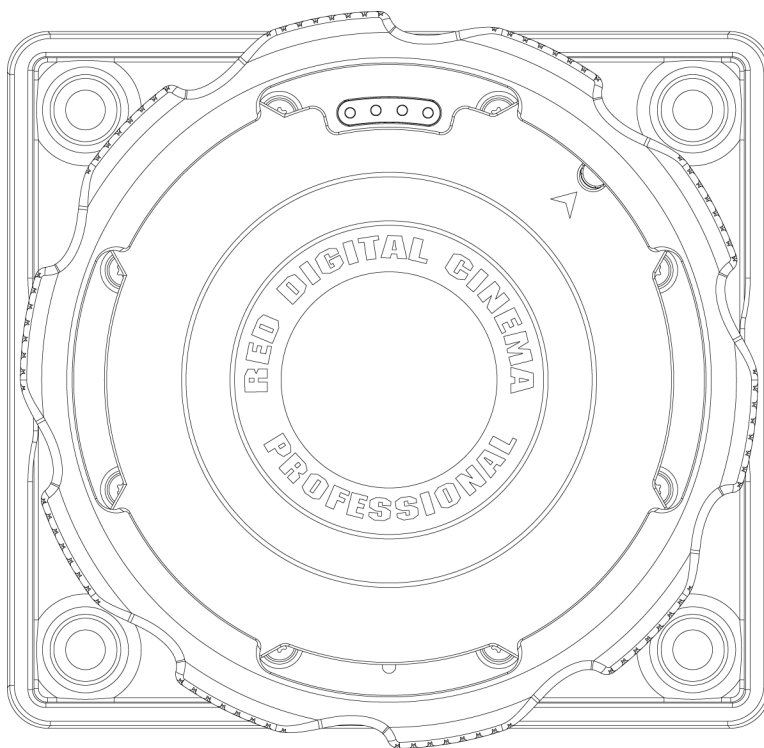




RED MOTION MOUNT OPERATION GUIDE



MOTION MOUNT TI PL | MOTION MOUNT TI CANON
RED.COM

RED MOTION MOUNT OPERATION GUIDE

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COMPLIANCE STATEMENTS

INDUSTRIAL CANADA EMISSION COMPLIANCE STATEMENTS

This device complies with Industry Canada license-exempt RSS standards RSS 139 and RSS 210. 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.

This Class B digital apparatus complies with Canadian ICES-003.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée 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, même si le brouillage est susceptible d'en compromettre le fonctionnement. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FEDERAL COMMUNICATIONS COMMISSION (FCC) STATEMENTS



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.

In order to maintain compliance with FCC regulations, shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference to radio and TV reception. The user is cautioned that changes and modifications made to the equipment without the approval of manufacturer could void the users authority to operate this equipment.

NOTE: This device complies with Part 15 of the FCC Rules.

Operations subjected to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including that may cause undesirable interference.



CAUTION: Exposure to Radio Frequency Radiation.

RED MOTION MOUNT OPERATION GUIDE

The device shall be used in such a manner that the potential for human contact is minimized

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



CAUTION: Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.



CAUTION: If the device is changed or modified without permission from RED, the user may void his or her authority to operate the equipment.

AUSTRALIA AND NEW ZEALAND STATEMENTS

RED declares that the radio equipment described in this document comply with the following international standards.

- ▶ IEC 60065 - Product Safety
- ▶ ETSI EN 300 328 - Technical requirement for radio equipment

RED declares digital devices described in this document comply with the following Australian and New Zealand standards.

- ▶ AS/NZS CISPR 22 – Electromagnetic Interference
- ▶ AS/NZS 61000.3.2 – Power Line Harmonics
- ▶ AS/NZS 61000.3.3 – Power Line Flicker

JAPAN STATEMENTS



This is a Class B product based on the standard of the Voluntary Control Council for Interference (VCCI) for information technology equipment. If this equipment is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment

according to the instruction manual.

この装置は、情報処理装置等電波障害自主規制協議会 (VCCI) の基準に基づくクラス B 情報技術装置です。この装置は家庭環境で使用することを目的としていますが、ラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取り扱いをしてください。

EUROPEAN UNION COMPLIANCE STATEMENTS



RED declares that the radio equipment described in this document comply with the R&TTE Directive (1999/5/EC) issued by the Commission of the

European Community.

Compliance with this directive implies conformity to the following European Norms (in brackets are the equivalent international standards).

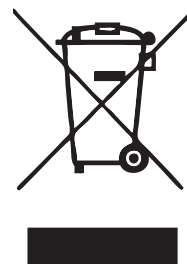
- ▶ EN 60065 (IEC 60065) – Product Safety
- ▶ ETSI EN 300 328 Technical requirement for radio equipment
- ▶ ETSI EN 301 489 General EMC requirements for radio equipment.

INFORMATION

Products with the CE marking comply with the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community. Compliance with these directives implies conformity to the following European Product Family Standards.

- ▶ EN 55022 (CISPR 22) – Electromagnetic Interference
- ▶ EN 55024-1 (CISPR 24) – Electromagnetic Immunity
- ▶ EN 61000-3-2 (IEC610000-3-2) – Power Line Harmonics
- ▶ EN 61000-3-3 (IEC610000) – Power Line Flicker
- ▶ EN 60065 (IEC60065) – Product Safety

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)



The Waste Electrical and Electronic Equipment (WEEE) mark applies only to countries within the European Union (EU) and Norway. This symbol on the product and accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product to designated collection points where it will be accepted free of charge. Alternatively, in some countries you may be able to return your

products to your local retailer upon purchase of an equivalent new product.

Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For business users in the European Union, if you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

RED MOTION MOUNT OPERATION GUIDE

USAGE RESTRICTIONS FOR PRODUCTS THAT INCORPORATE REDLINK



Products that fall into this category are denoted by inclusion of the Class 2 identifier symbol (exclamation mark in a circle) accompanying the CE Mark on the products regulatory label, example to the left.

FRANCE

Usage Restrictions - Geographic Area Where Restriction Applies : France

For mainland France

- ▶ 2.400 - 2.4835 GHz (Channels 1-16) authorized for indoor use
- ▶ 2.400 - 2.454 GHz (Channels 1-10) authorized for outdoor use

Restrictions d'utilisation - Zone géographique où les restrictions s'appliquent : France

Pour la France métropolitaine

- ▶ 2.400 - 2.4835 GHz (Canaux 1 à 16) autorisé en usage intérieur
- ▶ 2.400 - 2.454 GHz (canaux 1 à 10) autorisé en usage extérieur

NORWAY

This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund

Dette gjelder ikke for det geografiske området innenfor en radius av 20 km fra sentrum av Ny-Ålesund

RESPONSIBLE PARTY

RED Digital Cinema
34 Parker
Irvine, CA 92618
USA

SAFETY INSTRUCTIONS

- ▶ DO NOT use the camera or accessories near water. Avoid exposing your camera to moisture. The unit is not waterproof, so contact with water could cause permanent damage to the unit as well as electric shock and serious injury to the user. DO NOT use the camera in the rain or under other conditions with high moisture without appropriate protection, and immediately remove power source if camera or accessories are exposed to moisture.



WARNING: To reduce the risk of fire or electric shock, do not expose the camera to rain or moisture.

- ▶ DO NOT expose the camera to laser beams, as laser beams may damage the sensor.
- ▶ DO NOT expose your camera to excessive vibration or impact (shock). Be careful not to drop your camera. Internal mechanisms may be damaged by severe shock. Mechanical alignment of optical elements may be affected by excessive vibration.
- ▶ ELECTROMAGNETIC INTERFERENCE: The use of devices using radio or other communication waves may result in the malfunction or interference with the unit and/or with audio and video signals.
- ▶ Clean only using a dry cloth. When cleaning your camera, remember that it is not waterproof and moisture can damage electronic circuitry. DO NOT rinse or immerse any element of the camera, lens or other accessory, keep them dry at all times. DO NOT use soaps, detergents, ammonia, alkaline cleaners, and abrasive cleaning compounds or solvents. These substances may damage lens coatings and electronic circuitry.
- ▶ Maintain sufficient ventilation—DO NOT block any ventilation openings or obstruct cooling fan airflow.



CAUTION: Proper camera ventilation requires a minimum 0.5" (1.25 cm) clearance between the camera ventilation openings and external surfaces. Verify that objects that can block the fan intake and exhaust ports do not impede airflow. Failure to permit adequate airflow may result in overheating of the camera, degraded operation and in extreme situations, damage to the camera.

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- ▶ DO NOT operate or store near any heat sources such as radiators, heat registers, stoves, or any other apparatus that produce heat. Store in a protected, level and ventilated place. Avoid exposure to temperature extremes, damp, severe vibration, strong magnetic fields, direct sunlight or local heat sources during storage. Remove any batteries from the camera before storage. Recommended storage and usage temperatures for your camera, lenses and other accessories are:
 - ▶ Operating range: 0°C to 40°C (32°F to 104°F)
 - ▶ Storage range: -20°C to 50°C (-4°F to 122°F)
- ▶ If there are any performance issues with your camera or accessories when operating within this temperature range, please file a support ticket on <https://support.red.com>.
- ▶ Modules, expanders, and lens mounts are NOT HOT SWAPPABLE, meaning you cannot remove or install these items while the camera is turned on. Before installing or removing these items, you MUST turn off the camera. Failure to do so may result in damage to the item or camera that is not covered under warranty.
- ▶ DO NOT bypass the third prong of the grounding-type plug on the power cord of the DSMC AC Power Adaptor. A grounding-type plug has two blades and a third “grounding” prong. The third prong is provided for your safety. A grounding-type plug shall be connected to an outlet with a protective earthen connection. If the grounding-type plug does not fit into your outlet, do not attempt to modify the plug or outlet, consult a qualified electrician.
- ▶ Protect all power cords from being pinched, walked on or driven over by a vehicle. Replace any power cords suspected of sustaining damage due to crushing or other forms physical damage.



Products marked with this symbol are class 2 devices. These devices are not provided with a grounding type plug.



CAUTION: The power cord plug for the DSMC AC Power Adaptor is used as the power disconnect. To disconnect all power from the DSMC AC Power Adaptor, unplug the power cord plug from the wall outlet. During use, the power cord plug should remain easily accessible at all times.

- ▶ Lithium-ion batteries may be subject to special handling requirements pursuant to federal and local laws. Please refer to specific shipping instructions included with your battery regarding proper transport of your battery. Do not handle your battery if it is damaged or leaking. Disposal of batteries must be in accordance with local environmental regulations. For example, California law requires that all rechargeable batteries must be recycled by an authorized recycle center. Storing batteries fully charged or in high temperature conditions may permanently reduce the life of the battery. Available battery capacity may also be temporarily lessened after storage in low temperature conditions.



WARNING: DO NOT expose the battery to excessive heat.



WARNING: Danger of explosion if an incorrect battery is charged with the RED Charger or is used to power the camera and accessories. Replace only with the same or equivalent type battery.



CAUTION: Refer all service and repair to qualified RED service personnel. To reduce the risk of electric shock, and damage to the camera or accessories, DO NOT attempt to perform any servicing other than any procedures that are recommended in the operating instructions.



INDOOR USE ONLY: Products marked with this symbol are designed for use indoors only.

RED MOTION MOUNT OPERATION GUIDE

1

MOTION MOUNT INTRODUCTION

The RED MOTION MOUNT® is a revolutionary and adjustable lens mount system for your camera. The MOTION MOUNT integrates a global shutter, temporal anti-aliasing soft shutter, and variable neutral density (ND) system. This enables on-the-fly shutter adjustments to reduce motion blur and temporal aliasing. The ND filter also includes a linear polarizer and IR filter for improved image color and contrast.

NOTE: HDRX® is not available when the MOTION MOUNT Shutter Type is set to Soft or Square.

NOTE: The MOTION MOUNT is compatible with RED EPIC®, SCARLET®, WEAPON®, RED EPIC-W®, and SCARLET-W cameras.

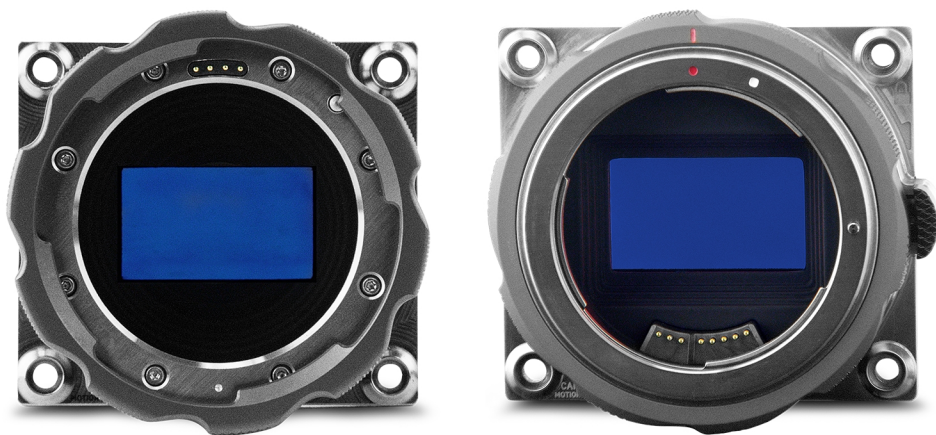


Figure: MOTION MOUNT Ti PL (Left), MOTION MOUNT Ti Canon (Right)

VARIABLE ND FILTER

The electronic variable ND filter provides adjustable optical density for the camera. The amount of optical density varies based on the active shutter type. Adjust the ND value using a touchscreen or user keys, without having to change physical filters.

- ▶ **Soft/Square Shutter:** Range is 0.48 to 1.20 (1.60 to 4.00 stops)
- ▶ **ND Only:** Range is 0.48 to 2.40 (1.60 to 8.00 stops)

NOTE: While the MOTION MOUNT is installed, the adjustable electronic ND filter provides a minimum light loss of 1.60 stops (0.48 optical density).

IR FILTER AND LINEAR POLARIZATION

The MOTION MOUNT incorporates an IR-cut filter and new color science, providing accurate and natural color over a wide range of color temperatures. The IR-cut filter ensures rich, deep shadows in your shots and minimizes IR contamination at high ND levels, without the need for a separate hot mirror.

The built-in linear polarizer improves image quality by increasing contrast and reducing unwanted glare from light that passes through the MOTION MOUNT to the image sensor.

RED MOTION MOUNT OPERATION GUIDE

SOFT SHUTTER

The MOTION MOUNT Soft shutter performs temporal anti-aliasing in your footage, eliminating sampling rate issues caused by temporal aliasing. This is commonly referred to as the “wagon-wheel effect”. Effectively, the MOTION MOUNT improves your images and footage by ensuring smooth and natural motion. As its name implies, the Soft shutter “softens” the edges of blur, resulting in crisp, smooth motion, and pans.

For more information about temporal anti-aliasing, see the [Temporal Aliasing with Cinema](http://www.red.com/learn/red-101/cinema-temporal-aliasing) article available at www.red.com/learn/red-101/cinema-temporal-aliasing.

SQUARE SHUTTER

The MOTION MOUNT Square shutter, also referred to as “global shutter,” eliminates rolling shutter artifacts, such as partial illumination caused by strobes and flashing light. The global shutter ensures uniform exposure throughout your image, regardless of strobes or motion.

For more information about global shutters, see the [Global & Rolling Shutters](http://www.red.com/learn/red-101/global-rolling-shutter) article available at www.red.com/learn/red-101/global-rolling-shutter.

MOTION MOUNT TYPES

The following MOTION MOUNT types are available:

ITEM	PART NUMBER
DSMC RED MOTION MOUNT Ti PL	725-0012
DSMC RED MOTION MOUNT Ti Canon	725-0014
DSMC RED MOTION MOUNT Ti Canon (Captive)	725-0038

HARDWARE AND SYSTEM REQUIREMENTS

- ▶ The MOTION MOUNT is compatible with RED EPIC, SCARLET, WEAPON, RED EPIC-W, and SCARLET-W cameras.
- ▶ Camera firmware v5.1.14 or later
- ▶ REDCINE-X PRO® Build 20.0.0 or later

NOTE: RED MOTION MOUNT Ti PL and RED MOTION MOUNT Ti Canon use identical filter and shutter mechanisms. The only differences between the mounts are the mechanical locking systems and compatible lenses.

NOTE: The MOTION MOUNT is 0.9 mm longer than the respective DSMC Ti PL Mount and DSMC Canon Mount.

RED MOTION MOUNT OPERATION GUIDE

ADDITIONAL RESOURCES

The following resources offer additional information about RED, the DSMC[®] system, and the RED community:

- ▶ **RED.com:** Check the [official RED website](#) for the latest information about RED products.
- ▶ **RED Learn Articles:** RED offers [in-depth technical articles](#) about RED cameras, post-production, and digital cinematography.
- ▶ **RED Downloads:** Go to [RED Downloads](#) to download the latest firmware, operation guides, and post-production software.
- ▶ **DSMC Toolkit:** Go to [RED Downloads](#) to find the DSMC Toolkit, which offers many helpful tools and resources to customize and improve your camera workflow.
- ▶ **RED Support:** Check the [RED SUPPORT site](#) for FAQs, or to file a support ticket.
- ▶ **Bomb Squad Support:** For more information, contact your Bomb Squad representative.
- ▶ **In-Camera Help:** Select the Help button on an in-camera screen to open up the help for that screen.
- ▶ **REDUSER:** Discuss all things RED on the [REDUSER](#) third-party forum.

RED MOTION MOUNT OPERATION GUIDE

2

MOTION MOUNT INSTALLATION

The RED MOTION MOUNT® is installed in the same way as other RED® lens mounts. Installation and removal steps provided in this section apply to all RED lens mounts.

For more information on maintenance, go to ["MOTION MOUNT Maintenance" on page 29.](#)

WARNING: Any damage to your camera, lens mount, or other equipment caused by the incorrect removal or installation of lens mounts is NOT covered under any RED warranty.

NOTE: Modules, expanders, and lens mounts are NOT HOT SWAPPABLE, meaning you cannot remove or install these items while the camera is turned on. Before installing or removing these items, you MUST turn off the camera. Failure to do so may result in damage to the item or camera that is not covered under warranty.

NOTE: DO NOT allow dirt or debris to enter the camera opening during the installation or removal of a lens mount. Take great care not to drop any screws into the camera opening, as damage may occur to the OLPF.

NOTE: Always avoid physical contact with the MOTION MOUNT glass during installation or removal.

LENS MOUNT ALIGNMENT

When installing the MOTION MOUNT, ensure that the lens mount is properly aligned. The forward-facing contact pins differ between the two (2) mounts. RED MOTION MOUNT Ti PL contacts pins are located on the top of the mount, while RED MOTION MOUNT Ti Canon contact pins are located on the bottom of the mount.

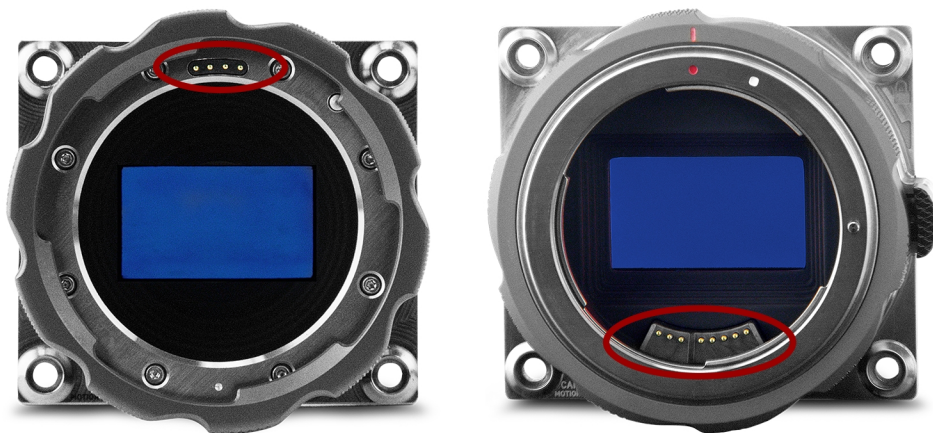


Figure: MOTION MOUNT Ti PL (left), MOTION MOUNT Ti Canon (right)

RED MOTION MOUNT OPERATION GUIDE

REMOVE LENS MOUNTS

NOTE: You can change lens mounts in the field. However, RED recommends that you change lens mounts only in a dust-free environment.

REQUIRED TOOL(S): T20 TORX® driver

1. Turn off the camera.
2. Attach the camera to a stable platform or position the camera on a clean and level work surface so that the lens mount screws are accessible.
3. Remove the lens and any camera modules, cables, or other accessories that might interfere with removing the lens mount.
4. If removing the DSMC Mg PL Mount 2.0, turn the locking ring slightly counter-clockwise so that you can access the lens mount screws.



Figure: Turn Locking Ring Counter-Clockwise

5. Loosen and remove the four (4) M4x0.7 x 8 mm lens mount screws in a cross pattern ("X" pattern) using a T20 TORX driver.

NOTE: Some lens mounts have captive screws that are not removable.

NOTE: Screw removal may require a large handle T20 TORX driver and additional leverage.



Figure: Remove the Lens Mount Screws

RED MOTION MOUNT OPERATION GUIDE

6. Remove the lens mount from the camera.



Figure: Remove the Lens Mount

NOTE: When the MOTION MOUNT is not in use the rear glass is blue. During operation the rear glass turns yellow. If you remove the MOTION MOUNT shortly after operation, the glass turns yellow and develops blue spots. As the glass cools, it returns to its original blue color. This color transition is typical behavior.

RED MOTION MOUNT OPERATION GUIDE

INSTALL THE MOTION MOUNT

NOTE: You can change lens mounts in the field. However, RED recommends that you change lens mounts only in a dust-free environment.

REQUIRED TOOL(S): T20 TORX driver

1. Ensure that the camera is turned off and remove any accessories or cables that may interfere with installation.
2. Inspect the gold electrical contact pins on the front of the camera and the gold contact pads on the rear of the lens mount to ensure that they are free of any contamination.
3. Align the lens mount on the front of the camera. The camera connection pins must align with the lens mount pins.



Figure: Align Lens Mount Pins

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4. Replace and loosely tighten the four (4) M4x0.7 x 8 mm lens mount screws in a cross pattern ("X" pattern) using a T20 TORX driver.

WARNING: DO NOT FULLY TIGHTEN.

NOTE: Some lens mounts have captive screws that are not removable.



Figure: Tighten Screws

5. Tighten the four (4) lens mount screws evenly in a cross pattern ("X" pattern) using a T20 TORX driver. DO NOT exceed 350 in-oz, or damage may occur.

WARNING: DO NOT OVERTIGHTEN.

6. After installation, a hardware rediscover or firmware upgrade may be required. If a MOTION MOUNT is not recognized, you will be unable to access the MOTION MOUNT menu at **Menu > Settings > Setup > Lens**. To perform a hardware rediscover, go to **Menu > Settings > Maintenance > Rediscover**. A system reboot is required after a hardware rediscover.

NOTE: For more information and troubleshooting, go to ["Camera Does Not Recognize the MOTION MOUNT" on page 31](#).

NOTE: If you need to replace any screws, please contact your Bomb Squad representative.

3

MOTION MOUNT OPERATION

The RED MOTION MOUNT® delivers variable ND and shutter options based on the selected shutter type. The following shutter types are available in **Menu > Settings > Lens > Motion Mount**.

- ▶ **ND Only:** Disables Soft and Square shutters. The MOTION MOUNT functions only as an ND filter. For more information, go to "[Neutral Density \(ND\)](#)" on the next page.
- ▶ **Soft:** Enables the Soft shutter, softening blur and reduction of temporal aliasing. The MOTION MOUNT continues to function as an ND filter. For more information, go to "[Soft Shutter](#)" on page 24.
- ▶ **Square:** Enables the Square shutter, ensuring consistent exposure and smooth motion. The MOTION MOUNT continues to function as an ND filter. For more information, go to "[Square Shutter](#)" on page 26.

The maximum shutter angle is restricted on the "ND Only" shutter type when ND is below 0.60 (2 stops). If the shutter angle that you want is not available with the selected frame rate, increase the ND value to 0.60 (2 stops) or more and try again.

NOTE: The ND setting cannot be changed while recording.

NOTE: These instructions are specific to camera firmware version v5.2.28.

ACCESS THE MOTION MOUNT MENU

To adjust MOTION MOUNT settings, follow the instructions below:

NOTE: These menu settings are only accessible when the MOTION MOUNT is installed.

1. Turn on the camera.
2. Go to **Menu > Settings > Setup > Lens > Motion Mount**.

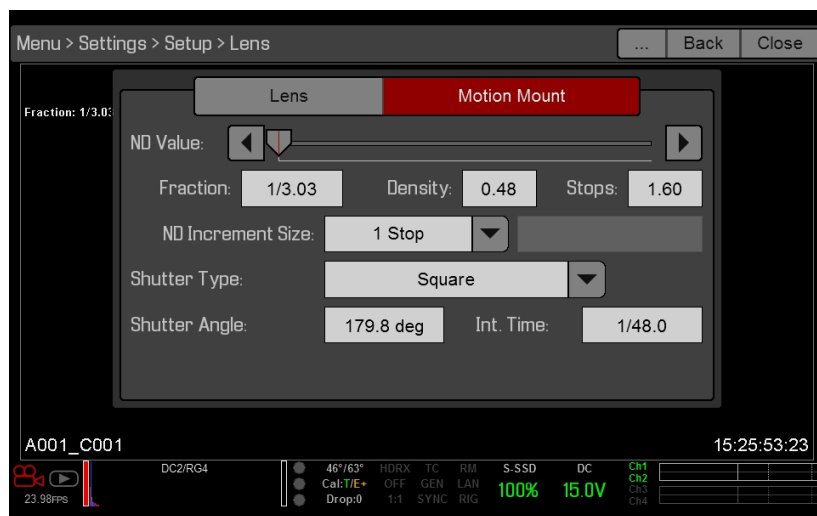


Figure: MOTION MOUNT Menu

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NEUTRAL DENSITY (ND)

The MOTION MOUNT provides a variable ND filter that incorporates an IR filter and polarizer. You can adjust the ND setting using the on-screen display, or by mapping the following functions to camera keys:

- ▶ MOTION MOUNT: Increment ND
- ▶ MOTION MOUNT: Decrement ND

Variable ND functionality is always enabled when the MOTION MOUNT is installed.

For more information on key mapping, go to ["Map Keys for MOTION MOUNT Settings"](#) on page 28.

SELECT NEUTRAL DENSITY (ND) SETTINGS

1. Select an ND value using the **ND Value** slider. Alternatively, select the settings box and enter a value that you want.
 - ▶ **Fraction:** Displays the neutral density value as a fraction of light transmission.
 - ▶ **Density:** Displays the neutral density value as an optical density value.
 - ▶ **Stop:** Displays the neutral density value as a stop loss.
2. Select an **ND Increment Size**.
3. If you select **Custom**, enter the new increment size in the field next to the **ND Increment Size** drop-down menu. You can select any increment in the range 0.01 to 4.00 stops.

NOTE: When an ND value over 4.00 stops is selected while in “ND Only,” the ND value on the main screen overlay turns yellow. The following message also displays in the MOTION MOUNT menu screen: “High ND with wide apertures may cause bokeh asymmetry”.

For more information on bokeh asymmetry, go to ["Out-of-Focus Field Modification"](#) on page 19.

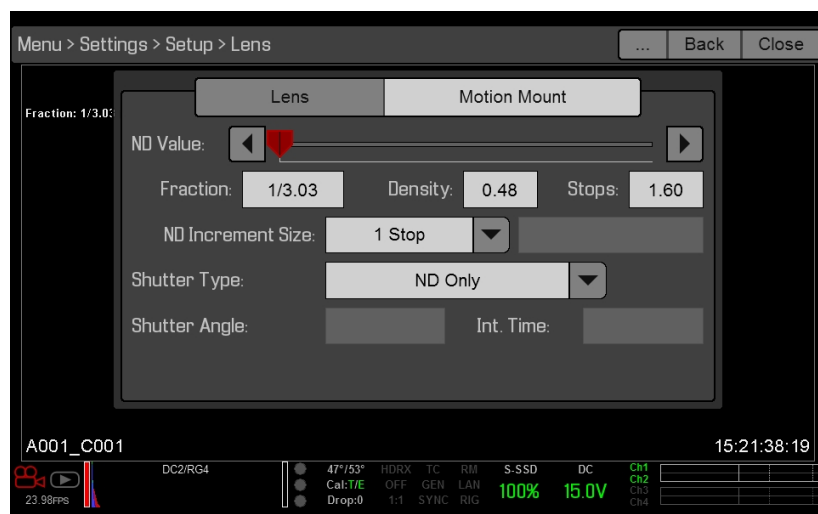


Figure: Neutral Density (ND) Settings

RED MOTION MOUNT OPERATION GUIDE

NEUTRAL DENSITY (ND) RANGE

The table below provides the available fraction values, optical density values, and stop losses. The values provided are in increments of 1/2 and 1/3 stops.

The available ND range is based on the currently selected shutter type.

- ▶ **ND Only:** The available optical density range for “ND Only” is 0.48 to 2.40 (1.60 to 8.00 stops).
- ▶ **Soft:** The available optical density range for “Soft” is 0.48 to 1.20 (1.60 to 4.00 stops).
- ▶ **Square:** The available optical density range for “Square” is 0.48 to 1.20 (1.60 to 4.00 stops).

ND VALUES			SHUTTER TYPES	
FRACTION	DENSITY	STOPS	ND ONLY	SOFT/SQUARE
1/3.03	0.48	1.60	√	√
1/3.18	0.50	1.67	√	√
1/4.00	0.60	2.00	√	√
1/5.06	0.70	2.34	√	√
1/5.66	0.75	2.50	√	√
1/6.36	0.80	2.67	√	√
1/8.00	0.90	3.00	√	√
1/10.13	1.01	3.34	√	√
1/11.31	1.05	3.50	√	√
1/12.73	1.10	3.67	√	√
1/16.00	1.20	4.00	√	√
1/20.25	1.31	4.34	√	X
1/22.63	1.35	4.50	√	X
1/25.46	1.41	4.67	√	X
1/32.00	1.51	5.00	√	X
1/40.50	1.61	5.34	√	X
1/45.25	1.66	5.50	√	X
1/50.91	1.71	5.67	√	X
1/64.00	1.81	6.00	√	X
1/81.01	1.91	6.34	√	X
1/90.51	1.96	6.50	√	X
1/101.83	2.01	6.67	√	X
1/128.00	2.11	7.00	√	X

RED MOTION MOUNT OPERATION GUIDE

ND VALUES			SHUTTER TYPES	
FRACTION	DENSITY	STOPS	ND ONLY	SOFT/SQUARE
1/162.02	2.21	7.34	√	X
1/181.02	2.26	7.50	√	X
1/203.66	2.31	7.67	√	X
1/256.00	2.40	8.00	√	X

RED MOTION MOUNT OPERATION GUIDE

OUT-OF-FOCUS FIELD MODIFICATION

Use of “ND Only” with a high ND value and wide aperture may cause unwanted results, including distortion or flaring in the out-of-focus field. In some instances, vignetting may also occur at the edge of the image. This is typical when using lenses with smaller image circles. RED recommends that you do not exceed 4.00 stops of ND when shooting with wide apertures.

NOTE: For instance, if the MOTION MOUNT is set to 8.00 stops of ND, and the lens is set to T1.8, instead of the normal circular bokeh pattern, the out-of-focus area may have unwanted or intense flare.

AVOID FLARE AND DISTORTION

Use the following tips to avoid or dramatically reduce flare and distortion.

- ▶ **Increase T-Stop to T4.0 or greater:** Increase the T-Stop to T4.0 or greater to dramatically reduce bokeh distortion.
- ▶ **Reduce ND setting:** Reduce the ND setting to five (5) stops or less to produce a more symmetrical bokeh.
- ▶ **Install a traditional ND filter:** Use a traditional ND filter if a shot requires a wide aperture (to limit depth-of-field) and also requires eight (8) stops of ND. Adjust the MOTION MOUNT to four (4) stops of ND and install an ND filter. This removes bokeh distortion and flare, and also enables the use of the Soft and Square shutter types.

NOTE: Effects of flare and distortion are negligible at apertures greater than T4.0. Flare and distortion may vary based on the lens. RED recommends testing each lens in conjunction with the MOTION MOUNT before an important shoot.

NOTE: Selecting an ND value over 4.00 stops in “ND Only” results in the ND value on the main screen overlay turning yellow. The following message displays on the MOTION MOUNT menu: “High ND with wide apertures may cause bokeh asymmetry”.

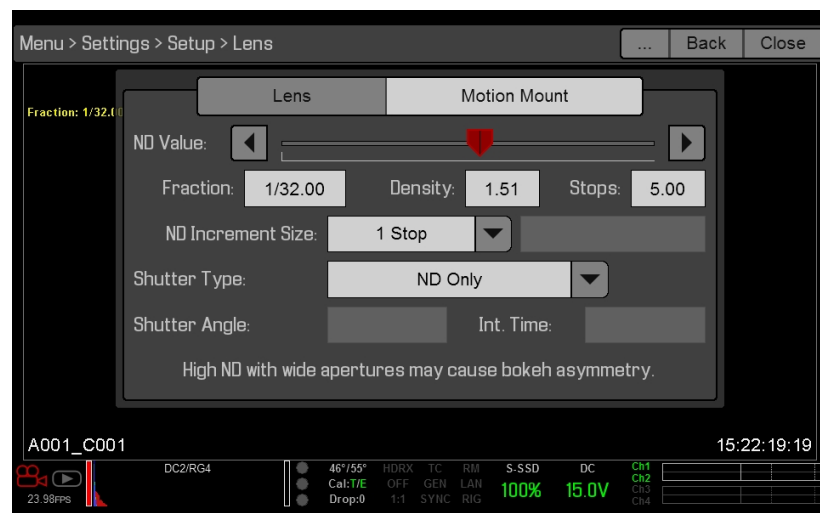


Figure: High ND with Wide Apertures May Cause Bokeh Asymmetry

RED MOTION MOUNT OPERATION GUIDE

DISPLAY EFFECTIVE ISO

NOTE: RED® recommends that you follow standard exposure best practices and select your ISO value based on the native ISO.

When using any ND filter, including the MOTION MOUNT, the effective ISO is reduced because the ND filter reduces light transmission to the sensor. To display the effective ISO (on the main screen) and native camera sensor ISO (in the ISO/FLUT® screen), follow the instructions below:

1. Go to **Menu > Settings > Display > Modes > Lens**.
2. Set **MOTION MOUNT ISO Pull** to **On**.
 - ▶ **On:** Displays the effective ISO.
 - ▶ **Off:** Displays actual ISO.

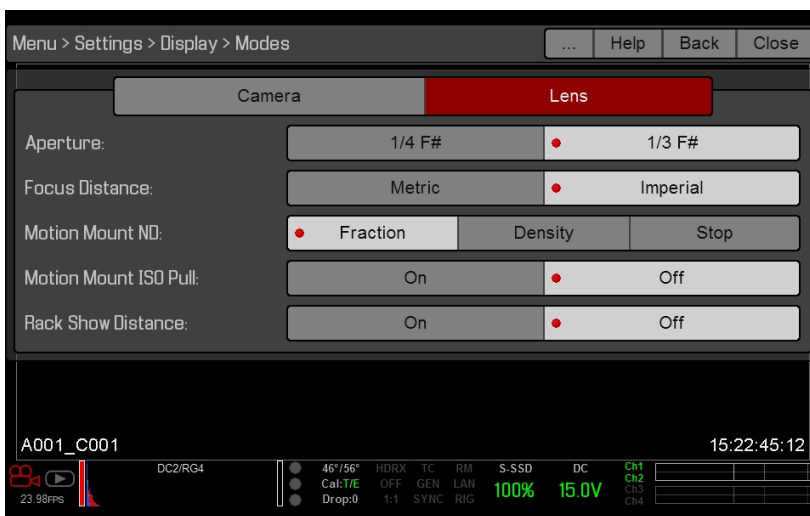


Figure: Enable MOTION MOUNT ISO Pull

3. Select **Close** to return to the main screen.
The effective ISO displays in yellow.



Figure: Effective ISO Displays in Yellow When MOTION MOUNT ISO Pull Is Enabled

4. Go to **Menu > Settings > Look > ISO/FLUT**, or select **ISO** in the Upper Status Row (Basic Menu).

RED MOTION MOUNT OPERATION GUIDE

5. Select an ISO value on the slider.

NOTE: Remember, changing the effective ISO changes the native ISO of the camera and NOT the ND value.



Figure: Select ISO Setting

6. To view or change the native ISO, press and hold the **ISO** value to access the Advanced ISO menu. The native ISO is the first value.

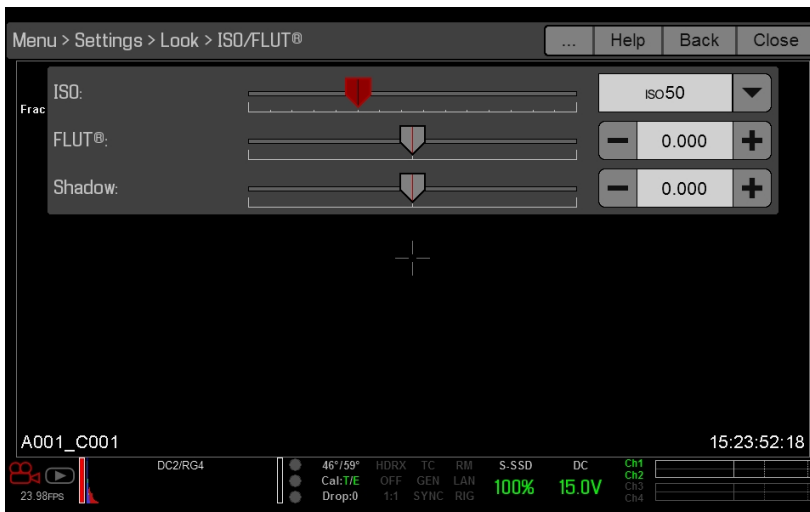


Figure: View Native ISO

RED MOTION MOUNT OPERATION GUIDE

DISPLAY NEUTRAL DENSITY (ND) SETTINGS

NOTE: Using a high ND with wide apertures may cause asymmetrical bokeh. If you select an ND value over 4.00 stops with “ND Only” selected, the ND value on the main screen overlay turns yellow. A warning message also displays in the MOTION MOUNT menu. For more information, go to ["Out-of-Focus Field Modification" on page 19](#).

You can configure how the ND settings display in the graphical user interface (GUI).

1. Go to **Menu > Settings > Display > Modes > Lens**.
2. Select one of the following **MOTION MOUNT ND** display settings:
 - ▶ **Fraction:** Displays the neutral density value as a fraction of light transmission.
 - ▶ **Density:** Displays the neutral density value as an optical density value.
 - ▶ **Stop:** Displays the neutral density value as a stop loss.

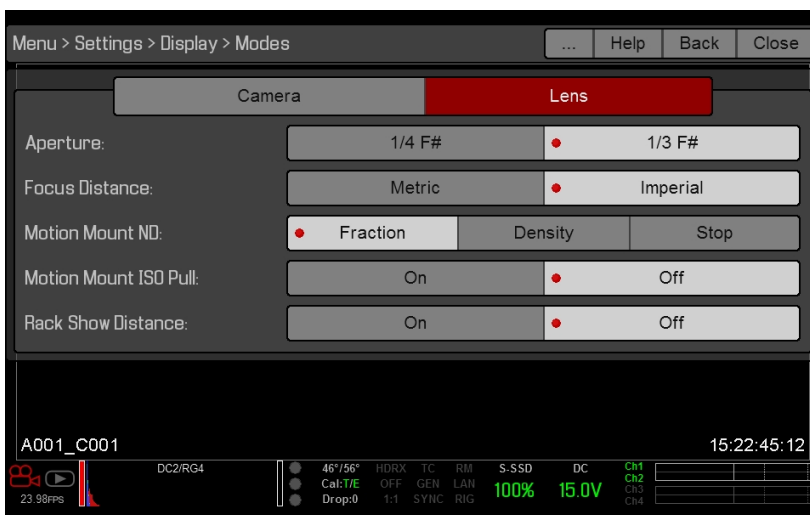


Figure: Select MOTION MOUNT ND Setting

3. Select **Close** to exit.

The ND value displays in the top left corner of the Live Action Area on the GUI.



Figure: ND Value Displays in the Top Left Corner

RED MOTION MOUNT OPERATION GUIDE

MOTION MOUNT SHUTTER TYPES

Based on the selected shutter type, the MOTION MOUNT overrides control of all shutter operations. The MOTION MOUNT can operate at frame rates up to 109.98 fps.

Use the table below to help determine which MOTION MOUNT shutter type to use:

	SHUTTER TYPE	ARTIFACTS
	ROLLING SHUTTER	TEMPORAL ALIASING
Soft Shutter	None	Dramatically reduced
Square Shutter	None	No effect

SELECT MOTION MOUNT SHUTTER TYPE AND SETTINGS

- Go to **Menu > Settings > Setup > Lens > Motion Mount**.
- Select one of the following shutter types from the Shutter Type drop-down menu:
 - ▶ **Soft**: For more information, go to ["Soft Shutter" on the next page](#).
 - ▶ **Square**: For more information, go to ["Square Shutter" on page 26](#).
- Select a **Shutter Angle** or **Int. Time** (Integration Time).

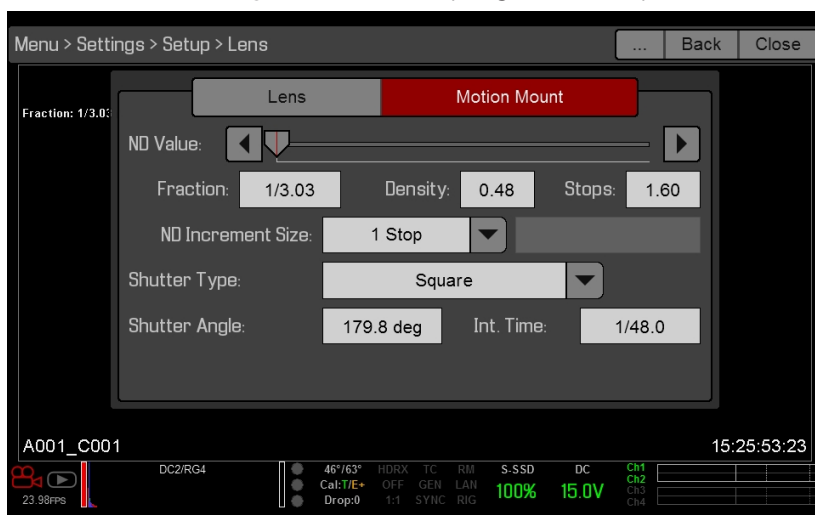


Figure: Set Up MOTION MOUNT Settings

RED MOTION MOUNT OPERATION GUIDE

SOFT SHUTTER

The MOTION MOUNT Soft shutter is a breakthrough for cinematography, using a liquid crystal shutter to solve CMOS rolling and global shutter problems. Different from a standard global shutter, the Soft shutter causes the liquid crystal to rapidly ramp from opaque to clear in a rounded wave. This exposes the sensor to light, taking many discrete captures of the scene. This technique eliminates the effects of temporal aliasing and reduces rolling shutter artifacts.

TEMPORAL ALIASING ADVANTAGES

- ▶ Shows correct direction of rotation of cyclical motion, such as rotating propellers.
- ▶ Softens blur while preserving clarity.
- ▶ Reduces judder while panning.
- ▶ Renders movement accurately and naturally.
- ▶ Reduces flickering without requiring continuous or synchronized lighting.

ROLLING SHUTTER ADVANTAGES:

- ▶ Reduces striping or tearing artifacts from uncontrolled strobes and flashes.
- ▶ Reduces skew, also known as the “jello” effect, so that fast-moving subjects are not angled or sheared.
- ▶ Ensures that images are not blurred or wobbled due to rapid camera movements.

SOFT SHUTTER FRAME RATES

You can use the MOTION MOUNT shutter at frame rates up to 109.98 fps, but the Soft shutter is most effective at reducing temporal aliasing artifacts and rolling shutter artifacts at lower frame rates.

SOFT SHUTTER ANGLE

The Soft shutter angle ranges from 62.1° to 194.4°. The available shutter angle range at any given time depends on the selected frame rate.

For the most natural and realistic motion, use a Soft shutter angle of 194.4°. Then, adjust the shutter angle if necessary.

RED MOTION MOUNT OPERATION GUIDE

SOFT SHUTTER: STROBE SAFE OPERATION

The table below provides recommended maximum shutter angles for recording strobe lights using the Soft shutter.

FRAME RATE	RESOLUTION							
	1K	2K	3K	4K	5K	6K	7K	8K
1 fps	194°	194°	193°	193°	192°	192°	192°	191°
2 fps	193°	193°	192°	191°	190°	190°	189°	188°
4 fps	192°	191°	190°	188°	186°	185°	183°	182°
8 fps	190°	188°	185°	182°	178°	176°	172°	169°
12 fps	188°	185°	181°	175°	170°	166°	161°	156°
16 fps	186°	182°	176°	169°	162°	157°	150°	143°
24 fps	182°	175°	167°	156°	147°	138°	127°	118°
25 fps	181°	174°	166°	155°	145°	136°	125°	115°
30 fps	178°	170°	160°	147°	135°	124°	111°	99°
40 fps	173°	162°	148°	131°	115°	101°	83°	67°
48 fps	169°	156°	139°	118°	99°	82°	–	–
50 fps	168°	155°	137°	115°	95°	78°	–	–
60 fps	162°	147°	125°	99°	75°	–	–	–
72 fps	156°	137°	111°	80°	–	–	–	–
75 fps	155°	135°	108°	75°	–	–	–	–
90 fps	147°	123°	91°	–	–	–	–	–
96 fps	143°	118°	84°	–	–	–	–	–
100 fps	141°	115°	79°	–	–	–	–	–
120 fps	131°	99°	–	–	–	–	–	–

CAUTION: Firmware versions earlier than v5.2.14 allow values outside of these ranges. Settings outside of the supported range result in a double exposure of the frame.

RED MOTION MOUNT OPERATION GUIDE

SQUARE SHUTTER

The MOTION MOUNT Square shutter is a global shutter that provides consistent, full illumination for every frame. The MOTION MOUNT fundamentally changes the way your camera exposes for motion, reducing skew and smear artifacts.

The MOTION MOUNT Square shutter assists in the following ways:

- ▶ Reduces striping or tearing artifacts from uncontrolled strobes and flashes.
- ▶ Reduces skew, also known as the “jello” effect, so that fast-moving subjects are not angled or sheared.
- ▶ Ensures images are not blurred or wobbled due to rapid camera movements.

SQUARE SHUTTER FRAME RATES

The Square shutter operates at frame rates up to 109.98 fps; however, the Square shutter is most effective at reducing rolling shutter artifacts at lower frame rates.

SQUARE SHUTTER ANGLE

The Square shutter angle ranges from 62.1° to 180°. The available shutter angle range at any given time depends on the selected frame rate.

For the most natural and realistic motion in Square shutter mode, start at a shutter angle of 180°. Adjust the shutter angle from there as needed.

RED MOTION MOUNT OPERATION GUIDE

SQUARE SHUTTER: STROBE SAFE OPERATION

The table below provides recommended maximum shutter angles for recording strobe lights using the Square shutter.

FRAME RATE	RESOLUTION							
	1K	2K	3K	4K	5K	6K	7K	8K
1 fps	180°	180°	180°	180°	180°	180°	180°	180°
2 fps	180°	180°	180°	180°	180°	180°	180°	180°
4 fps	180°	180°	180°	180°	180°	180°	180°	180°
8 fps	180°	180°	180°	180°	180°	180°	180°	180°
12 fps	180°	180°	180°	180°	180°	180°	180°	180°
16 fps	180°	180°	180°	180°	180°	180°	180°	177°
24 fps	180°	180°	180°	180°	180°	171°	157°	145°
25 fps	180°	180°	180°	180°	178°	168°	154°	142°
30 fps	180°	180°	180°	180°	166°	154°	137°	122°
40 fps	180°	180°	180°	161°	142°	125°	102°	82°
48 fps	180°	180°	172°	145°	122°	102°	75°	–
50 fps	180°	180°	169°	142°	117°	96°	68°	–
60 fps	180°	180°	155°	122°	92°	67°	–	–
72 fps	180°	169°	138°	98°	63°	–	–	–
75 fps	180°	166°	133°	92°	–	–	–	–
90 fps	180°	151°	112°	63°	–	–	–	–
96 fps	177°	145°	103°	–	–	–	–	–
100 fps	174°	142°	98°	–	–	–	–	–
120 fps	161°	122°	69°	–	–	–	–	–

CAUTION: Firmware versions earlier than v5.2.14 allow values outside of these ranges. Settings outside of the supported range result in a double exposure of the frame.

RED MOTION MOUNT OPERATION GUIDE

MAP KEYS FOR MOTION MOUNT SETTINGS

Program user keys to quickly adjust ND value and shutter settings without accessing the menus. To map keys, go to **Menu > Settings > Setup > Keys**.

You can map the following MOTION MOUNT actions to a user key:

KEY ACTION	DESCRIPTION
MOTION MOUNT: Decrement ND	Decrements the ND value by the ND Increment Size selected in the MOTION MOUNT menu.
MOTION MOUNT: Increment ND	Increments the ND value by the ND Increment Size selected in the MOTION MOUNT menu.
MOTION MOUNT: 2.00 stop	Changes the ND to 2.00 stops.
MOTION MOUNT: 3.00 stop	Changes the ND to 3.00 stops.
MOTION MOUNT: 4.00 stop	Changes the ND to 4.00 stops.
MOTION MOUNT: 5.00 stop	Changes the ND to 5.00 stops.
MOTION MOUNT: ND Max	In “ND Only”, changes the ND to 2.41. In “Soft” or “Square”, changes the ND to 1.20.
MOTION MOUNT: ND Min	Changes the ND value to 0.48.
MOTION MOUNT: ND Only	Changes the Shutter Type to “ND Only”.
MOTION MOUNT: Soft Shutter	Changes the Shutter Type to “Soft”.
MOTION MOUNT: Square Shutter	Changes the Shutter Type to “Square”.

4

MOTION MOUNT MAINTENANCE

STORAGE INSTRUCTIONS

Follow these instructions to protect the RED MOTION MOUNT® when not in use:

- ▶ Protect the MOTION MOUNT while not in use by replacing the DSMC® Mount Body Cap and the DSMC Mount Back Cap.
- ▶ Store the MOTION MOUNT in a clean, dry environment.

CLEAN MOTION MOUNT GLASS

As with all optical glass, any type of physical contact with the glass may scratch or damage the surface. RED® recommends that you clean the MOTION MOUNT glass using physical contact only if absolutely necessary.

Before cleaning the MOTION MOUNT glass with swabs or wipes and a cleaning solution, ALWAYS use an air bulb to remove any solid particles. Cleaning the MOTION MOUNT glass without removing solid particles increases the risk of scratching the optical surface.

WARNING: Handle the MOTION MOUNT glass carefully. Failure to follow proper cleaning instructions may scratch or damage the optical surface.

GENERAL CLEANING INSTRUCTIONS

- ▶ Avoid using the MOTION MOUNT in dusty or hazardous environments.
- ▶ Avoid physical contact with the glass.
- ▶ DO NOT rinse the MOTION MOUNT or immerse it in water.
- ▶ DO NOT use compressed air to clean the MOTION MOUNT.
- ▶ DO NOT use soaps, detergents, ammonia, alkaline cleaners, or abrasive cleaning compounds to clean the MOTION MOUNT.
- ▶ DO NOT apply cleaning solution directly to the MOTION MOUNT glass.
- ▶ DO NOT use an excess of cleaning solution.
- ▶ DO NOT reuse swabs or wipes.

AIR BULBS

Use a rubber air bulb to remove any solid particles, such as dirt or dust. Use an ionized air bulb to remove solid particles as well as static build-up.

WARNING: DO NOT use compressed air and gas dusters to clean the MOTION MOUNT, since the high pressure, oily residue, cold air, particulates, and moisture may cause damage. Damage to the MOTION MOUNT or any components of the camera system caused by using compressed air or gas dusters is not covered under warranty.

RED MOTION MOUNT OPERATION GUIDE

SWABS, WIPES, AND CLEANING SOLUTIONS

WARNING: DO NOT reuse swabs or wipes, since they may have gathered dirt or debris from the glass.

Before cleaning the optical surface with swabs or wipes, ALWAYS use an air bulb to remove any solid particles. Cleaning an optical surface without removing solid particles greatly increases the risk of scratching the surface.

If you MUST clean the optical glass, use lens-grade wipes or flexible uniform swabs and a high quality sensor or lens cleaning solution. Follow the instructions below:

1. Apply a few drops of cleaning solution directly to the swab or wipe.
2. Gently sweep the swab or wipe across the length of the glass in a uniform motion.
 - ▶ **When using a swab:** Ensure that the swab provides full coverage of the glass. Gently sweep the swab across the length of the glass. DO NOT place the corners of the swab on the glass.
 - ▶ **When using a wipe:** Gently sweep the wipe across the length of the glass with a flat, non-rigid flexible instrument in a uniform motion. DO NOT sweep the wipe across the glass with your finger.

5

TROUBLESHOOT THE MOTION MOUNT

This chapter provides troubleshooting tips for the RED MOTION MOUNT®. If you continue to experience issues after troubleshooting, please file a support ticket at <https://support.red.com>.

CAMERA DOES NOT RECOGNIZE THE MOTION MOUNT

SYMPTOM

The camera does not recognize an installed MOTION MOUNT.

EXPLANATION

Camera firmware must be v5.1.14 or later to recognize the MOTION MOUNT. If necessary, load the latest camera firmware, then perform a hardware rediscover.

POTENTIAL RESOLUTIONS

- ▶ Upgrade your camera firmware to v5.1.14 or later from [RED Downloads](http://www.red.com/downloads) at www.red.com/downloads.
- ▶ Perform a hardware rediscover:
 - A. Go to **Menu > Settings > Maintenance**.
 - B. Select **Rediscover**.
 - C. Select **Yes** on the screen that asks you to confirm the Hardware Rediscover.
The camera turns off.
 - D. Turn on the camera.

IRREGULAR OUT-OF-FOCUS BOKEH EFFECTS AND FLARE

SYMPTOM

Footage displays irregular out-of-focus bokeh effects, distortion, or flare.

EXPLANATION

The MOTION MOUNT may produce irregular out-of-focus bokeh effects, distortion, or flare in “ND Only” when an ND value over 4.00 stops is selected and a very wide aperture is used. For more information on bokeh asymmetry, go to ["Out-of-Focus Field Modification" on page 19](#).

POTENTIAL RESOLUTIONS

- ▶ Increase aperture to greater than T4.0.
- ▶ Reduce the MOTION MOUNT ND value to 4.00 or less.

DOUBLE EXPOSURES IN CAPTURED FOOTAGE

SYMPTOM

Recorded footage displays irregular motion blur or duplicate images, also known as “ghosting”.

EXPLANATION

The MOTION MOUNT Soft and Square shutters provide improvements in temporal aliasing and motion at frame rates up to 109.98 fps, but are more effective at lower frame rates. For more information, go to ["Soft Shutter Angle" on page 24](#) or ["Square Shutter Angle" on page 26](#).

POTENTIAL RESOLUTIONS

- ▶ Reduce the frame rate used in the shot to below 109.98 fps and try again.
- ▶ Ensure that you are using a recommended shutter angle.

RED MOTION MOUNT OPERATION GUIDE

A

TECHNICAL SPECIFICATIONS

RED MOTION MOUNT TI PL

SPECIFICATION	DESCRIPTION
Dimensions	Height: 3.23" (82.0 mm) Width: 3.23" (82.0 mm) Depth: 1.43" (36.2 mm)
Weight	11.2 oz (318 g), Mount Only
Material	Machined titanium
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-20°C to 50°C (-4°F to 122°F)
Maximum Altitude	20,000 ft
Humidity Range	0 to 90% RH
Shock	10 g
Input Voltage	5.0 VDC
Power Consumption	1.5 W

RED MOTION MOUNT OPERATION GUIDE

RED MOTION MOUNT TI CANON

SPECIFICATION	DESCRIPTION
Dimensions	Height: 3.14" (79.9 mm) Width: 3.35" (85.0 mm) Depth: 0.92" (23.3 mm)
Weight	8.0 oz (227 g), Mount Only
Material	Machined titanium
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-20°C to 50°C (-4°F to 122°F)
Maximum Altitude	20,000 ft
Humidity Range	0 to 90% RH
Shock	10 g
Input Voltage	5.0 VDC
Power Consumption	1.5 W

NEUTRAL DENSITY AND SHUTTER ANGLES

SPECIFICATION	DESCRIPTION
Soft/Square Shutter Optical Density Range	0.48 to 1.20 (1.60 to 4.00 stops)
Square (Global) Shutter Angle Range ¹	62.1° to 180°
Soft Shutter Angle Range ¹	62.1° to 194.4°
ND Only Optical Density Range	0.48 to 2.40 (1.60 to 8.00 stops)
ND Only Angle Range	1° to 360°

1. Values are based on camera firmware v5.2.28. Values outside of provided ranges are allowed in firmware versions earlier than v5.2.14. Frame rate settings outside of the supported range may result in a double exposures.

RED MOTION MOUNT OPERATION GUIDE

MAXIMUM FRAME RATES

When the Soft or Square shutters are enabled, the maximum frame rate (fps) is limited to ensure that the camera and MOTION MOUNT capture the highest quality image without exposure issues.

NOTE: Maximum frame rates may vary slightly based on the camera firmware version.

FORMAT	WEAPON 8K S35	EPIC-W 8K S35	WEAPON DRAGON	SCARLET-W DRAGON	EPIC DRAGON	SCARLET DRAGON	EPIC M-X	SCARLET M-X
8K FF	42.17	30.46	–	–	–	–	–	–
8K 2:1	43.74	32.12	–	–	–	–	–	–
8K 2.4:1	48.94	38.07	–	–	–	–	–	–
8K 16:9	42.17	30.46	–	–	–	–	–	–
7K FF	46.06	34.81	–	–	–	–	–	–
7K 2:1	47.7	36.71	–	–	–	–	–	–
7K 2.4:1	53.09	43.51	–	–	–	–	–	–
7K 16:9	46.06	34.81	–	–	–	–	–	–
6K FF	51.03	51.03	51.92	–	51.92	12.08 ¹	–	–
6K 2:1	52.75	52.75	52.79	–	52.79	–	–	–
6K 2.4:1	58.37	58.37	58.42	–	58.42	–	–	–
6K 16:9	51.03	51.03	52.16	–	52.16	12.08 ¹	–	–
5K FF	56.9	56.9	56.95	50.85	56.95	48.73	56.71	12.00
5K 2:1	58.68	58.68	58.73	53.63	58.73	51.40	58.42	12.00
5K 2.4:1	64.49	64.49	64.49	63.56	64.49	60.92	64.61	12.00
5K 16:9	56.9	56.9	56.95	50.85	56.95	48.73	56.71	12.00
4K FF	64.61	64.61	64.68	64.68	64.68	60.92	64.61	30.00
4K 2:1	66.44	66.44	66.51	66.51	66.51	64.25	–	–
4K 2.4:1	72.28	72.28	72.36	72.36	72.36	72.36	72.68	36.00
4K 16:9	64.61	64.61	64.68	64.68	64.68	60.92	64.61	30.00
3K FF	74.41	74.41	74.49	74.49	74.49	74.49	74.32	48.00
3K 2:1	76.22	76.22	76.30	76.30	76.30	76.30	–	–
3K 2.4:1	82.01	82.01	82.01	82.01	82.01	81.01	82.11	60.00
3K 16:9	74.41	74.41	74.49	74.49	74.49	74.49	74.32	48.00
2K FF	88.05	88.05	88.05	88.05	88.05	88.05	87.93	60.00
2K 2:1	89.61	89.61	89.73	89.73	89.73	89.73	–	–
2K 2.4:1	95.05	95.05	95.05	95.05	95.05	95.05	95.11	75.00
2K 16:9	88.05	88.05	88.05	88.05	88.05	88.05	87.93	60.00

1. This resolution is available in REDCODE Burst mode only.

RED MOTION MOUNT OPERATION GUIDE

B

MOTION MOUNT COMPATIBILITY

The RED MOTION MOUNT® Ti PL and MOTION MOUNT Ti Canon® enable you to mount most PL cinema lenses and Canon EF compatible lenses to your camera.

WARNING: Using lenses, adaptors, or other accessories that are not compatible with the MOTION MOUNT may damage the internal glass or other elements in the lens mount.

WARNING: Lenses, adaptors, and other PL-mount devices with mounting elements that protrude more than 27.73 mm behind the PL mounting flange are not compatible with the MOTION MOUNT.

NOTE: Any damage to the MOTION MOUNT Ti PL or the camera system caused by using incompatible lenses (including non-standard PL lenses) or devices is not covered under warranty.

COMPATIBILITY REQUIREMENTS

Some lenses are NOT compatible with the MOTION MOUNT due to the liquid crystal glass and shape of the baffle inside the mount.

Refer to the following diagram to determine if the maximum protrusion depth and maximum protrusion diameter of a particular lens is compatible with the MOTION MOUNT. If any of the protruding lens elements extend beyond these dimensions, the lens IS NOT COMPATIBLE.

DO NOT use lenses that have mounting elements that exceed the following values:

- ▶ **Maximum Protrusion Depth:** 27.73 mm
- ▶ **Maximum Protrusion Diameter at a Protrusion Depth of 14.20 mm:** 54.00 mm
- ▶ **Maximum Protrusion Diameter at a Protrusion Depth of 27.73 mm:** 22.00 mm

WARNING: Use of a lens that extends beyond these dimensions may damage the MOTION MOUNT.

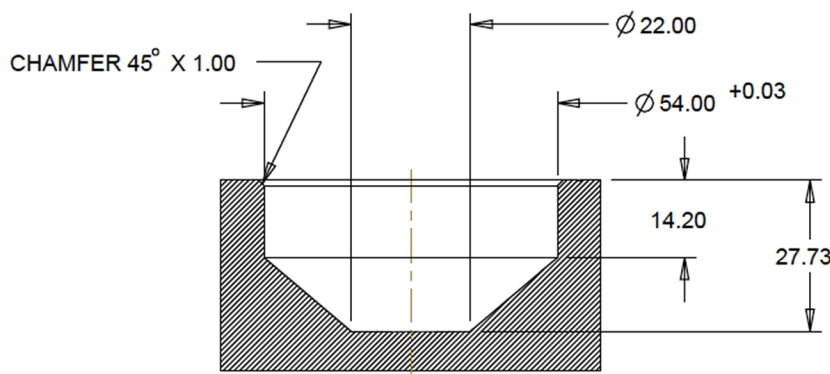


Figure: MOTION MOUNT Safe Zone

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COMPATIBLE PL LENSES AND DEVICES

The MOTION MOUNT Ti PL is compatible with the lenses and devices listed in the table below:

COMPATIBLE PL LENS/DEVICE	FOCAL LENGTH
Angénieux Optimo	17–80mm T2.2
	24–290mm T2.8
	28–76mm T2.6
	28–340mm T3.2
	1.4x Extender
	2.0x Extender
ARRI®/Fujinon® Alura	18–80mm T2.6
	30–80mm T2.8
	45–250mm T2.8
ARRI/Zeiss® Master Prime	16mm T1.3
	18mm T1.3
	21mm T1.3
	25mm T1.3
	27mm T1.3
	32mm T1.3
	35mm T1.3
	40mm T1.3
	50mm T1.3
ARRI/Zeiss Standard Speed	10mm T2.1
	50mm T2.1
ARRI/Zeiss Super Speed	18mm T1.3
	25mm T1.3
	35mm T1.3
	50mm T1.3
	85mm T1.3
ARRI/Zeiss Ultra Prime	14mm T1.9
	20mm T1.9
	40mm T1.9
Century	1.4x Extender
	2.0x Extender

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COMPATIBLE PL LENS/DEVICE	FOCAL LENGTH
Cooke® 5i	18mm T1.4
	25mm T1.4
	32mm T1.4
	50mm T1.4
	75mm T1.4
Cooke S4 Prime	14mm T2.0
	18mm T2.0
	21mm T2.0
	25mm T2.0
	27mm T2.0
	32mm T2.0
	35mm T2.0
	40mm T2.0
	50mm T2.0
	65mm T2.0
	75mm T2.0
	100mm T2.0
Fujinon Cabrio	19–90mm T2.9
Fujinon Premiere	14.5–45mm T2.0
	24–180mm T2.6
	75–400mm T2.8–3.8
Hawk V-Lite Anamorphic	45mm T2.2
	65mm T2.2
RED PRO PRIME	25mm T1.8
	35mm T1.8
	50mm T1.8
	85mm T1.8
	100mm T1.8
	300mm T2.9
RED PRO ZOOM	17–50mm T2.9
	18–85mm T2.9
RED ZOOM	18–50mm T3.0
	50–150mm T3.0

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INCOMPATIBLE PL LENSES AND DEVICES

The MOTION MOUNT Ti PL is NOT COMPATIBLE with the lenses and devices listed in the table below:

INCOMPATIBLE PL LENS/DEVICE	FOCAL LENGTH	DESCRIPTION
Angénieux Optimo DP Series	16–42mm T2.8 30–80mm T2.8	DP Series lenses have a flange depth that does not meet standard specification for PL lenses.
ARRI/Zeiss Standard Speed	12mm T2.1 16mm T2.1 20mm T2.1 24mm T2.1 32mm T2.1 40mm T2.1	The rear flange depth of these lenses are too wide or too long and interfere with the MOTION MOUNT.
Cooke S2/S3 Speed Panchro	32mm T2.3	The rear flange depth is too long and interferes with the MOTION MOUNT glass.
PL-to-B4 Adaptor	N/A	The rear face of the PL-to-B4 Adaptor interferes with the MOTION MOUNT glass.
RED FOCUS	N/A	The rear face of the RED FOCUS interferes with the MOTION MOUNT glass.
RED PRO PRIME	18mm T1.8	The extended PL cover ring interferes with the ridges on the baffle inside the MOTION MOUNT Ti PL, preventing installation.

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COMPATIBLE CANON EF LENSES

The MOTION MOUNT Ti Canon supports all lenses that are compatible with the DSMC[®] Canon Mount.

For more information and a full list of compatible lenses, see the camera [operation guides](#), available at www.red.com/downloads.

NON-LINEAR EDITING (NLE) APPLICATIONS

The .R3D files captured using the MOTION MOUNT are compatible with the following applications:

- ▶ REDCINE-X PRO Build 20.0.0 or later
- ▶ Adobe Premiere[®] Pro CC or later
- ▶ Avid[®] Media Composer
- ▶ DaVinci[®] Resolve
- ▶ Edius[®] Pro
- ▶ Final Cut Pro[®] 7 or Final Cut Pro[®] X

NOTE: Final Cut Pro requires [Apple[®] Workflow Installer](#), available at www.red.com/downloads.

- ▶ Vegas[™] Pro