis calibration is completed, switch to the Preview mode, touch the search box on the equatorial mount control panel (MCP) to enter the object library and select the shooting target with the current high altitude angle in the "Best Tonight" list.

② After the target has been chosen, you will return to the preview interface, touch the [GoTo] button on the control panel of the equatorial mount, and the equatorial mount will move to the target position.

③ The default setting in GoTo will automatically center the image using a short alignment exposure and plate solve



To shutdown ASIAIR close the app and wait 5-10 seconds before disconnecting power.

Live Stacking

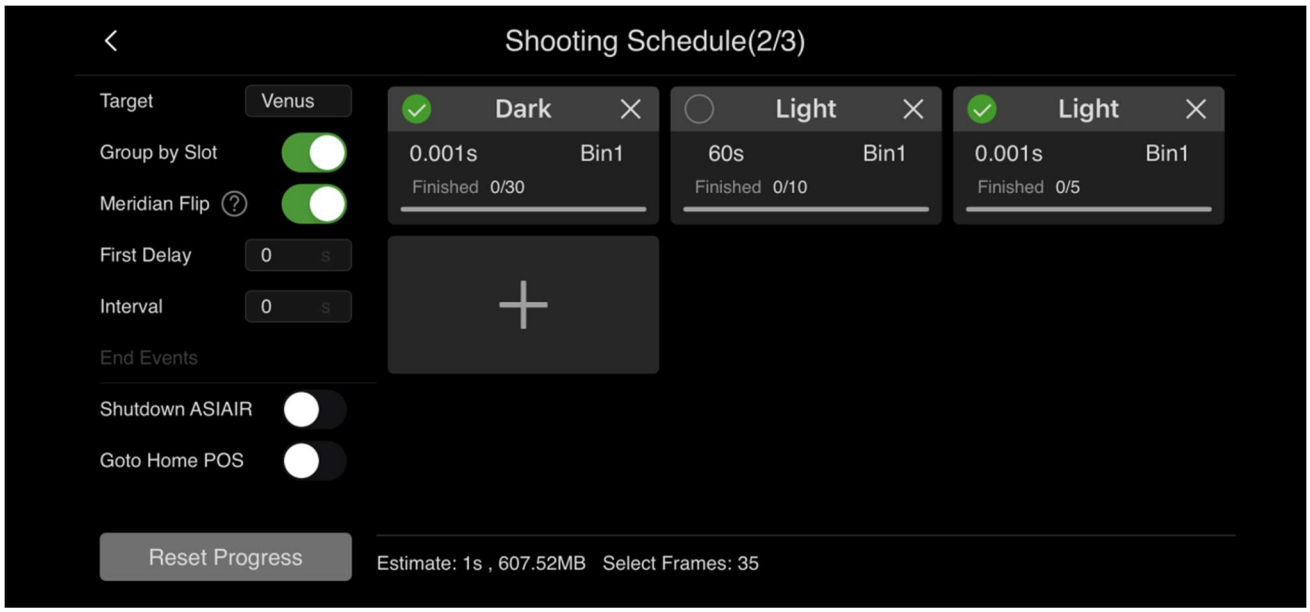
Live stacking is the automated onscreen stacking of multiple images in real-time – this is can be a great feature to show faint objects to friends and family or at a star party .

Step 1: Switch the app to Preview mode, select the target you want to shoot on the mount control panel, GoTo to the target, and shoot a short test image to adjust image composition.

Step 2: Switch the app to Live Stacking mode, Choosing Light frames select the exposure length by pressing the time entry, choosing a time from the roller and pressing OK. You can save every individual frame when stacking by ticking the Save Every Frame When Stacking menu item. To create better images as you become more advanced you can add calibration files (Flats, Darks and Bias frames).

uring live stacking you should not change the image size. If you change this you will need to restart the live stacking process again on a new image.

Autorun



Some of the best deep-sky images you see are will be post processed i.e. the saved images are processed on a PC using dedicated software. The longer the cumulative exposure time of the deep-sky target, the clearer the image. You will need to take multiple sets of images and integrate them on a PC if you wish to process images this way. To assist you ASIAIR can create and store a shooting schedule for your chosen targets.

Step 1: Set up the mount and guiding to ensure you can expose the target without star trails for your intended exposure length

Step 2: Switch to Preview mode, select the target you want to shoot on the Mount Control Panel, GoTo to the target, and shoot a test image to adjust the imaging and composition.

Step 3: Create a shooting plan. Choose Autorun and create a target schedule by pressing the + button. You can choose exposure time, how many images you wish to shoot in the schedule, create calibration frames and Bin sizes. Click OK to store this for later use. On the main shooting page, you can also choose delays between frames if you wish to create delays for cameras with slow image downloads, or you want to cool a DSLR sensor between images. You can also select if ASIAIR will move the telescope to the home position at the end of the schedule and you also have the option to automatically shut down the ASIAIR on completion. After creating the shooting plan, you can click the start button to start the shooting. Ensure that the mount and cameras are connected, and guiding is running before starting.

If during the planned shooting schedule, you want to modify the shooting plan, you will need to reset the current shooting progress.

Appendix

This section outlines the image export, firmware upgrade and disclaimer and warranty process.

Export Image File

To post-process images on a PC you will need to export your images. Since ASIAIR Mini adds support for external USB disks, it is recommended to export the images in the TF card to the USB disk, and then directly insert and remove the USB disk to the computer to transfer these images.

If you want to export the images directly through the TF card with the card reader, please make sure your ASIAIR Mini is fully de-energized before you pull out the TF card.

Software Updates

ZWO are providing regular updates to ASIAIR Mini and adding new features and functions to ensure your ASIAIR Mini performs at its best the app will check for updates each time its starts. Updated firmware is distributed with new versions of the app. When the latest version of ASIAIR App is downloaded, the next time you connect to the ASIAIR Mini it will prompt you to update, click Confirm and wait for the update to complete.

The ASIAIR Mini firmware refers to the programs that run on ASIAIR OS.
You can close the App and restart the box to try it again if the firmware update does not succeed.

ASIAIR OS Restore

Operator errors can corrupt the ASIAIR OS system on the SD. We highly recommend backup the files before first use. We have created an easy to follow restore process. For details, please refer to the official website "How to restore the ASIAIR system".

ASIAIR OS is a Linux system developed by ZWO specifically for ASIAIR app and the firmware.
If ASIAIR becomes unresponsive or you cannot find the ASIAIR Wi-Fi hotspot, please first try the reset button (For details please refer to the “Physical Description” and “Status indicators” part.

Security Essentials

1.Environmental Conditions

Use in 0°C to 40°C, good weather (not rain, snow, fog, lightning, wind or extreme weather) environment.
The working temperature is 0 °C to 40 °C.

2.Operations

Ensure the power supply voltage is in the range of 12V-15V with a minimum current of 2A. Ensure power consumption of the entire system does not exceed 6A.
Make sure that the SD Card has been correctly inserted into the card slot before powering on the ASIAIR Mini device.
Ensure the surrounding area is well ventilated during operation.

Pay attention to connection cables of the ASIAIR Mini and attached devices, do not become snagged or tangled. Pay attention to the communication and power supply cables with the mount during slewing operations

Do not operate under a state of undervoltage. If you do so and for long time the temperature of ASIAIR Mini box might be raised to 70℃ - In this case do not touch it immediately after power off.

Disclaimer

The product is not suitable for children, please be careful when operating in the area where children are present, and we advise adult supervision at all times.

Please ensure you read the operations manual for ASIAIR before attempting to operate it. Ensure you are familiar with the functions of the product. If this product is not operated correctly, it may result in product damage or damage to associated equipment. While this product is designed for beginners in astrophotography you will require a period of understanding and basic knowledge of astronomy to perform safe and skilled operations.

For multiple service terms, please refer to the Service Agreement in the App.

ZWO will not be held liable for the user's failure to use the product in accordance with the User Manual.

ZWO reserves the right to update, revise or terminate this document without prior notice.

After Sales Support

ZWO provide 2 years warranty service for products. Within 2 years in the event of failure we will provide you with free after-sales maintenance services.

After the 2-year warranty period, we provide maintenance services, charging for parts that need to be repaired or replaced.

The warranty clause does not apply to any misuse, misuse, accidental fall, or logistics and other human actions that cause damage to the device.

Items for warranty service should be returned via the place of original purchase. The postage for the return of repaired equipment shall be borne by the buyer/dealer.

This manual is subject to update without notice.

You can check the latest version on ZWO website:

https://astronomy-imaging-camera.com/manuals-guides

If you have any questions or suggestions, please contact us via the following email: support@zwoptical.com

ASIAIR is a trademark of ZWO. Copyright © 2020 ZWO

FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and
can radiate radio frequency energy and,if not installed and used in accordance with the instructions, mav cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off
and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

* RF warning for Mobile device:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

IC STATEMENT

This device complies with Industry Canada’s licence-
exempt RSSs. Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may caus
e undesired operation of the device.

The EUT is In door use only

Le pré
sent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisé
e aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, m
ême si le brouillage est susceptible d'en compromettre le fonctionnement.
avertissements radio pour les appareils portables :
L' équipement a été évalué et satisfait aux exigences générales d'exposition par radiofréquence. L'appareil peut être utilisé sans restriction dans des conditions d' exposition portables.