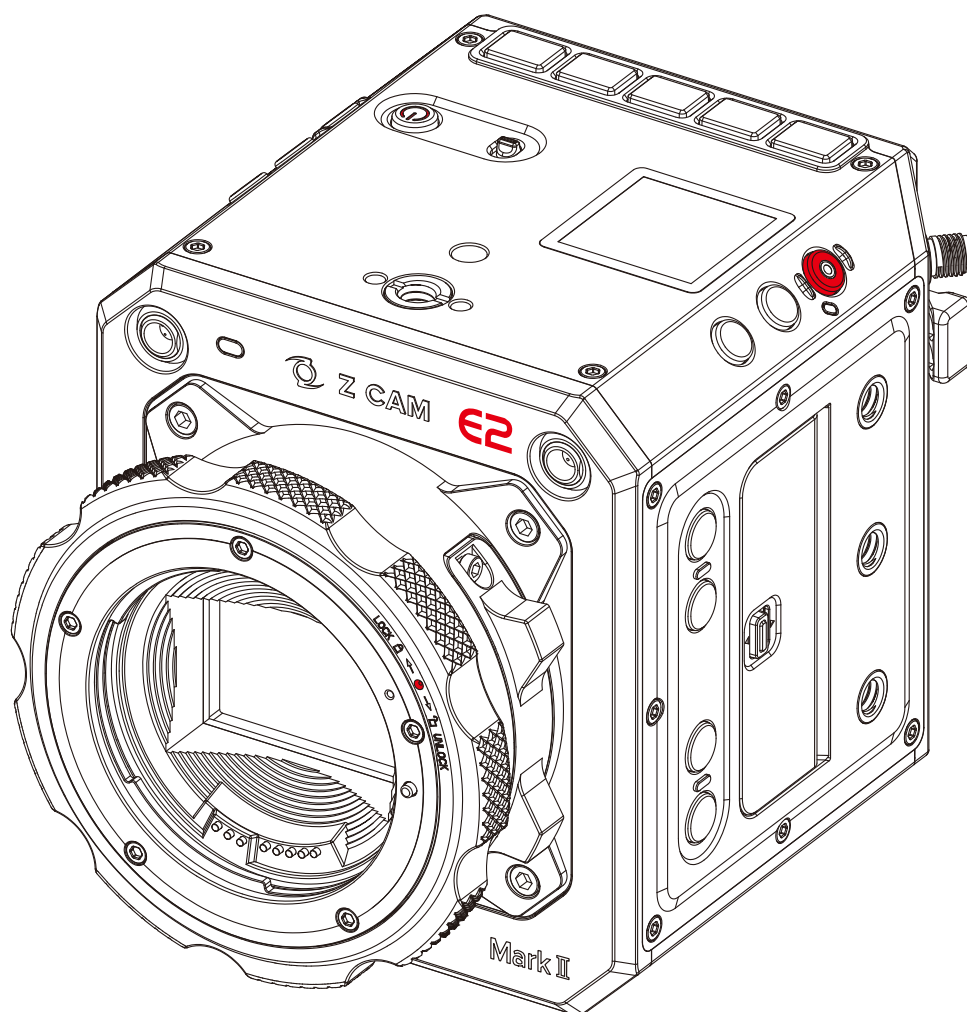




Z CAM E2 Mark II series

Professional Cinema Camera

User Manual

V 1.0

For the purpose of simplifying the explanation, this manual collectively refers to both the standard version of the Z CAM E2-Mark II and the Z CAM E2-Mark II PixelLink version as the "Z CAM E2 Mark II". This series includes 8 models: the standard versions E2-M4 Mark II, E2-S6 Mark II, E2-F6 Mark II, and E2-F8 Mark II; and the PixelLink versions E2-M4s Mark II, E2-S6s Mark II, E2-F6s Mark II, and E2-F8s Mark II. Only the E2-M4(s) Mark II is equipped with an MFT Active Lock mount, while all other models come with an EF mount.

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FEDERAL COMMUNICATIONS COMMISSION (FCC) Statements

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

NOTE: 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.

<Caution>

- If the device is changed or modified without permission from ImagineVision, the user may void his or her authority to operate the equipment.
- Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.

Preface

Please read this document carefully in order to understand the Z CAM E2 Mark II series (hereinafter referred to as Camera) and use it reasonably. Refer to the official website (www.z-cam.com) for the latest version of this document and updated product information. Please contact Shenzhen ImagineVision Technology Limited (hereinafter referred to as ImagineVision) or its authorized distributor/resellers, in case of any product queries about installation or operation.

Safety Guideline

Please read and follow this Safety Guideline and all the terms associated to this Product carefully, to know your legal rights, responsibilities, and safety instructions, otherwise, it may result in product damages, safety accidents and personal injuries. By using this Product, you hereby signify that you have read, understood, acknowledged and accepted this Safety Guideline and all the terms and conditions associated with this Product, and assume responsibility for any behaviors or consequences. You undertake to use this Product on normal and reasonable purpose, and agree to this Guide-line and all the terms and conditions associated with this Product, as added, reduced, amended, modified made by ImagineVision from time to time.

ImagineVision provides no expressed or implied guarantee in relation to this Product, assumes no loss or legal responsibility raised from misuse of this Product contrary to this Safety Guideline and the terms associated to this Product, accepts no indirect, consequent, punitive, occasional, special, criminal-punitive loss or legal responsibility. Under any circumstances, the total liability of ImagineVision shall NOT exceed the price paid by you to ImagineVision for the product.

⚠ Warning

1. This device is for use only by personnel who have received professional guidance; children are strictly prohibited from using it.
2. Do not use the camera or its accessories near water, and do not expose the camera to humid environments. This device is not waterproof. Contact with water may cause permanent damage to the device, or even electric shock, which could result in serious injury to the user. Without proper protection, do not use the camera in rainy weather or other high-humidity environments. If the camera or its accessories are accidentally exposed to a humid environment, cut off the power immediately.
3. Do not point the camera directly at intense light sources such as sunlight or lasers. This may cause permanent damage to the camera's optical path or sensor, and such damage is not covered under the manufacturer's warranty.
4. Do not subject the camera to excessive vibration or impact, and be careful to prevent the camera from being dropped. Severe impact may damage the camera's internal mechanism, while excessive vibration may affect the mechanical calibration accuracy of the optical components.
5. Electromagnetic Interference Notice: Devices that use radio waves or other communication waves may interfere with the normal operation of this camera, disrupt the stability of its audio and video signals, or even cause equipment failure.

6. Clean the camera only with a dry cloth. Note that this device is not waterproof; moisture ingress may damage the internal electronic circuits.
7. Do not rinse or immerse the camera, lens, or any other accessories in water. Always keep all components dry.
8. Do not use soap, detergents, ammonia, alkaline cleaners, or abrasive cleaners/solvents for cleaning. These substances may damage the lens coating or corrode the internal electronic circuits.
9. Do not operate or store the camera near heat sources, such as radiators, heating thermostats, stoves, or any other heat-generating equipment. Store it in a safe, flat, and well-ventilated location. During storage, avoid exposure to extreme temperatures, humid environments, excessive vibration, strong magnetic fields, direct sunlight, or local heat sources.
10. Protect all power cords from being crushed, stepped on, or run over by vehicles. If a power cord shows signs of damage due to crushing or other physical causes, replace it immediately.

Disclaimer

All product features and technical specifications stated are subject to the sole interpretation and explanation of Shenzhen ImagineVision Technology Limited, and subject to change without notice.

Product Profile

Z CAM E2 Mark II series marks a pivotal upgrade to the iconic E2 lineup, engineered to elevate professional filmmaking workflows. With an expanded suite of pro-grade interfaces for seamless device integration, its versatile models span from entry-level professional setups to high-end cinematic productions—carrying forward the series’ legacy of innovation while redefining flexibility. The evolution Continues.

Stunning Image Quality

Trusted as the primary camera (A-cam) for numerous mainstream films and documentaries, while also excelling as a secondary camera (B-cam). It features exceptional dynamic range, rich color science, and outstanding low-light performance, making it a core device in high-quality productions trusted by many renowned cinematographers and directors.

Multi-Cam Sync Capability

Renowned for industry-leading synchronization precision, combined with open APIs and proven reliability, it has become an indispensable tool in global multi-camera scenarios (from live sports broadcasts to film productions), ensuring frame-accurate synchronization across all cameras in complex setups.

CFexpress Type B Storage

Supports high-speed CFexpress Type B memory cards, enabling stable recording of high-bitrate formats without frame drops—critical for capturing lossless footage in fast-paced shooting environments.

Interchangeable Lens Mounts

Compatible with swappable lens mounts (EF, PL, MFT, etc.), adapting to a wide range of optical equipment from prime lenses to modern cine lenses, unlocking endless creative possibilities for diverse shooting styles.

Professional Interface Design

Features a thoughtfully arranged layout of professional-grade interfaces (3G-SDI, Timecode, Genlock Input, etc.), optimizing cable management and enabling seamless integration with industry-standard monitors, recorders, and control systems.

3G-SDI Interface

Delivers low-latency 3G-SDI output for reliable connection to professional monitors and switchers, ensuring accurate on-set preview and signal distribution—key to real-time quality control.

Genlock Input

Supports frame-accurate synchronization with external devices, eliminating signal drift in multi-device setups and ensuring consistency in professional multi-camera footage.

Timecode Input

Supports external timecode synchronization to align audio, video, and metadata systems, streamlining post-production editing and ensuring precise temporal alignment in complex projects.

Multiple Streaming Protocols

Accessible via a built-in web client, supporting a comprehensive suite of protocols (H.264, H.265, RTSP, RTMP, RTMPS, SRT, SSP) for pushing high-quality live streams to platforms or local networks, simplifying remote production workflows.

Open API & SDK

Provides a complete set of open APIs and software development kits, empowering developers to customize workflows, build proprietary control systems, or integrate third-party tools—ideal for customized enterprise applications or creative scenarios.

Built-in Gyroscope Sensor

Equipped with a high-precision gyroscope that records stabilization data, enhance handheld or moving shots. (Coming soon)

PoE+ Power Supply

Supports Power over Ethernet Plus (PoE+), enabling power and data transmission via a single cable to reduce cable clutter and enhance flexibility in fixed installations or remote setups.

Mini V-Lock Battery

Integrates a V-Lock battery interface, balancing portability and runtime efficiency.

Compact & Robust Design

Combines a space-saving form factor with an all-metal construction, maintaining portability while withstanding the rigors of professional on-set environments.

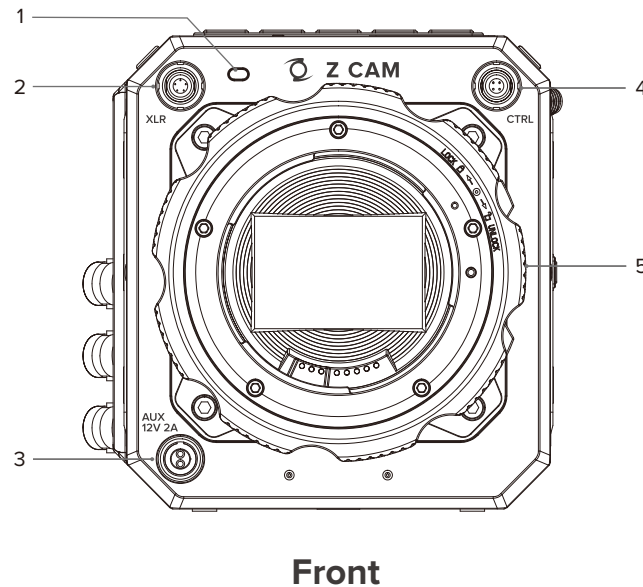
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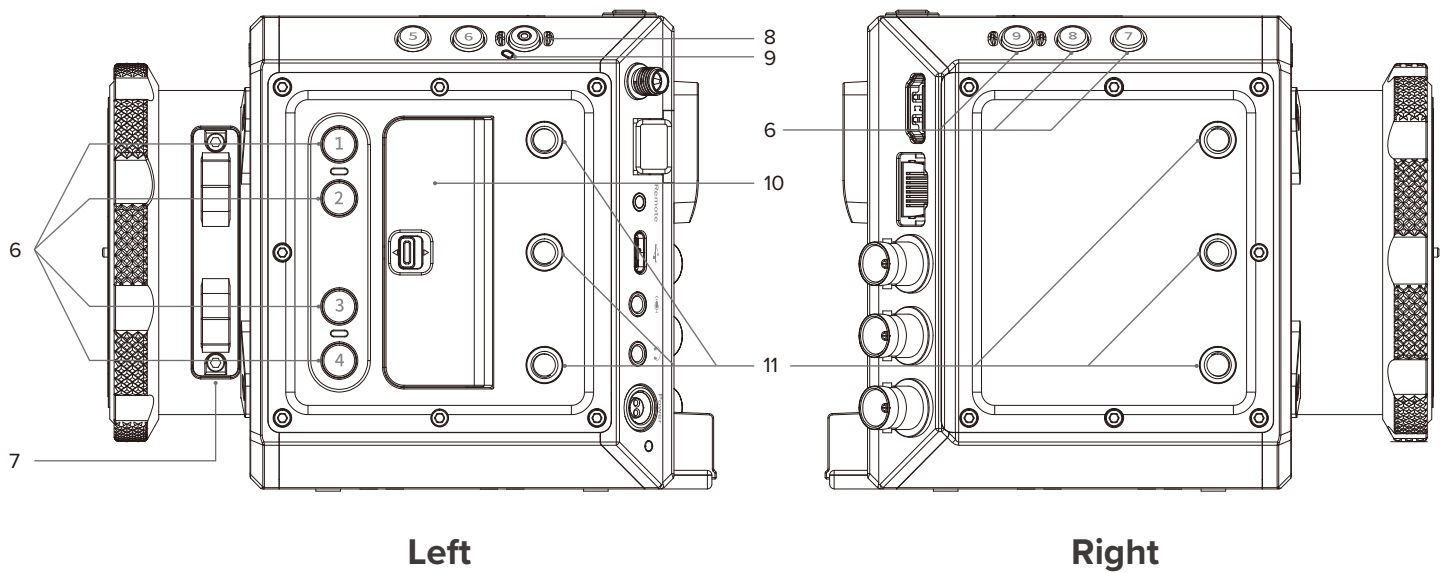
Overview

Camera Body

Take the Z CAM E2-F6 Mark II (EF mount) as an example.



- 1. Front LED**
Display the camera's operating status, including recording, storage, temperature and battery. Synchronize with the other two LEDs.
- 2. XLR Audio-in**
5-pin LEMO port for XLR Audio Input Connector.
- 3. Auxiliary Power Output**
DC 12V 2A power output, 2-pin LEMO sock.
- 4. Control Port**
Serial port, 4-pin aviation connector, support RS232 protocol.
- 5. Lens Locking Ring**
Rotate to lock and unlock lenses.

**6. Function Button**

Nine customizable function buttons.

7. Transparent Filter

Transparent filter, which can be replaced with the Z CAM eND module (For PL and EF Lens Mount Cameras Only).

8. Record Button

Press and release the REC button to toggle between record start and stop.

9. Left Side LED

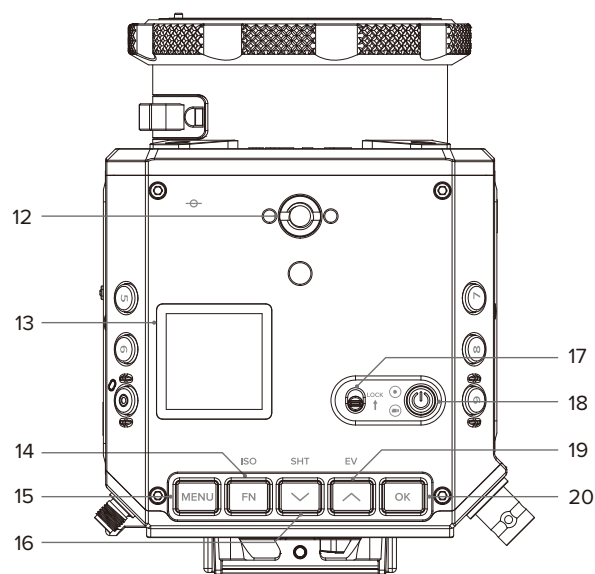
Display the camera's operating status, including recording, storage, temperature and battery.
Synchronize with the other two LEDs

10. Media Slot

CFexpress Type B slot.

11. 1/4" Mounting Hole

1/4" mounting holes for accessories.



Top

12. 3/8" Mounting Hole with 1/4" Screw Adapter

For accessories, compatible with 1/4" and 3/8" mounts.

13. On-board LCD Screen

Camera On-board LCD Screen.

14. FN / ISO Button

Function button and ISO quick setting in standby / preview / recording mode by default.

15. MENU Button

Menu button and back button.

16. Down / Shutter Button

Navigates down in the menu and Shutter Speed / Angle quick setting in standby / preview / recording mode by default.

17. UI Lock Switch

Lock UI, all button operations will be disabled.

18. Power (Playback) Button

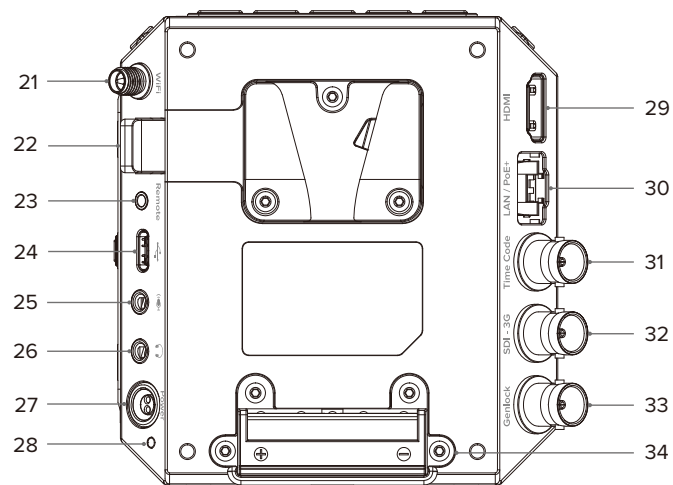
Long press for 3 seconds to power on / off the camera, and short press to switch to / back from Playback mode.

19. Up / EV Button

Navigates up in the menu and EV quick setting in standby / preview / recording mode by default.

20. OK Switch

Selects the highlighted Menu page item.



Back

21. Wi-Fi Antenna Port

External WiFi antenna (supplied).

22. Battery Release Button

Press to release the battery.

23. Remote Port

2.5mm jack socket, compatible with Sony LANC protocol.

24. USB Type-C

USB 3.0 standard. Connect to mobile devices for camera control, settings and live preview; connect to computers for data transmission.

25. 3.5mm Audio-in

3.5mm (TRS) jack socket for stereo audio input (Mic Level & Line Level supported), connects to microphone or audio output device.

26. 3.5mm Audio-out

3.5mm (TRS) jack socket for stereo audio output, connects to headset or earphone.

27. Power Socket

DC 12 to 18V, 2-pin LEMO socket.

28. Back LED

Display the camera's operating status, including recording, storage, temperature and battery. Synchronize with the other two LEDs.

29. HDMI Port

HDMI 2.0 Type A standard port.

30. LAN/PoE+ Port

Gigabit Ethernet port for camera control, setting & live preview, and PoE+ (802.3at).

31. Time Code In

BNC port for receives external timecode signals.

32. 3G-SDI Port

3G-SDI BNC port for SDI monitor connection.

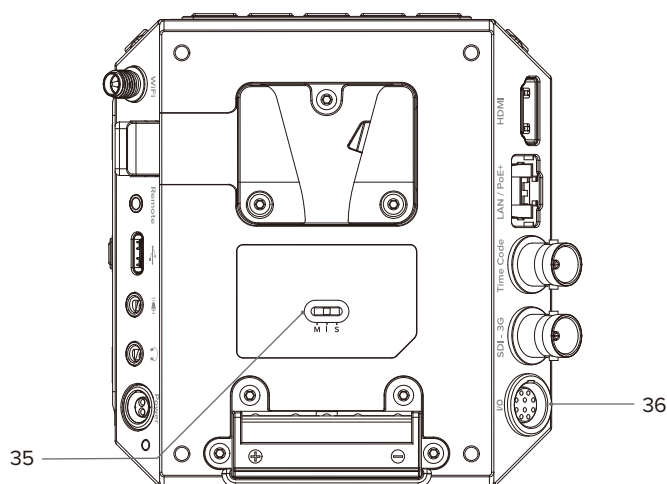
33. Genlock Port

BNC port for receives external synchronization signals.

34. Mini V-Lock Battery Sock

14.8V mini v-lock mount.

There are slight differences in the interfaces of the PixelLink version.



Back

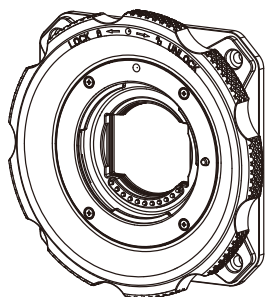
35 Sync Dip Switch

Switch synchronization status: Master / Off / Slave.

36. I/O Port

10-pin port for synchronous signal transmission.

Lens Mount



**MFT Mount
(Active Lock)**



EF Mount

The standard-equipped lens mounts for each model of the E2 Mark II are as follows:

Model	Lens Mount (standard)
E2-M4(s) Mark II	MFT Active-Lock
E2-S6(s) Mark II	EF
E2-F6(s) Mark II	EF
E2-F8(s) Mark II	EF

<Note>

For more lens mount options, please visit www.z-cam.com.

LED Status

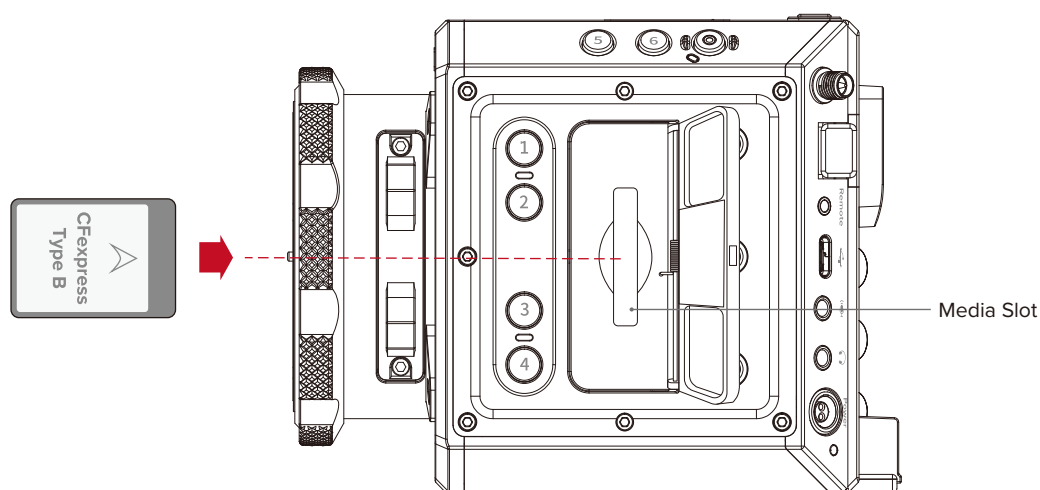
Status	Description
Green	Standby
Red	Recording
Flashing Red (every 1s)	No memory card
Flashing Red (every 0.5s)	Memory card is full
Flashing Red (every 0.2s)	Camera overheat
Flashing Red (very fast)	Critical error
Flashing Red (fast & slow alternant)	Low battery

Storage

The camera uses CFexpress Type B media (not supplied) for storage.

It is equipped with one built-in media slot that supports CFexpress Type B media. Insert the CFexpress card in the correct orientation and push it all the way into the slot until it locks into place.

To remove the CFexpress card, push it in slightly to unlock it, then pull it out of the slot.

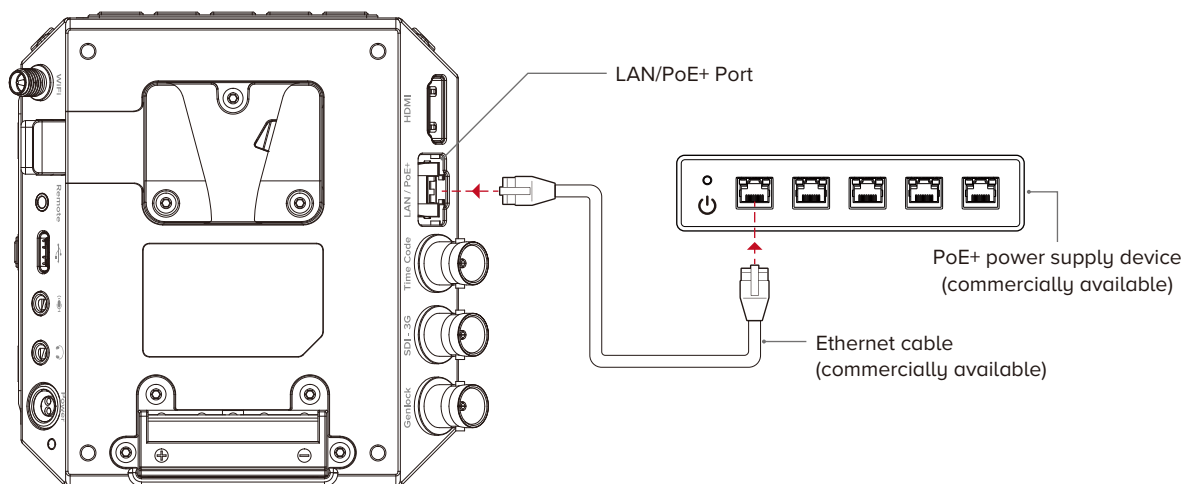


Power Supply

The camera can draw power via three methods: Power over Ethernet + (PoE+, 802.3at), DC-IN (Power Socket), and V-Lock battery. It does not support power input through USB or BNC ports.

PoE+ (Power over Ethernet) Power Supply

- Connect a ethernet cable (category 5e or higher, shielded twisted pair) from the PoE+ power supply device (Compliant with the IEEE802.3at, not supplied) to the LAN/PoE+ port.



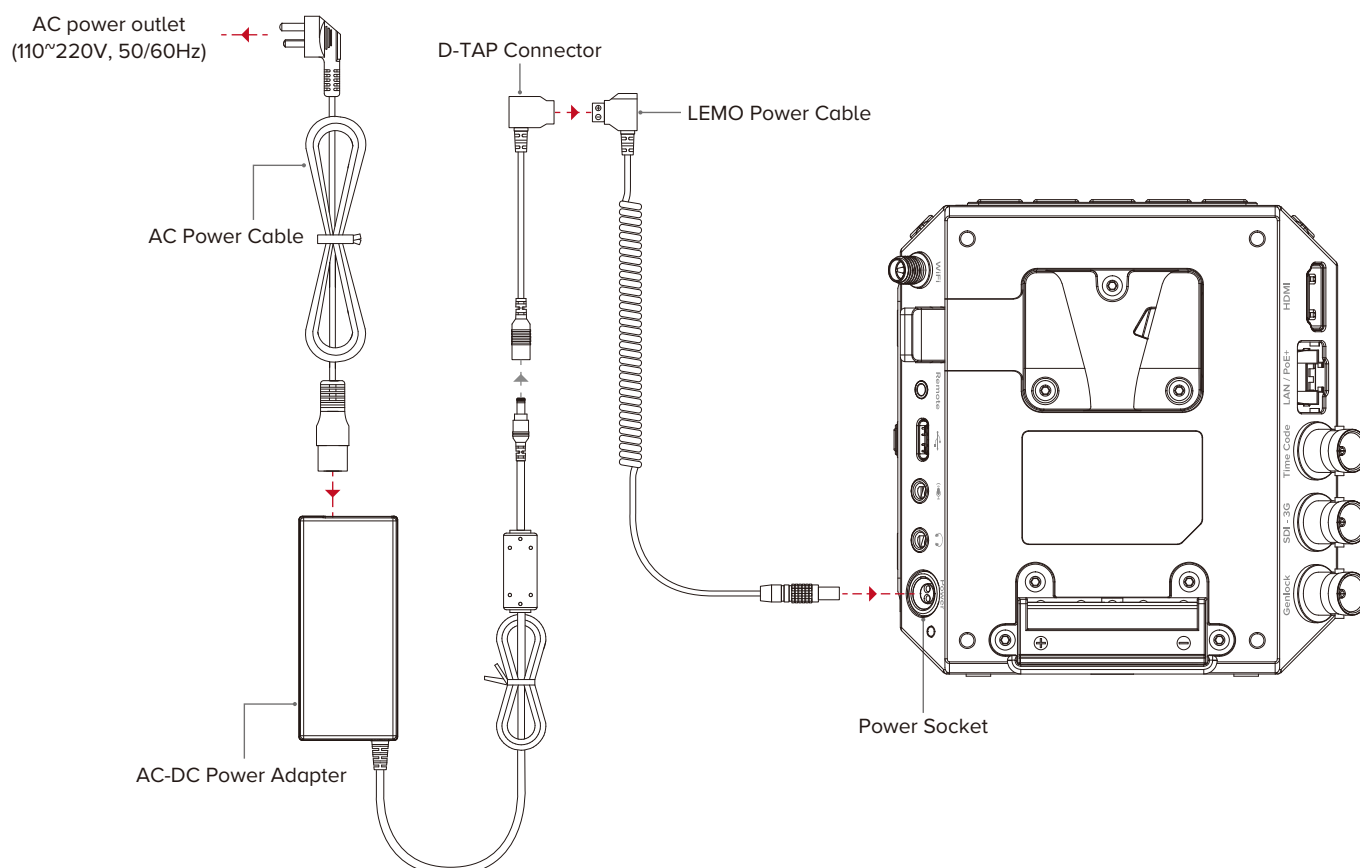
<NOTE>

- For more information on the connection, refer to the instruction manual of the PoE+ power supply device.

DC Power Supply

The camera accepts an input voltage range from 12 to 18V DC.

- Connect LEMO Power Cable (2-pin, optional accessory) to **Power Socket** of the camera;
- Connect D-TAP Connector (optional accessory) to LEMO Power Cable;
- Connect AC-DC Power Adapter (optional accessory) to D-TAP Connector;
- Connect AC power Cable (optional accessory) to AC-DC Power Adapter;
- Connect AC power Cable to AC power outlet (110~220V, 50/60Hz).



<NOTE>

- Power Supply Kit (AC Power Cable, AC-DC Power Adapter, D-TAP Connect, LEMO Power Cable) is optional accessory and not included in the standard package.

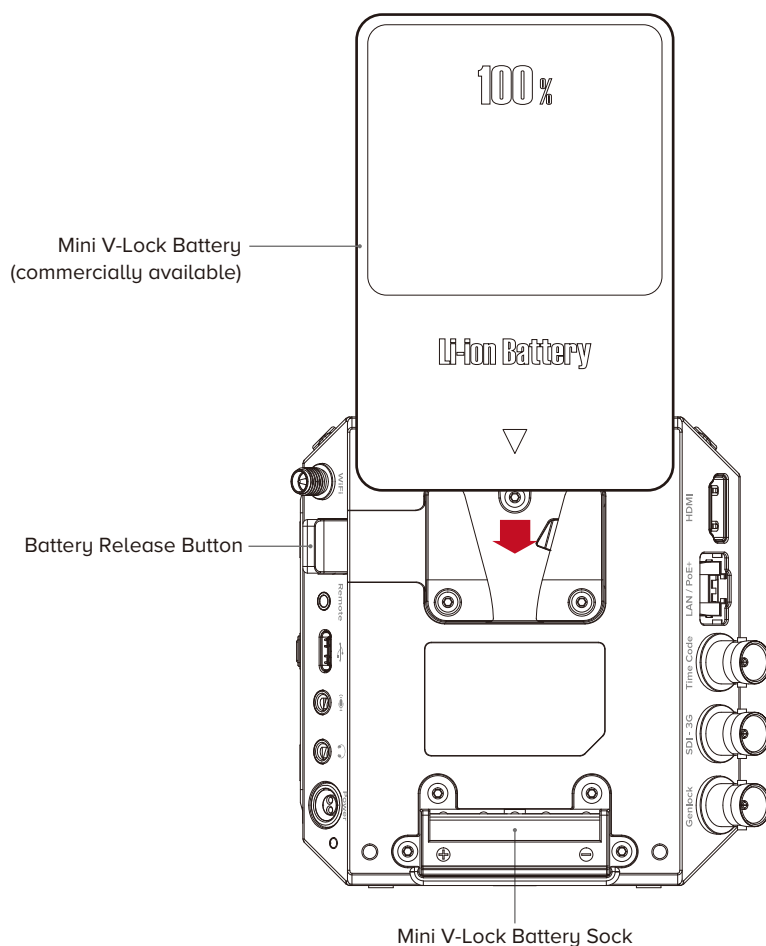
<WARNING>

- Do not supply power outside the specified voltage range.
- When unplugging the power cable, always grip the power plug—never pull the cable itself.
- Always secure the cables connected to the camera properly to avoid pinching or tripping.

Battery Power Supply

The camera can be powered by a Mini V-Lock battery with a nominal voltage of 14.8V.

- Mount V-Lock battery (not supplied) onto **Mini V-Lock Battery Socket** of camera;
- Push gently downwards and lock into position;
- To remove the battery, first turn off the camera power, press and hold the camera's **Battery Release Button**, then push the battery upward to take it out.

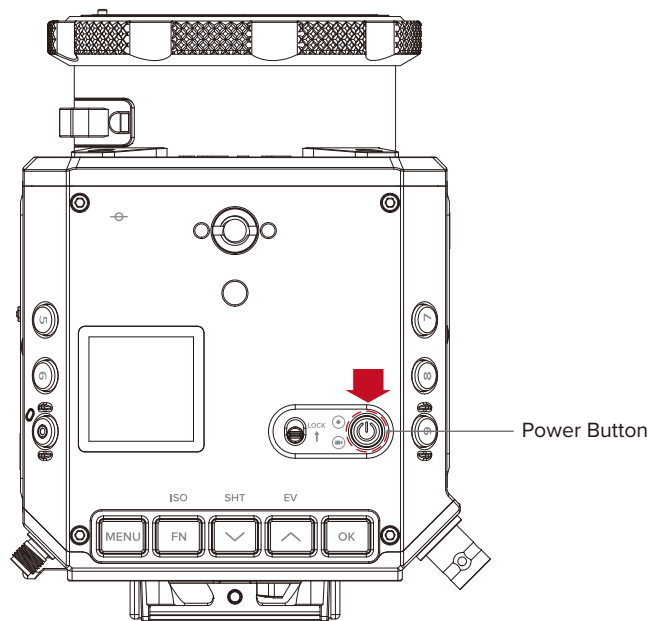


<NOTE>

- When you use accessories like motors or monitors, select batteries with higher current according to the power draw of the accessories.

Turning On / Off the Camera

- Connect power source to the camera (PoE+ power supply, DC power supply, and battery power supply).
- Press and hold the **Power Button** for 3 seconds to turn the camera on/off.



<NOTE>

- **Power-on Auto-Boot:**

The camera supports the DC power-on auto-start function. That is, when power is input via the Power Socket, the camera will turn on automatically.\

- **Power Supply Priority:**

When the camera is connected to multiple power supplies simultaneously, the priority order is as follows:

1. Power Socket (DC) power supply / PoE+ power supply;
2. Connected V-Lock battery power supply.

<WARNING>

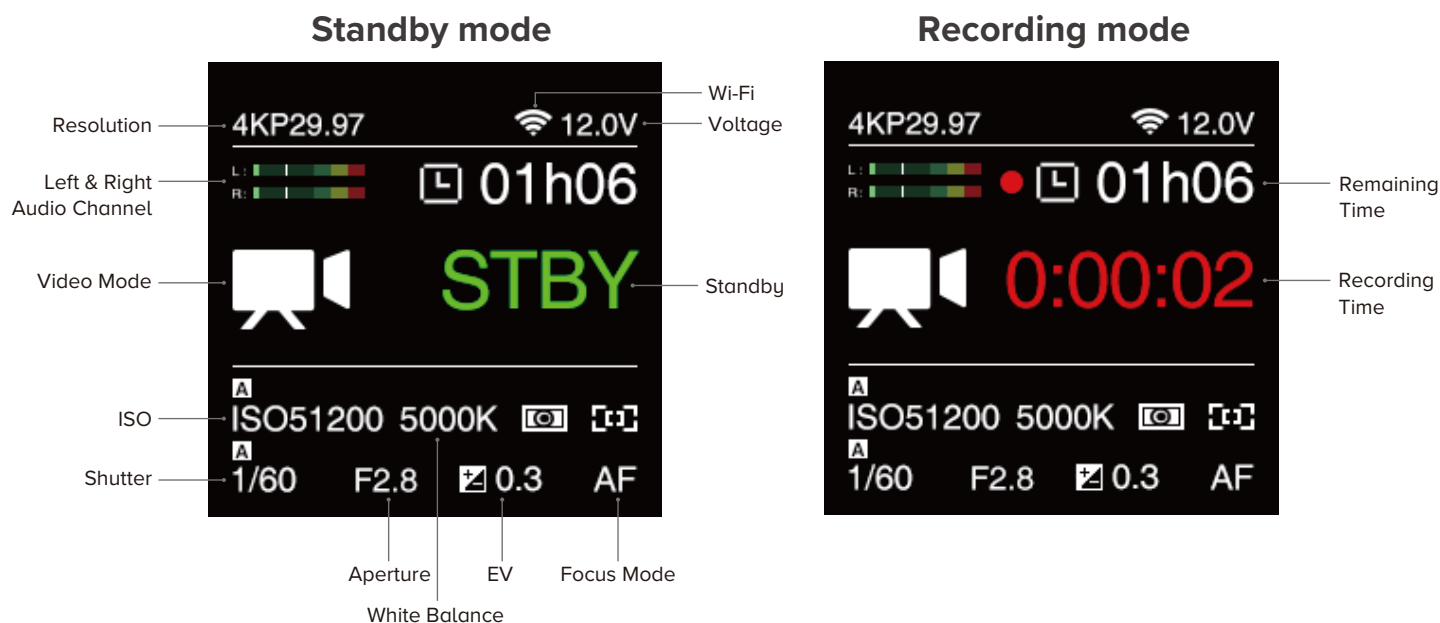
- Do not turn off the power or restart the camera while it is recording or formatting storage media.
- Always connect the power supply or battery first, then connect the SDI BNC cable. Always disconnect the SDI BNC cable first, then disconnect the power supply or battery.

On-board LCD Screen

The camera's On-board LCD Screen can display the preview view, playback view, and menu view.

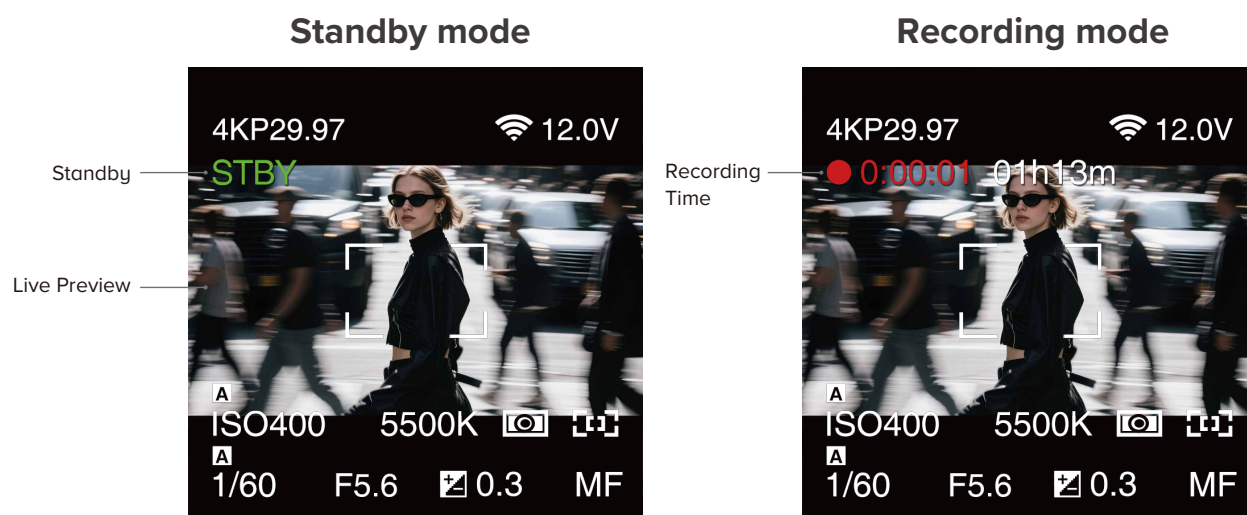
Preview View - Compact Info View

The compact info view clearly displays the camera's current mode and key parameters.



Preview View - Live Preview View

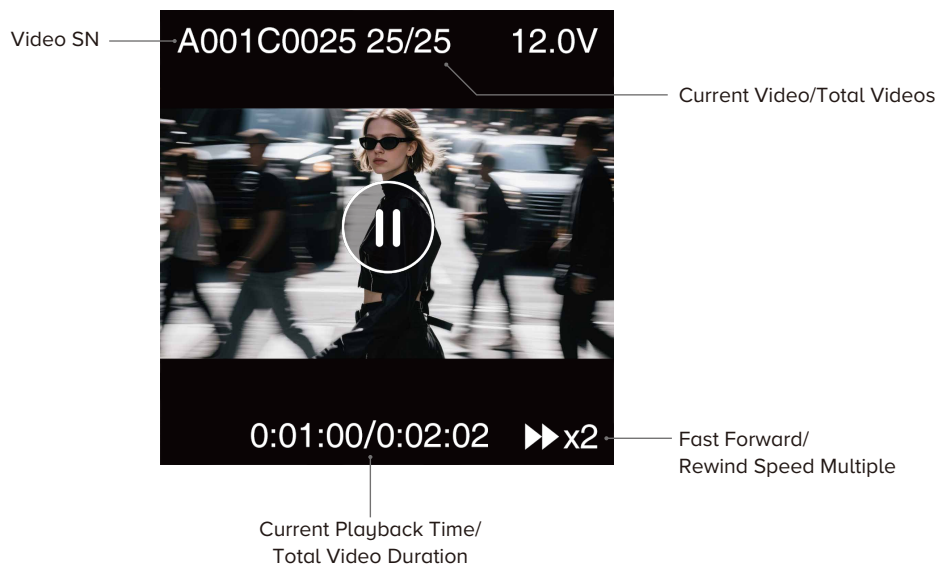
The Live preview view can display the live preview and key parameters.



To switch between the compact info view and the preview view, first press and hold the FN Button, then press the OK Button.

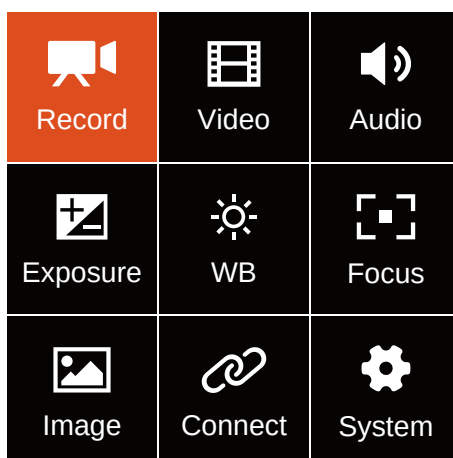
Playback View

When the camera is in standby mode, a short press of the **Power Button** enters the playback view; a short press of the **Power Button** again returns to standby mode.



Menu View

In the menu view, press the **Down Button** (↵) to move the cursor down (backward) and the **Up Button** (⤴) to move the cursor up (forward); press the **OK Button** to confirm the selection, and the **Menu Button** to return to the previous level.



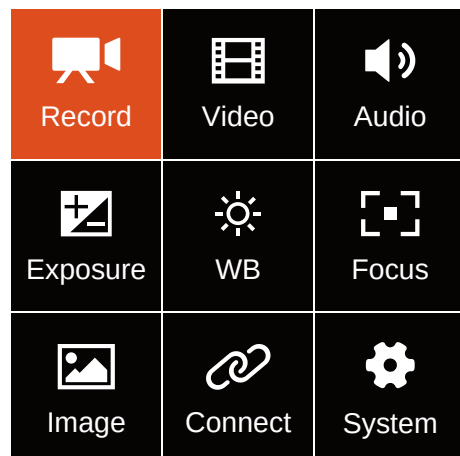
Menus

The camera menu consists of nine main menus and their sub-menus. Press the **MENU Button** to enter the menu view and select the corresponding menu.

Menus	Details
Record Menu	Resolution, Project FPS, Variable Framerate, File Format, Proxy File, File Rotation, Split Duration, Time Code, Playback Framerate, Meta Setup, Pre Roll, RAW Over HDMI
Video Menu	Encoder, Bitrate, Luminance Level, Rotation, WDR, Timelapse, Low Jello, Photo Quality
Audio Menu	Input, Mic Input Level, XLR Input Level, Noise Reduction, Input Gain, Encoder, Output Gain, Phantom Power, Audio Level Display
Exposure Menu	Flicker Reduction, EV, Shutter Speed, Aperture, ISO, eND, Min ISO, Max ISO, Max Shutter Speed, Metering, Shutter Operation, Shutter Angle Control, ISO Control, Extended Manual ISO, AE Speed, Lock In Record
White Balance Menu	Mode, Kelvin, Tint, Priority, Lock In Record
Focus Menu	Focus Mode, Focus Area, Focus Area Size, Change Focus Area, Continuous AF, Live CAF, Sensitivity, MF Assist
Image Menu	Basic, Gamma, Matrix, Color Correction
Connect Menu	Network, USB, HDMI, SDI, Multi Camera, UART, Grip, HTTP, Genlock
System Menu	Clear Settings, Format Card, Assist Tools, Load LUT, Desqueeze Display, User Profile, User Button, Record Indicator, Record Frame Indicator, Restore Lens Pos., LCD Brightness, Power, Language, Date / Time, Time Zone, Camera Status, Version

Record Menu

The **Record Menu** contains the camera's recording configuration settings. To access it, enter the Menu view, select Record, then press the **OK Button**.



The Record Menu allows you to configure the recording settings:

Items	Details
Resolution	Resolution of the project
Project FPS	base frame rate of the project
Vaeiable Framerate	Allows the camera to adjust frame rates dynamically
File Format	MP4, MOV
Proxy File	Enables the creation of smaller, lower-resolution copies of footage
File Rotation	Controls whether recorded files are automatically rotated
Split Duration	Sets a time limit to auto-split long recordings
Time Code	Configures a synchronized timestamp embedded in footage
Playback Framerate	Adjusts camera playback speed of recorded footage
Meta Setup	Configure the camera ID and Reel name embedded in the footage
Pre Roll	Enable and configure a pre-record clip
RAW Over HDMI	Enables RAW output via HDMI

Resolution

Resolution	E2-M4(s) Mark II	E2-S6(s) Mark II	E2-F6(s) Mark II	E2-F8(s) Mark II
Open Gate (6064x4040)	-	-	Y	-
C6K (6064x3196)	-	-	Y	-
6K 2.4:1 (6064x2560)	-	-	Y	-
6K (5760x3240)	-	Y	Y	Y
5K 4:3 (5376x4032)	-	-	Y	-
C5K (5120x2700)	-	Y	Y	-
5K 6:5 (4848x4040)	-	-	Y	-
5K (4800x2700)	-	Y	Y	-
4K 4:3 (4096x3072)	-	-	Y	-
C4K 3:2 (4096x2732)	-	Y	Y	-
C4K (4096x2160)	-	Y	Y	-
C4K 2.4:1 (4096x1728)	-	Y	Y	-
4K 6:5 (4080x3400)	-	-	Y	-
4K (3840x2160)	Y	Y	Y	Y
S16 16:9 (2112x1188)	-	-	Y	-
1080P (1920x1080)	Y	Y	Y	-
Open Gate (6244x4168)	-	Y	-	-
C6K (6144x3240)	-	Y	-	Y
6K 2.4:1 (6144x2592)	-	Y	-	-
5K 4:3 (5552x4164)	-	Y	-	-
5528x3112	-	Y	-	-
5K 6:5 (4992x4160)	-	Y	-	-
C4K Low Noise (4096x2160)	-	Y	-	-
4000x4000	-	Y	-	-
3840x3840	-	Y	-	-
4K Low Noise (3840x2160)	Y	Y	-	-
3456x3456	-	Y	-	-
S16 16:9 (3392x1908)	-	Y	-	Y
2.8K (2868x1512)	-	Y	-	-
C4K Low Noise (4096x2160)	Y	-	-	-
C4K (4096x2160)	Y	-	-	-
C4K 2.4:1 (4096x1728)	Y	-	-	-
4K 2.4:1 (3840x2160)	Y	-	-	-
3696x2772 Low Noise	Y	-	-	-
3696x2772	Y	-	-	-
3312x2760	Y	-	-	-
S16 16:9 (2752x1548)	Y	-	-	-
S16 (2704x1600)	Y	-	-	-

Resolution	E2-M4(s) Mark II	E2-S6(s) Mark II	E2-F6(s) Mark II	E2-F8(s) Mark II
8K 2.4:1 (8192x3456)	-	-	-	Y
8K (7680x4320)	-	-	-	Y

<Note>

In the low-noise resolution mode, noise in shadow areas is relatively low, but the jelly effect is more noticeable. Therefore, this mode is more suitable for shooting static scenes or scenes with little movement.

Project FPS

Frame rate of the video project. It will be different for each camera when the resolution is set to different values.

• Z CAM E2-M4(s) Mark II

Resolution	Frame Rate
C4K (Low Noise), 4K (Low Noise), 3696x2772 Low Noise	23.98 / 24 / 25 / 29.97
C4K, C4K 2.4:1, 4K, 4K 2.4:1, 3696x2772, 3312x2760, S16 16:9, S16, 1920x1080	23.98 / 24 / 25 / 29.97 / 50 / 59.94

• Z CAM E2-S6(s) Mark II

Resolution	Frame Rate
Open Gate (6244x4168), 5K 4:3 (5552x4164), 5K 6:5 (4992x4160), C4K 3:2 (4096x2732), C4K Low Noise (4096x2160), 4000x4000, 3840x3840, 4K Low Noise (3840x2160)	23.98 / 24 / 25 / 29.97
C6K (6144x3240), 6K 2.4:1 (6144x2592), 6K (5760x3240), 5528x3112, C5K (5120x2700), 5K (4800x2700), C4K (4096x2160), C4K 2.4:1 (4096x1728), 4K (3840x2160), 3456x3456, S16 16:9 (3392x1908), 2.8K (2868x1512), 1920x1080	23.98 / 24 / 25 / 29.97 / 50 / 59.94

• Z CAM E2-F6(s) Mark II

Resolution	Frame Rate
Open Gate (6064x4040), 5K 4:3 (5376x4032), 5K 6:5 (4848x4040), C4K 3:2 (4096x2732), 4K 6:5 (4080x3400)	23.98 / 24 / 25 / 29.97
C6K (6064x3196), 6K 2.4:1 (6064x2560), 6K (5760x3240), C5K (5120x2700), 5K (4800x2700), 4K 4:3 (4096x3072), C4K (4096x2160), C4K 2.4:1 (4096x1728), 4K (3840x2160), S16 16:9 (2112x1188), 1080P (1920x1080)	23.98 / 24 / 25 / 29.97 / 50 / 59.94

• Z CAM E2-F8(s) Mark II

Resolution	Frame Rate
8K 2.4:1 (8192x3456) / 8K (7680x4320) / C6K (6144x3240) / 6K (5760x3240)	23.98 / 24 / 25 / 29.97
4K (3840x2160) / S16 16:9 (3392x1908)	23.98 / 24 / 25 / 29.97 / 50 / 59.94

Variable Framerate

With VFR you can set a different frame rate for capturing based on the Project FPS for recording, in this way you can get a slow-motion or fast-motion footage. VFR options are related to the Resolution and Project FPS in Record setting. And the maximum VFR is related to the exact resolution, see below:

Resolution	E2-M4(s) Mark II	E2-S6(s) Mark II	E2-F6(s) Mark II	E2-F8(s) Mark II
Open Gate (6064x4040)	-	-	30fps max	-
C6K (6064x3196)	-	-	48fps max	-
6K 2.4:1 (6064x2560)	-	-	60fps max	-
6K (5760x3240)	-	48fps max	48fps max	30fps max
5K 4:3 (5376x4032)	-	-	30fps max	-
C5K (5120x2700)	-	60fps max	60fps max	-
5K 6:5 (4848x4040)	-	-	30fps max	-
5K (4800x2700)	-	60fps max	60fps max	-
4K 4:3 (4096x3072)	-	-	50fps max	-
C4K 3:2 (4096x2732)	-	30fps max	30fps max	-
C4K (4096x2160)	-	75fps max	90fps max	-
C4K 2.4:1 (4096x1728)	-	100fps max	120fps max	-
4K 6:5 (4080x3400)	-	-	30fps max	-
4K (3840x2160)	120fps max	75fps max	90fps max	60fps max
S16 16:9 (2112x1188)	-	-	170fps max	-
1080P (1920x1080)	240fps max	120fps max	170fps max	-
Open Gate (6244x4168)	-	30fps max	-	-
C6K (6144x3240)	-	48fps max	-	30fps max
6K 2.4:1 (6144x2592)	-	60fps max	-	-
5K 4:3 (5552x4164)	-	30fps max	-	-
5528x3112	-	50fps max	-	-
5K 6:5 (4992x4160)	-	30fps max	-	-
C4K Low Noise (4096x2160)	-	30fps max	-	-
4000x4000	-	30fps max	-	-
3840x3840	-	30fps max	-	-
4K Low Noise (3840x2160)	30fps max	30fps max	-	-
3456x3456	-	50fps max	-	-
S16 16:9 (3392x1908)	-	90fps max	-	60fps max

Resolution	E2-M4(s) Mark II	E2-S6(s) Mark II	E2-F6(s) Mark II	E2-F8(s) Mark II
2.8K (2868x1512)	-	120fps max	-	-
C4K Low Noise (4096x2160)	30fps max	-	-	-
C4K (4096x2160)	120fps max	-	-	-
C4K 2.4:1 (4096x1728)	150fps max	-	-	-
4K 2.4:1 (3840x2160)	160fps max	-	-	-
3696x2772 Low Noise	30fps max	-	-	-
3696x2772	60fps max	-	-	-
3312x2760	60fps max	-	-	-
S16 16:9 (2752x1548)	170fps max	-	-	-
S16 (2704x1600)	160fps max	-	-	-
8K 2.4:1 (8192x3456)	-	-	-	30fps max
8K (7680x4320)	-	-	-	30fps max

• VFR Control: Coarse / Fine

Coarse: Adjust based on the camera's preset value within the range of VFR.

Fine: VFR fine control within the range of VFR, 1 frame per step.

File Format: MOV / MP4

Proxy File: Off / On. To enable or disable proxy file recording during video recording, it will automatically “On” when using ZRAW as recording encoder, which will record a second video track (H.265) into the video file.

File Rotation: Normal / Upside Down. This setting is only enabled when the Video Encoder is set to ProRes or ZRAW, and unavailable when set to H.264 or H.265. When enabled, the video file will flip vertically, but this effect will not be visible during playback.

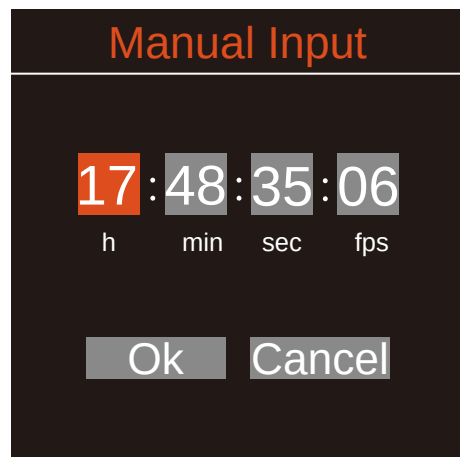
Split Duration: 10s to 120min. The camera will split the video with the length set here automatically.

<NOTE>

- After the first section via camera automatically splitting, the out of sync problem between audio and video will happen. You need to use "Z CAM Video Concatenator" to merge the video section before the post editing and processing.

Time Code: Set the time code, there are sub-items as below:

- Time Code Source: Internal / External
- Time Code Value: Reset / Manual / Current
 - Reset: Reset the time code value to 0.
 - Manual Input: Set the time code value manually 00:00:00:00.
(hour:minute:second:frame).



Current Time: Set time according to the camera system setting time.

- Count Up: Rec Run / Free Run
 - Rec Run: Counts the time code only when recording video.
 - Free Run: Counts the time code even when not recording video (including when the camera is power off).
- Time Code Mode: DF / NDF
 - DF: The camera modifies the difference between recorded time and time code. Seconds and frames are separated by ":" . (Example: 00:00:00.00)
 - NDF: Records the time code without drop frame. Seconds and frames are separated by ":" . (Example: 00:00:00:00)
- HDMI Display: On / Off. To enable / disable the display of time code through HDMI output.

Playback FR: Default / VFR. When it's set to Default, the frame rate of playback will be the same as set in Project FPS, when it's set VFR, the frame rate of playback will be the same as set in Variable Frame Rate (Record – Variable Framerate).

For example: Set "Record - Project FPS" to 29.97, and "Record -Variable Framerate" to 120. If the Playback FR is set to "Default", the playback frame rate of the video is 29.97fps (4-fold slow motion). If the Playback FR is set to "VFR", the playback frame rate of the video is 120fps (normal speed).

Meta Setup: Set the camera metadata, include "Camera ID" and "Reel Name".

- Camera ID: A to Z
- Reel Name: 001 to 999

Pre Roll: Off / On, Pre Roll Duration 1s / 3s / 5s / 7s / 10s.

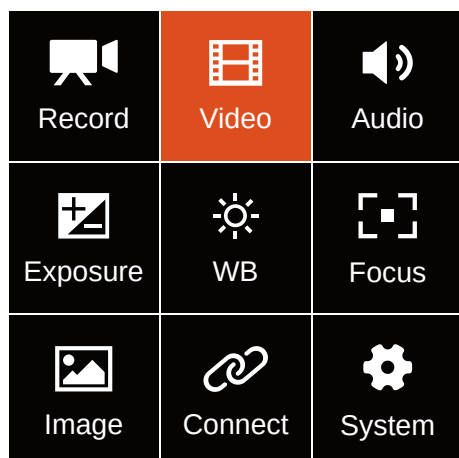
Set Pre Roll to ON: an orange flashing circle / "Pre Roll" will appear on the On-board LCD Screen. Before pressing the **Record Button** to start recording, the camera will automatically save the footage from a few seconds (Pre Roll Duration) prior to pressing the button.



RAW Over HDMI: Off / On. Enables the output of unprocessed RAW video data via the HDMI port, typically for external recording or monitoring.

Video Menu

The **Video Menu** contains the camera's video configuration settings.
To access it, enter the Menu view, select Video, then press the **OK Button**.



The Video Menu allows you to configure the video settings:

Items	Details
Encoder	Video encoding formats
Bitrate	Image quality and file size
Luminance Level	baseline brightness of the image
Rotation	Flip the image vertically
WDR	Optimizes highlight and shadow details
Timelapse	Configures interval shooting parameters
Low Jello	Reduces image distortion during rapid movement
Photo Quality	JPEG / RAW / HEIF

Encoder: H.264 / H.265 / ProRes 422 Proxy / ProRes 422 LT / ProRes 422 / ProRes 422 HQ / ZRAW

Bitrate: Low / Medium / High. Value of the bitrate varies in different resolution and frame rate.

Resolution	Frame Rate Range (fps)*	Bitrate (Mbps)		
		H	M	L
8K (8K 2.4:1, 8K UHD)	FR ≤ 30	500	400	200
6K (Open Gate, 6KDCI, 6K UHD, 6K 2.4:1)	30 < FR ≤ 60	300	190	130
	FR ≤ 30	250	160	100
5K (5K 4:3, 5K 6:5)	FR ≤ 30	250	160	100
4K (4K DCI, 4K UHD, 4K 2.4:1) / S16 16:9	FR > 60	300	200	160
	30 < FR ≤ 60	230	150	100
	FR ≤ 30	200	130	60
FHD	FR > 60	200	130	60
	30 < FR ≤ 60	60	30	15
	FR ≤ 30	30	20	10

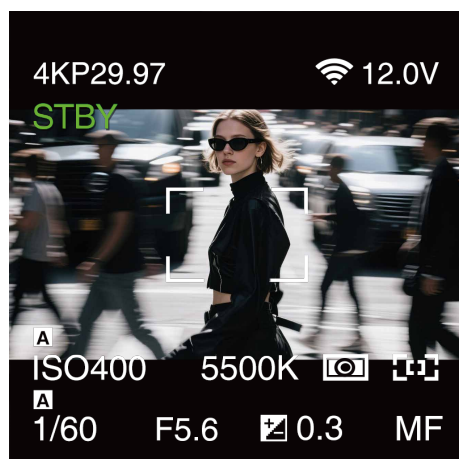
* If VFR is activated, the frame rate here refers to the frame rate in VFR, otherwise it refers to the frame rate in Movie Format.

For ZRAW, the bitrate is 1.2Gbps

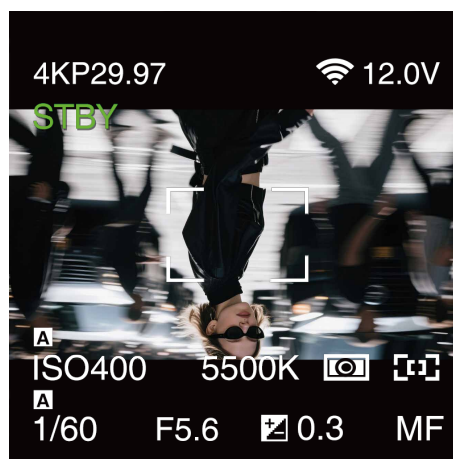
Luminance Level: Full / Limited. Controls the luminance dynamic range of the output video to adapt to different display or transmission standards. The Full mode is suitable for professional post-production workflows, preserving more light and shadow details; the Limited mode is ideal for direct output to consumer devices, ensuring compatibility.

Rotation: Normal / Upside Down. Flip the image vertically.

Normal

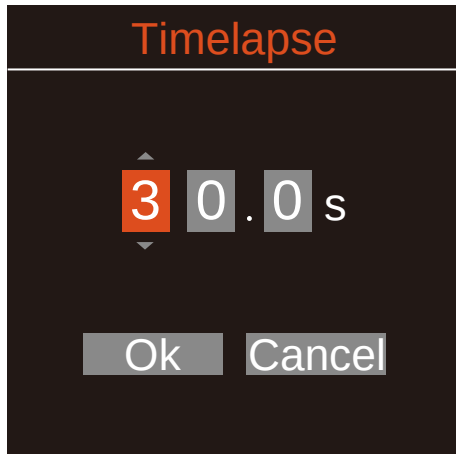


Upside Down



WDR: Off / On. Optimize the highlight and shadow details of the image. This feature is only supported by the Z CAM E2-M4 Mark II.

Timelapse: Off / Manual. When it's Off, the camera is in normal record mode. When it is set to a specific value, the camera is in time lapse video mode.



<NOTE>

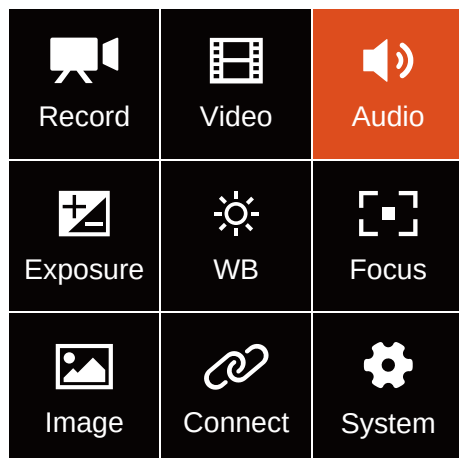
- For more information about Timelapse, please refer to **Basic Operation - Timelapse Video Recording**.

Low Jello: Off / On. Reduces image distortion during rapid movement.

Photo Quality: JPEG / RAW / HEIF.

Audio Menu

The **Audio Menu** contains the camera's audio configuration settings.
To access it, enter the Menu view, select Audio, then press the **OK** button.



The **Audio Menu** allows you to configure the audio settings:

Items	Details
Input	Audio input source
Mic Input Level	Switch the microphone input signal type
XLR Input Level	Switch the XLR input signal type
Noise Reduction	Reduce ambient noise in the audio
Input Gain	Adjust the signal gain of the left and right channels of the input audio
Encoder	Set the audio encoding format
Output Gain	Adjust the signal gain of the left and right channels of the output audio
Phantom Power	Enable or disable phantom power for the XLR Audio-in
Audio Level Display	Real-time display of the input audio level on the preview view

Input: Off / Microphone / XLR / Mic Left + XLR Right / Mic Right + XLR Left

- Off: Turn off all audio input.
- Microphone: The camera will use built-in microphone as audio input if there is no external microphone plugged into the 3.5mm Audio-in, and will use the external microphone if there is one plugged into the 3.5mm Audio-in.
- XLR: Take XLR Audio-in as audio-in.
- Mic Left + XLR Right: Take the left channel from the 3.5mm Audio-in (microphone) and the right channel from the XLR Audio-in, then merge them for audio input.
- Mic Right + XLR Left: Take the right channel from the 3.5mm Audio-in (microphone) and the left channel from the XLR Audio-in, then merge them for audio input.

Mic Input Level: Mic Level / Line Level

XLR Input Level: Mic Level / Line Level

Noise Reduction: Off / On

Input Gain: Auto / Manual, -6 to 12dB

Encoder: None / AAC / PCM

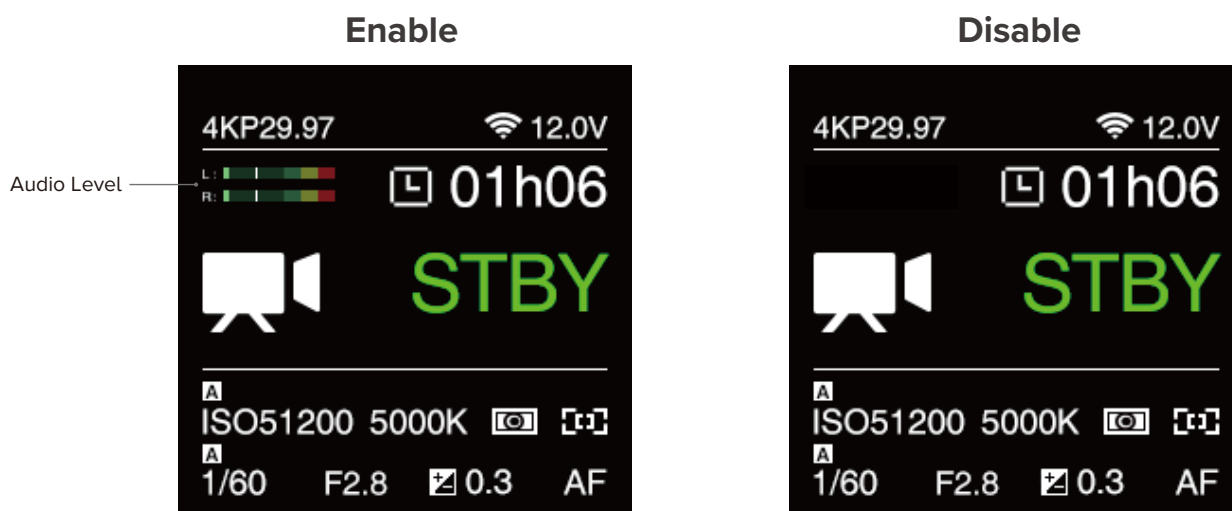
Output Gain: Auto / Manual, -6 to 12dB

Phantom Power: Enable / Disable.

Available when “Input” is set to “XLR”, “Mic Left +XLR Right” and “Mic Right + XLR Left” to enable or disable the phantom power of the XLR Audio-in.

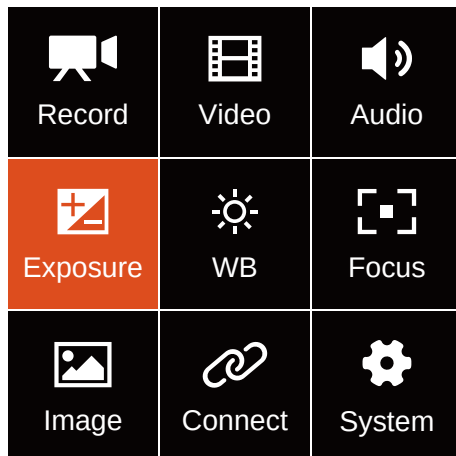
Audio Level Display: Disable / Enable.

Enabling this setting will display the input audio level in real time on the preview view.



Exposure Menu

The **Exposure Menu** contains the camera's exposure configuration settings. To access it, enter the Menu view, select Exposure, then press the **OK Button**.



The **Exposure Menu** allows you to configure the exposure settings:

Items	Details
Flicker Reduction	Eliminate light flicking caused by the frequency of the electricity
EV	Adjust the brightness of the image exposure
Shutter Speed	The length of time the shutter remains open
Aperture	Adjust the size of the lens aperture
ISO	Adjust the light sensitivity of the sensor
eND	Simulates a physical ND filter to reduce the amount of light entering
Min ISO	Set the minimum ISO value that can be used
Max ISO	Set the maximum ISO value that can be used
Max Shutter Speed	Set the upper limit of the maximum shutter speed that can be used
Metering	Select the camera's metering mode
Shutter Operation	Shutter speed / shutter angle
Shutter Angle Control	Adjust the precision of the shutter angle
ISO Control	Fine / Native ISO
Extended Manual ISO	When enabled, unlocks manual ISO values beyond the regular range
AE Speed	Adjust the response speed of auto-exposure (AE)
Lock In Record	Lock exposure parameters during recording

Flicker Reduction: 60Hz / 50Hz. This setting helps eliminate light flicker caused by the frequency of the electrical grid. North and South America generally use 60 Hz, while Europe, Africa, Oceania, and most countries and regions in Asia use 50 Hz.

EV: -3.0 to 3.0

Shutter Speed / Shutter Angle: This setting depends on whether “Shutter Speed” or “Shutter Angle” is selected in **Exposure - Shutter Operation**.

- Shutter Speed: Auto / Manual (1” to 1/8000”)
- Shutter Angle: Auto / Manual (1° to 360°)

<NOTE>

- The minimum shutter speed “1” is available only when “Variable Frame Rate” is set to “1” .

Aperture: It shows the range of aperture of the lens, and can be adjusted manually if it's an electrical lens. Only for lenses with electronic contacts. If the lens used is a purely mechanical without electronic contacts, the aperture value is not shown here.

ISO: ISO optional values depend on the setting in **ISO Control**. The native ISO value varies from different models.

ISO Control	ISO
Fine	Z CAM E2-S6 / F6 / F8 Mark II: 400 ~ 128000
	Z CAM E2-M4 Mark II _ WDR On/Off: 250 ~ 51200, 500 ~ 51200
Native ISO	Z CAM E2-F6 Mark II: 400 / 2500
	Z CAM E2-S6 / F8 Mark II: 400 / 1250
	Z CAM E2-M4 Mark II _ WDR On/Off: 250 / 1250, 500 / 2500

eND: 1.70 to 6.70 stop

Min ISO: This setting is only enabled when **ISO** is set to “Auto” .

Max ISO: This setting is only enabled when **ISO** is set to “Auto” .

Max Shutter Speed / Shutter Angle: This setting is only enabled when **Shutter Speed / Shutter Angle** is in **Auto** mode.

- Max Shutter Speed: Auto / Manual (1” to 1/1600”)
- Max Shutter Angle: Auto / Manual (1° to 360°)

<NOTE>

- The minimum shutter speed “1” is available only when “variable frame rate” is set to “1” .

Metering: Center / Average / Spot, it sets the metering mode of exposure.

Shutter Operation: Speed / Angle

ISO Control: Fine / Native ISO

- Fine: ISO can be set in detail value within ISO range (according to standard ISO definition).
- Native ISO: only native ISO can be selected.

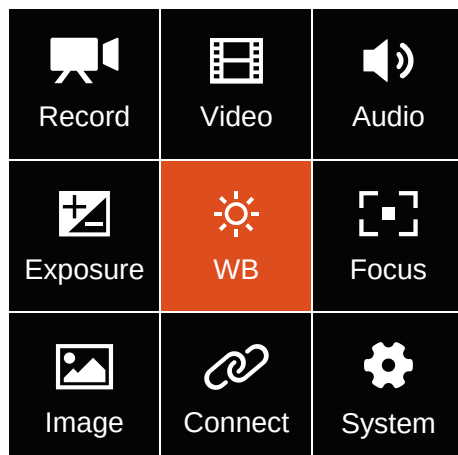
Extended Manual ISO: Off / On

AE Speed: : Slow / Normal / Fast

Lock In Record: Off / On. Enable this function, it will automatically lock the exposure during recording.

White Balance Menu

The **White Balance Menu** contains the camera's white balance configuration settings. To access it, enter the Menu view, select WB, then press the **OK Button**.



The **White Balance Menu** allows you to configure the white balance settings:

Items	Details
Mode	Select Auto, Manual, and various white balance presets
Kelvin	Adjust color temperature in Manual White Balance mode
Tint	Adjust tint in Manual White Balance mode
Priority	Set the priority of Auto White Balance mode
Expert	Set RGB gain in Expert White Balance mode
Lock In Record	Lock white balance parameters during recording

Mode: Auto / Manual / Incandescent / Cloudy / D10000 / Fluorescent / Daylight / Shade / Expert

Kelvin: When **White Balance Mode** is set to “Auto” , “Expert” or other preset mode, it shows the current color temperature, when set to “Manual” , allowing manual adjustment of color temperature within the range of 2300 to 30000K.

Tint: When **White Balance Mode** is set to “Auto” , “Expert” or other preset mode, it shows the current tint, when set to “Manual” , the tint can be adjusted manually (-100 to 100).

Priority: Ambiance / White. This setting is only enabled when **White Balance Mode** is set to “Auto” .

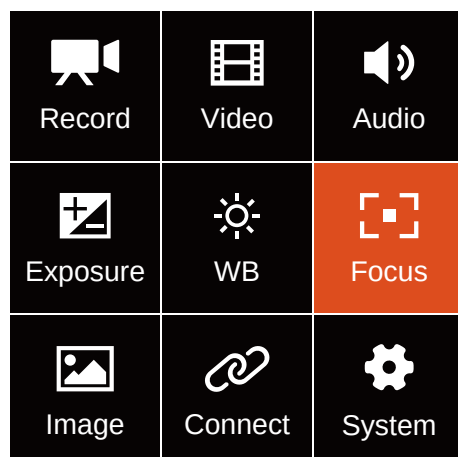
- Ambiance: Enhances the intensity of the warm color cast in images when shooting under tungsten lighting.
- White: Reduces the intensity of the warm color cast in images when shooting under tungsten lighting.

Expert: Set R / G / B gain. This setting is only enabled when **White Balance Mode** is set to “Expert” , allowing manual adjustment of R/G/B gain within the range of 900 to 4096.

Lock In Record: Off / On. Enable this function, it will automatically lock the white balance during recording.

Focus Menu

The **Focus Menu** contains the camera's focus configuration settings.
To access it, enter the Menu view, select Focus, then press the **OK Button**.



The **Focus Menu** allows you to configure the focus settings:

Items	Details
Focus Mode	Manual Focus / Auto Focus
Focus Area	Select the focus area
Focus Area Size	Small / Medium / Large
Change Focus Area	Adjust the focus area
Continuous AF	Turn Continuous Autofocus on/off
Live CAF	Active Continuous Autofocus
Sensitivity	High / Medium / Low
MF Assist	Manual focus display magnification

Focus Mode: MF (Manual Focus) / AF (Auto Focus)

Focus Area: Flexible Zone / Human Track. This setting is only enabled when Focus Mode is set to "Auto Focus".

- Flexible Zone: The focus area can be moved using the Up/Down buttons.
- Human Track: The camera detects human subjects in the frame and automatically keeps the focus area tracking them.

Focus Area size: Small / Medium / Large. This setting is only enabled when Focus Mode is set to "AF" and Focus Area is set to "Flexible Zone".

Change Focus Area: The focus area can be moved using the Up/Down buttons. This setting is only enabled when Focus Mode is set to "AF" and Focus Area is set to "Flexible Zone".

Continuous AF (CAF): Off / On. This setting is only enabled when Focus Mode is set to "Auto Focus". When Continuous Autofocus (CAF) is activated, the camera will continuously adjust focus to track moving subjects.

Live CAF: Off / On. This setting is only enabled when CAF is set to "On". Dynamically activate continuous focus in real time based on the scene.

Sensitivity: High / Medium / Low. This setting is only enabled when CAF is activated.

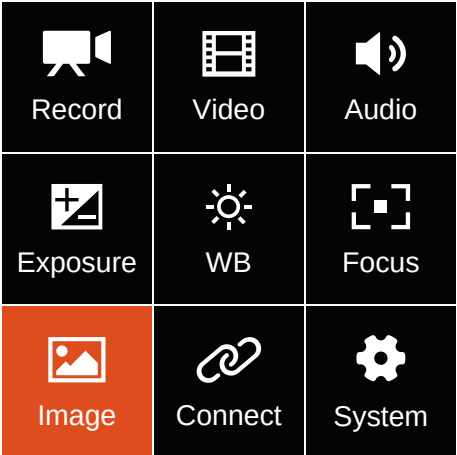
MF Assist:

- Preview: Off / On
- Recording: Off / On

This setting is only enabled when Focus Mode is set to "MF". When enabled, the image in the focus area will be enlarged to 2x size on both the LCD display and HDMI output during manual focus adjustment. It can be set separately for Preview and Recording.

Image Menu

The Image Menu contains the camera's image configuration settings.
To access it, enter the Menu view, select Image, then press the OK Button.



The Image Menu allows you to configure the image settings:

Items	Details
Basic	Image profile and basic parameter adjustment
Gamma	Gamma adjustment
Matrix	Matrix adjustment
Color Correction	Hue and Saturation Adjustment

Basic:

- Image Profile: Rec.709 / Z-log2 / Flat / Concert / Vivid 0 / Vivid 1 / Vivid 2 / HLG / Gamma
 - Rec.709: Color reproduction is close to human visual perception, with a "standardized" image style, allowing direct output without post-processing.
 - Z-log2: A Log format developed by Z CAM that preserves maximum dynamic range, leaving ample room for post-production color grading.
 - Flat: Features smooth transitions between light and dark areas, with good retention of highlight and shadow details, offering moderate flexibility for post-processing adjustments.
 - Concert: A mode optimized for stage lighting and dynamic performance scenarios.
 - Vivid 0 / Vivid 1 / Vivid 2: Deliver rich colors and high contrast, but with compressed \ dynamic range and limited post-production flexibility.
 - HLG (Hybrid Log-Gamma): Encodes the highlight and shadow areas of HDR signals using two distinct methods—standard gamma curve for shadows and logarithmic curve for highlights.
 - Gamma: A curve that controls the light-dark response of an image, serving as a core parameter affecting contrast and mid-tone brightness.
- Sharpness: Strong / Medium / None, default Medium.
- Noise Reduction: Medium / Weak / Off, default Weak
- DRO (Dynamic Range Optimization): Off / On, default On. This setting is unavailable when Image Profile is set to "Z-log2", "Flat", or "HLG".
- Brightness: 0 to 100, default 50. This setting is unavailable when Image Profile is set to "Z-log2", "Flat".
- Contrast: 0 to 100, default 50. This setting is unavailable when Image Profile is set to "Z-log2", "Flat".
- Saturation: 0 to 100, default 50. This setting is unavailable when Image Profile is set to "Z-log2", "Flat".
- Hue: 0 to 100, default 50. This setting is unavailable when Image Profile is set to "Z-log2", "Flat".

Gamma: This setting is only enabled when Image Profile is set to "Gamma".

- Gamma:
 - Type: Rec.709 / sRGB / Power / HLG
 - Power: 1.5 to 2.6, default 1.5. This setting is only enabled when Gamma Type is set to "Power".
- Black Level:
 - Status: Off / On
 - Level: -1000 to 1000, default 0.
- Black Gamma:
 - Status: Off / On
 - Range: Narrow / Middle / Wide, default Narrow.
 - Level: 0 to 100, default 0.
- Knee:
 - Status: Off / On
 - Range: 50 to 100, default 50.
 - Slope: -100 to 100, default 0.

Matrix:

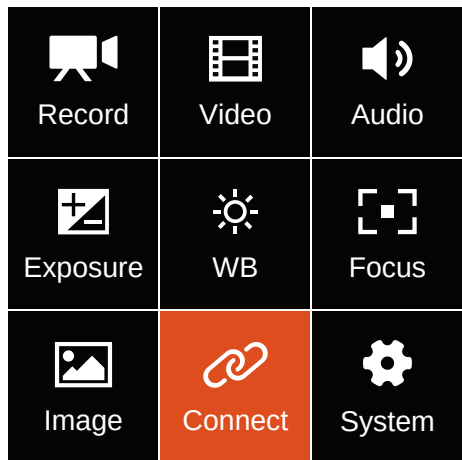
- Status: Off / On
- Reset: Reset matrix value.
- R-G / R-B / G-R / G-B / B-R / B-G: -100 to 100, default 0.

Color Correction:

- Status: Off / On
- Hue:
 - Resrt: Reset hue value.
 - R / R_Y / Y / Y_G / G / G_C / C / C_B / B / B_M / M / M_R: -100 to 100, default 0.
- Saturation:
 - Resrt: Reset hue value.
 - R / R_Y / Y / Y_G / G / G_C / C / C_B / B / B_M / M / M_R: -100 to 100, default 0.

Connect Menu

The **Connect Menu** contains the camera's connect settings.
To access it, enter the Menu view, select Connect, then press the **OK Button**.



The **Connect Menu** allows you to configure the connect settings:

Items	Details
Network	Wi-Fi and Ethernet settings
USB	USB Type-C port function settings
HDMI	HDMI output settings
SDI	SDI output settings
Multi Camera	Multi-Camera settings
UART	Serial port settings
Grip	Handle button customization
HTTP	HTTP access settings
Genlock	Genlock settings

Network:

- Wi-Fi: Off / On. When Wi-Fi is activated, the Wi-Fi ID will be displayed here, formatted as ZCAM-E2-XX-XXXX (with the last four digits matching the camera ID). **The default password is 12345678.**
- Wi-Fi IP: When Wi-Fi is activated, the Wi-Fi IP address will be displayed here.
- ETH. Mode (Ethernet Mode): Direct / Router / Static
 - Direct: When the camera is connected directly to a computer via an Ethernet cable, it will generate an IP address. The default IP is 10.98.32.1.
 - Router: When the camera is connected to a computer via a router, the IP address will be assigned by the router.
 - Static: The IP address is set via Web Client. (please refer to **Basic Operation > Web Client**)
- ETH. IP (Ethernet IP): The IP address of Ethernet when connected.

USB:

- Host: The camera will function as a host device, capable of transferring data to external storage (e.g., SSD) or communicating with external devices such as smartphones or tablets via the Z Camera app.
- Mass Storage: When connected to a computer (PC/Mac), the camera will be recognized as a storage device, allowing access to files on the internal CFexpress card.
- Network: The camera functions as an RNDIS device. When connected to a computer (PC/Mac) or external device, it will be recognized as such. The camera can then be accessed or controlled via the HTTP API from the computer or external device. (For information on the HTTP API, please contact Z CAM technical support.)
- Serial: The camera can be controlled via UART commands from a computer through the USB port.
- PTP (Picture Transfer Protocol): A standardized image transfer protocol used for the secure and efficient transmission of image files between cameras and devices such as computers and tablets.
- USB Camera: The camera functions as an external camera, transmitting real-time footage to a computer or other devices via a USB connection, replacing a regular webcam.

HDMI:

- OSD: Off / On
- OSD Layout: Type 1 / Type 2
 - Type 1: Assist tools such as waveforms are displayed directly on the video.
 - Type 2: A black frame area is added to display assist tools.
- Format: Auto / Manual (options supported by the HDMI display)
 - Auto: The camera will select the most appropriate format (resolution and frame rate) from the HDMI monitor.
 - Manual: A list of formats supported by the HDMI monitor will be displayed here for users to select manually.
- EDID: Disable / Enable. This setting determines whether the camera automatically reads the EDID information of the connected HDMI monitor.

SDI:

- Output: Off / On
- 3G SDI: Level A / Level B
 - 3G SDI Level A: Supports a single-link 3Gbps data rate, directly transmits high-definition signals such as 1080p60, and is suitable for short-distance transmission.
 - 3G SDI Level B: Transmits 3G signals via dual 1.5Gbps links, used for compatibility with legacy dual-link devices or long-distance scenarios.

Multi Camera:

- PixelLink: Z CAM PixelLink Sync requires all cameras to be connected in a daisy chain using Z CAM sync cables. Cameras are interconnected via Cat 6 Ethernet cables.
 - Role: Single / Main / Subordinate
 - Co-Exposure: Disable / Enable
 - Co-Whitebalance: Disable / Enable
- EzLink: All cameras are connected to a network switch for Z CAM EzLink Sync.
 - Once connected, one camera must be designated as the main, with the others set as subordinates.
 - Role: Single / Main / Subordinate
 - Trigger: Auto / Manual

<NOTE>

- For multi-camera operations, please contact ZCAM technical support.

UART:

- Role: Controller / Pelco D / Multiplexer
 - Controller: The camera will be controlled by UART command from a computer.
 - Pelco D: The camera uses the standard Pelco D protocol to control external devices such as gimbals.
 - Multiplexer: The camera serves as a transfer station, aggregating/forwarding UART data from multiple devices.
- Baud Rate: 9600 / 115200

Grip: Customization of buttons on external grip devices.

- Button 1 / Button 2 / Front Button / Side Button: None / Take Photo / AE Lock / AF Lock / WB Lock / Peak / Exposure Tool / Scope Tool / HDMI OSD / AF / Magnifier / VFR / Enable LUT / Menu
- Front Wheel / Side Wheel: Aperture / Shutter / ISO / eND / White Balance / EV

HTTP:

- HTTPS: Off / On
- Authentication: Off / On
- Load Certificate
- IP Access:
 - Allow List: Off / On
 - Deny List: Off / On

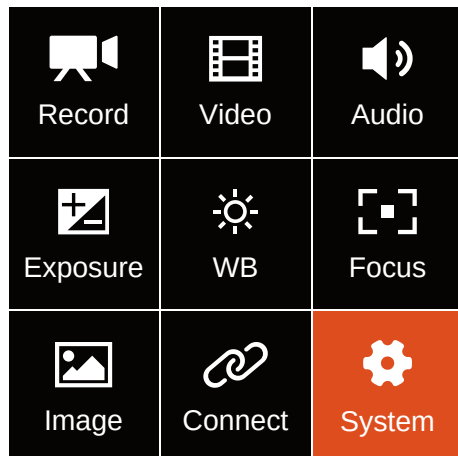
Genlock:

- Status: Off / On
- Phase Adj:
 - Phase Coarse: -5 to 5, default 0.
 - Phase Fine: -100 to 100, default 0.

System Menu

The **System Menu** contains the camera's system settings.

To access it, enter the Menu view, select System, then press the **OK Button**.



The **System Menu** allows you to configure the system settings:

Items	Details
Clear Settings	Restore default settings
Format Card	To erase all data on a memory card
Assist Tools	Composition and exposure assistant settings
Load LUT	Import external LUT files
Desqueeze Display	Anamorphic lenses require setting the anamorphic squeeze ratio
User Profile	User profile management
User Button	Camera buttons customization
Record Indicator	Record led indicator on/off
Record Frame Indicator	Record frame indicator on/off
Restore Lens Pos.	Restore the latest focusing position of the lens
LCD Brightness	On-board LCD screen brightness
Power	Power management
Language	简体中文 / English
Date / Time	Date and time settings
Time Zone	Global time zones
Camera Status	Information about the camera's storage, temperature, version and SN
Version	camera's firmware version

Clear Setting: Restore default settings.

Format Card: Format the CFexpress card or the external SSD connected via the USB Type-C port (if no CFexpress card is present in the camera).

Please note that formatting will erase ALL DATA on the storage device!

Assist Tools:

- **Display:** Off / On. To enable or disable the assist tool on the display. When the assist tool is enabled, its effect will be output via HDMI along with the video stream. Therefore, if using an external recorder via an HDMI connection, you will need to turn it off.
- **Scope:** Through data-driven charts, it objectively analyzes technical parameters of the image, aiding in precise control over exposure, color, and light-dark gradation. Only displayed on the monitor screen.

Tool: Disable / Waveform / Parade / Vectorscope / Histogram.

- **Waveform:** Displays the brightness distribution of the image as a waveform, where the horizontal axis represents the horizontal pixels of the image from left to right, and the vertical axis represents brightness (0-100 IRE, with 0 being pure black and 100 being pure white).
- **Parade:** Shows the brightness distribution of the three primary color channels in the image through three independent waveforms for red, green, and blue respectively.
- **Vectorscope:** The center represents no color (grayscale), while various color markers correspond to different hues. The closer to the edge, the higher the color saturation.
- **Histogram:** Presents statistical results of the overall light and dark distribution of the image, with the horizontal axis indicating brightness levels and the vertical axis representing the number of pixels at each brightness level.

Opacity: 10 to 100, adjust the tool's transparency on the display.

Measure: Without LUT / With LUT. If set to "With LUT", the scope tool will measure the video with the LUT applied; otherwise, it will measure the video without the LUT.

- **Peak:** Through visual highlighting prompts, it helps quickly identify the in-focus area during manual focusing.

Enable: Off / On.

Color: Red / Green / Blue / Orange / Grey. The color of peaking focus display.

Mode: Color / Monochrome / Outline / Sharpen. Default color.

- **Color:** The image remains unchanged, with only the peak color displayed in the in-focus area.
- **Monochrome:** The image is in black-and-white mode, and the peak color is shown in the in-focus area to reduce color interference.
- **Outline:** Highlighted lines outline the edges of the in-focus area, with the peak color displayed simultaneously.
- **Sharpen:** The sharpness of the in-focus area is enhanced, with the peak color displayed at the same time.

Threshold: 10 to 100. It controls the trigger threshold for highlighting prompts in the in-focus area. At a low threshold, only areas with extremely high contrast will trigger highlighting, resulting in more precise prompts but a narrower range. At a high threshold: Areas with lower contrast will also be recognized as in-focus and highlighted, leading to a wider prompt range but potentially including slightly out-of-focus edges.

- **Exposure:** It is used to accurately judge the exposure status of the image.
Tool: Disable / False Color / Zebra / Monochrome / Blue Only.
 - False Color: Marks areas of different brightness in the image with preset specific colors, enabling intuitive distinction between exposure levels.
 - Zebra: Displays black-and-white striped patterns in areas where brightness reaches a preset threshold, with customizable thresholds.
 - Monochrome: Converts the image to black-and-white display to eliminate color interference.
 - Blue Only: Retains only the blue channel of the image for display, highlighting shadow details.
 Zebra1 Setting: 55 to 100. Only effective when the Exposure Tool is set to Zebra.
Zebra2 Setting: 0 to 50. Only effective when the Exposure Tool is set to Zebra.
- **Frame Line:** Mark the range (cropping) of the image in advance, only displayed on the monitor screen.
Radio: None / 2.4:1 / 2.35:1 / 1.9:1 / 1.85:1 / 16:9 / 4:3 / Customized.
Color: Red / Green / Blue / Orange / White
Customized: None / Import
- **Center Mark:** Display a cross mark in the center, only on the monitor screen.
Enable: Off / On
Color: Red / Green / Blue / Orange / White
- **Grid Line:** Off / On. Display the grid lines, only on the monitor screen.
- **Safe Area:** Off / On. A double-layer frame line forms inner and outer safe areas, only displayed on the monitor screen.

Load LUT: None / Rec709 / V709 / LC709A / zRGB_AR / zRGB_AX2 / sRGB / sCINE_709 / Rec2020 / HLG / P3D60 / P3D65 / P3DCI / F709 / Import.

<NOTE>

- To import external LUT, the LUT file must be saved to **MISC/looks/preview/** of the storage (CFexpress card or external SSD).
- The LUT file must be x33 cube format.
- File name of the LUT can not exceed 16 letters and with no space.
- LUT is available in playback mode.

Desqueeze Display: H 1x / H 1.33x / H 1.5x / H 1.8x / H 2x / V 1x / V 1.33x / V 1.5x / V 1.8x / V 2x.
When a camera is paired with an anamorphic lens, the de-squeeze ratio must be set to correctly resize the image horizontally or vertically.

User Profile:

- **Save Profile:** Export the current camera settings as a configuration file and save it in the camera's built-in memory.
- **Load Profile:** Select a saved configuration file on the camera, and apply it to the camera settings.
- **Save To Card:** Export the current camera settings as a configuration file and save it to the memory card storage (stored in the /MISC/profile/ directory with the .prf file extension).
- **Load From Card:** Import a configuration file from memory card storage and apply it to the camera settings.

<NOTE>

- Configuration files saved on a memory card can be renamed, but only using English letters.

User Button: Custom button functions (excluding the MENU and Record buttons).

- Users can customize the functions of the following camera buttons: FN, F1–F9, Power, Up, Down, and OK. These buttons can be assigned as shortcut keys to the following functions:
Playback (for power button only) / Take Photo / AE Lock / AF Lock / WB Lock / Aperture / ISO / Peak / Exposure Tool / Scope Tool / HDMI OSD / Shutter / EV / AF / Magnifier / Focus Area / Load Profile / Record / Audio-In Gain- / Audio-In Gain + / False Coloe / Zebra / None
- Up / Down Key Direction: Positive / Inverse. Default Positive.

<NOTE>

- The MENU and Record buttons cannot be customized.
- For the POWER button, custom functions are triggered by a short press. A long press retains its default behavior—powering the camera on/off.

Record Indicator: Off / On. Turn front / left side / back LED on / off.

Record Frame Indicator: Off / On. When enabled, a red frame will appear on the screen during recording, only displayed on the monitor screen.

Restore Lens Position: Disable / Enable. When set to “Enable,” the camera saves the lens’ s last focus position upon shutdown and restores it on power-up—provided the same lens is attached.

LCD Brightness: 10 to 100, default 50.

Power: Camera power management

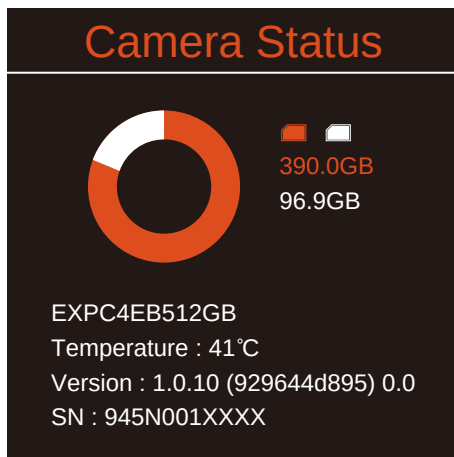
- Auto Power Off: Off / 30s / 1min / 2mins / 4mins / 8mins / 15mins
- Auto Standby: Off / 1min / 5mins / 15mins
- Low Alarm: Users can set a low-voltage alarm threshold specific to each battery type used with the camera.
Alarm: Off / On
NP Series Battery: 6.6V to 7.6V, default 6.8V.
V-Mount Battery: 13.2V to 14.2V, default 13.3V.
- Power Output: Off / On. Auxiliary power output DC 12V (2-pin LEMO socket), capable of supplying power to other devices.

Language: English / 简体中文

Date / Time: Set the date and time of the camera.

Time Zone: Set the time zone of the camera.

Camera Status: Displays the current status of the camera, including storage capacity (used and remaining space), temperature (inside the camera), firmware version, camera ID, etc.



Version: Firmware version of the camera. If there is other version of firmware (newer or older) on root of storage (CFexpress card or external SSD), press OK when Version is selected and there will pop up a message to update the firmware.

Basic Operation

Quick Settings

When the camera is in **Standby** or **Recording** mode, certain key settings can be quickly accessed by pressing the camera's buttons.

ISO: Press the FN button to set ISO, then use the Up / Down buttons to adjust the value and the OK button to confirm.



Shutter: Press the Down button to set Shutter Speed / Angle (Exposure Menu - Shutter Operation), then use the Up / Down buttons to adjust the value and the OK button to confirm.



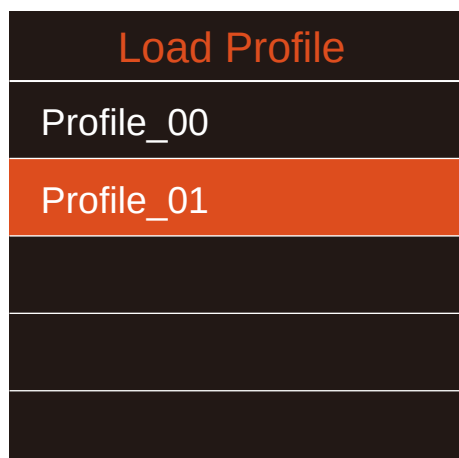
EV (Exposure value): Press the **Up** button to set **EV**, then use the **Up / Down** buttons to adjust the value and the **OK** button to confirm.



AEL (Auto Exposure Lock): Press the **F1** button to Lock the Exposure, press again to unlock.



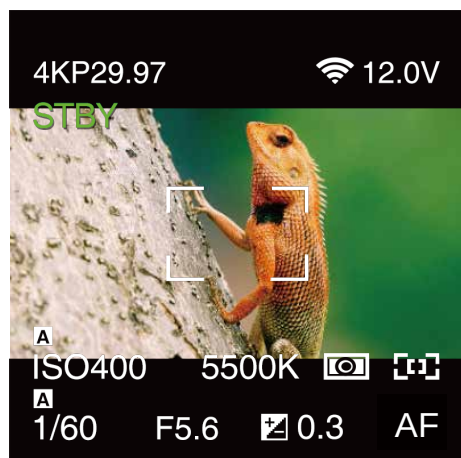
Load Profile: Press the **F2** button to enter Load Profile view, then use the **Up / Down** buttons to select a saved configuration file on the camera, and press the **OK** button to apply it to the camera settings (System Menu - User Profile).



Aperture: Press the F3 button to set Aperture, then use the Up / Down buttons to adjust the value and the OK button to confirm.



AF (Auto Focus): When the lens supports auto-focus and the camera's focus mode is set to AF, pressing the OK button will trigger the auto-focus function.



<NOTE>

- The quick setting function for buttons can be customized in **Menus - System Menu - User Button**.

Start / Stop Recording

When the camera is in **Standby** mode with a CFexpress card inserted or an SSD connected (and the storage is not full), press the **Record** button to start recording, and press it again to stop. The recording time and remaining time (depending on storage capacity) will appear on the On-board LCD Screen.



VFR (Variable Frame Rate) Video Recording

VFR allows you to record footage at a frame rate higher or lower than the **Playback Frame Rate**, creating what is commonly known as slow-motion or fast-motion effects.

For example, to record 4K @120fps footage with a **Playback Frame Rate** of 4K @29.97fps using the Z CAM E2-M4 Mark II, follow these steps:

1. In Record Menu, set Resolution to "4K", Project FPS to "29.97", and ensure **Playback Frame Rate** is set to "Default".
2. Set **Variable Framerate (VFR)** to "120".
3. Return to **Standby** mode; a "VFR 120" icon will appear on the On-board LCD screen, indicating the camera is operating in VFR mode at 120fps.



<NOTE>

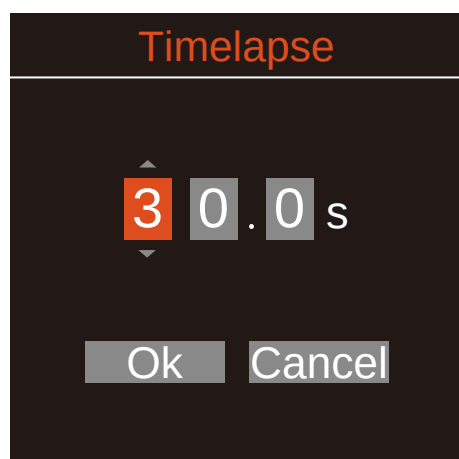
- Different resolution and frame rate settings correspond to different variable frame rate ranges. Refer to **Menus - Record Menu**.

Timelapse Video Recording

The Timelapse function allows you to record time-lapse footage. Follow these steps:

1. In the **Record Menu**, set **Variable Framerate (VFR)** to "Off"; otherwise, the Timelapse setting will be disabled.
2. In the **Video Menu**, select the Timelapse item. Use the **FN** button to switch between items, the **Up /Down** buttons to adjust the Timelapse interval (the time between each frame capture), then select "Ok" and press the **OK** button to confirm.

The minimum unit for the interval is milliseconds (0.1s), with an adjustable range of 0.2s to 60s.



3. After confirming the timelapse interval, the value will be displayed in the Timelapse item.
4. Return to Standby mode; a "TL" icon will appear on the On-board LCD screen, and the camera icon will switch to timelapse recording mode.

Load Profile	
Rotation	Normal
WDR	Off
Timelapse	30.0s
Low Jello	Off
Photo Quality	JPEG



5. Configure other required video parameters. All settings are the same as normal video recording, except that **Variable Framerate** cannot be used.
6. Press the Record button to start recording. Note that the recording time shown on the screen refers to the duration of the video file being recorded, not the actual time elapsed during recording.

The formula for calculating the required recording time and the duration of the video file is as follows:

Recording time = Timelapse interval × Total number of frames in the video file

(Note: Total number of frames in the video file = Duration of the video file × Frame rate)

Example:

If the timelapse interval is set to 0.5 seconds, the frame rate is 25fps, and you want to record a 1-minute (60-second) video file, the total number of frames will be:

$$60 \times 25 = 1,500 \text{ frames.}$$

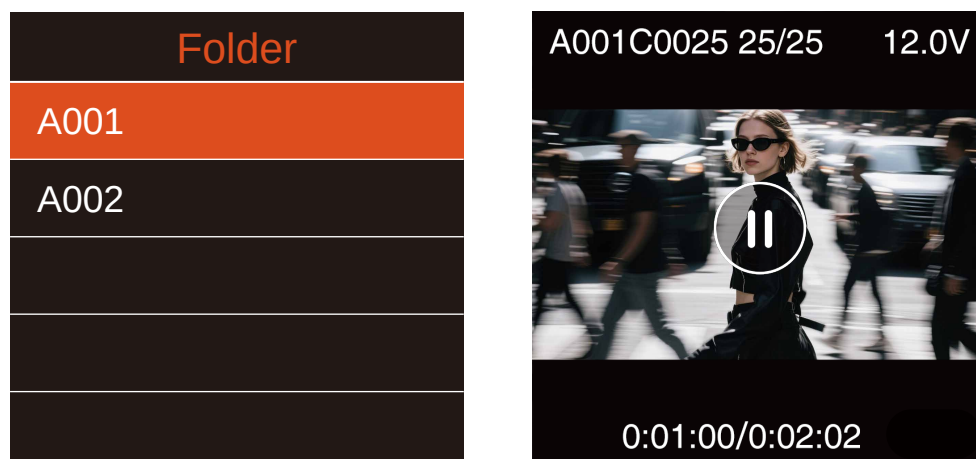
The required recording time will then be :

$$0.5 \times 1,500 = 750 \text{ seconds} \\ (\text{i.e., 12.5 minutes})$$

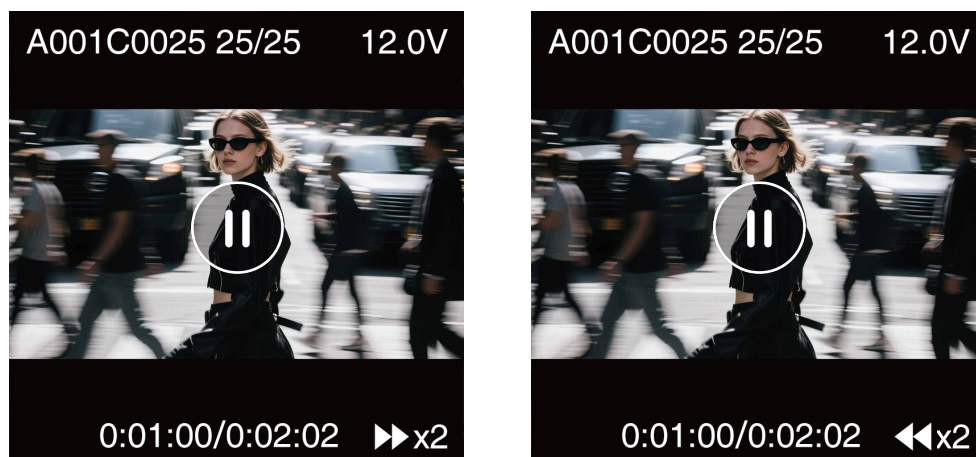
Video Playback

When the camera is in **Standby** mode, a short press of the **Power Button** enters the **Playback** view, the On-board LCD Screen will list the folders on the storage device (CFexpress card or external SSD).

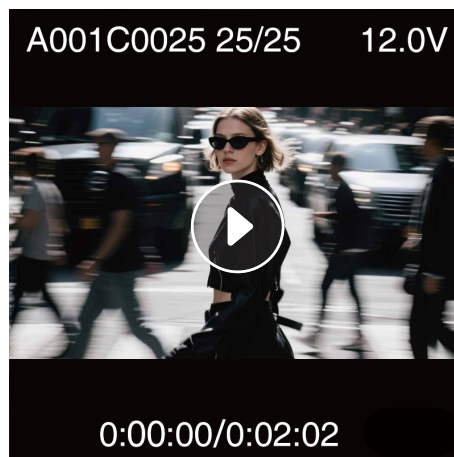
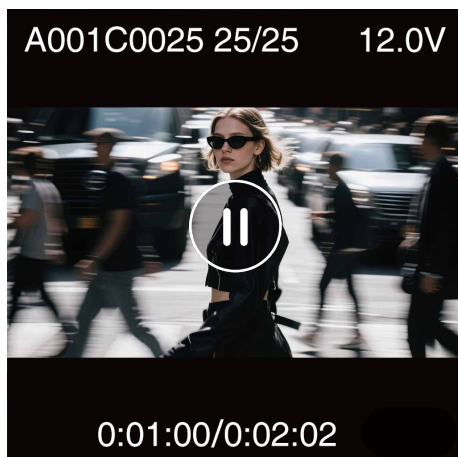
Navigate into a folder to view thumbnails, video serial numbers, and the total count of the latest videos in that folder. Use the **Up / Down** buttons to browse the footage within the folder.



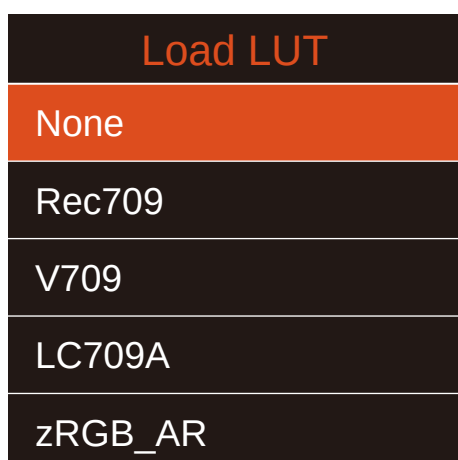
Press **OK** button to play the selected footage. When the footage is being played, press the **Up / Down** button to speed up / slow down (2x faster / slower).



Press the **OK** button to pause, and the **MENU** button to stop.



Press the **FN** button to Load LUT.



Please note that if there is no storage card in the camera, or if there is a storage card but it contains no video footage (or only files that are not supported), an alert message will appear on the On-board LCD screen.



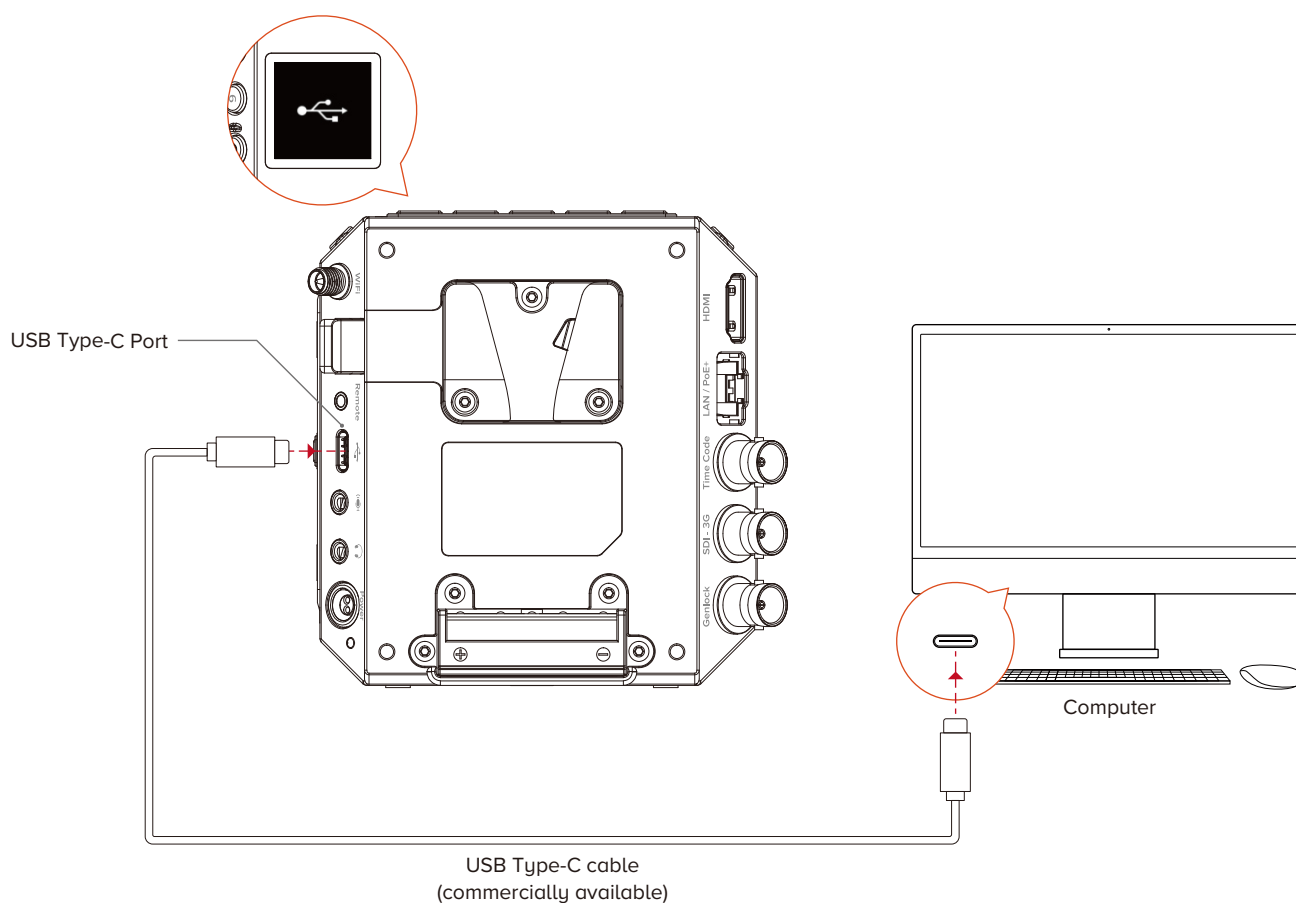
Download Video

In addition to removing the CFexpress card to retrieve recorded footage, you can also transfer footage from the camera (with the CFexpress card inserted) to a computer via a USB Type-C cable:

1. Power on the camera.
2. In the **Connect Menu**, set USB to "Mass storage".

Connection	
Network	...
USB	Mass storage
HDMI	...
Multi Camera	Single
UART	Controller

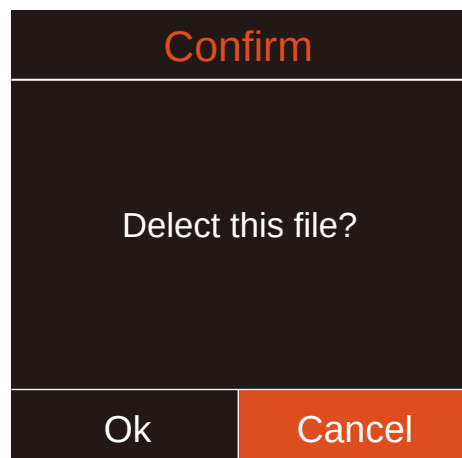
3. Connect the camera to the computer using a USB Type-C cable.
A "USB" icon will appear on the On-board LCD screen, indicating a successful connection.



4. The computer will detect the camera and recognize it as an external storage device. You can then access and manage the files on the CFexpress card inside the camera.

Delect Video

In Playback mode, when a video is not playing, long-press the **FN** button. A confirmation message "Delete the file?" will pop up. Select "**Confirm**" and press **OK** button to delete the file.



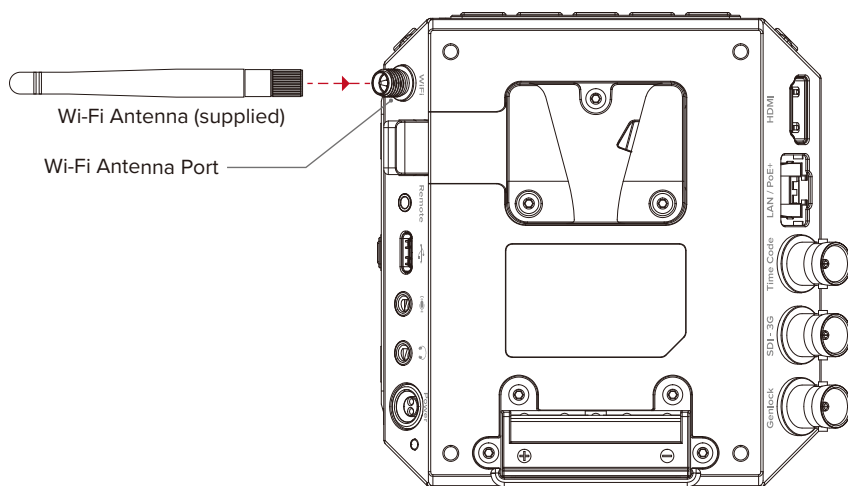
<NOTE>

- Deleted files cannot be restored. Please double-check before proceeding.

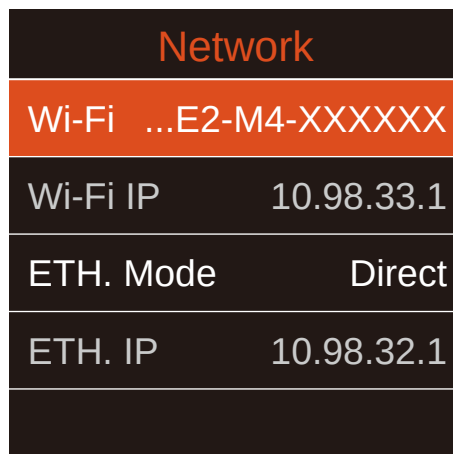
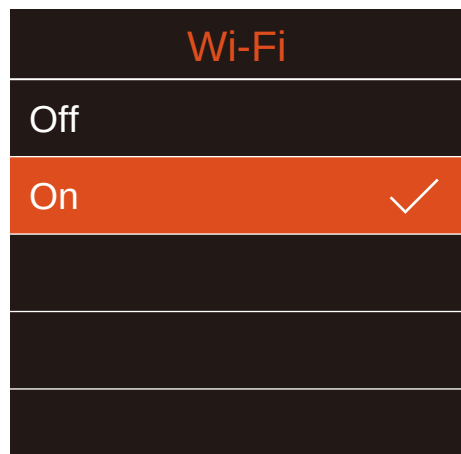
Wi-Fi Connection

You can connect the camera to an external device (smartphone/tablet) or a computer (PC/Mac) via Wi-Fi by following these steps:

1. Attach a Wi-Fi antenna to the camera's Wi-Fi Antenna Port.



- In the **Connect Menu – Network**, set **Wi-Fi** to “On” . Return to the Network Settings; the **Wi-Fi ID** (ZCAM-E2-XX-XXXXXX, where the last 6 digits match the camera ID) will be displayed under the Wi-Fi item.



- Press **MENU** button to return to the **Standby mode**. A **Wi-Fi** icon will appear at the top of the On-board LCD screen.



- Connect to the camera from your mobile device or computer using this Wi-Fi ID. The default Wi-Fi password is 12345678.

Ethernet Connection

There are two options for connecting the camera to a computer via Ethernet: **Direct Connection** or **Connection through a Router**.

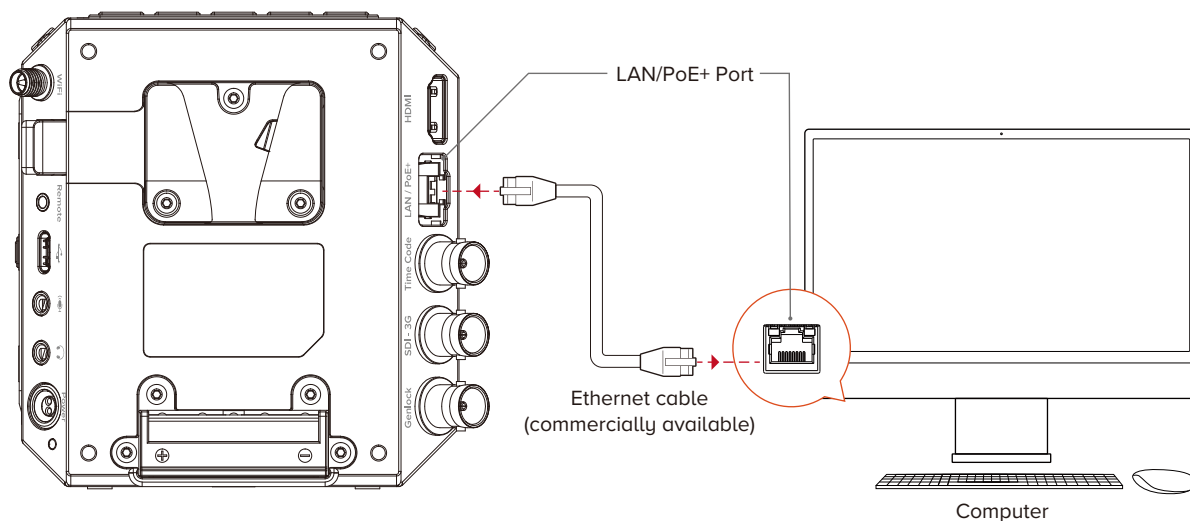
Direct Connection

Follow these steps to set up a direct Ethernet connection between the camera and the computer:

1. In the **Connect Menu > Network**, set **ETH. Mode** to "Direct" (default).

ETH. Mode	Network
DHCP	Wi-Fi ...E2-M4-XXXXXX
Direct ✓	Wi-Fi IP 10.98.33.1
Static	ETH. Mode Direct
	ETH. IP 10.98.32.1

2. Connect the camera to the computer using an Ethernet cable.



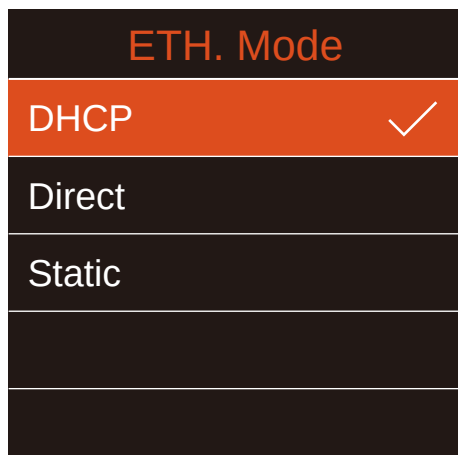
3. Open a browser on the computer and enter the address: <http://10.98.32.1/www/index.html>. The Z CAM Web Client will display the following page.



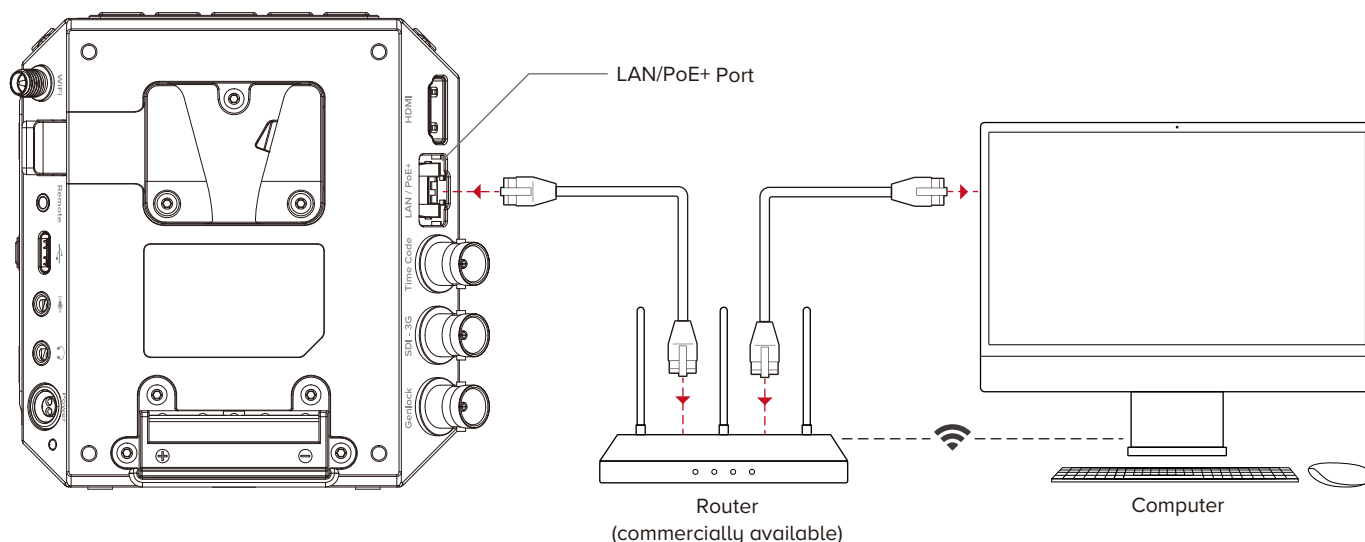
Connection through a Router

You can set up an Ethernet connection between the camera and a computer via a router by following these steps:

1. In the **Connect Menu - Network**, set **ETH. Mode** to "DHCP".



2. Connect the camera to the router using an Ethernet cable, then connect the computer to the router either via an Ethernet cable or Wi-Fi.



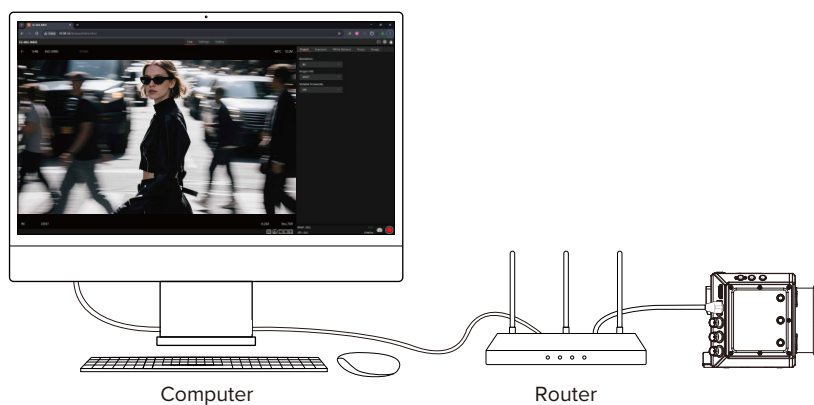
<NOTE>

- Both the camera and computer must be connected to the router's LAN port, not WAN port.

3. Check the **Connect Menu – Network** settings. If the connection is successful, the camera's IP address will be displayed under the ETH.IP item (e.g., 192.168.1.101).

Network	
Wi-Fi	...E2-M4-XXXXXX
Wi-Fi IP	10.98.33.1
ETH. Mode	DHCP
ETH. IP	192.168.1.101

4. Open a browser on the computer and enter the address: <http://192.168.1.101/www/index.html>
The Z CAM Web Client will display the following page.

**<NOTE>**

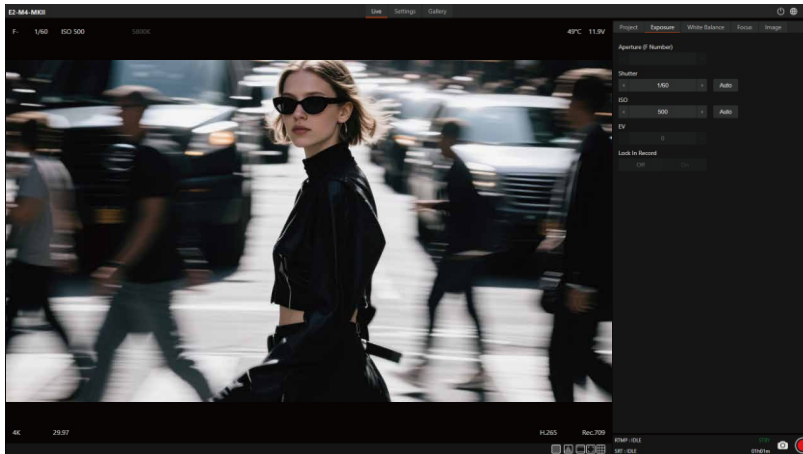
- 192.168.1.101 is the example IP address from step 3; please use the camera's actual IP address.

Web Client

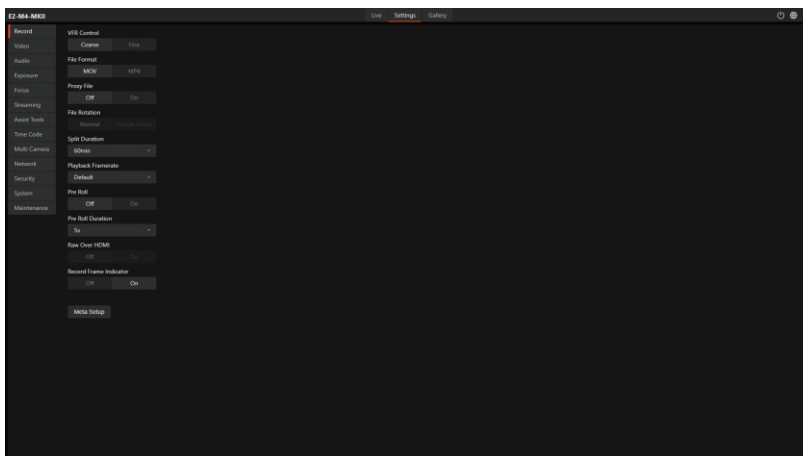
When the camera is connected to a computer via Ethernet, you can access the camera's web client through a browser. (please refer to "Ethernet Connection")

The web client consists of three pages: **Live**, **Settings**, and **Gallery**, with the following functions:

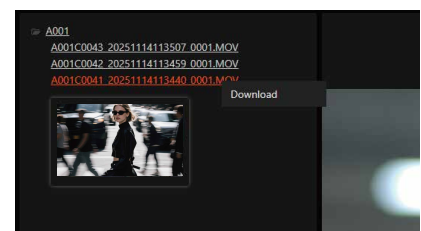
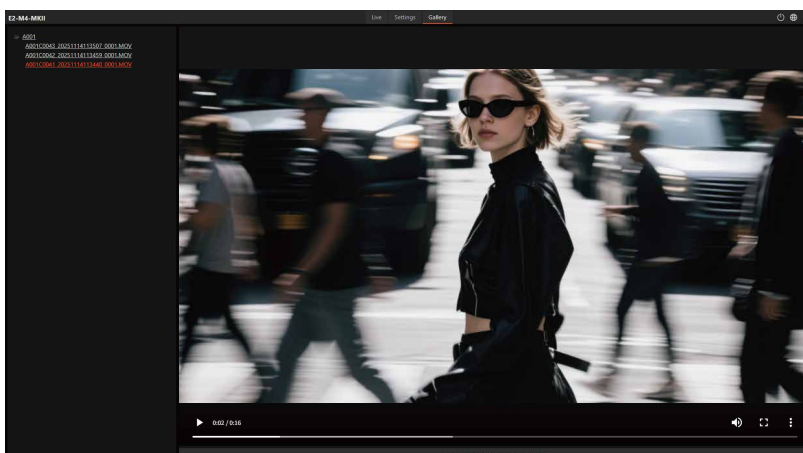
Live Page: Enables recording control and preview, supports quick adjustment of core parameters, and allows access to assist tools.



Settings Page: In addition to the function settings available in the camera's on-body menu, and additionally allows the web client to configure settings such as **Streaming** and **Security**.

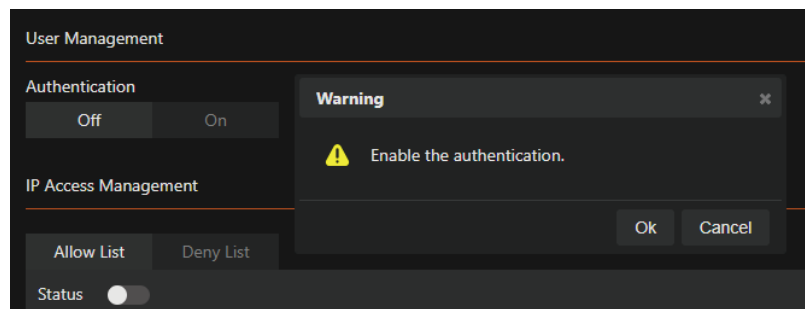


Gallery Page: Supports previewing and downloading captured footage, but does not allow video deletion. Right-click on a footage item to bring up the download button.

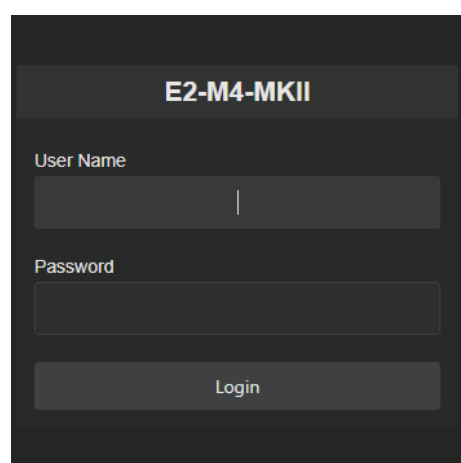


User Management

Access the web client, in the Settings page, click the **Security** option, then set **User Management - Authentication** to "On".



The web client will redirect to the login page, where you need to enter the User Name and Password.



Default **User Name:** admin

Default **Password:** Admin_123

Click Login.

To disable authentication, change the password, log out, or add users, you can still do so in **Security > User Management**.

<NOTE>

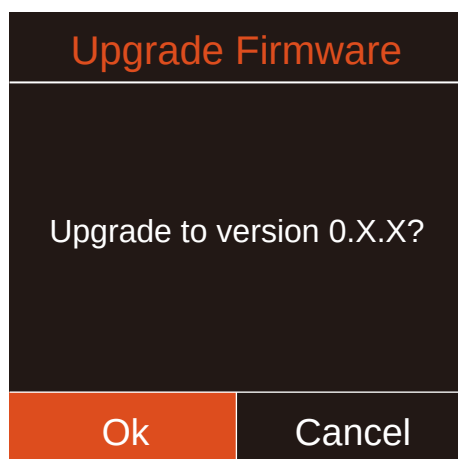
- When user authentication is enabled, logging in is also required to use the Z CAM App.

Firmware Upgrade

There are two options for upgrade the firmware of the camera:

Upgrading from a media card:

1. Download the latest version of firmware for your camera from Z CAM website:
<http://www.z-cam.com/e2/updates/>
2. Put the firmware file to the root directory of the CFexpress card (DO NOT unzip it!). Insert the CFexpress card to the camera and power it on.
3. If the firmware version of file in the card is higher than the camera's one, there will be a pop-up message for firmware upgrade. Select "OK" and press OK button, the camera will upgrade the firmware and restart the camera after it's finished.



4. If the version of the firmware file in CFexpress card is the same as or lower than the camera's one (to refresh or downgrade the firmware), there will be no pop-up message when the camera is powered on. Go to **Version** in **System** menu, press OK button and you will see the pop-up message for firmware update. Select "OK" and press OK button to update the firmware.

Upgrading in Web Client:

1. Download the latest version of firmware for your camera from Z CAM website:
<http://www.z-cam.com/e2/updates/>
2. When the camera is connected to a computer via Ethernet, you can access the camera's web client through a browser. (please refer to "Ethernet Connection")
3. In the **Settings** page, click the **Maintenance** option, then click **Upgrade**. In the pop-up window, click "Select File", choose the downloaded firmware file, and upload it.
4. The camera will upgrade the firmware and automatically restart once completed.

<NOTE>

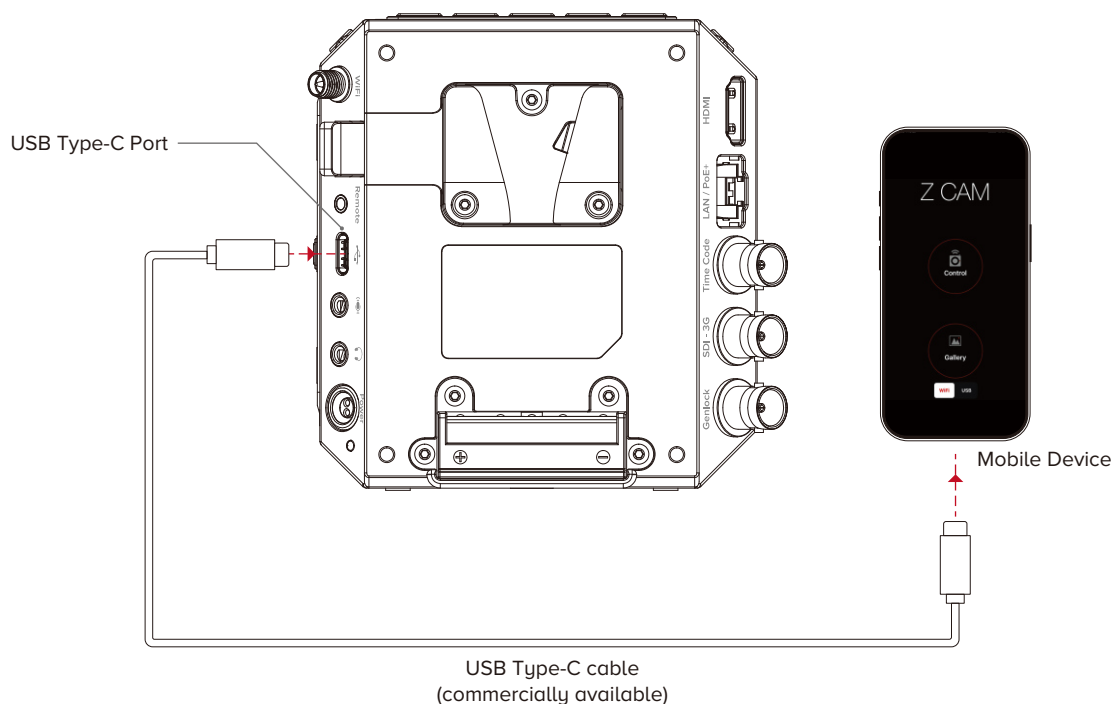
- Please make sure the camera will not power off during the firmware upgrade / update process.
- Make sure that firmware file is not unzipped by the browser (safari is not recommended) during the download process.

Z CAM App

Download and Connect

Download and install the Z CAM App on your smart phone or tablet. Once installed, you can use the device to live view and control the camera—including starting/stopping recording and adjusting most settings—by following these steps:

1. Search for "Z CAM" in the Apple App Store or Google Play Store, then download and install it.
2. Connect to the camera: Connect your device to the camera using a cable or via Wi-Fi.



<NOTE>

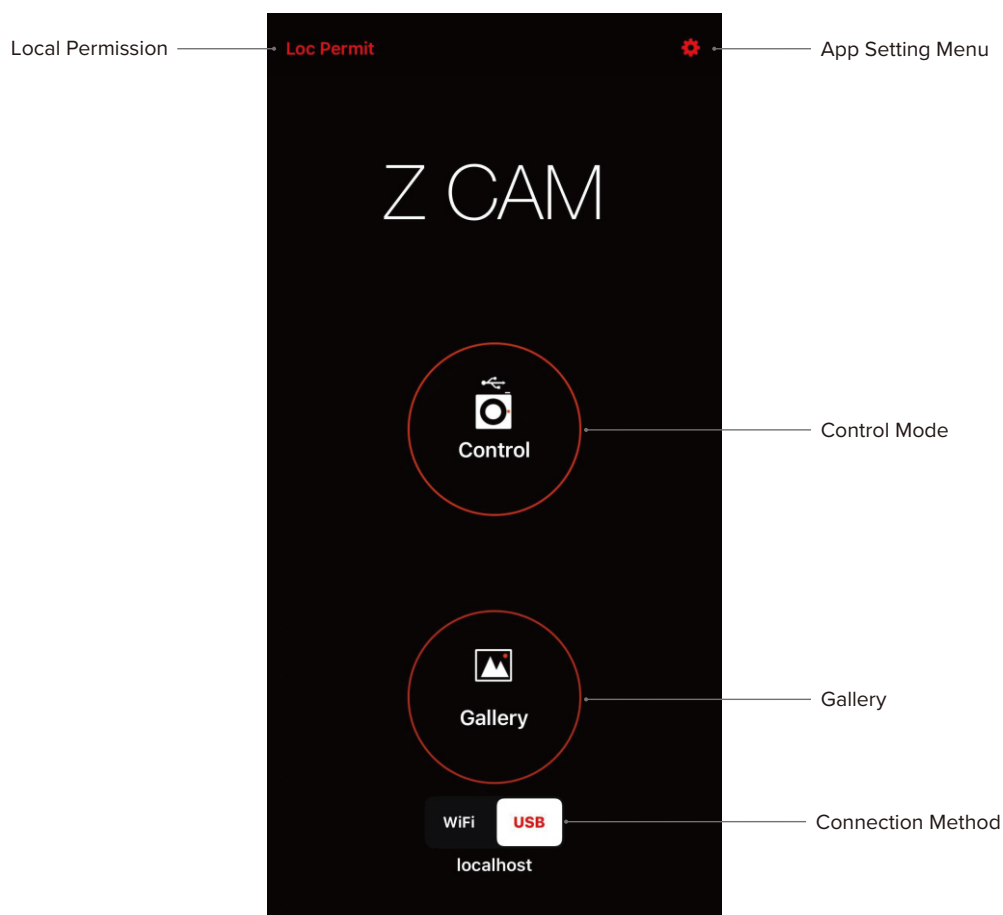
- Please select the corresponding cable based on your phone's interface, such as a USB-C to Lightning cable or a USB-C to USB-C cable.
- For Wi-Fi connection steps, please refer to **Basic Operation > Wi-Fi Connection**.

3. If this is the first time you connect your device to the camera, a prompt "Trust this device?" may appear on your device. Please carefully confirm that the device name displayed in the prompt matches the camera you are connecting to, then tap "Yes" (or the corresponding confirmation option in the system). If the system subsequently requests a password, this password is your device's own unlock password (e.g., lock screen password), which is only used to verify your right to use the device and will not be stored or uploaded by the camera or related applications.

App Basic Operations

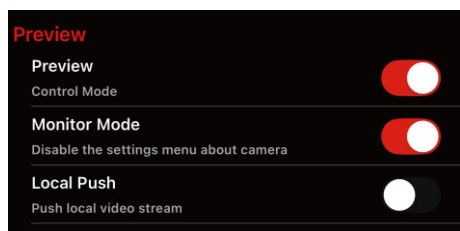
Open the Z CAM app and go to the app's homepage. If the camera is successfully connected, the "Control" icon will be activated (it will be gray if not connected), and a small USB or Wi-Fi icon will be displayed (depending on the connection method you are using).

Homepage

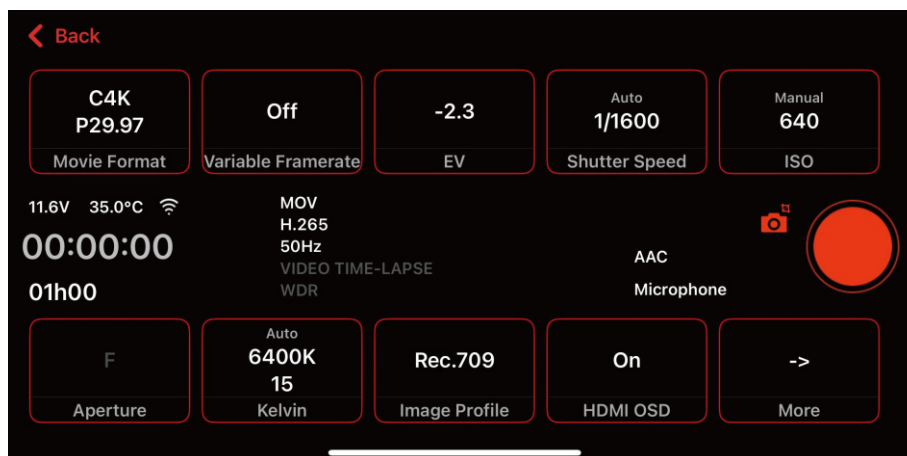
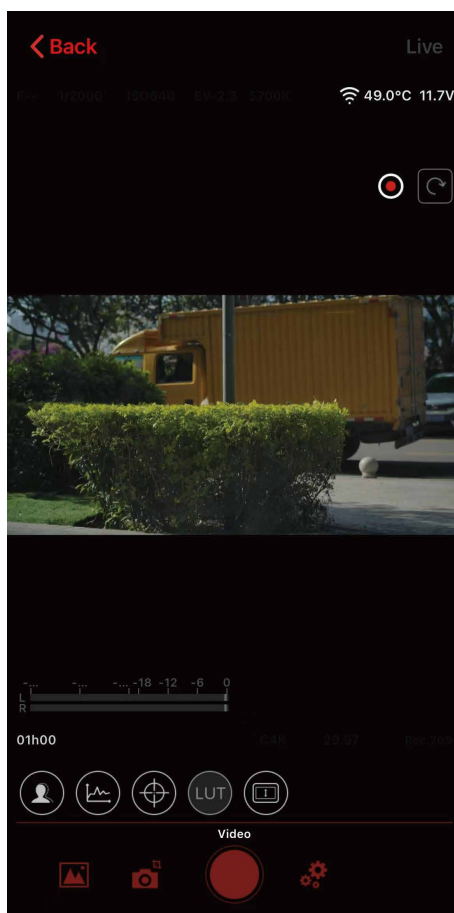
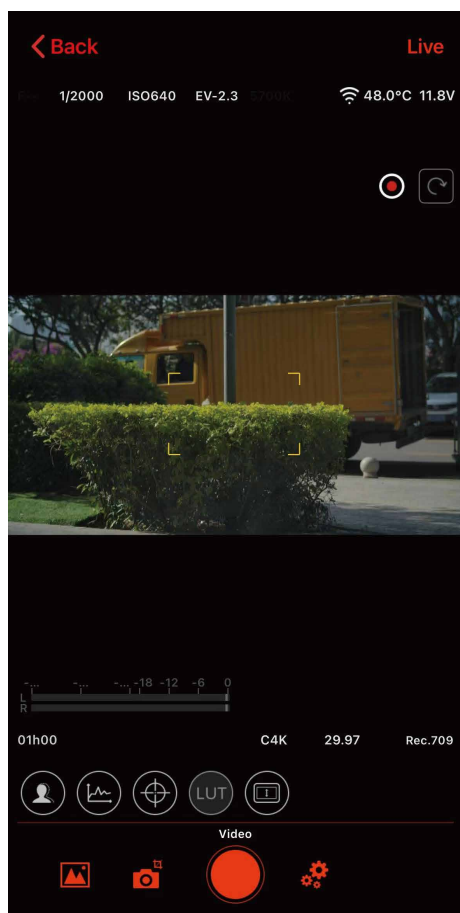


- Local Permission: App local permission settings (such as photo album access, network connection, etc.)
- App Setting Menu: App usage settings (such as network settings, preview settings, etc.)
- Control Mode: Entering the recording preview, you can adjust the preview modes in the App Setting Menu.
- Gallery: Video gallery & photo gallery
- Connection Method: Wireless connect & wired connection

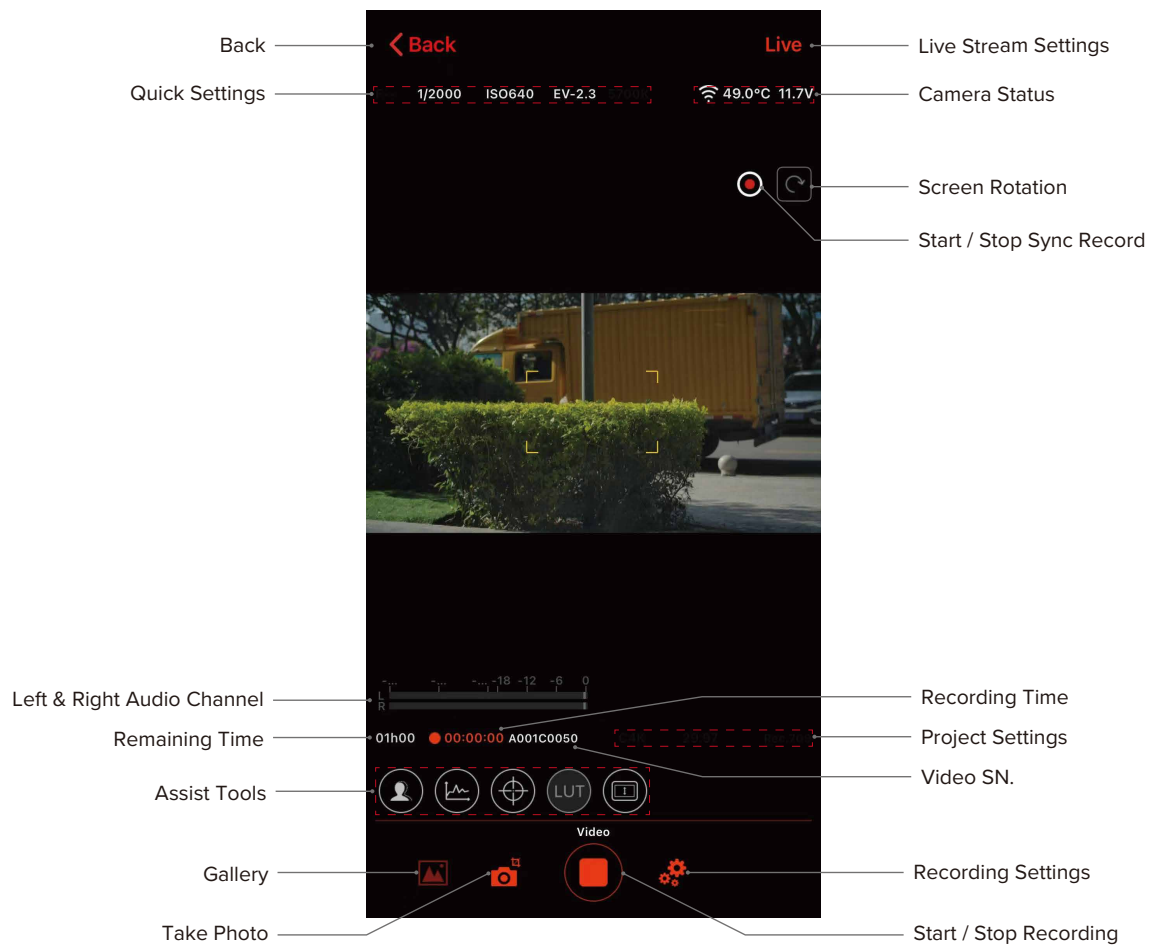
Preview



- Preview Off: Control mode (no preview screen)
- Preview On: Control mode (with preview screen)
- Preview On + Monitor Mode On: Preview screen (controls disabled)
- Preview Off + Monitor Mode On: Control mode (no preview screen)
- Local Push On: Push local video stream



Control Mode



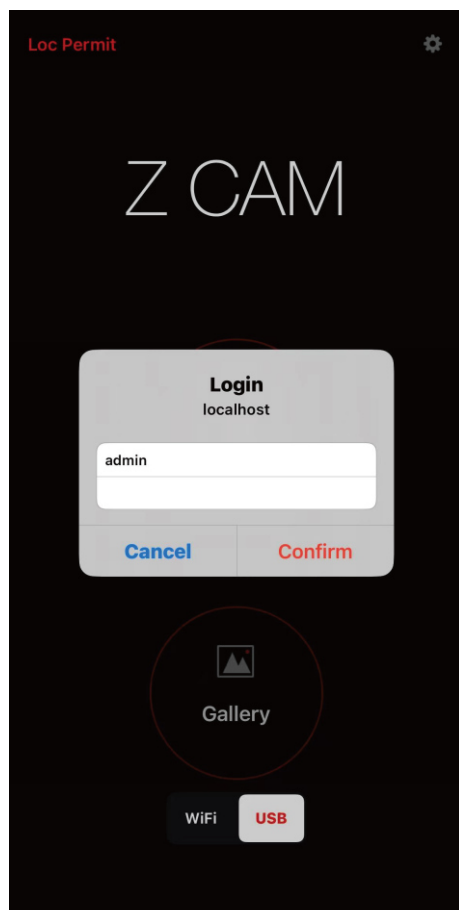
- **Back:** Return to homepage
- **Live Stream Settings:** Enter the live streaming URL
- **Quick Settings:** Quick adjustment of aperture / shutter / ISO / EV / white balance
- **Camera Status:** Camera temperature & voltage
- **Screen Rotation:** Switch between portrait and landscape display
- **Start / Stop Sync Record:** Sync recording to save to the phone's album (Local album permission is required.)
- **Left & Right Audio Channel:** Real-time display of the input audio level
- **Remaining Time**
- **Recording Time**
- **Video SN**
- **Project Settings:** Set resolution, frame rate, and image profile
- **Assist Tools:** Common assist tools, more assist tools settings are in the recording settings
- **Gallery:** Video gallery & photo gallery
- **Take Photo**
- **Start / Stop Recording**
- **Recording Settings:** Open the recording settings menu

Authentication

If User Authentication is enabled on the Web Client, user authentication login will be required for the App's first connection after each camera startup.

Default **User Name:** admin

Default **Password:** Admin_123



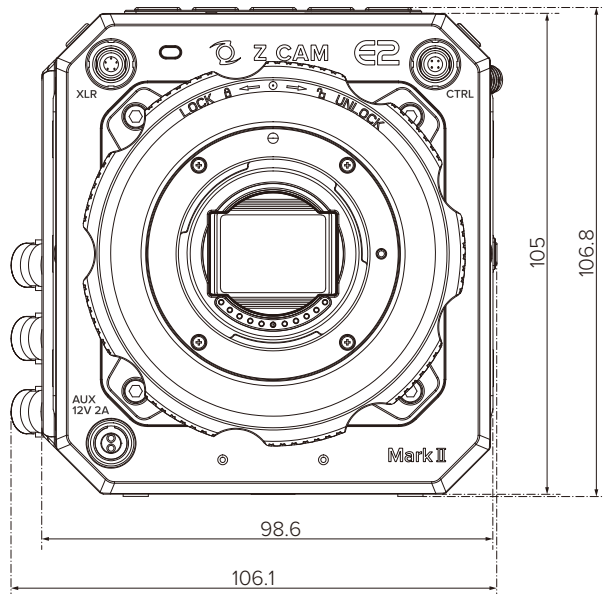
<NOTE>

- About user authentication, please refer to Basic Operation > User Management.

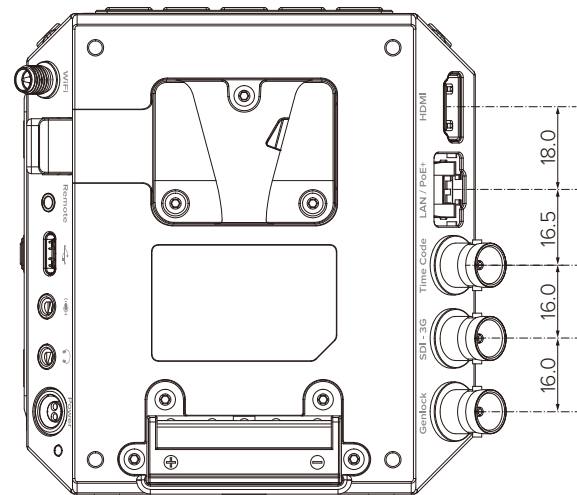
Mechanical Drawings

MFT Mount

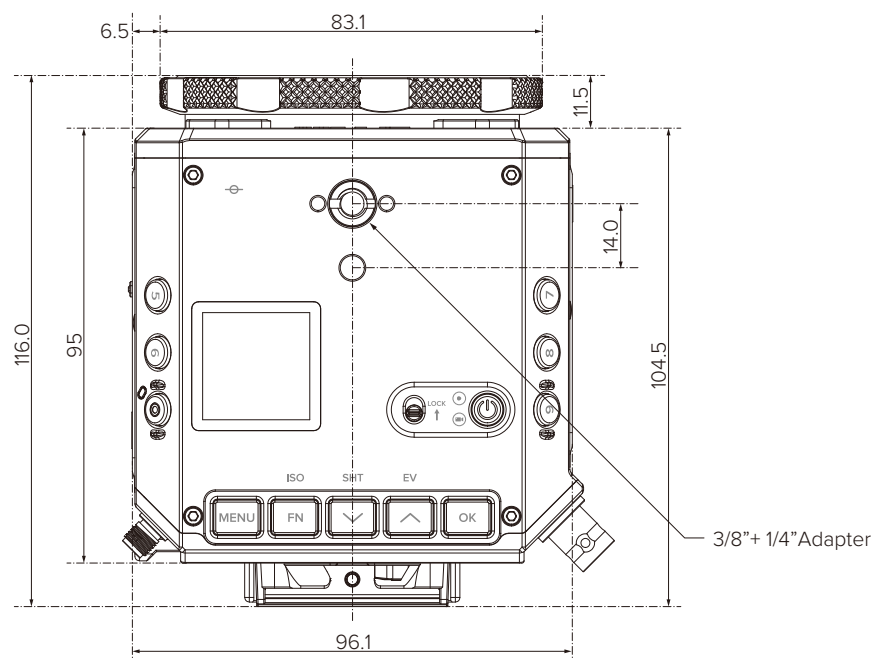
Front View



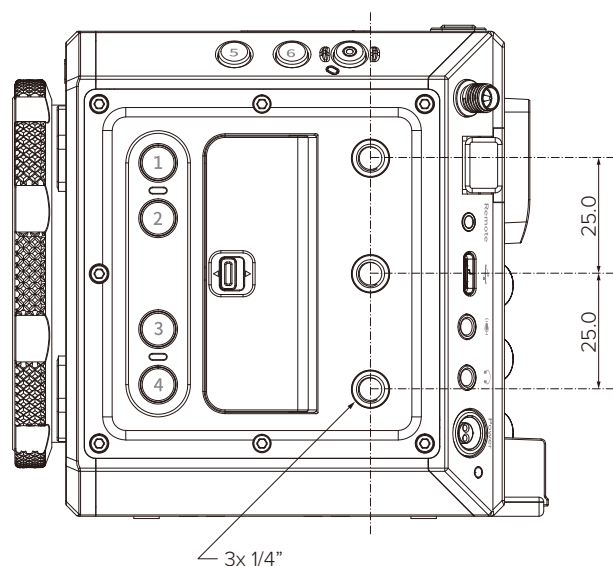
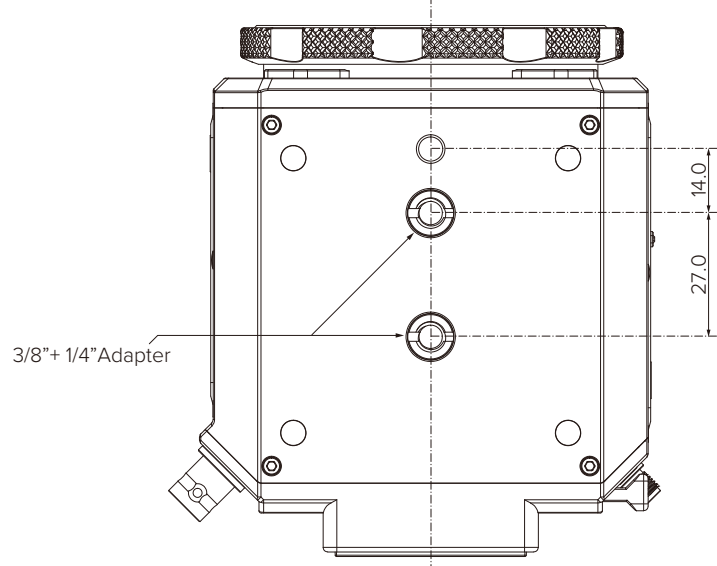
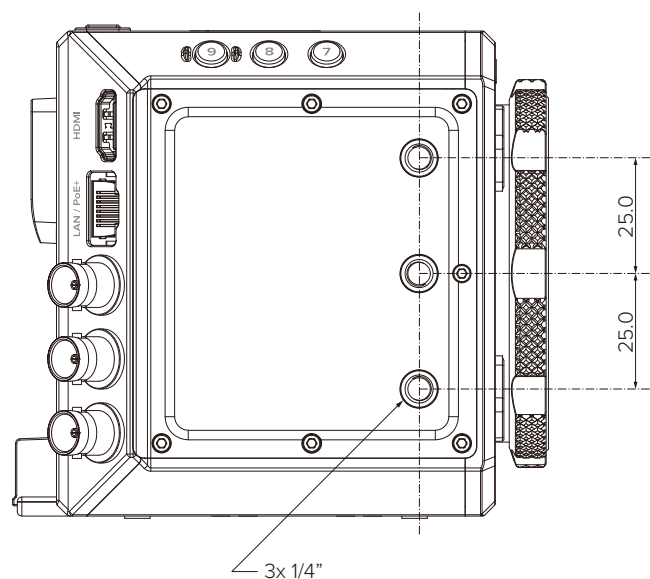
Back View



Top View

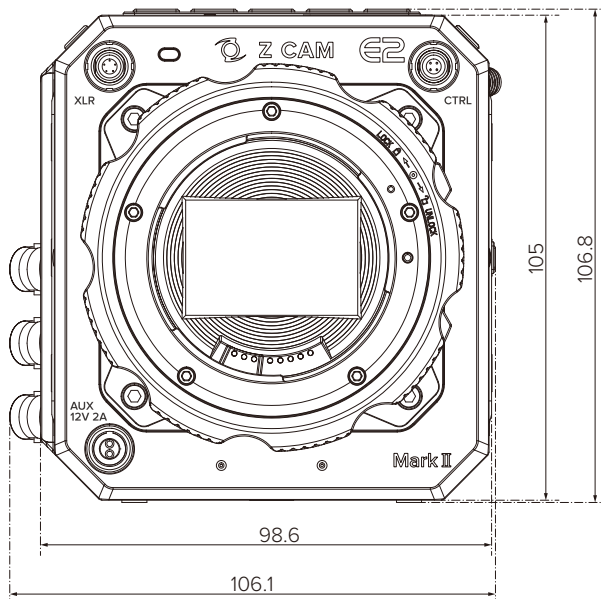


Unit: mm

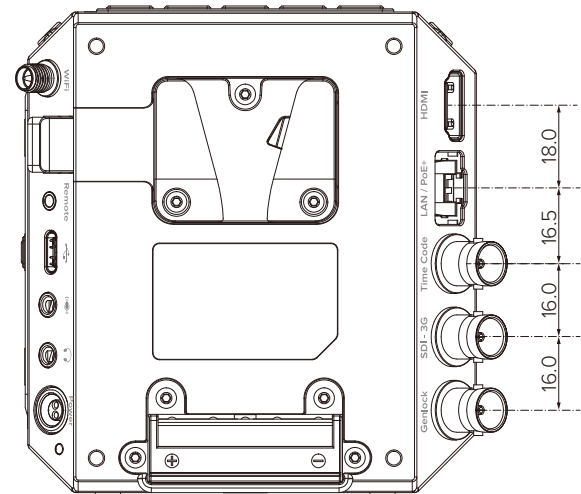
Left Side View**Back View****Right Side View****Unit: mm**

EF Mount

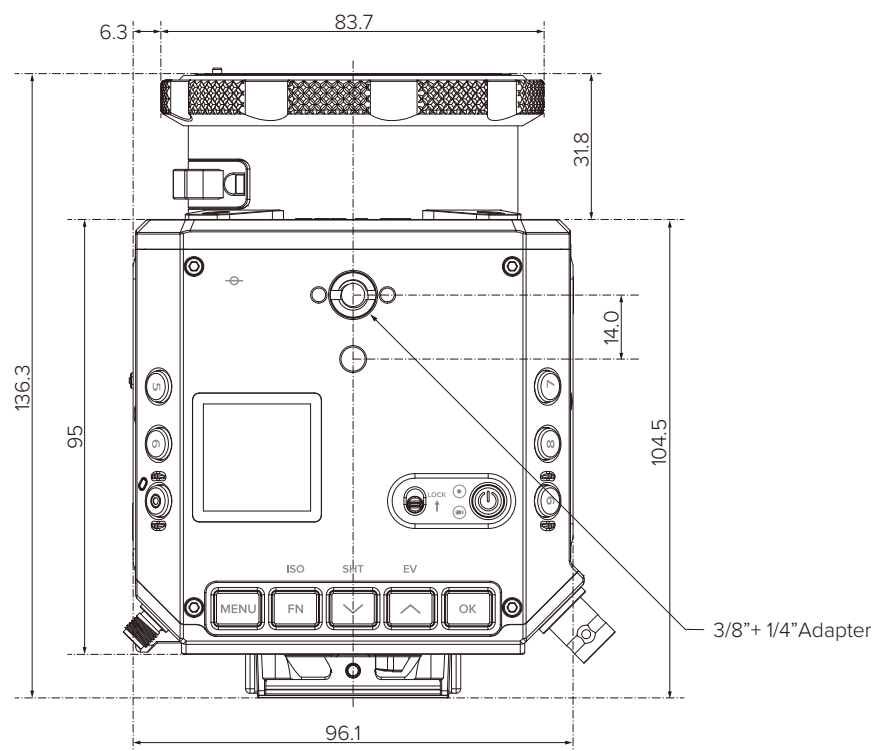
Front View



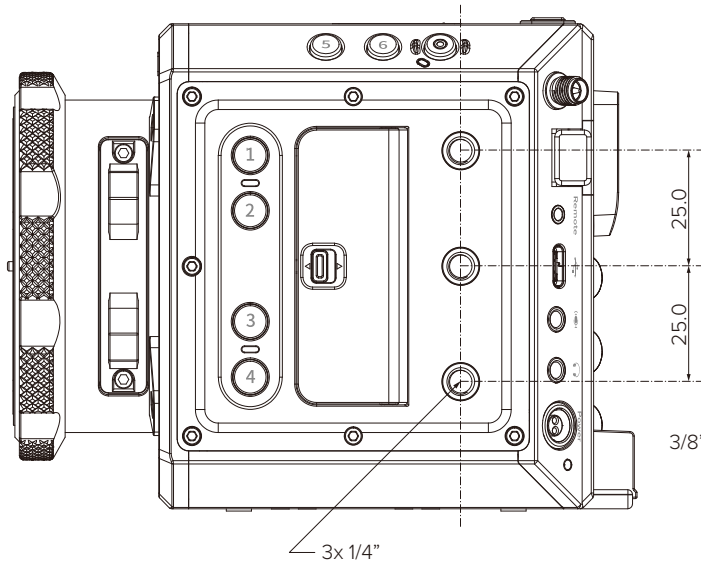
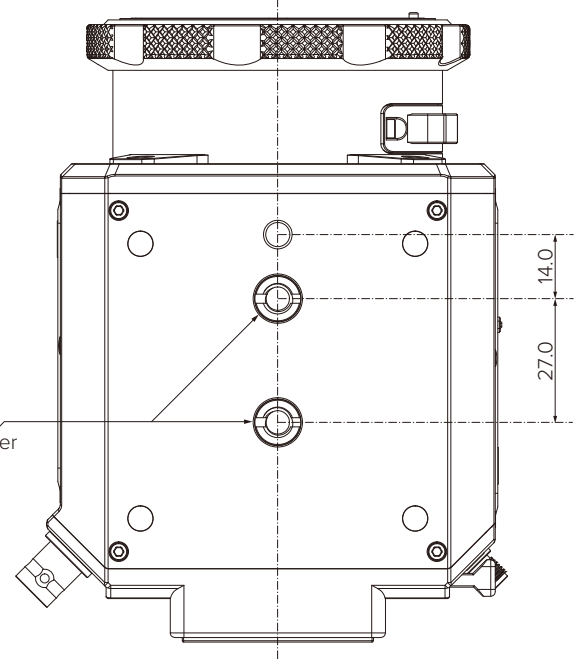
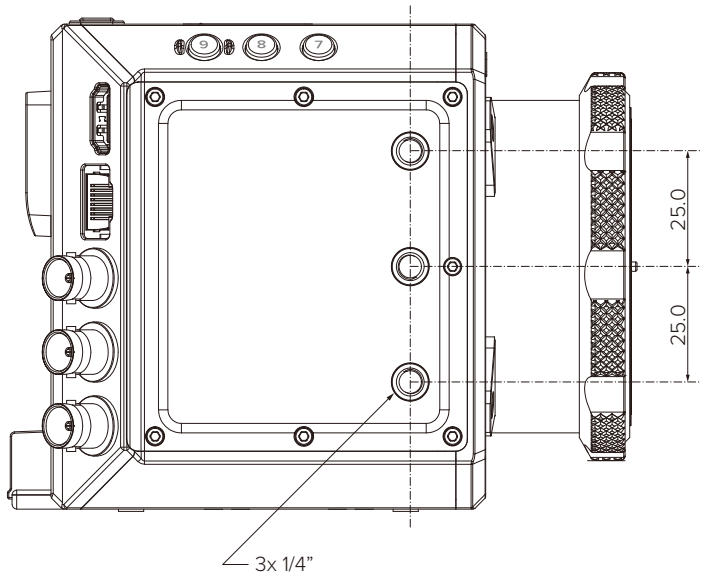
Back View



Top View



Unit: mm

Left Side View**Back View****Right Side View****Unit: mm**

Technical Specifications

Technical specifications incorporate current data as well as projected information, and all such content is liable to change without prior notice.

Z CAM E2-M4(s) Mark II

Camera	
Sensor Type	4/3" CMOS Sensor
Sensor Size	19.0 x 13.0 mm (Diagonal 21.63mm)
Effective Pixels	10.71M
Dynamic Range	13-15 Stops (Z-Log2) / 16 Stops (with WDR activated)
Lens Mount	MFT Mount w/ active lock (interchangeable)
Microphone	Built-in Stereo Microphone
Recording	
Resolution & Max Frame Rate	30fps max @ C4K Low Noise (4096x2160)
	120fps max @ C4K (4096x2160)
	150fps max @ C4K 2.4:1 (4096x1728)
	30fps max @ 4K Low Noise (3840x2160)
	120fps max @ 4K (3840x2160)
	160fps max @ 4K 2.4:1 (3840x2160)
	30fps max @ 3696x2772 Low Noise
	60fps max @ 3696x2772
	60fps max @ 3312x2760
	170fps max @ S16 16:9 (2752x1548)
	160fps max @ S16 (2704x1600)
	240fps max @ 1920x1080
Video Encoder	H.264 / H.265 / ProRes 422 Proxy / ProRes 422 LT / ProRes 422 / ProRes 422 HQ / ZRAW
RAW over HDMI	ProRes RAW (using Atomos Ninja V); BRAW (using BMD VideoAssist)
Color Bit-depth	10-bit 4:2:0 (H.265) / 8-bit 4:2:0 (H.264)
Audio Format	16-bit 48 kHz
Audio Encoder	AAC / PCM (for MOV only)
File Format	MOV / MP4
Record Mode	Video / Time Lapse Video / Still Image Capture

Settings

ISO	Auto, Manual (500 - 102400), Dual Native ISO: 500 / 2500
Shutter	Shutter Speed: Auto, Manual (1" ~ 1/8000") Shutter Angle: Auto, Manual (1° ~ 360°)
White Balance	Auto, Preset, Manual (2300K ~ 30000K)
Focus Mode	MF / AF / CAF
Image	Brightness / Contrast / Saturation / Sharpness / Hue / Gamma Setting
Image Profile	Rec.709, Z-Log2, Flat, Concert, Vivid 0, Vivid 1, Vivid 2, HLG, Gamma
Time Code	Current Time / Manual Input / External Input

Storage

Storage Media	CF Express Type B
File System	exFAT

Connectivity

HDMI	HDMI 2.0 Type A (up to 4K DCI 60p, 10-bit 4:2:2)
SDI	3G-SDI
Timecode In	LTC Timecode Input via BNC
Genlock	BB/Tri-Level Genlock Input via BNC
USB	USB 3.0 Type C for camera control & data transfer only
Remote Port	2.5 mm jack socket (Sony LANC compatible)
Audio In	3.5 mm stereo jack socket (TRS) or 5-pin LEMO port for dual channel XLR microphone (require additional XLR audio connector)
Audio Out	3.5 mm stereo jack socket
Wi-Fi	5G, up to 802.11n, external antenna port
CTRL	Serial port
Ethernet	Gigabit Ethernet port

Power

Battery	Mini V-Lock 14.8V (Battery not included)
Power In	DC 12 ~ 18V (2-pin LEMO socket) / PoE+ (802.3at)
Power Out (AUX)	DC 12V 2A (2-pin LEMO socket)
Power Consumption	50W maximum, not inclusive of AUX power consumption

Physical

Camera Body	Aluminum Alloy
Weight - Camera	1.06 kg (w/ MFT mount, w/o Lens)
Weight - Full Package	1.40kg
Dimensions - Camera	105.0 x 98.6 x 116.0 mm (w/ MFT mount, w/o Lens)
Dimensions - Full Package	145.0 x 195.0 x 162.0 mm

Environment

Storage Temperature	-20 °C ~ 60 °C
Operation Temperature	0 °C ~ 40 °C

Z CAM E2-S6(s) Mark II**Camera**

Sensor Type	Super 35mm CMOS Sensor
Sensor Size	23.5 x 15.7 mm (Diagonal 28.3mm)
Effective Pixels	26.11M
Dynamic Range	14 stops
Lens Mount	EF Mount w/active lock (interchangeable to optional PL, LPL and M)
Microphone	Built-in Stereo Microphone

Recording

Resolution & Max Frame Rate	30fps max @ Open Gate (6244x4168)
	48fps max @ C6K (6144x3240)
	60fps max @ 6K 2.4:1 (6144x2592)
	48fps max @ 6K (5760x3240)
	30fps max @ 5K 4:3 (5552x4164)
	50fps max @ 5528x3112
	60fps max @ C5K (5120x2700)
	30fps max @ 5K 6:5 (4992x4160)
	60fps max @ 5K (4800x2700)
	30fps max @ C4K 3:2 (4096x2732)
	30fps max @ C4K Low Noise (4096x2160)
	75fps max @ C4K (4096x2160)
	100fps max @ C4K 2.4:1 (4096x1728)
	30fps max @ 4000x4000
	30fps max @ 3840x3840
	30fps max @ 4K Low Noise (3840x2160)
	75fps max @ 4K (3840x2160)
	50fps max @ 3456x3456
	90fps max @ S16 16:9 (3392x1908)
	120fps max @ 2.8K (2868x1512)
	120fps max @ 1920x1080
Video Encoder	H.264 / H.265 / ProRes 422 Proxy / ProRes 422 LT / ProRes 422 / ProRes 422 HQ / ZRAW
RAW over HDMI	ProRes RAW (using Atomos Ninja V); BRAW (using BMD VideoAssist)
Color Bit-depth	10-bit 4:2:0 (H.265) / 8-bit 4:2:0 (H.264)
Audio Format	16-bit 48 kHz
Audio Encoder	AAC / PCM (for MOV only)
File Format	MOV / MP4
Record Mode	Video / Time Lapse Video / Still Image Capture

Settings

ISO	Auto, Manual (400 - 128000), Dual Native ISO: 400 / 1250
Shutter	Shutter Speed: Auto, Manual (1" ~ 1/8000") Shutter Angle: Auto, Manual (1° ~ 360°)
White Balance	Auto, Preset, Manual (2300K ~ 30000K)
Focus Mode	MF / AF / CAF
Image	Brightness / Contrast / Saturation / Sharpness / Hue / Gamma Setting
Image Profile	Rec.709, Z-Log2, Flat, Concert, Vivid 0, Vivid 1, Vivid 2, HLG, Gamma
Time Code	Current Time / Manual Input / External Input

Storage

Storage Media	CF Express Type B
File System	exFAT

Connectivity

HDMI	HDMI 2.0 Type A (up to 4K DCI 60p, 10-bit 4:2:2)
SDI	3G-SDI
Timecode In	LTC Timecode Input via BNC
Genlock	BB/Tri-Level Genlock Input via BNC
USB	USB 3.0 Type C for camera control & data transfer only
Remote Port	2.5 mm jack socket (Sony LANC compatible)
Audio In	3.5 mm stereo jack socket (TRS) or 5-pin LEMO port for dual channel XLR microphone (require additional XLR audio connector)
Audio Out	3.5 mm stereo jack socket
Wi-Fi	5G, up to 802.11n, external antenna port
CTRL	Serial port
Ethernet	Gigabit Ethernet port

Power

Battery	Mini V-Lock 14.8V (Battery not included)
Power In	DC 12 ~ 18V (2-pin LEMO socket) / PoE+ (802.3at)
Power Out (AUX)	DC 12V 2A (2-pin LEMO socket)
Power Consumption	50W maximum, not inclusive of AUX power consumption

Physical

Camera Body	Aluminum Alloy
Weight - Camera	1.21 kg (w/ EF mount, w/o Lens)
Weight - Full Package	1.55kg
Dimensions - Camera	105.0 x 98.6 x 136.3 mm (w/ EF mount, w/o Lens)
Dimensions - Full Package	145.0 x 195.0 x 162.0 mm

Environment

Storage Temperature	-20 °C ~ 60 °C
Operation Temperature	0 °C ~ 40 °C

Z CAM E2-F6(s) Mark II**Camera**

Sensor Type	Full Frame CMOS Sensor
Sensor Size	35.9 x 24.0 mm (Diagonal 43.3mm)
Effective Pixels	24.63M
Dynamic Range	15 stops
Lens Mount	EF Mount w/active lock (interchangeable to optional PL, LPL and M)
Microphone	Built-in Stereo Microphone

Recording

Resolution & Max Frame Rate	30fps max @ Open Gate (6064x4040)
	48fps max @ C6K (6064x3196)
	60fps max @ 6K 2.4:1 (6064x2560)
	48fps max @ 6K (5760x3240)
	30fps max @ 5K 4:3 (5376x4032)
	60fps max @ C5K (5120x2700)
	30fps max @ 5K 6:5 (4848x4040)
	60fps max @ 5K (4800x2700)
	50fps max @ 4K 4:3 (4096x3072)*
	30fps max @ C4K 3:2 (4096x2732)
	90fps max @ C4K (4096x2160) *
	120fps max @ C4K 2.4:1 (4096x1728)
	30fps max @ 4K 6:5 (4080x3400)
	90fps max @ 4K (3840x2160)
	170fps max @ S16 16:9 (2112x1188)
	170fps max @ 1080P (1920x1080)
Video Encoder	H.264 / H.265 / ProRes 422 Proxy / ProRes 422 LT / ProRes 422 / ProRes 422 HQ / ZRAW
RAW over HDMI	ProRes RAW (using Atomos Ninja V); BRAW (using BMD VideoAssist)
Color Bit-depth	10-bit 4:2:0 (H.265) / 8-bit 4:2:0 (H.264)
Audio Format	16-bit 48 kHz
Audio Encoder	AAC / PCM (for MOV only)
File Format	MOV / MP4
Record Mode	Video / Time Lapse Video / Still Image Capture

Settings	
ISO	Auto, Manual (400 - 128000), Dual Native ISO: 400 / 1250
Shutter	Shutter Speed: Auto, Manual (1" ~ 1/8000") Shutter Angle: Auto, Manual (1° ~ 360°)
White Balance	Auto, Preset, Manual (2300K ~ 30000K)
Focus Mode	MF / AF / CAF
Image	Brightness / Contrast / Saturation / Sharpness / Hue / Gamma Setting
Image Profile	Rec.709, Z-Log2, Flat, Concert, Vivid 0, Vivid 1, Vivid 2, HLG, Gamma
Time Code	Current Time / Manual Input / External Input
Storage	
Storage Media	CF Express Type B
File System	exFAT
Connectivity	
HDMI	HDMI 2.0 Type A (up to 4K DCI 60p, 10-bit 4:2:2)
SDI	3G-SDI
Timecode In	LTC Timecode Input via BNC
Genlock	BB/Tri-Level Genlock Input via BNC
USB	USB 3.0 Type C for camera control & data transfer only
Remote Port	2.5 mm jack socket (Sony LANC compatible)
Audio In	3.5 mm stereo jack socket (TRS) or 5-pin LEMO port for dual channel XLR microphone (require additional XLR audio connector)
Audio Out	3.5 mm stereo jack socket
Wi-Fi	5G, up to 802.11n, external antenna port
CTRL	Serial port
Ethernet	Gigabit Ethernet port
Power	
Battery	Mini V-Lock 14.8V (Battery not included)
Power In	DC 12 ~ 18V (2-pin LEMO socket) / PoE+ (802.3at)
Power Out (AUX)	DC 12V 2A (2-pin LEMO socket)
Power Consumption	50W maximum, not inclusive of AUX power consumption
Physical	
Camera Body	Aluminum Alloy
Weight - Camera	1.21 kg (w/ EF mount, w/o Lens)
Weight - Full Package	1.55kg
Dimensions - Camera	105.0 x 98.6 x 136.3 mm (w/ EF mount, w/o Lens)
Dimensions - Full Package	145.0 x 195.0 x 162.0 mm
Environment	
Storage Temperature	-20 °C ~ 60 °C
Operation Temperature	0 °C ~ 40 °C



FCC Warning:

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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 and your body.