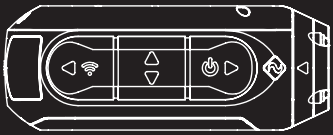
GHOST 4K+

Quick Guide



Thank you for purchasing the Drift Ghost 4K+

CUSTOMER SUPPORT
Download the full manual and check our official website for firmware updates, customer support, and info on all of our products.
https://driftinnovation.com/

If you have any suggestions, comments or concerns; please contact our customer support team at:
support@driftinnovation.com

WARRANTY
For product warranty policy, please check here:
https://driftinnovation.com/warranty

Open Source Software:
Ghost 4K+ includes open source software component packages, for more detail, please refer to
https://us.driftinnovation.com/blogs/support/open-source-software

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- I Rear Screen
- J Dual microphones
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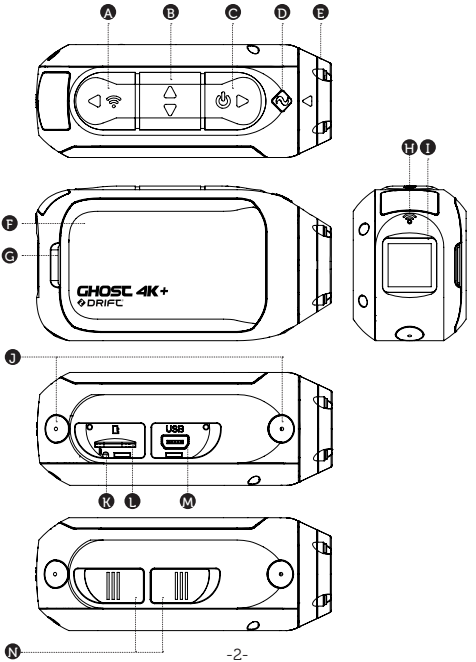
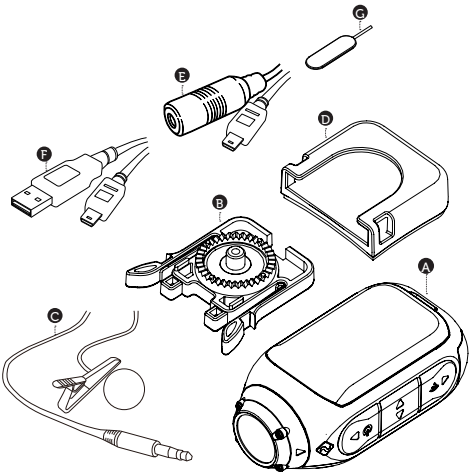


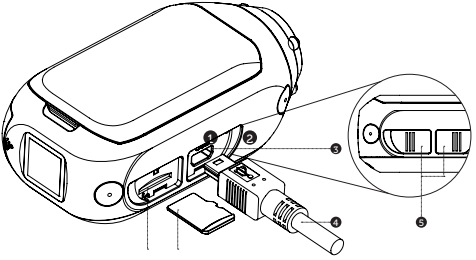
Package Contents

- **A** Ghost 4K+ Camera
- **B** Universal Clip
- **C** External Microphone
- **D** Curved Adhesive Mount
- **E** USB-Mic Converter
- **F** MiniUSB Cable
- **G** Reset Tool



Initial Setup

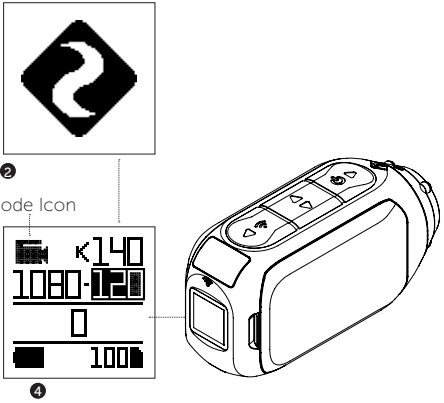
1. Uncover the microSD slot by lifting its rubber cover.
2. Insert a Class 10 or higher microSD/HC/XC card (up to 128GB). Format before first usage!
3. Uncover the mini USB port by lifting its rubber cover.
4. Connect the camera via a mini USB cable to a powered USB port, and charge the battery for 2.5 hours before first use.
5. Replace the rubber covers securely to cover both the microSD slot and mini USB port. You are ready to go!



Getting Started

POWER ON/OFF

1. Press and hold the [⏻▶] button to power on.
2. The Rear Screen will power on, showing the welcome display.
3. The camera is now ready to record video or take photos.
4. Current camera mode is indicated by the colour of the Status LED and Rear Screen, along with the icon in the top left of the Rear Screen.
5. To power off, press and hold the [⏻▶] button for 3 seconds.



RESET YOUR CAMERA

If Ghost 4K+ becomes unresponsive, press and hold the [⏻▶] button for 20s to reset it.

MODE NAVIGATION

To change the current camera recording mode, press the [◀ᯤ] button; changing between Video, Photo, Timelapse, Photoburst, and General Settings modes.

Camera Modes

VIDEO MODE

(Green LED) Press the [⏻▶] button to start recording. The Status LED and LCD backlight will flash red to indicate recording. Press the [⏻▶] button again to stop recording.

VIDEO SETTINGS

- Resolution
- Frame Rate

PHOTO MODE

(Yellow LED) The camera will capture still images when the [⏻▶] button is pressed, and the status LED and LCD screen will flash red each time a photo is captured.

PHOTO SETTINGS

- Resolution

TIMELAPSE MODE

(Purple LED) Press the [⏻▶] button to capture a series of still images at a specified rate. The Status LED and LCD screen will flash red each time an image is captured. To stop recording, press the [⏻▶] button once more.

TIMELAPSE SETTINGS

- Resolution
- Timelapse Interval

PHOTOBURST MODE

(Cyan LED) The camera will capture a burst of still images for an allotted duration and at a specified rate, when the [⏻▶] button is pressed. For best results, use a memory card with the highest possible data rate.

PHOTOBURST SETTINGS

- Resolution
- Burst Duration/Capture Rate

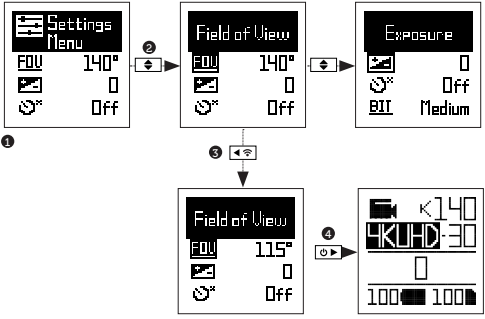
CHANGE SETTINGS

In any mode press the [⇕] button to highlight a setting. Press the [◀ᯤ] button to change the option for the highlighted setting.

Settings Menu

SETTINGS MENU NAVIGATION

1. On arrival to the settings menu, the highlight black box rests on the top, highlighting the Settings Menu icon as the starting position.
2. Press the button to navigate down, this highlights the next setting.
   Press hold the button to scroll upwards.
3. Press the button to change the option for that setting.
4. At any time, press the button to change mode (returning to Video).



In this example pressing once moves highlight block to the next setting (Field of View), pressing once more moves to Exposure.
In step 3 pressing changed FOV 140° to 115°.

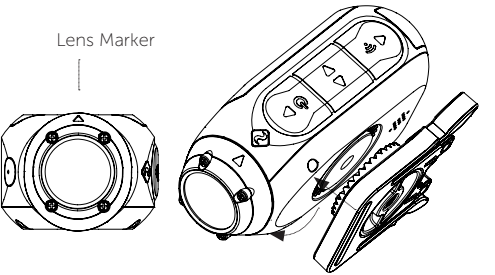
Settings

Wi-Fi	OFF / ON
Wi-Fi Frequency	2.4 / 5.8 GHz
DVKit	OFF / ON
DVKit Reset	YES / NO
Field of View	90° / 115° / 140°
Exposure	-2 / -1 / 0 / +1 / +2
Self Timer	OFF / 3S / 5S / 10S
Bit Rate	HIGH / MEDIUM / LOW
Filters	NORMAL / VIVID / LOW LIGHT / WATER
ISO Sensitivity	100 / 200 / 400 / 800 / AUTO
Video Tagging	OFF / ON
Video Tagging Interval	10S / 30S / 1MIN / 2MIN
Car DVR	OFF / ON
Car DVR Loop Interval	10S / 30S / 1MIN / 2MIN / 5MIN / 10MIN
Video Stabilization	OFF / ON
Microphone	FRONT / REAR
Mic Sensitivity	OFF / 1 / 2 / 3 / 4 / 5
Speaker Volume	OFF / LOW / MED / HIGH
LED Status Indicator	OFF / ON
Indicator Timer	OFF / 5s / 10s / 20s / 1m
Instant Record	OFF / ON
Video Standard	ALL / NTSC / PAL / CINEMATIC
Date	YY/MM/DD HH/mm
Date Stamp	OFF / ON
Default Start-Up Mode	RESUME LAST SESSION / VIDEO/ PHOTO/ TIMELAPSE / PHOTOBURST
Camera Off	NEVER / 2MIN / 5MIN / 10MIN / 20MIN
THM Files	ON / OFF
Language	EN / DE / FR / IT / ES / CN
Reset Settings	YES / NO
Format SD Card	YES / NO
Serial Number	XXXXXX
Clone Mode	Off / Master / Slave
Clone Group	0 / 1 / 2 / 3 / 4 / 5
Firmware Version	XXXXXX

*Check our official website for firmware updates.

Mounting the Camera

1. Attach the Universal Clip to the camera in any 360° orientation as needed – first position the clip in the desired orientation, then secure by rotating the screw base by hand.
2. Slide the Universal Clip into your chosen mount, ensuring that it 'clicks' into place. ***Double check it has been fully inserted by pushing out the clips.***
3. Align your shot. Rotate the lens by hand, using the lens marker as an 'up' reference, mantaining it perpendicular to the ground for correct orientation.



Feature Overview

CLONE MODE

Link two or more Ghost 4K+, Ghost XL, Ghost X or Ghost 4K cameras into a single network wirelessly controlled by one master camera. To set up clone mode:

-Navigate to the 'Clone Mode' option in the settings menu, and press the button to select.

-Select the 'master' option, and press the button to select. The master camera is now set up.

-On a second camera repeat the above, selecting the 'slave' option.

-Repeat for each additional slave camera.

-The master camera can now be used to wirelessly start and stop recordings, change settings and change modes on the entire group of cameras.

CAR DVR MODE

This hands-off mode is ideal for insurance and security purposes.

The camera records footage in a continuous loop style (DVR Intervals) recording loop after loop until it fills the MicroSD Card. Once full, the oldest loops will be deleted as the newer ones are saved. The DVR loop interval can be 10s, 30s, 1min, 2min, 5min or 10min.

VIDEO TAGGING

When activated, this feature allows the camera to continuously record video, but only save when important footage is "Tagged".

While recording video, pressing the button will save past, present and future video. For example, with a video tagging interval of 30s selected, the camera will save the previous 30s, and an additional 30s – a total of 1m

"tagged" footage.

The Video Tagging feature requires a class 10 micro SD card with 4GB of free space to function correctly.

INSTANT ON MODE

Enabling Instant On Mode allows the camera to turn on, and start recording with a single press of the ⏻▶ button.

CINEMATIC MODE

Selecting Cinematic Mode will allow the user to film in frame rates of 24 or 48fps. Navigate to the 'Video Standard' option in settings menu to enable Cinematic Mode.

DUAL FRONT AND REAR MICROPHONES

The Ghost 4K+ features two microphones - located in the front and the rear of the camera- to help ensure the best possible sound at all times. We recommend selection of the front microphone while the camera is stationary; the rear microphone being ideal for reducing wind noise while the camera is moving.

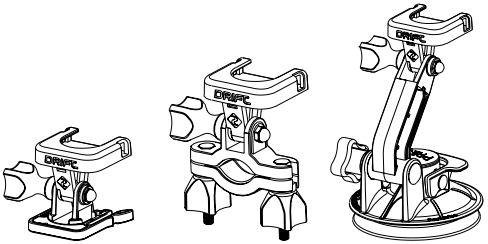
BIT RATE

Users can choose to keep the normal compression used by the H.264 codec, or if they prefer, allow a higher flow of data for preserving more of the original recording. This will result in a bigger file size.

FILTER

Quickly tailor your cameras settings to the recording conditions with filters. Choose between Normal / Vivid / Low Light / Water.

Accessory Guide



PIVOT MOUNT

Mountable anywhere at nearly any angle, the Drift Pivot Mount is your tool to capture the moment from any point of view you can imagine. Includes flat and curved adhesives, and can be used together with any other Drift mount.

HANDLEBAR MOUNT

The Drift handlebar mount is the perfect accessory for riders, whatever your discipline. Compatible with bars between 19mm and 36mm, and capable of pivoting more than 180 degrees, the handlebar mount opens up almost any angle for your video.

SUCTION CUP MOUNT

The ideal accessory for mounting your Ghost 4K+ to any non-porous flat surface. Ideal for use on car windshields or bodywork, the Suction Cup makes it simple to turn, tilt, and rotate your camera 360°.

Wi-Fi + Firmware

To turn on your Ghost 4K+ Wi-Fi, simply press and hold the button.
A blue Wi-Fi indicator LED shows that Wi-Fi is enabled. Wi-Fi can also be turned on via the cameras settings menu.

DOWNLOAD THE DRIFT LIFE APP
Setup your shot, capture, playback, edit and live stream on your mobile device.

EXPLORE IT ON AppGallery

Download on the App Store

ANDROID APP ON Google play

INSTALLING FIRMWARE
Download the latest firmware from the Drift website and copy the Ghost_4K+.bin file into the root of a formatted micro SD card. Insert the micro SD card into the camera and power on.

The camera screen will display 'Firmware Updating' as the update is installed. Once complete, the camera will power down.

Connecting Your Camera

CONNECTING TO A PC

1. Connect the camera using the USB cable (provided); the camera screen will show a USB icon.
2. The camera's folder may open automatically; if not, open using My Computer.
3. The camera should be recognised as a removable disk; double-click to open.
4. Open the DCIM folder to access your files.

CONNECTING TO A MAC

1. Connect the camera using the USB cable (provided); the camera screen will show a USB icon.
2. The camera's folder may open automatically; if not, open using Finder.
3. The camera should be recognised as an external device; double-click to open.
4. Open the DCIM folder to access your files.

Specifications

Video Resolution and Frame Rates:

4K (4096 X 2160 17:1)	24 / 25 FPS
4K UHD (3840 X 2160, 16:9)	24 / 25 / 30 FPS
2.7K (2704 X 1520 16:9)	24 / 25 / 30 / 50 / 60 FPS
1080P (1920 X 1080 16:9)	24 / 25 / 30 / 50 / 60 / 100 / 120 FPS
720P (1280 X 720 16:9)	25 / 30 / 48 / 50 / 60 / 200 / 240 FPS
WVGA (854 x 480 16:9)	25 / 30 FPS

File format:	.MP4 (H.264 codec)
Sensor type:	CMOS
Field-of-view (diagonal):	90° / 115° / 140°
Lens focal range:	0.5m to infinity
Lens rotation:	330°
Photo mode:	5 / 8 / 12 mega-pixels
Exposure:	Auto / Step Manual (Advanced Users)
LCD Screen:	Color Dot Matrix Backlit LCD
Microphones:	Dual Front/Rear Microphones
Memory Capacity:	Micro SD, SDHC, SDXC memory cards up to 128GB
Inputs:	Mini USB 10 Pin. External Microphone via USB adaptor.
Outputs:	A/V and HDMI Out via USB Adapter.
Connectivity:	USB Plug And Play, Mini USB 10 Pin.

Power:	1500mAh internal,450mAh modular battery included.
Wi-Fi Frequency:	2.4GHz & 5.8GHz
Camera Dimensions:	43 (W) x 82.2 (L) x 31.4 (D) mm
Weight:	120g
Compatibility:	Windows XP and up / Mac OS 10.2 and up For 4K viewing a monitor capable of playback is required.For viewing / editing **minimum** requirements include: 8GB RAM integrated graphics, 4th generation i5 and 17 Intel® Core™ or AMD A10-7800 APU. Discreet graphics cards starting from GeForce® GTX™ 650, or AMD Radeon™ HD 7000 Series and above. Due to the immense processing required to render 4K, meeting system requirements may still lead to staggered or choppy playback.

Disclosures

FCC/CE Information

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 interference received, including interference that may cause undesired operation.

WARNING
Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
The 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 powering the equipment on and off, 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 the receiver;

Connect the equipment into an outlet on a circuit different from that 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.

This Class [B] digital apparatus complies with Canadian ICES-003.
Son fonctionnement est soumis aux deux conditions suivantes:
(1) cet appareil ne peut pas causer l'intervention, et
(2) cet appareil doit accepter de l'intervention, y compris l'intervention qui peut causer l'opération non désirée de.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.

Cet appareil s'accorde avec Industrie Canada licence-exempte RSS standard.

FCC RADIATION EXPOSURE

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled

environment.
This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

MOTORCYCLE DISCLAIMER

Interacting with the camera while riding could cause a crash, which may lead to serious injury or death to yourself or others.

• Keep eyes and mind on the road;
• Avoid looking at the camera for any long periods of time
• Stop the vehicle in a safe location before adjusting the camera.