



V20S Pro
Moto Cam
User Manual

12030557800-A_English_0729

Thank you for purchase MUFU moto cam. This product is specifically designed to record real time video when riding a scooter or motorcycle.

The content in this document is for informational purpose only and is subject to change without prior notice. We have made every effort to ensure that this User Manual is accurate and complete, however, no liability is assumed for any errors or omissions.

The manufacturer reserves the right to change the technical specifications or accessories without prior notice. Please visit official website for the latest version of user manual.

Notice

- ❖ Please peel off the protective film from the camera lens before use.
- ❖ Do not touch the lens with your fingers. Finger grease may be left on the lens, resulting in unclear videos or pictures. Inspect and clean the lens with a soft, non-abrasive cloth regularly.
- ❖ Please charge the unit to full before first use using the provided USB Type-C cable. Please do not use another brand of charging cable to avoid a potential equipment malfunction. The red LED on the camera will illuminate when charging, and green LED will illuminate when reaching full charge.
*Charging adapter can use 5V, 2A and higher, USB Type-A port.
- ❖ If the unit will not be used for an extended period of time, please charge at least once every 6 months to maintain the battery's health and avoid low-voltage related damage.

- ❖ **Before charging or inserting a memory card, please clean and dry the USB port and SD card slot on the device. Make sure there are no water droplets or moisture remaining to prevent damage to the device.**
- ❖ Please download MUFU Video app from iOS app store or Google Play Store before use. The Wi-Fi password is **12345678**.
- ❖ This device supports Instant Connection without password. After powering on the main unit, open the MUFU Video app and follow the on-screen instructions to add camera. On the [Discover devices] page, tap **MUFU_BW_V20SPro_xxxx**, then tap **Connect device**. On the following page, tap **Join** to join Wi-Fi Network. Once the pairing is completed automatically, you can begin using the MUFU Video app.
- ❖ By default, Wi-Fi is ON for 3 minutes when the camera is powered on. If it doesn't connect to the MUFU Video app within 3 minutes, the camera will disable Wi-Fi automatically to save power. To turn on again Wi-Fi, simply power the camera OFF then ON again.
NOTE: An active Wi-Fi connection and battery life will affect recording time.
- ❖ When the main unit connects USB cable for charging, the main unit will power on automatically and turn on Wi-Fi. It's workable to connect app for setting camera or checking recorded files. Idle for 3 minutes, the main unit will power off automatically. Unplug and plug the USB cable once again to re-start the main unit.

- ❖ Recommend to use microSD card V30 or higher and capacity 16GB or higher (up to 128GB).
- ❖ Format microSD card regularly and synchronize date/time. (Recommended: Once per month.)
- ❖ **In a high humidity environment or when travelling between areas with a large temperature difference, light moisture or fog may appear on the lens. This is normal. If this happens, remove the microSD card, and remain the microSD card slot cover and USB cover opening for several hours until the internal moisture or fog evaporates, and then reinsert the card and resume use.**
- ❖ The friction scratches caused by the regular buckle of the main unit mount are normal and do not affect the use. Due to the production test, the main unit mount will have some micro-friction scratches. This is normal.
- ❖ To avoid the product damage or accidents from product dropping, install the product properly and solid before take a ride.
- ❖ Due to the various specifications of memory cards on the market, and the quality is uneven, we do not guarantee that all memory cards are compatible with our products. If there is a memory card abnormality, resulting in the inability to store recorded images, It's not directly related with the dashcam. Please swap the new card from where you purchased.

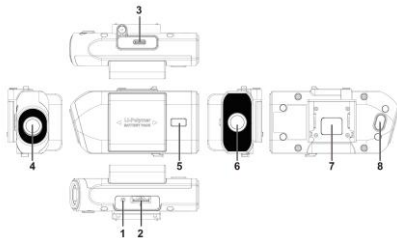
- ❖ The warranty doesn't cover damages resulting from alteration, adjustment or repair by unauthorized person.

1. What's Inside

The package contains the following items. If any items are missing or damaged, please contact the original place of purchase immediately.

Camera (Main Unit)	Main Unit Mount	USB Cable (type C)	User Manual	Warranty
				

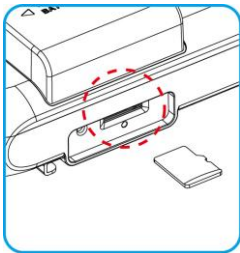
2. Product Overview



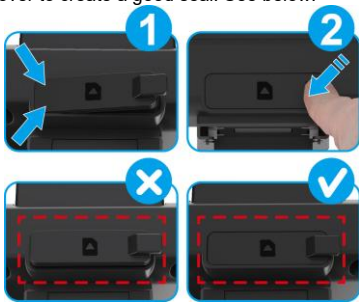
No	Description
1	Reset
2	microSD slot
3	USB-C port
4	Rear camera
5	LED indicator
6	Front camera
7	Bracket socket
8	Microphone

3. Insert microSD Card

Insert the microSD memory card with the pins facing forward. Once the memory card locks into place, replace the slot cover securely over the slot.



The slot cover must be tightly sealed to prevent moisture from entering, causing the lens to fog. Insert the left edge of the slot cover, and then press the right edge of the slot cover to create a good seal. See below.



4. LED Indicator

Indicator	LED Status	Description
Recording	Green, slow flashing	Recording
	Green, solid	Camera power on, not recording
	Green, rapid flashing	Emergency recording
Charging	Red, solid	Charging
	Red off / Green solid	Fully charged
	Red, rapid flashing	Charging and emergency recording
Battery	Orange, slow flashing	Low battery
	Orange, rapid flashing	Low battery and emergency recording
USB mode	Red, solid	Connect computer to read memory card (w/o main unit mount)

Note: Before first use, use the supplied USB type-C charging cable to fully charge the camera.

5. Beep Sound

Main Unit	Description
Beep~ (continuous 5 seconds) Repeat every 30 seconds Total alert 3 times	No card or card error
Beep 3 sounds	Power on and start recording
Beep~ (continuous 3 seconds) and beep 3 sounds total alert 2 times	Low battery (about 10 minutes to power off)
Beep 5 sounds	Power off because of low battery or main unit is apart from main unit mount.

6. Download the App

When using the camera for the first time, use your smartphone to download and install the **MUFU Video** app.

Scan the QR code or search “MUFU Video” in the iOS App Store or Google Play Store.



iOS



Android

App layout and features may be changed subject to different software versions.
Please refer to the Google Play Store or iOS App Store for the latest version.

7. Power On and Off

Following is the way to power on/off the camera.

① Buckle Detection

Buckle the camera into the main unit mount, the camera will automatically power on and start recording. Remove the camera from the main unit mount, the camera will power off automatically.

② Vibration Detection

When pick up the helmet with camera and the main mount buckled, the camera will automatically power on and start recording. If the helmet idles for 3 minutes, the camera will power off automatically. This is for the rider's convenience to store the helmet in the cabinet without taking out camera.

Note: This function is activated on the premise that the camera is buckled with the main unit mount, and "Vibration Detection to turn on/off the device"

on app's [Camera Setting] is turned on.

3 Charging

When the camera is charging, the camera will power on and Wi-Fi will be turned on, too. Connect app for camera setting or files review. Camera will power off if app is not connected and used in 3 minutes.

Note: Main unit is apart from main unit mount.

Note: Main unit won't record when charging.

④ The carry-on power key is available for optional purchase. It's for home use when the device leaves main mount on the helmet.



Note:

1. When the camera is buckled into the main unit mount, it will automatically power on and start recording, indicated by a slow-flashing green LED light. The recording file will be saved onto the microSD card. When the card reaches capacity, the loop recording function will overwrite the oldest file to make room for new files and continue recording.
2. If the LED is not flashing, check if the memory card is inserted. If the card is existed, try to format the card or change a new card.
3. The carry-on power key is optional accessory and not included in the box. Please contact distributor for extra purchase.

8. Wi-Fi and App Connection

Following are ways of turning on Wi-Fi.

- ① When secured into the main unit mount, the camera and its Wi-Fi will automatically power on. If the camera doesn't connect with the MUFU Video app within 3 minutes, Wi-Fi will be disabled automatically to preserve battery life. If you want to turn on Wi-Fi once again, simply remove the camera from the mount, wait for the indicator light to turn off, and buckle it in once again to power on the camera and reactivate the Wi-Fi.
- ② When the camera takes out from main unit mount and charges with USB-C cable, it will turn on Wi-Fi and enable to use app. The camera will not record in charging mode. The camera will power off if the app is not in use for 3 minutes.

After the main unit's Wi-Fi is turned on, also make sure Wi-Fi and Bluetooth of your smartphone are turned on, then, you can connect the smartphone app using either of the following methods:

① Instant Connection without password

Open the MUFU Video app and follow the on-screen instructions to add the camera. On the [Discover devices] page, tap **MUFU_BW_V20SPro_xxxx**, then tap **Connect device**. On the following page, tap **Join** to join Wi-Fi Network. Once the pairing is completed automatically, you can begin using the MUFU Video app.

② Wi-Fi connection with password

Use your smartphone to search nearby Wi-Fi networks for **MUFU_V20SPRO_xxxx** and tap it. Enter password **12345678** to connect with the camera. Open MUFU Video app and use.

Note:

1. Your smartphone must be within a maximum 5-meter distance from the camera with no buildings in between.
2. The language of the app will be consistent with your smartphone. Beyond the language options, the app will be activated with the default language.
3. Once the camera is connected with computer, it will enter USB mode. It's able to read and download the files from the camera. In this mode, camera won't turn on Wi-Fi.

9. Install & Uninstall

9.1 Install

Due to the different shooting angles of the front and rear cameras, the device must be mounted on **the right side** of the helmet. Please do not install it on the left side, as this may result in inaccurate recording angles.

- 1 After inserting the card into the device, buckle the device onto its mount. The green LED indicator will light up.



2 Put 1 buckled camera and mount on the right side of helmet. Temporarily fix it in order to adjust the best view angle.



3 Make sure your phone is connected with the device, and open the MUFU Video app to check preview image. Move up or down, forward or backward the mount to obtain the best recording image angle.



4 After the recording angle is confirmed, pull down the camera and the main unit mount from helmet. And take the camera and main unit mount apart.

5 Wipe the newly confirmed helmet sticking area, and after its surface dries, peel off the protective plastic sheet from the adhesive pad on the main unit mount, stick and press the main unit mount to the helmet. Wait for 12 hours for firmly fixing. And then buckle the camera on the main unit mount and start using.



9.2 Uninstall

Press the lock on upper side of the main unit mount, push the camera upward to remove it.



10. Calibrate and Format

After adjusting your viewing angle, tap  in the MUFU Video app to enter [Camera Setting]. On first use, be sure to calibrate the “Tilt Sensor” and “Format” the microSD card.

1 Calibrate the Tilt Sensor

Hold your motorcycle upright, straight, and as still as possible. The camera buckles on the main unit mount at the helmet. Put the helmet on your head and sit down on the motorcycle. Then, tap on “**Tilt Sensor**” in the menu so the camera can calibrate the internal tilt sensor. After calibration is completed, tap “**Emergency Recording**” in the menu and turn it on. Afterward, if the camera detects that the motorcycle is toppled over, it will trigger emergency recording automatically. This is indicated by the green LED going from a slow flash to a rapid flash. Emergency recordings are stored in the emergency video folder. When the folder reaches capacity, app will remind with “Emergency video files will be overwritten by loop recording. Backup

important files.” Please check and backup emergency files regularly.

2 Format microSD card

Tap “Format” in the menu to format microSD card. It is recommended to format your card at least once a month to ensure that it is working properly. Backup important files before format SD card.

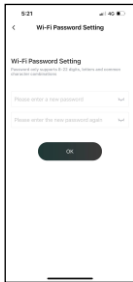
Note:

1. DO NOT remove or insert memory card when the camera is in power-on status. This may cause memory card damage or data loss.
2. Memory cards have a service life. Long-term use may lead to write speed degradation and file save failure. If this happens, it is recommended that you purchase a new memory card.
3. “Emergency Recording” can be enabled or disabled from app. The emergency folder is occupied 20% capacity of memory card. Even this function is disabled, the space is still reserved.

11. Change Password

To change the Wi-Fi password, follow the steps below. If leave it unchanged, the default password is **12345678**.

- 1 Open MUFU Video app , and tap  to enter [Camera Setting], Next, tap [Wi-Fi Password Setting].
 - Enter your new password.
 - Enter your new password again to confirm.
 - Tap “OK”, and screen will show message of “The camera needs to be reconnected after completion, please confirm the change?”. Tap “OK”.
 - It will automatically lead to previous page. The screen will show “Please ignore the network named MUFU_V20SPRO_xxxx in the [Settings-Wi-Fi] option of the iPhone, and then enter the new



password to rejoin.”

→ Close app, and follow by step ② to re-connect Wi-Fi.

- ② iPhone users: Open the Wi-Fi connection menu and tap the icon ⓘ by side of MUFU_V20SPRO_xxxx network. Next, tap “Forget This Network” and confirm your decision.

***Note:** Android phone user can skip this step.

- ③ Next, tap the V20S PRO network again to re-enter your new password and reconnect your smartphone to the MUFU Video.

Note: Be sure to remember your new password. If you forget your new password, a factory reset will be necessary.



12. App Operation

1 Main Screen



icon	Description
	MUFU logo / microSD card message
	Preview image
	Switch front and rear preview image
	Full screen preview

	Start / Stop recording
	Take snapshot
	Camera Files (review recorded files in V20S PRO's microSD)
	Camera Setting
Main unit power 	Note: the remaining battery

Emergency video files will be overwritten by
loop recording
Backup important files



Note: The emergency videos folder in microSD reaches capacity, and will be overwritten by new recordings. Please back up important files. This message icon will eliminate after backup.

Note:

1. The MUFU Video App will auto sync the camera's date/time with your smartphone.
2. App layout and features are subject to change, depending on the software version. Refer to the Google Play Store or iOS App Store for the latest updates.
3. If recordings have no audio, check if Microphone is OFF in the menu. For video playback, we recommend VLC Media Player.
4. Deleted files cannot be recovered. Backup any important files before deleting them.
5. The snapshot is activated by app. The image file will be stored both in microSD card in the camera and "Album" folder of MUFU Video app. The file will be marked as "Downloaded" on preview thumbnail.
6. If you plan to download a large number of videos and photos, we recommend connecting directly to a PC/Mac via USB Type-C cable.

2 Album



The files downloaded from  will be saved in this album in the App. The files can be opened and reviewed without Wi-Fi connection to the camera.



1. Tap the icon  [Album] below the home page. The camera will stop recording if it's connected with app.
2. Tap the file from preview thumbnail to playback, delete or edit.

Icon	Description
	Edit the video or photo. -Video: remove or change background music -Photo: crop or use filter for photo

	Share the video or photo to social media.
	Video screenshot.
	Save the video or photo to smartphone's album. When the file is saved, the screen will show a message of "Save to smartphone's album successfully." and smartphone's album will automatically create a folder named "MUFU Video".
	Delete the file downloaded in App's Album. The file in the microSD card in the camera is still existed.

3 Camera Setting

Use this feature to set up your preferred options.

1. Tap icon  [Camera Setting] on main screen. The camera will stop recording.
2. See available settings below and adjust to your preferred options.

Menu	Description	Options
Vibration Detection to Power On/Off	When pick up the helmet with camera mounted, the camera will automatically power on and start recording. If the helmet idles for 3 minutes, the camera will power off automatically. *The camera must be mounted with the mount.	On / Off
Audio Recording	Enable/Disable audio recording.	On / Off

Recording Interval	Set the length of each individual recording.	1min / 3min
Tilt Sensor	Calibrate the Tilt-Sensor for topple-over detection.	Yes / No
Emergency Recording	Enable/Disable emergency recording function. *The emergency recording folder is occupied 20% of memory card. Even it turns off, this capacity is still occupied.	On / Off
Format	Format the memory card in the camera. This will delete all contents permanently.	Yes / No
Wi-Fi Turn-on Time	Set the Wi-Fi activation duration. *Active Wi-Fi will decrease total recording hours	Always on / 3min off
Watermark	Watermark includes brand, model, car speed, longitude and latitude, and date/time.	On / Off

Front Cam EV Setting	Set the Exposure Value of front camera.	+3 ~ -3
Rear Cam EV Setting	Set the Exposure Value of rear camera.	+3 ~ -3
Wi-Fi Password	Change the Wi-Fi password. (Default: 12345678)	
Default Settings	Reset the camera to factory default settings.	Yes / No
Firmware Version	Indicates the current firmware version of the camera.	

Note: If the displayed menus or options differ from those shown in the app, please refer to the latest version of the app for accurate information.

13. Specifications

Item	Description
Image Sensor	2MP CMOS sensor
Effective Pixels	1920 (H) x 1080 (V)
Storage Media	Suggest V30 or higher microSD card, up to 128GB
Lens	Wide angle fixed focus waterproof lens Aperture : F/2.0
Video File	Resolution : 1080P / 30fps
	Format : MP4
Picture File	Use App to take snapshot

	Format : JPG
G-sensor	3-Axies G-Force sensor
GPS	N/A
Wi-Fi	Built-in
Microphone	Built-in
Battery	4000mAh
Charging Temperature	0° ~ 40° C
Operating Temperature	0° ~ 60° C
Operating Humidity	20 ~ 70% RH

Storage Temperature	-20° ~ 70° C
App Supports OS	Android 9.0 and higher, iOS 13 and higher, Harmony 2 and higher
Size	94.1 x 50.5 x 40.4 mm
Weight	Approximately 136g

Optional Accessories

Contact distributor to purchase additional accessories for the camera.

Pouch	Adhesive Helmet Mount	Carry-on Power Key	2-in-1 Helmet Mount
			 (front) (back)

Prohibition of co-location

This device and its antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter.

WEEE Notice

Disposal of Waste Electrical and Electronic Equipment and/or Battery by users in private households in the European Union



WEEE



Battery

This symbol on the product or on the packaging indicates that this cannot be disposed of as a household waste. You must dispose of your waste equipment and/or battery by handing it over to the applicable take-back scheme for the recycling of electrical and electronic equipment and/or battery. For more information about recycling of this equipment and/or battery, please contact your city office, the shop where you purchased the equipment or your household waste disposal service. The recycling of materials will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and environment.

CE Regulatory Notice

The product herewith complies with the requirements of the EMC and RED Directive 2014/53/EU and the RoHS Directive 2011/65/EU.

EU Health Protection: This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Regulatory & Safety Notice

- ❖ This document provides country- and region-specific non-wireless and wireless regulatory notices and compliance information for your product. Some of these notices may not apply to your product.
- ❖ Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion.
- ❖ Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas.
- ❖ Due to local laws and for your own safety, DO NOT operate the camera while riding.
- ❖ Use MUFU Video to app to synchronize your date and time before first use.
- ❖ The firmware function in the camera is for reference only, riders are advised to exercise discretion based on actual road conditions.

- ❖ This product is intended only for non-commercial use, within the maximum limits permitted by law. We take no responsibility for any losses as a result of use of this product.
- ❖ Wi-Fi Signals are unable to pass through the building. The max limit of signal transmission is 5 meters.
- ❖ Wi-Fi Operation Channel: Ch1~Ch13(2.4GHz)
- ❖ The product employs wireless data communication which may interfere, or be interfered by, a near-by camera.
- ❖ Never use this camera in the vicinity of a microwave oven or at places where there is radio interference.
- ❖ Radio wave reception may be worsened in specific environments.
- ❖ Please be advised that if another camera is also using the same 2.4GHz/5GHz band as this product, the processing speed of both cameras may slow down.
- ❖ The camera may get warm during use. This is normal.
- ❖ Improper use or operation of the product may result in damage to the camera or its accessories and void the warranty.
- ❖ This device and its antenna(s) must not be co-located or operated in conjunction with any other antenna or transmitter.

- ❖ The radio frequency (RF) generated by this RF electronic camcorder may cause adverse effects on the operation of other electronic camcorders and result in malfunctioning. Wireless transmitters and circuitry may also interfere with other electronic camcorders. Therefore, do observe the following precautions:
- Aircraft: Never use a radio transmitter when you are in an airplane. Please switch off the Wi-Fi function of the camcorder.
 - Vehicle: The radio frequency transmitted by this camcorder may affect the electronic system in a motorized vehicle. Please consult the manufacturer or dealer of your vehicle on the possible effect.
 - Pacemaker: In order to prevent any potential interference to a pacemaker, anyone who uses a pacemaker should be advised, that, when using this camcorder, a minimum distance of 15cm (6 inch) should be kept between the camcorder and the pacemaker; and never put this camcorder in a chest pocket. In case of any doubt of interference, switch off the camcorder immediately.
 - Medical Camcorder: If you use a personal medical camcorder, consult the camcorder manufacturer or your physician to confirm if your camcorder is sufficiently shielded from the RF transmission of this camcorder.
 - Medical Facilities: Hospitals and medical institutes may use facilities that are sensitive to an external RF energy. Observe such instructions when the

medical care personnel or any posted sign requests you to switch off any camcorder that may interfere the radio frequency.

- Explosion sites or any location with a posted sign: In order to prevent interfering with an explosion activity, observe all the signage and instructions in the Explosion Area or in a zone with a "Switch Off 2-way Radios" sign by switching off camcorders that may interfere with the radio frequency.

❖ MUFU is NOT responsible for the loss of any data/content during operation.

By using the product, it is assumed that you agree to all of the above statements.