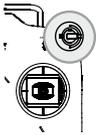
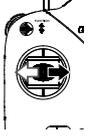


## Remote Control Features

	<p><b>MODE:</b> The MODE switch is used for toggling SmoothTrack.</p> <ol style="list-style-type: none"> <li>In Position 1, Smooth Track is off. Remote control is freely position pan axis stops and holds the last input position of the pan axis control stick.</li> <li>In Position 2, Smooth Track is on. Remote control is freely position pan axis stops and holds the last input position of the pan axis control stick.</li> <li>In Position 3, Smooth Track is on. The gimbal will always point and reset pan to the forward facing direction once the pan axis control stick is let go.</li> </ol> <p>Position 1  -Free, SmoothTrack Off</p> <p>Position 2  -Free, SmoothTrack On</p> <p>Position 3  -Reset to Center, SmoothTrack On</p>		
	<p><b>FUNCTION:</b> 1. The FUNCTION switch is used to select the SmoothTrack speed. There are 3 possible selections: Fast, Normal and Slow. The value of each speed can be preset in the App or PC 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 consecutively for 3 times and you will activate the motor kill switch. Do the same again to turn off the motor kill switch. Prior to re-activating the gimbal motors, be sure to position the camera in the standard operating position. The motor kill switch is useful in case the gimbal operator runs into an issue or you need to make a quick mechanical adjustment to the gimbal or camera setup.</p>		
	<p><b>Left Stick:</b> Horizontal movements on the left stick control the Roll axis. Vertical movements have no definition.</p>		
	<p><b>Right Stick:</b> Horizontal movements on the right stick control the Pan axis.</p>	 <p><b>Right Stick:</b>Vertical movements on the right stick control the Tilt axis.</p>	



These stick settings can be customized in the DJI Ronin-M Assistant App or PC Assistant.

## Adding 3rd party transmitter/receiver

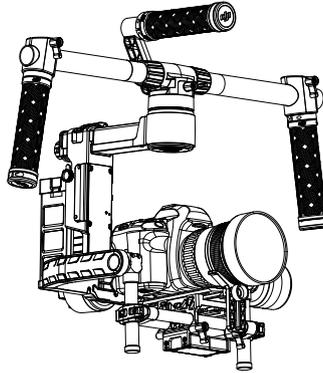
Ronin-M supports 3rd party transmitters/receivers, such as D-Bus or PPM. Connect the transmitter through the port (refer to Page 8 for the location of D-Bus/PPM port).

# Operation Modes

There are three operation modes in the Ronin-M: underslung mode, upright mode and briefcase mode.

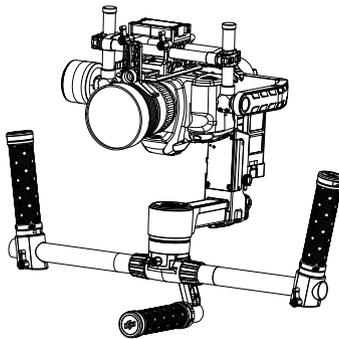
## Underslung Mode

Underslung mode is the standard, default mode. It can be used without any user input.



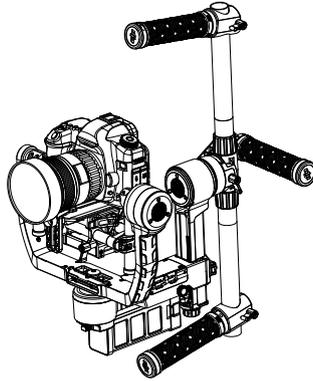
## Upright Mode

Flip the gimbal forward 180 degrees and it will automatically change to upright mode. Alternatively, you can set the gimbal into upright mode before turning it on. Upright mode is ideal for car mounts or other high camera positions, as it allows you to shoot higher and/or at eye level. Upright mode can be used without any user input. Do not flip the gimbal over sideways going left or right to convert to upright mode.



## Briefcase Mode

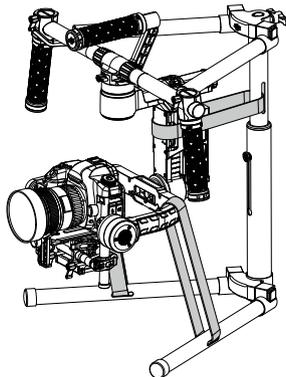
Briefcase mode allows you to hold the Ronin-M in a slim profile close to your body. To enter briefcase mode, tilt the gimbal on the roll axis 90 degrees to the left or right. You may turn briefcase mode off in the gimbal app, in which case the Ronin-M will never automatically transform into briefcase mode. In briefcase mode, the remote control does not have pan, tilt, or roll control of the Ronin-M.



## Maintenance

The figure to the right shows the proper way to transport the Ronin-M with the stand. Using the hook-and-loop straps, lock the Ronin-M gimbal in place as shown. Be sure to undo the straps prior to turning the Ronin-M on!

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



# Troubleshooting

NO.	The Problem	What to Do
1	Motors appear to be weak	After camera balancing, launch the Assistant App or the PC/MAC Assistant and start the Auto Tune Stability. Wait for the process to complete and the stiffness settings will be populated on the screen.
2	If after tapping the Auto Tune Stability button and the gimbal is still vibrating	<ol style="list-style-type: none"><li>(1) Check to make sure all knobs are very tight. Including the pan motor knob.</li><li>(2) Check to make sure the camera securing screw is tight. Push on the camera plate to make sure it is not loose and sliding in the camera mount.</li><li>(3) Try decreasing the stiffness of the each axis. You should be able to tell if there is one particular axis being affected by looking at the "power" of the axes.</li></ol>
3	Pan axis seems off center	Go into the Assistant App or PC/MAC Assistant, tap/click the Calibrate Center and follow the on-screen instructions.
4	Ronin seems to be drifting	Place the Ronin-M on the tuning stand and in the Assistant App or the PC/MAC Assistant, tap/click the Calibrate System button. Let the process complete before picking up the Ronin-M.
5	SmoothTrack doesn't work	<ol style="list-style-type: none"><li>(1) Turn on the Remote control and be sure the MODE switch is not at Position 1 (the uppermost position).</li><li>(2) SmoothTrack is turned off in the Assistant App or the PC/MAC Assistant software.</li><li>(3) The SmoothTrack Deadband is turned up too high. Reduce the Deadband size in the SmoothTrack Menu.</li></ol>
6	Motors seem to shutoff automatically	Check your camera balance. If the power indicated in the Gimbal Motors Menu indicates 10 or more on any of the 3 axes, please rebalance your camera.
7	Gimbal shuts off and doesn't come back on	Power cycle the gimbal. This is a motor protection algorithm that's built into the Ronin-M to save its own electronic components. If any particular motor goes into a self-protection mode (motor shuts off) 6 times within a 1 minute period, the Ronin-M will shut off power to the motors and will not come back to life unless power cycled.
8	Forgot the Bluetooth password	Connect Ronin-M to the PC/MAC Assistant and click the "Reset Password" button to reset your password.
9	Footage appears to wobble side to side or up and down	SmoothTrack speed is too high or SmoothTrack deadband is too low. Decrease the SmoothTrack speed or increase the deadband.

# Specification

General	
Built-In Functions	<ul style="list-style-type: none"> <li>• Three Operation Modes Underslung Mode Upright Mode Briefcase Mode</li> <li>• Built-in independent IMU module</li> <li>• DJI Specialized Gimbal Drive Motors with Encoders</li> </ul>
	<ul style="list-style-type: none"> <li>• Bluetooth Module</li> <li>• USB Connection</li> <li>• 2.4GHz Receiver</li> <li>• Temperature Sensor</li> <li>• DJI Advanced 32-Bit DSP Processor</li> <li>• D-Bus/PPM Receiver Supported</li> </ul>
Peripheral	
Camera Tray Dimensions	Maximum depth at center of mass on camera base plate: 120mm Maximum height measured from top of camera base plate: 195mm Maximum width: 160mm
Accessory Power Connections	12V regulated P-Tap x 2, USB 500mW x 1, DJI Lightbridge x 1
GCU Input Power	4S 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	iOS version 6.1 or above Mobile Device; Android 4.3 or above
Mechanical & Electrical Characteristics	
Working Current	<ul style="list-style-type: none"> <li>• Static current: 300mA (@16V)</li> <li>• Dynamic current: 600mA (@16V)</li> <li>• Locked motor current: Max 10A (@16V)</li> </ul>
Operating Temperature	-15oC ~ 50oC (-5oF ~ 120oF)
Weight	2.3kg (5.07lbs) fully loaded with handlebar
Gimbal Dimensions	500mm(W) x 210mm (D) x 420mm(H)
Working Performance	
Load Weight Capacity (Reference Value)	2.5kg (5.5lbs)
Control Angle Accuracy	0.02°
Maximum Control Rotation Speed	Pan axis: 90°/sec Tilt axis: 100°/sec Roll axis: 30°/sec
Mechanical Endpoint Range	Pan axis control: 360° Tilt axis control: Up 105o to Down 165° Roll axis control: ± 110°
Controlled Rotation Range	Pan axis control: 360° Tilt axis control: Up 105° to Down 165° Roll axis control: ± 25°

User manual is subject to change without prior notice.

You may visit DJI official website to obtain the latest version of user manual.

<http://www.dji.com/product/ronin-m/download>

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FCC statements:

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

NOTE: 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, may 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.

This device complies with Industry Canada license-exempt RSS standard(s).

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 cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS exemptes de licence standard(s).

Son fonctionnement est soumis aux deux conditions suivantes:

- (1) cet appareil ne peut pas provoquer d'interférences, et
- (2) cet appareil doit accepter toute interférence, y compris celles pouvant causer un mauvais fonctionnement de l'appareil.

The output power of this device is less than 20mW.The SAR test is not required.