DJI Ronin RS 4 Pro Gimbal and the Sony FX 6 camera

Guide

Centre for Digital Arts

Concordia University

2026

Contents

Caution

You are responsible for the state of the equipment that you borrow from the CDA EV depot and for the cost of any repairs that may result if you damage the equipment.

Follow the instructions in this guide carefully. If you have questions or concerns, please speak to the EV depot staff or the author of this guide: philip.hawes@concordia.ca

Caution

The gimbal is not waterproof.

It should not be used below -20˚C.

The gimbal has built-in high precision sensors. Dropping or striking it in any way may cause permanent sensor damage.

The handles are batteries, treat them as you would any battery. They are sensitive to high heat.

If the gimbal is unbalanced, the motor may become hot and operation time will be reduced significantly.

Do not obstruct the gimbal movements: you may injure your hand.

Caution

It is highly recommended to have someone spot the operator of the gimbal while recording.

This person is responsible for making sure that the gimbal operator is safe. The operator is focused on the camera and the subject and will not be paying attention to obstacles in their path.

How to use this guide

The focus of this guide is to show how to use the DJI RS4 Pro with the Sony FX6 camera. I recommend reading it through before you start working with the gimbal.

This guide is not complete in itself. It depends on the following resources:

1. the pdf manual from DJI: https://www.dji.com/ca/downloads/products/rs-4-pro#doc

2. the video tutorials on the DJI website:

https://support.dji.com/help/content?customId=en-us01700010078&spaceId=17&re=CA&lang=en

This guide will underline some important information from those two sources and add some important information specific to the FX6.

Camera Compatibility

On this page you can find the “camera compatibility” for the DJI RS4 Pro.

https://www.dji.com/ca/support/compatibility

Within that list the CDA EV Depot has the Canon EOS 5D Mark IV and the Sony A7R3 cameras. However, the CDA does not have the specific USB cable to connect the Canon 5D. So, the Sony A7R3 is your only option for a tethered camera.

You will not find the Sony FX6 on that page, since “compatibility” means that the camera can be controlled by the gimbal using the USB tether or Bluetooth wireless connection.

The DJI site has connection instructions and a list of functions that can be controlled on the Sony A7R3. The USB tether is by far the most useful method.

https://www.dji.com/ca/support/compatibility/rs-5/a7r3

Sony FX6 Compatibility

Despite not featuring on the camera compatibility list, the Sony FX6 is a camera that can be used with the DJI RS4 Pro. It just can’t be tethered.

Without tethering, you cannot control recording, exposure or focus via the gimbal controls.

Despite these disadvantages, the FX6 is the superior camera in terms of video image quality compared to the Sony a7R3 or any still camera with a video option. The FX6 also has better auto focus and auto exposure settings.

This guide explains how to work around the lack of tethering and other shortcomings when working with the Sony FX6 and the DJI RS4 Pro.

Other gimbals in the CDA EV Depot

The CDA EV Depot also has a DJI RS2 gimbal.

This gimbal cannot support the Sony FX6 camera but it can also support the Sony A7R3.

There is, however, no advantage to using this gimbal with the A7R3. You can only use a smaller prime lens on the A7R3 with this smaller, lighter gimbal and there are fewer control options through tethering.

https://www.dji.com/ca/support/compatibility/rs-2/a7r3

There is a CDA guide on using this gimbal on this page:

https://www.concordia.ca/cunews/finearts/digital-arts/audio-video/video/dji-ronin-rs-2-camera-gimbal.html?c=/finearts/cda/support/articles

Preparing the Sony FX6 Camera for the gimbal

DJI Ronin RS4 Gimbal

Quick Start Guide

2026

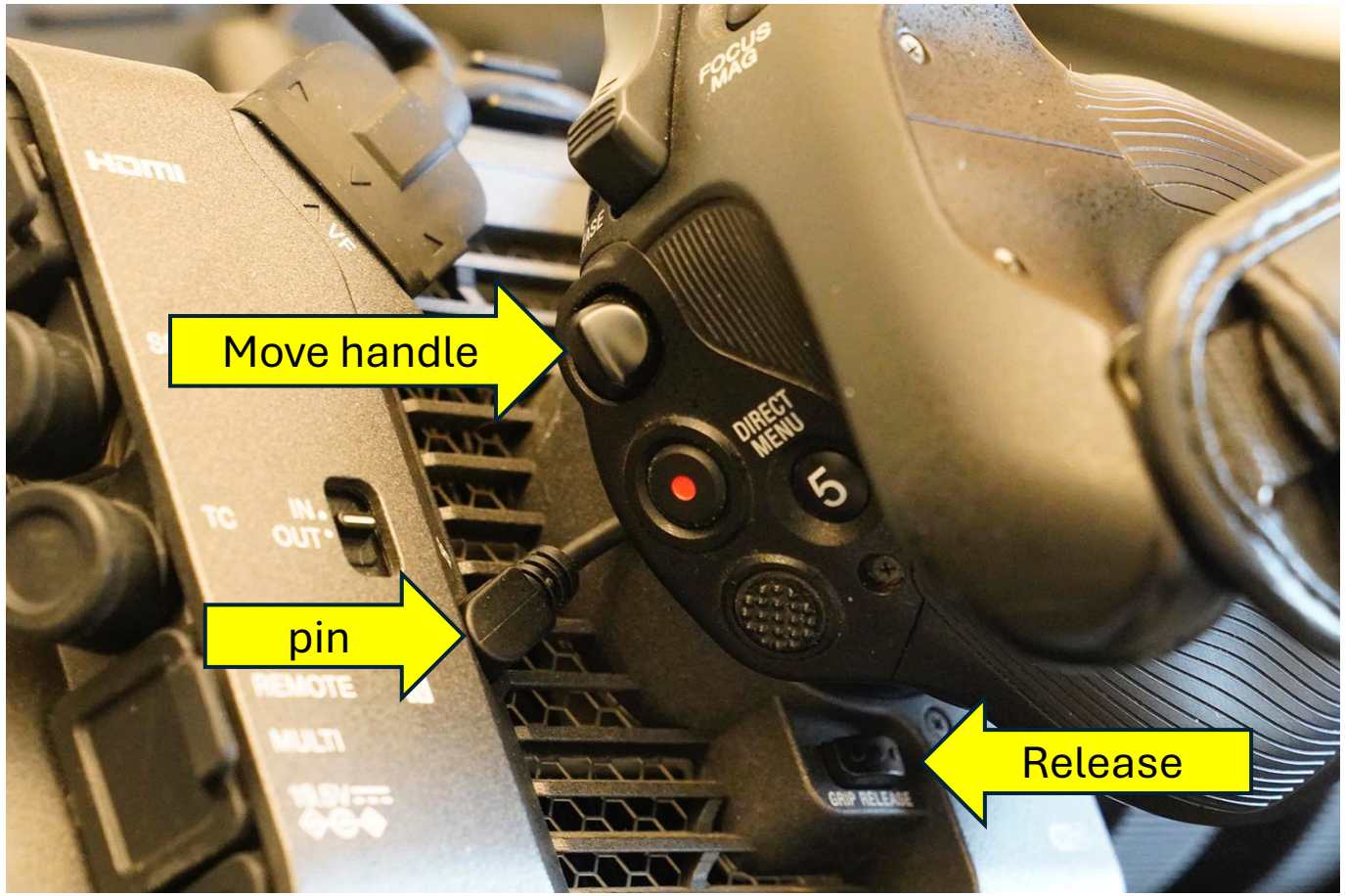
Stripping down the FX6 camera

Take off the top handle and side grip.

Use the small battery that does not protrude from the back of the camera body.

Fasten the LCD to a screw mount on the top of the camera. The middle one is best.

Taking off the side grip



There is a hidden grip release button underneath the grip.

You can move the position of the grip with the button above the record button.

Remove the pin connection from the body.

Stripping down the FX6 camera

The goal is to minimize the weight of the camera but also to remove any object (like the grip or larger battery) that will interfere with the motors of the gimbal.

Stripping down the FX6

When balancing the camera, it must be prepared exactly how you will use it.

The lens cap must be off. The SD cards must be in the camera.

If you will be using a lens hood or the LCD shade then keep those on.

Any small change to the weight of the camera once it is balanced will require that the camera be rebalanced. This includes the zoom focal length.

Options for camera controls

Unlike a digital still camera, the FX 6 cannot be tethered to the gimbal with a USB C cable, so you will not be able to control exposure and focus on the FX6 during shooting with the gimbal grip controls.

That leaves two choices for exposure and focus control:

1. Automate the focus and exposure functions on the FX 6 camera. This is the best option.
2. Have a camera assistant remotely control the FX6 focus and exposure through the Sony monitor and control app. This option may be required if you need to manually pull focus while using the gimbal.

Auto focus/stabilize settings on the FX6 lens

On the standard kit lens, switch to AF autofocus and also make sure that the optical steady shot is OFF.

You do not want the lens to stabilize the camera when it is on the gimbal. The gimbal is responsible for the stabilization.

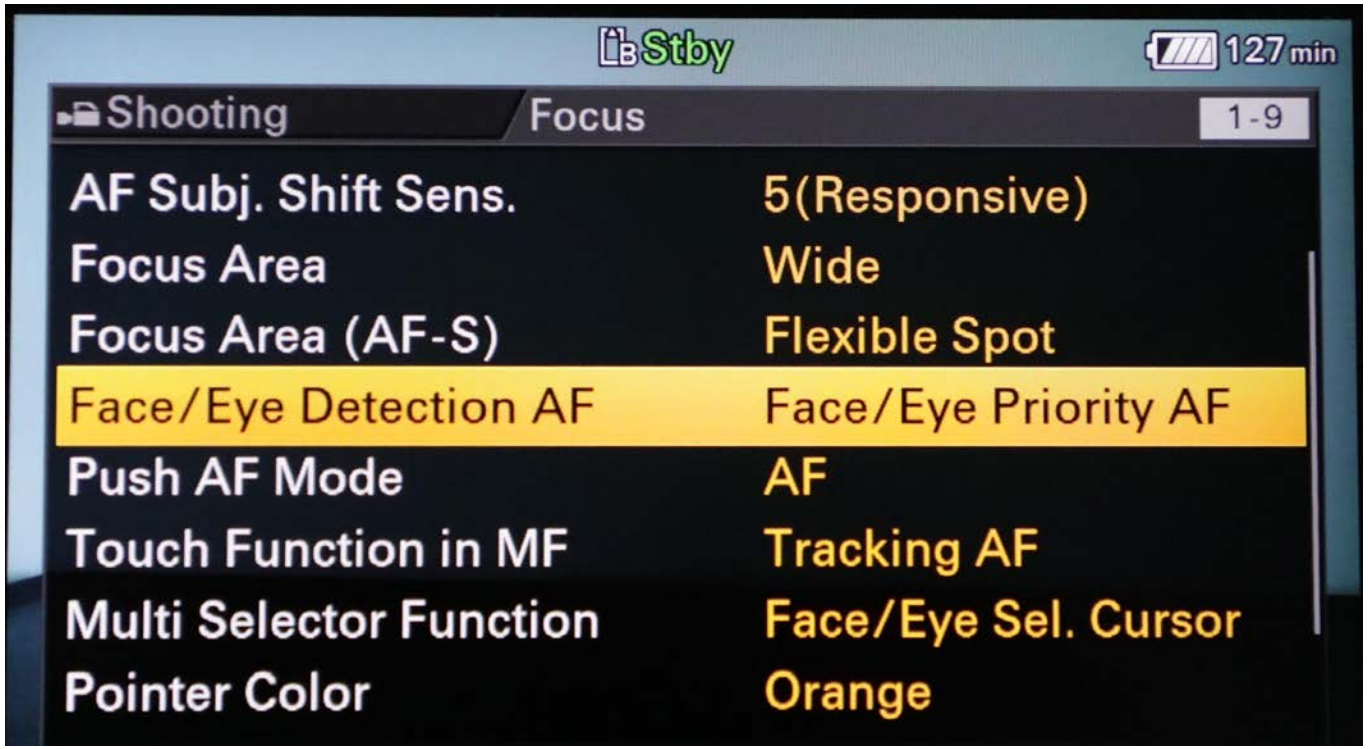
Auto focus settings on the FX6

On the camera body, switch the Focus to AUTO.

When the lens is switched to AF and the body is in FOCUS/AUTO then you are in total auto focus mode in the FX6.

If you are using other lenses with the FX6, pick a Sony E mount lens with auto focus. There are several in the EV depot.

Auto focus settings on the FX6



There are several options for auto focus in the FX6 menu. One of the most common is to turn on Face/Eye Detection AF in the Shooting/Focus menu. The camera will track a face and keep it in focus.

See the FX6 manual from Sony for all the options.

Auto exposure settings

The following auto exposure settings apply when Shooting in **Custom** mode in the camera.

Custom mode is for shooting video that is standard dynamic range, not Slog (Sony's version of log). If you choose the **S-Cinetone** scene in Custom mode you will have a wider dynamic range.

You cannot reliably automate exposure when shooting Slog video in Cine EI, Cine EI Quick or Flexible ISO shooting modes.

The camera does give you the option to automate iris and ND in the Cine EI modes and you also have the option to automate ISO in Flexible ISO mode, but **your exposure will be wrong**. The camera will underexpose the image and you will have image noise. So, use manual exposure when shooting Slog.

Auto exposure settings

Here is a recap of the automated exposure functions on the FX 6 camera when using **Custom** shooting mode.

You can choose which functions to automate but generally you will be automating two or more.

Unless you want a random motion effect, always keep the shutter on manual, at twice the frame rate (1/60 or 1/48 of a second).

You may wish to keep the iris on manual as well for a consistent depth of field.

Automate ISO/GAIN and the variable ND filter.

Depending on the lighting conditions you may wish to automate the white balance as well.

Auto exposure settings on the FX6

Pressing on the IRIS button quickly selects the IRIS for a manual adjustment but holding down the IRIS button until you get an option for AUTO or MANUAL in the LCD that will allow you to switch the IRIS to AUTO.

Auto exposure settings on the FX6

You can do the same for ISO/GAIN, white balance and shutter.

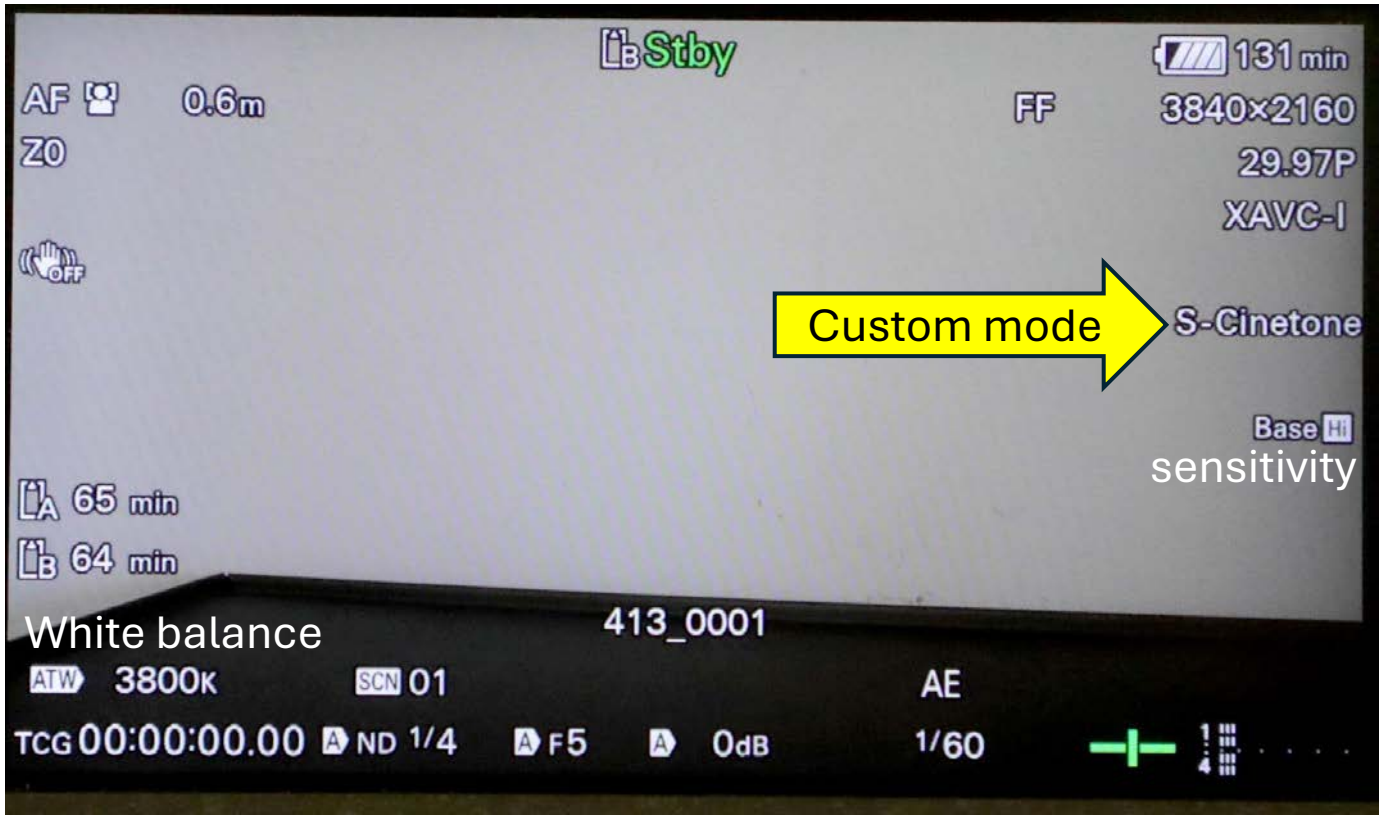
However, **don’t automate the shutter**. Keep it on manual and at twice the frame rate unless you want a special motion effect.

Auto exposure settings on the FX6

On the camera body, under ND Preset, switch ND ON and move the switch to ND Variable. Press the ND AUTO button so it is illuminated.

Now the camera will adjust the ND filter automatically. You will always have at least a ¼ ND filter. If you keep the iris on manual, the camera will adjust the amount of ND to maintain that aperture setting.

Indications in the FX6 LCD



ND iris gain shutter

The camera is set to Custom shooting mode using the S-Cinetone scene, shooting 4K at 29.97p with a shutter speed locked at 1/60, Base Hi sensitivity.

White balance is auto (ATW), ND is auto. Iris is auto. Gain is auto.

Stabilizer on the lens is off.

Sony Monitor and Control app.

The Sony Monitor and Control app. can be used to remotely connect and control the camera exposure and focus functions.

For more information on the app. for android or iPhone:

https://creatorscloud.sony.net/catalog/en-us/monitorcontrol/index.html

You have to establish a WIFI connection to the camera. Follow this Sony guide. It takes about 20 minutes to complete the setup.

https://helpguide.sony.net/promobile/mc/v1/en/index.html

Audio Recording

With the handle of the camera removed, there is no possibility to record audio with the XLR inputs.

There is a microphone on the camera body that will record poor quality reference audio.

So, record audio with an external recorder, like a Zoom or Sound Devices recorder and the microphones of your choice. The EV Depot also has slates.

I recommend using a slate to indentify and mark your shots.

Balancing the Camera

DJI Ronin RS4 Gimbal

Quick Start Guide

2026

Refer to the manual and the video tutorials

Take a look at the notes in this section as you go through the steps to mount the camera to the gimbal and then balance the gimbal.

The video tutorials from DJI are the best source:

https://support.dji.com/help/content?customId=en-us01700010078&spaceId=17&re=CA&lang=en

Make sure you keep a good grip on the camera while you are unlocking any of the gimbal axes. The camera can move suddenly.

Attaching the gimbal to the battery handle.

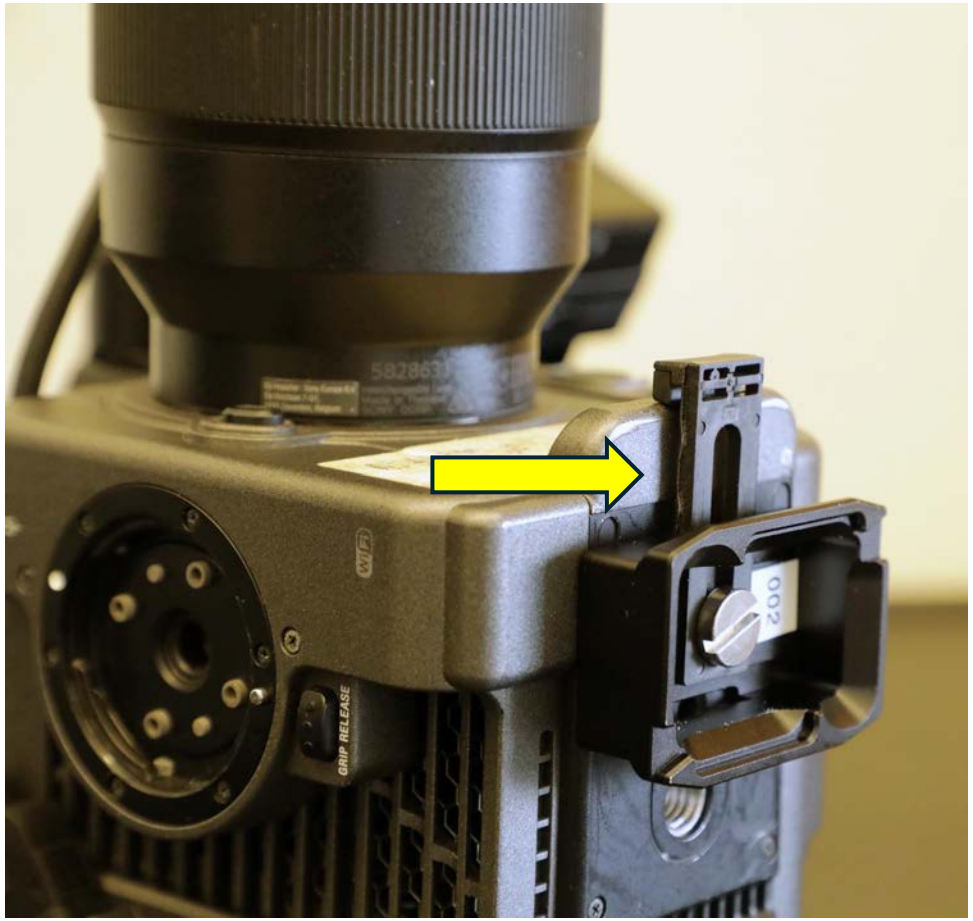
The handle attaches to the gimbal by friction. Once the battery is in place, you turn the lock lever to the left to the lock symbol.

There is **no satisfying click** when the handle is locked. It is simply locked by friction.

Assemble the gimbal

Follow the assembly instructions in the manual. The gimbal should look like this when assembled. Lock the three axes.

Upper Quick Release Plate

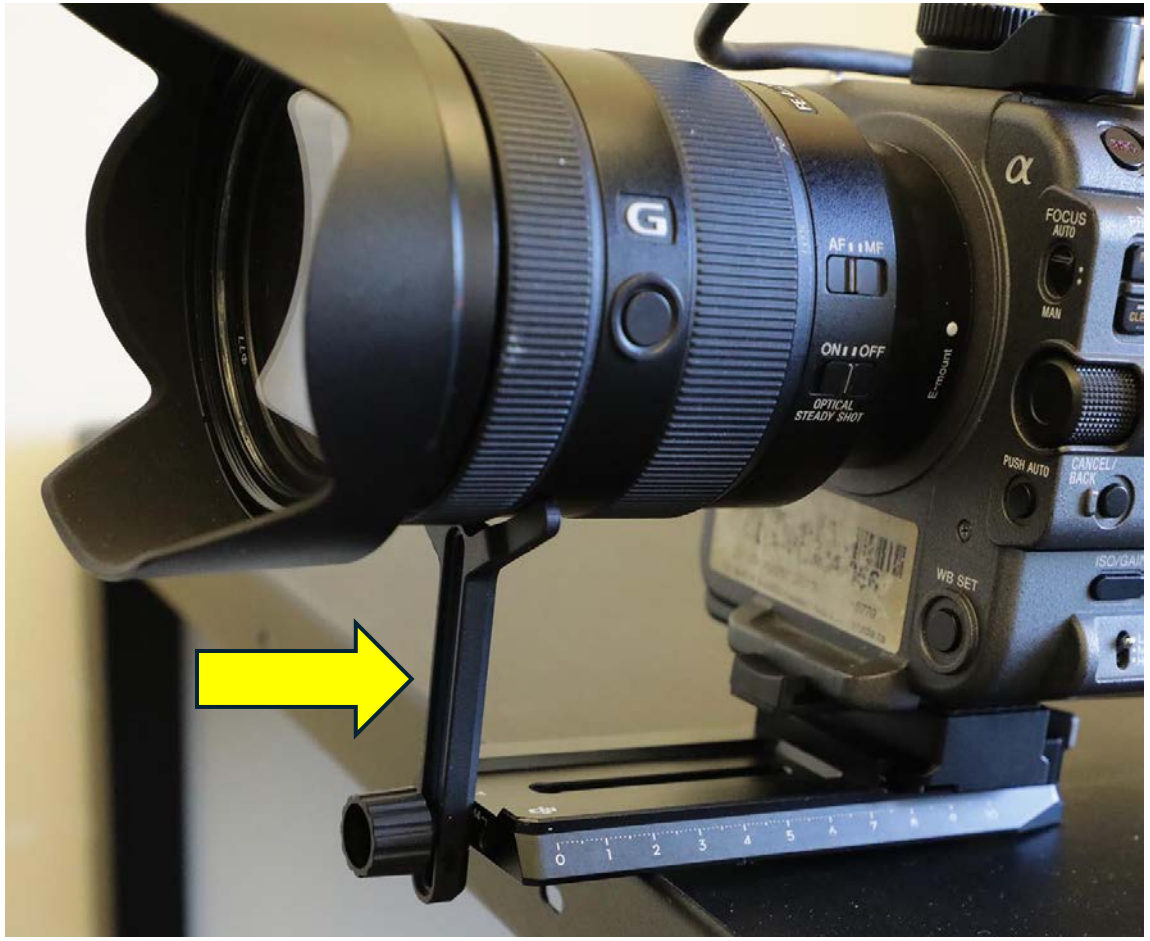


The upper quick release plate has an adjustable placement guide.

You can use this guide to ensure that the plate is mounted completely straight on the camera. This affects balance.

Make sure that the screw on the plate is very secure. Use a flat head screwdriver or quarter to tighten.

Lens support



DJI recommend using the camera with a 24-70mm lens but the kit lens on the FX6 is a 24-105mm. It works fine but needs support.

Use the supplied lens support on this lens. It screws into place on the lower quick release plate.

It should rest on the plastic part of the lens between the focus ring and the zoom ring.

Preparing for balancing the camera

Power off on the camera. The gimbal must also be off.

The FX6 must be mounted in the horizontal shooting position.

Mount the camera with all three axes locked.

Make sure to leave enough room for the camera to clear the gimbal arms.

Last steps before balancing the camera

As previously mentioned, the camera must be balanced exactly as it will be used: no lens cap.

If you are using a zoom lens, the zoom must be adjusted to the desired focal length for the shot.

Changing the focal length may make the gimbal unbalanced. Try to keep a fixed focal length.

Balancing the camera

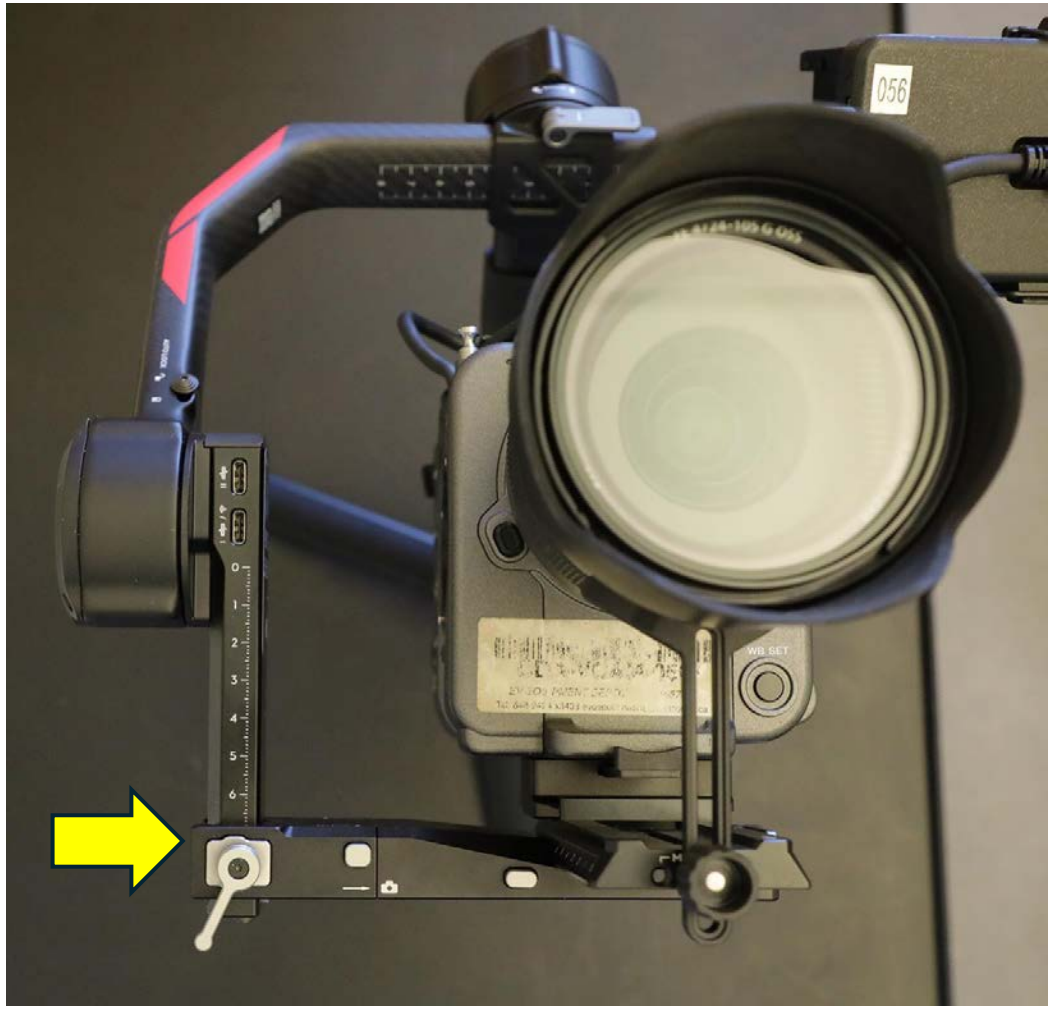
Follow the videos on the DJI site.

The camera must be balanced in this order:

1. Vertical Tilt axis
2. Depth Tilt axis
3. Roll axis
4. Pan axis

Lock each axis when you have finished balancing and before you move on to the next one.

Vertical Tilt Axis



In these images, the tilt axis is unlocked and I have vertically balanced the camera.

Keep a good grip on the camera when you unlock this axis.

Because the FX6 is heavy, you will find that when the camera is vertically balanced, the tilt axis adjustment is towards the bottom the scale. Here it is beyond six on the scale.

Depth Tilt axis

Because the FX6 camera body is heavy, the upper mounting plate is placed forward.

When adjusting the mounting plate with the fine-tuning knob, make sure that the camera clears the roll axis at the back of the gimbal and also does not roll completely off the plate! I found it useful to keep some friction on the lock for the knob.

Lock the tilt axis once this step is finished.

Roll axis

Keep a grip on the roll axis arm when you unlock this axis. It can move suddenly.

Tolerances may vary on individual models, but the roll axis arm is difficult to adjust in small amounts.

The arm does not slide easily within the bracket. Take care to support the camera and to make your adjustments small.

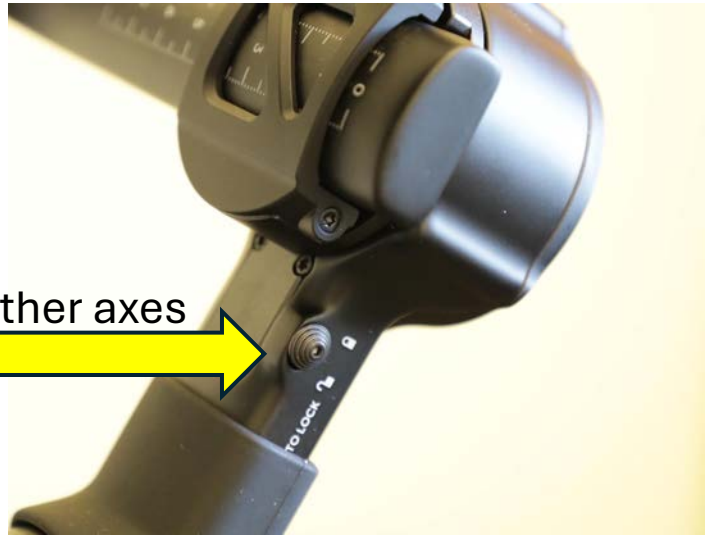
Lock the roll axis when done.

Pan axis

Pan axis lock

The locking mechanism of the pan axis is different.

It is a small lever rather than the knob.



Locks for other axes

Pan axis

In contrast with the roll axis, the adjustments for the pan axis arm seem almost too easy.

The pan axis is balanced when the camera does not move while you are tilting the gimbal while holding the handle.

Try tilting the camera to different positions.

Turning the gimbal off an on

You may notice that the gimbal locks and puts the camera at an angle when you turn it off.

If you want to center the camera and then turn if off, tap the gimbal power button quickly to lock all the motors and have the gimbal go into sleep mode. Then, when you power it off (with a long press of the power button), it will remain centered.

This is how the gimbal locks by default, at an angle.

Auto Tune or calibration

DJI Ronin RS4 Gimbal

Quick Start Guide

2026

Auto Tune or calibration

Once the camera is balanced. Turn on the gimbal. The gimbal motors will automatically unlock.

The gimbals are already activated. Go to the next step of performing the auto tune or calibration. This makes the gimbal perform better. **The gimbal must be on a flat and stable surface for the calibration.**

Press and hold the trigger on the front of the gimbal and the M button on the back at the same time. Hold them down until the calibration starts. Or go to the calibration menu (page 44).

The camera will shake and make noises. Do not touch the gimbal while it is calibrating. It should take less than a minute.

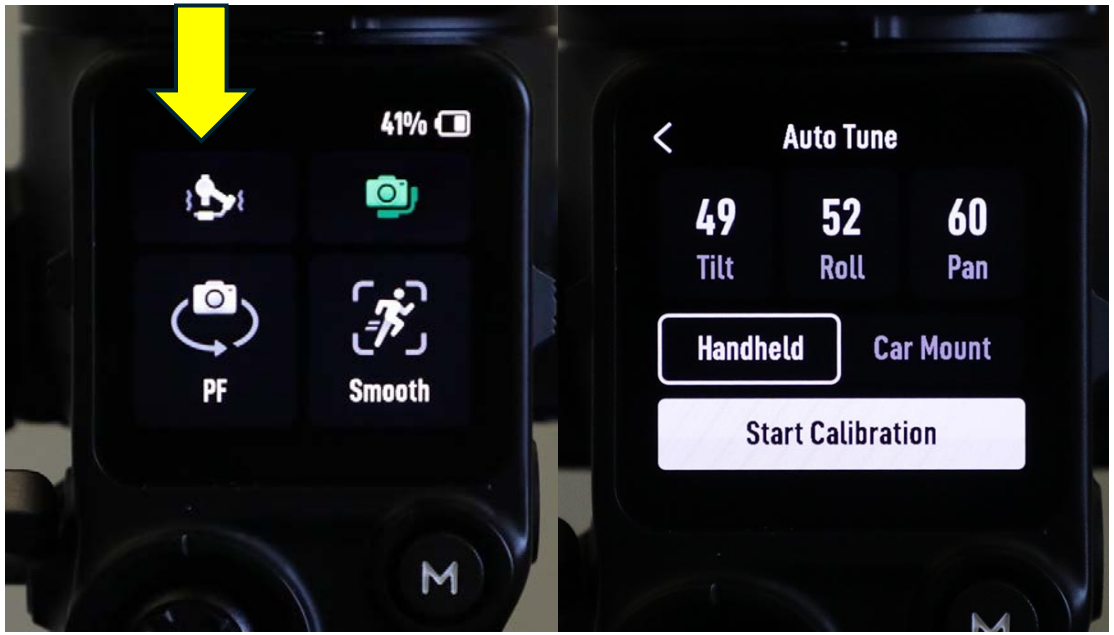
Auto calibration problems

The gimbal is balanced when the camera icon on the top right is green.

If the icon turns yellow or red, or if the gimbal/camera shakes when using it, there is a problem and reperform the calibration.

You can do this by going to the auto tune icon on the top left of the start page menu. See next page.

Auto calibration



You can perform the calibration at any time. Go to the calibration icon in the top left of the start page menu. Start calibration.

Checking the balance

Tilt the gimbal 15 degrees to the left and right and make sure that the camera symbol on the touch screen remains green.

If it turns yellow or red or if the camera continues to shake, rebalance the camera, following the same steps in the same order.

Basic Operations

DJI Ronin RS4 Gimbal

Quick Start Guide

2026

Basic Operations

There is much more to explore but this section will get you started with the basic functions of the camera.

Once again, because the FX6 is untethered the camera control functions are non-existent.

Basic grip

The basic grip is a two-handed grip on the handle. The index finger on the upper hand can control the dial and thumb can control the joystick.

The lower hand keeps the grip steady. If you are using the shorter handle, then the tripod should be folded and used by the lower hand to grip.

The gimbal is easy to use with either of the battery handles, it is less easy to use with the arms attached.

You can use a combination of the arms or briefcase handle and the battery handle to get a firm grip and control the gimbal.

Operation Modes

The gimbal can be used in three operation modes: upgright, underslung, flashlight and briefcase.

I recommend sticking to the upright and briefcase modes.

Briefcase mode can help for a lower angle shot.

The underslung and flashlight modes are much harder with a camera the size and weight of the Sony FX6.

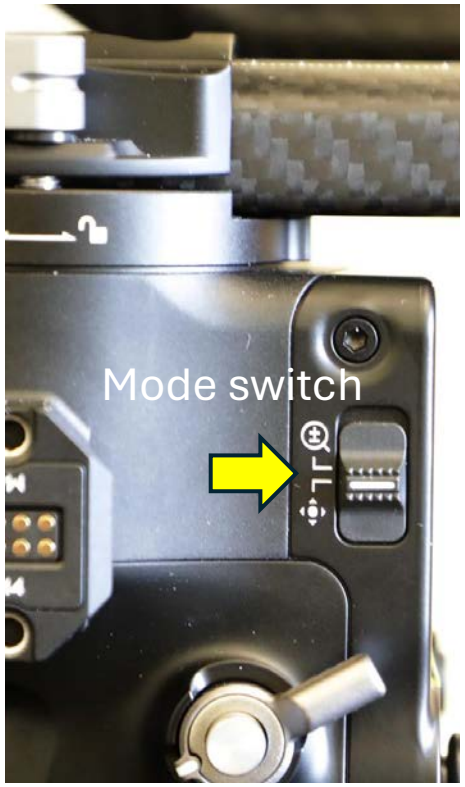
Safety while operating

It is highly recommended to have someone spot the operator of the gimbal. This person is responsible for making sure that the gimbal operator is safe.

The operator is focused on the camera and the subject and will not be paying attention to changes or obstacles in their path.

The spotter must clear the way for the operator and inform them of any dangers.

Joystick movement



Because the Sony FX6 camera cannot be tethered, some of the controls on the gimbal do not work.

The record button on the back does nothing. You have to press record on the camera.

But the joystick on the back of the camera can control basic camera movement. The joystick mode switch should be set to camera movement.

Gimbal follow mode

With a switch on the other side of the gimbal choose between the three follow modes that determine which of the three axes follow the movement of the gimbal grip:

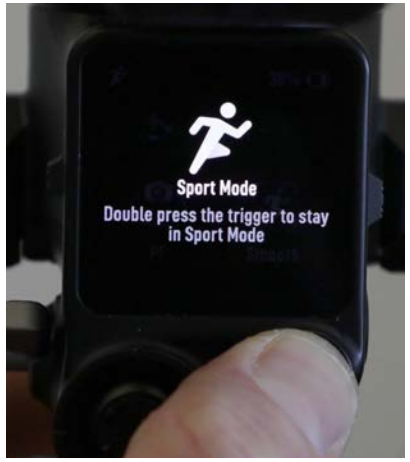
PF: pan follow (just pan axis)

PTF: pan and tilt follow (pan and tilt axes)

FPV: pan, tilt and roll follow (all three axes)

There are two other modes available through the menu: Custom and 3D Roll 360. See the DJI manual for a description of each of these modes.

Sports mode



You can experiment with “sports” mode where the follow speed of the gimbal increases. It makes the gimbal more sensitive to fast movements.

You can enter sports mode by pressing the trigger twice while holding down the M button, or use the touch screen icon on the bottom right. On the touch screen you have more options.

Sports Mode and Follow options

The icon on the lower right takes you to the follow speed menu with different options.

Trigger and Dial

In addition to using the **trigger** to access different functions (sports mode and calibrate) you can:

double click the trigger to center the gimbal,

or triple click the trigger to turn the camera 180 degrees to face you (the operator).

By default, the **dial** is set to camera zoom. This is useless with an untethered camera but you can change the dial functions. See next page.

Gimbal Settings Screen/ Dial Functions

Gimbal settings

Dial functions

On the home menu on the touch screen, slide up on the menu to access the gimbal settings screen.

I changed the dial functions to pan the camera.

I found it easier to pan the camera with the dial and simply tilt it with the joystick.

You can adjust other functions on this page.

Sleep

Pressing the power button on the gimbal quickly will engage all the locks and center the camera. The camera will go into sleep. Press the power button quickly again to exit.

It is useful to go into sleep before you power off the gimbal because then the gimbal powers off without tilting the camera at an angle. See next page.

Camera position when powered off

This is how the camera is positioned when you power off the gimbal.

The gimbal snaps the camera into a resting position at an angle.

This is fine, unless you want to make some adjustments to camera settings.

DJI RS Twist Grip Handles and Briefcase Handle

DJI Ronin RS4 Gimbal

Quick Start Guide

2026

Twist Grip Handle Tutorial

DJI have created a video showing how to connect the twist grip handles to the gimbal.

https://www.youtube.com/watch?v=zyyGK0-0rPU

In the following pages, I will also go through this procedure.

Twist Grip Handles

The handles are mounted to the NATO ports on each side of the gimbal. Make sure they are very tightly mounted on the correct side and that the DJI logo faces up.

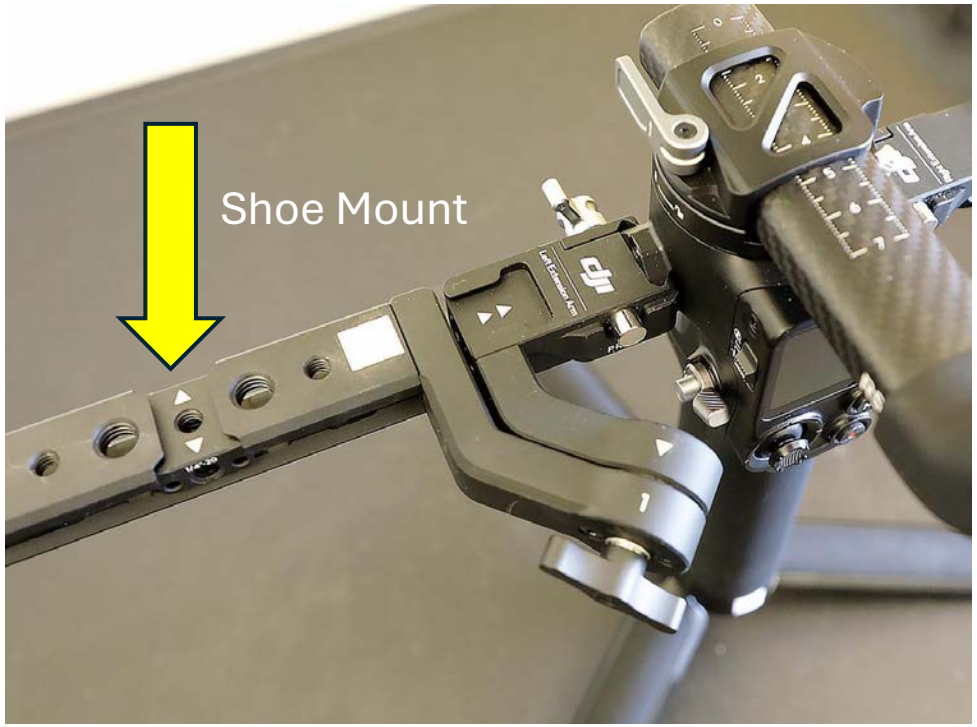
Twist Grip Handles

Then attach the grips with the locks towards you. You can adjust the width as you like.

It is not easy to shoot with these handles because you cannot access the joystick or dial control. The CDA does not have the tethered remote handle.

You can operate with one hand on the battery grip and the other on one of the handles.

Shoe mount on the handles



DJI have placed a shoe mounts on each of the twist grip handles.

However, this is a poor placement for an accessory shoe. Anything you attach here will interfere with the movement of the gimbal!

So, the shoe mount is useless unless the accessory is almost flat.

Handle mounting angle

You can also adjust the left grip to the number 2 position on the arm. This will make shooting at different angles easier.

This is similar to “briefcase” mode with the briefcase handle. The difference is that the handle is pointing upwards.

Briefcase handle

There is a briefcase handle that is NOT included in the kit but is available from the depot on request.

This handle should be mounted to the NATO mount on the left side of the gimbal. Make sure it is very tight.

With this handle is is easiest to support the gimbal when the other hand is on the battery grip.

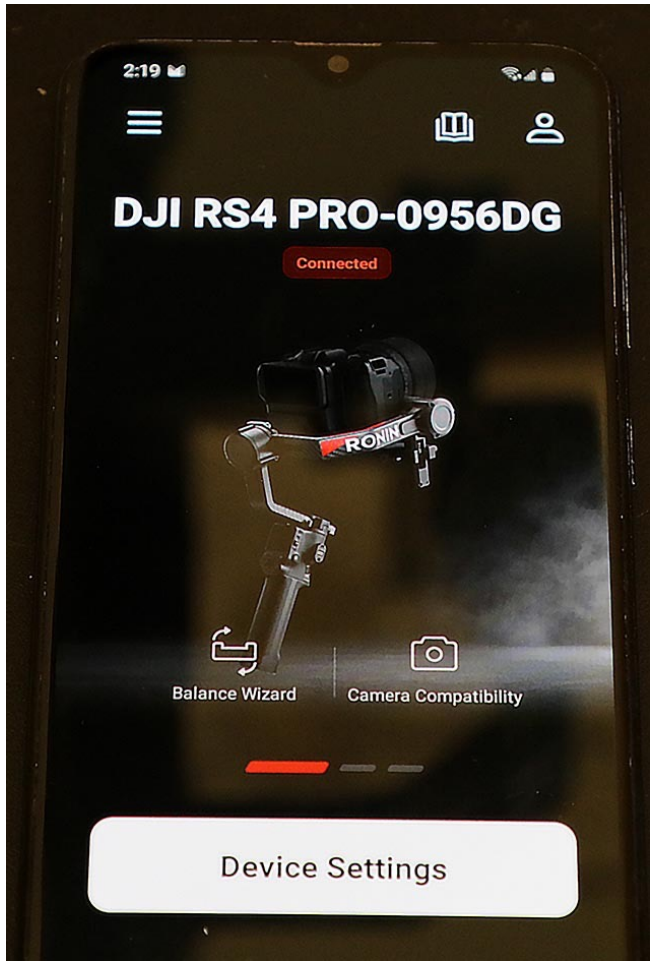
Ronin app

DJI Ronin RS4 Gimbal

Quick Start Guide

2026

Connecting to the gimbal with the Ronin app

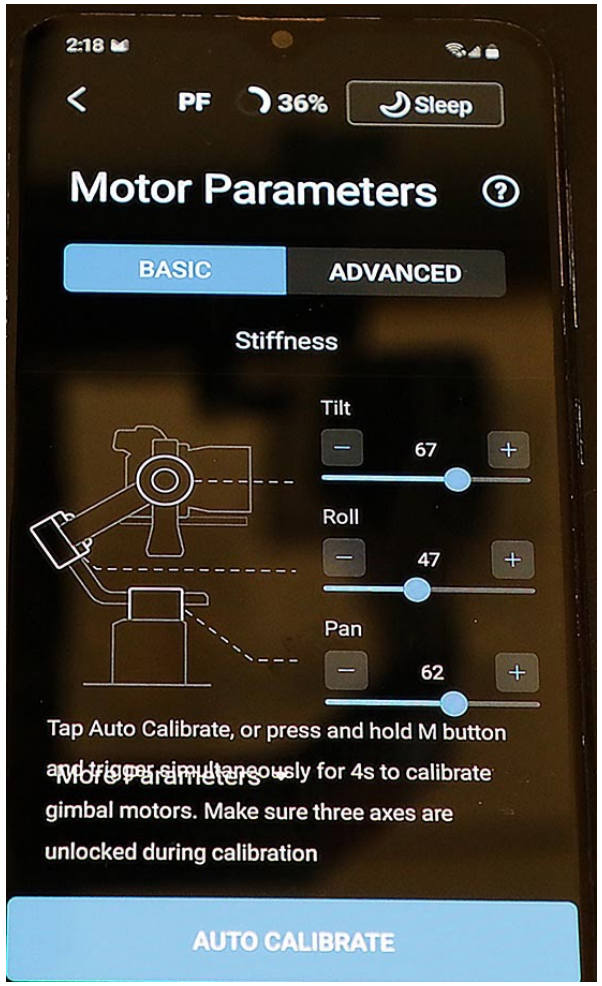


The app is available for iPhones and android devices. For those with an android device, the DJI Ronin app does not appear on Google Play. I had to download the app from the DJI website.

https://www.dji.com/ca/downloads/djiapp/dji-ronin

Once you have enabled Bluetooth on your phone, you may have to type in the default password 12345678 to connect.

Calibration adjustments on the app.



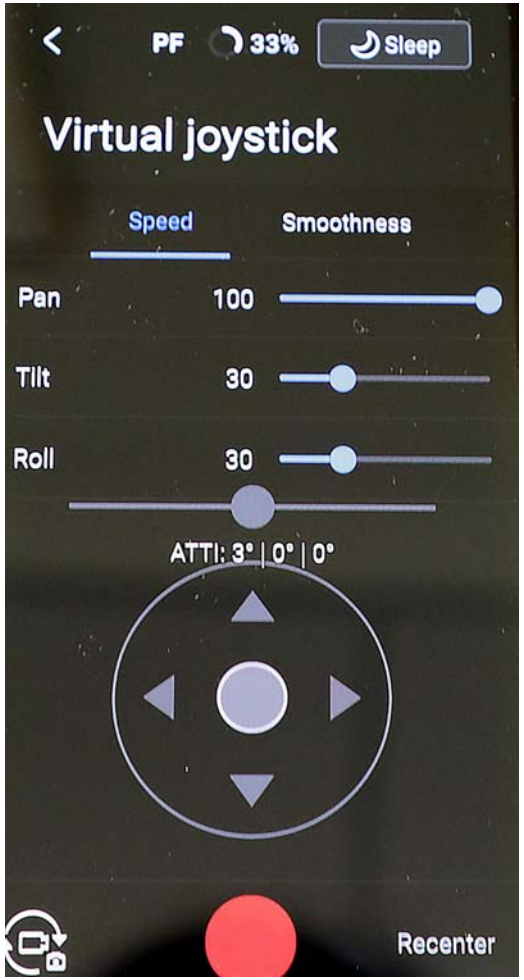
You can perform the calibration through the app.

It is somewhat easier to make adjustments to the calibration through the app.

Other changes in the app.

There are many adjustments that you can make in the app to the performance of the gimbal if you feel that these are necessary.

Virtual Joystick



In the ”create” menu in the app. there is a virtual joystick. You may find this useful if the operator is using the attached arms with grips and cannot operate the joystick on the gimbal.

The camera could be panned and tilted by an assistant. **It is not possible to operate the gimbal and use the app on your phone at the same time.**

Thank you for reading this guide.

If you have any questions or comments please contact Phil Hawes at the Centre for Digital Arts, Concordia University

philip.hawes@concordia.ca

2026