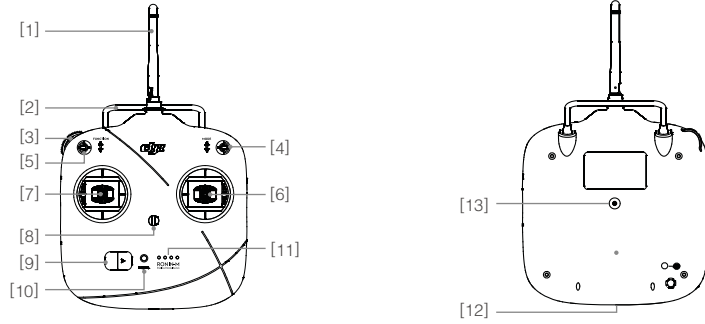


Remote Control

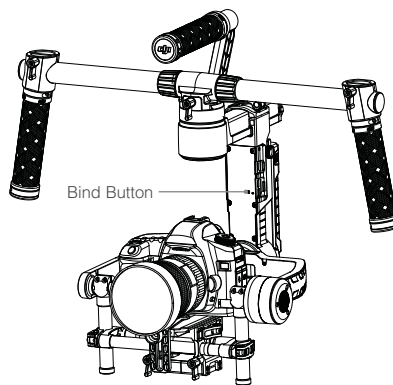


- | | |
|--------------------------------|---|
| [1] Antenna | [8] Neck Strap Attachment |
| [2] Carrying Handle | [9] Power Switch |
| [3] Left Dial (reserved) | [10] Power Indicator |
| [4] 3-Position Switch MODE | [11] Battery Level Indicator |
| [5] 3-Position Switch FUNCTION | [12] Battery Charging & RC Assistant Port
(Micro-USB port) |
| [6] Joystick 1 | [13] Reserved Port |
| [7] Joystick 2 | |

Connecting the Remote Control to the Ronin-M

1. Turn on the Ronin-M.
2. Press the Bind Button (shown below) of the Ronin-M once. The Ronin-M's LED indicator will blink green quickly at that time.
3. Slide the power switch to the right to power on the remote control. If the LED of gimbal turns solid green light, the remote control and the Ronin-M have been successfully bound.

The binding process only needs to be done once, unless the bind button is pressed or if the Ronin-M needs to be bound to another remote control.



- ⚠ Please make sure that the remote control is sufficiently charged before use. If the low-battery alert sounds, (refer to Remote Control Power LED Indicator Status below), please recharge the battery as soon as possible.
- Charge the remote control's battery using the included Micro-USB cable. Using the incorrect type of charging cable may cause damage.
- Turn off the remote control before charging. The power LED indicator will glow solid green when the battery is fully charged.
- When using the remote control, ensure that the antenna is at least 20cm away from any person.

Remote Control Power LED Indicator Status

Power LED Indicator	Sound	Remote Control Status
⊙ — Solid Green	None	Functioning normally
⊙ — Solid Red	None	Charging (remote control is powered off)
⊙ — Solid Yellow	None	Remote control joystick calibration error, re-calibrate
⊙ — Solid Red	BB---BB---BB	Low voltage (from 3.5 V-3.53 V). Recharge the remote control
⊙ Quick Red flashing	B-B-B.....	Critical low voltage (from 3.45V-3.5V); recharge the remote control immediately
⊙ Slow Green flashing	B--B--B.....	Alert will sound after 15 minutes of inactivity. It will stop once you start using the remote control.

- ⚠ The remote control will turn off automatically when battery voltage drops below 3.45V. Charge the battery as soon as possible when the low voltage alert appears or sounds.

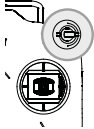



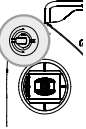






Remote Control Battery Level Indicator Status

The battery level indicator displays the current battery level. The following is a description of the indicators.

○: The LED is in a solid state on ⊙: The LED is blinking ○: The LED is off

LED1	LED2	LED3	LED4	Current Battery Level
○	○	○	○	75%~100%
○	○	○	○	50%~75%
○	○	○	○	25%~50%
○	○	○	○	12.5%~25%
⊙	○	○	○	0%~12.5%
○	○	○	○	<0%

Remote Control Features

	<p>MODE: The MODE switch is used for toggling SmoothTrack.</p> <ol style="list-style-type: none"> In Position 1, SmoothTrack is off. The remote control is free to control the pan axis and stops and holds the last position determined by the pan axis control stick. In Position 2, SmoothTrack is on. The remote control is free to control the pan axis and stops and holds the last position determined by the pan axis control stick. In Position 3, SmoothTrack is on. The gimbal will reorient and reset the pan angle to the forward-facing direction when the pan axis control stick is released. <p>Position 1  -Free, SmoothTrack Off Position 2  -Free, SmoothTrack On Position 3  -Reset to Center, SmoothTrack On</p>	
	<p>FUNCTION: 1. There are 3 possible selections: Fast, Normal, and Slow. The value of each speed can be preset in the DJI Assistant App or DJI PC/MAC Assistant.</p> <p>Position 1  -Fast Position 2  -Normal Position 3  -Slow</p> <p>2. Activating Motor Kill Switch Quickly flip the FUNCTION Switch between Position 1 and Position 3 at least three times to activate the Motor Kill Switch. Repeat this process to turn off the Motor Kill Switch. Be sure to position the camera in the standard operating position before re-activating the gimbal's motors. The Motor Kill Switch is useful if the gimbal operator runs into an issue or needs to make a quick mechanical adjustment to the gimbal or camera setup.</p>	
	<p>Left Stick (Default settings): Horizontal movements on the left stick control the roll axis. Vertical movements have no definition.</p>	
		<p>Right Stick (Default settings): Horizontal movements on the right stick control the pan axis.</p> <p>Right Stick (Default settings): Vertical movements on the right stick control the tilt axis.</p>



These stick settings can be customized in the DJI Assistant App or DJI PC/MAC Assistant.

Adding a Third-Party Transmitter/Receiver

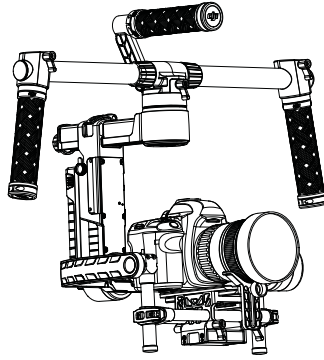
The Ronin-M supports 3rd party transmitters/receivers, such as D-Bus. Connect the transmitter through the integrated port (refer to the Ronin-M Diagram for the location of the D-Bus port).

Operation Modes

There are three operation modes for the Ronin-M: Underslung Mode, Upright Mode and Briefcase Mode.

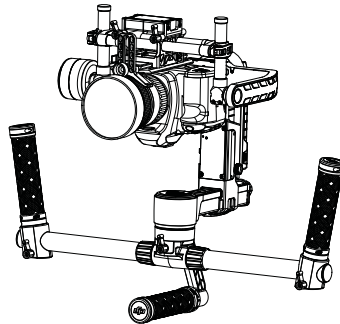
Underslung Mode

Underslung Mode is the standard, default mode. The Ronin-M can be used in this mode without any adjustments.



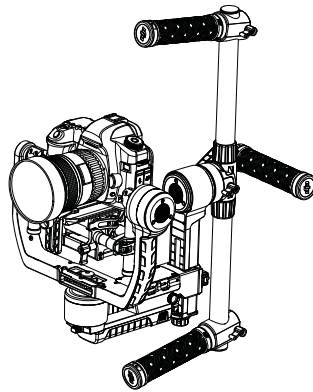
Upright Mode

Flip the gimbal forward 180 degrees and it will automatically change to Upright Mode. Alternatively, you can change the gimbal into upright mode before turning it on. Upright Mode is ideal for car mounts or other top down perspective camera positions, as it allows you to shoot higher and/or at eye level. Upright Mode can also be used without any adjustments. Do not flip the gimbal sideways (left or right) to convert to Upright Mode.



Briefcase Mode

Briefcase Mode allows you to hold the Ronin-M in a slim profile close to your body. To use Briefcase Mode, tilt the gimbal 90° to the left or right on the roll axis. You can turn Briefcase Mode off in the DJI Assistant app, in which case the Ronin-M will never automatically transform into Briefcase Mode. In Briefcase Mode, the remote control cannot pan, tilt, or roll the gimbal.

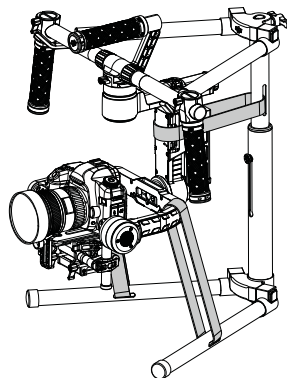


Maintenance

The figure below shows the proper configuration for transporting the Ronin-M with the Tuning Stand. Using the hook-and-loop straps, lock the Ronin-M in place, as shown. Be sure to remove the straps prior to turning the Ronin-M on again.

The Ronin-M is a precise machine and is not waterproof. Keep it away from sand and dust when in use. After use, it is recommended that you wipe the Ronin-M down with a soft dry cloth. Never spray any cleaning liquids onto the Ronin-M.

Maintenance



Troubleshooting

Problem	Solution
1 Motors appear to be weak	After balancing the camera, launch the DJI Assistant App or the DJI PC/MAC Assistant and press Auto Tune Stability. Wait for the process to finish and the stiffness settings will be displayed on the screen.
2 The gimbal is vibrating, even after tapping the Auto Tune Stability button	(1) Check to make sure all knobs are tight, including the pan motor knob. (2) Check to make sure the camera screw is tight. Push on the camera plate to make sure it is not loose or sliding on the gimbal's camera mount. (3) Try decreasing the stiffness setting of each axis. By looking at the "Power" readings for the axes, you should be able to tell if there is one particular axis being affected.
3 Pan axis seems to be off-center	Open the DJI Assistant App or DJI PC/MAC Assistant, select the Calibrate Center and follow the on-screen instructions.
4 Ronin-M seems to be drifting	Place the Ronin-M on the Tuning Stand and enter the DJI Assistant App or the DJI PC/MAC Assistant. Tap/click the Calibrate System button and let the process finish before picking up the Ronin-M.
5 SmoothTrack does not work	(1) Turn on the remote control and be sure that the MODE switch is not in Position 1 (the uppermost position). (2) Check whether SmoothTrack is turned off in the DJI Assistant App or the DJI PC/MAC Assistant software. (3) Check whether the SmoothTrack deadband is turned up too high. If it is, reduce the deadband value in the SmoothTrack Menu.
6 Motors turn off automatically	Check your camera balance. If the power level in the Gimbal Motors Menu indicates an output of 10 or more, on any axis, rebalance the camera.
7 Gimbal turns off and doesn't come back on	Restart the gimbal. There is a motor protection algorithm built into the Ronin-M to protect the electronic components. If any particular motor enters a protection mode (motor shuts off six times within a one minute period), the Ronin-M will deactivate the motors and will not reactivate them until the unit has been restarted.
8 Forgot the Bluetooth password	Connect the Ronin-M to the DJI PC/MAC Assistant and click the "Reset Password" button to reset the password.
9 Video footage appears to wobble from side-to-side or up-and-down	The SmoothTrack speed setting is too high or the SmoothTrack deadband setting is too low. Decrease the SmoothTrack speed or increase the deadband.

Specifications

General	
Built-In Functions	<ul style="list-style-type: none"> • Three Operation Modes <ul style="list-style-type: none"> Underslung Mode Upright Mode Briefcase Mode • Built-in, independent IMU module • DJI Specialized Gimbal Drive Motors with Encoders
	<ul style="list-style-type: none"> • Bluetooth Module • USB Connection • 2.4 GHz Receiver • Temperature Sensor • DJI Advanced 32-Bit DSP Processor • D-Bus Receiver Supported
Peripheral	
Camera Tray Dimensions	Maximum depth from the center of gravity on camera base plate: 120mm Maximum height measured from top of the camera base plate: 195mm Maximum width: 160 mm
Accessory Power Connections	12V Regulated P-Tap x 2; USB 500mW x 1; DJI Lightbridge x 1
GCU Input Power	4 S Ronin-M Battery
Connections	2.4GHz Remote Control; Bluetooth 4.0; USB 2.0
PC/MAC Assistant Software Requirements	Windows XP SP3; Windows 7; Windows 8 (32 or 64 bit); Mac OS X 10.9 or above
Mobile Assistant Software Requirements	Mobile Device: iOS 7.0 or above, Android 4.3 or above
Mechanical & Electrical Characteristics	
Working Current	<ul style="list-style-type: none"> • Static current: 300 mA (@16 V) • Dynamic current: 600 mA (@16 V) • Locked motor current: Max 10 A (@16 V)
Operating Temperature	-15 °C ~ 50 °C (-5 °F ~ 120 °F)
Weight	2.3 kg (5.07 lb) fully loaded with handlebar
Gimbal Dimensions	500 mm (W) x 210 mm (D) x 420 mm (H)
Working Performance	
Load Weight Capacity (Reference Value)	3.6 kg (8 lb)
Angular Vibration Range	± 0.02°
Maximum Control Rotation Speed	Pan axis: 90°/sec; Tilt axis: 100°/sec; Roll axis: 30°/sec
Mechanical Endpoint Range	Pan axis: 360° Tilt axis: 105° Up, 190° Down Roll axis: ± 110°
Controlled Rotation Range	Pan axis control: 360° Tilt axis control: Up 105° to Down 190° Roll axis control: ± 25°

The content is subject to change.

Download the latest version from
<http://www.dji.com/product/ronin-m>



If you have any questions about this document, please contact DJI
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