

Z CAM E2-F6 Pro

User Manual v0.1

(Firmware 0.9.9)

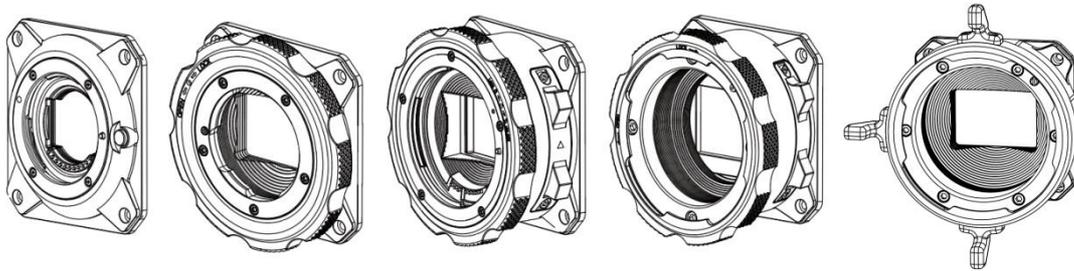
1 Introduction

1.1 Camera Introduction



1.2 Lens Mount

Z CAM E2-F6 Pro equip with EF lens munt as standard. You can purchase the additional MFT / M / PL / LPL lens mount module to change it with professional tool.

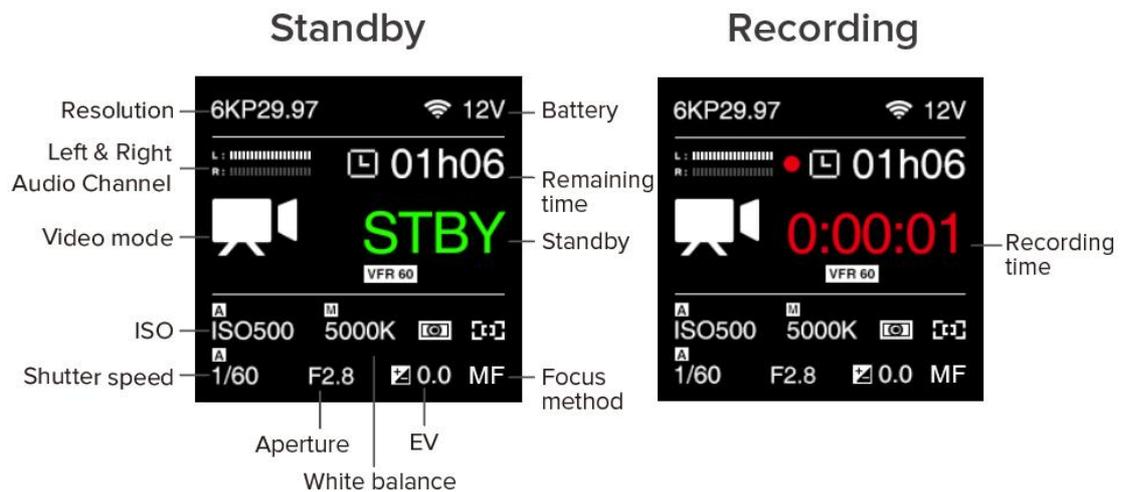


MFT lens mount M lens mount EF lens mount PL lens mount LPL lens mount

1.3 LCD Screen

The content displayed on the LCD Screen will be different when the camera is in different mode.

- **Standby & Recording**



- **Playback**

Short press **Power** button when the camera is in **Standby** mode, it will switch to **Playback** mode. Short press **Power** button again to come back to **Standby** mode.



1.4 LED Indicator Status



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

1.5 Buttons



- **MENU button:** Enter / exit the camera settings, or return to the previous menu in camera settings.
- **FN / ISO button:** FN function in camera settings, or ISO quick setting in standby / preview / recording mode by default.
- **Down / SHT button:** Down selection (or add value) in camera settings, or Shutter Speed / Shutter Angle quick setting in standby / preview / recording mode by default.
- **Up / EV button:** Up selection (or reduce value) in camera settings, or EV quick setting in standby / preview / recording mode by default.
- **OK button:** Confirmation in camera settings.
- **Record button:** Press to start recording, press again to stop recording
- **Screen Lock switch:** Enable or disable camera buttons and screen touch functions.
- **F1 button:** AE Lock (Auto Exposure Lock) by default.

- **F2 button:** Load profile by default.
- **F3 button:** Aperture quick setting by default.
- **F4 button:** No function by default.
- **F5 button:** No function by default.
- **F6 button:** No function by default.
- **F7 button:** No function by default.
- **F8 button:** No function by default.
- **F9 button:** No function by default.
- **F10 button:** Magnifier by default.
- **F11 button:** Peak by default.
- **F12 button:** Enable LUT by default.
- **F13 button:** False Color by default.
- **Power button:** Long press for 3 seconds to power on / off the camera, short press to switch to / back from **Playback** mode.

Note: Quick setting function of all buttons can be changed in system menu (System – User button).

1.6 Interfaces



- **XLR Audio-in Port:** 5-pin LEMO port for dual-channel XLR microphone, require additional XLR audio connector (compatible with ARRI Mini XLR connector).
- **Auxiliary Power Output:** DC 12V (2-pin LEMO socket), can supply power to other devices.
- **Wi-Fi Antenna Port:** Dual 5GHz Wi-Fi antenna port, both connect Wi-Fi antenna to use, support 802.11n standard.
- **Media Slot:** CFast 2.0 or ZBlade (custom media).

- **Monitor Port:** Connect monitor (included in standard package).
- **3.5mm Audio-in Port:** 3.5mm (TRS) jack socket for stereo audio input (Mic Level & Line Level supported), can connect to microphone or audio output device.
- **3.5mm Audio-out Port:** 3.5mm (TRS) jack socket for support stereo output, can be connected to headset or earphone.
- **Remote Port:** 2.5mm jack socket, compatible with Sony LANC protocol.
- **USB Type-C Port:** USB 3.0 standard. Can be connected to mobile devices for camera control, setting and live preview, and be connected to computers for data transmission.
- **Control Port:** serial port (4 pin aviation connector), support RS232 protocol.
- **HDMI Port:** HDMI 2.0 Type A standard port.
- **Ethernet Port:** Gigabit Ethernet port for camera control, setting & live preview.
- **Time Code In:** LTC, share the same BNC with Genlock.
- **Genlock:** BB/Tri-level, 25/29.97/50/59.94, Share the same BNC with Time Code In
- **SDI 12G Port:** 12G BNC,

3840x2160/4096x2160/1920x1080@23.94/24/25/29.97/50/59.94,

YUV 422 10bit, 48K 2ch audio
- **Power Socket:** DC 12~18V (2-pin LEMO socket).
- **V-mount Battery Socket:** 12.8~16.8V.

1.7 Power Options

- **External Power Source:** The camera comes with a power cable (D-TAP plug end), D-TAP/DC connector, and can be connected to an AC/DC power adapter with DC 12V~18V output, and 2.1 x 5.5mm plug. (Power adapter not included in the package)



- **V-mount Battery:** The battery socket is compatible with 14.8V V-mount batteries. (Battery not included in the package)



1.8 Storage

The camera uses CFast 2.0 card or ZBlade (custom media) as storage.

The camera has 1 x internal Media slot, which supports CFast 2.0 standard or ZBlade (custom media) . Insert the CFast card (or ZBlade) with correct direction, push it to the end until it's locked. To take out the CFast card (or ZBlade), push in the card and it will be unlocked, then take it out from the slot.



Attention: When using a CFast card (or ZBlade) on Z CAM E2-F6 Pro for the first time, please format it before recording (**System – Format Card**).

2 Camera Settings

2.1 Quick Setting

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

- **ISO:** Press **FN** to set ISO, then press **Up / Down** to adjust the value, and **OK** to confirm.



- **Shutter:** Press **Down** to set **shutter speed / angle** (refer to Exposure – Shutter Operation about shutter speed / shutter angle), then press **Up / Down** to adjust the value, and **OK** to confirm.



- **Aperture:** Press **F3** to set the aperture, then press **Up / Down** to adjust the value, and OK to confirm.



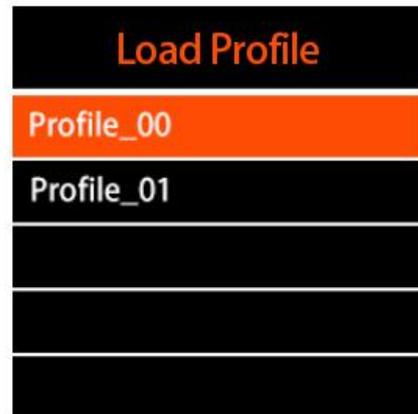
- **EV:** Press **UP** to set EV, then press **Up / Down** to adjust the value, and **OK** to confirm.



- **AEL (F1):** Press **F1** to lock the exposure, then press again to unlock



- **Load profile (2):** Load the configuration saved in the camera. (System - User Profile).



*Note: Quick setting function on the buttons can be changed in system setting (**System – User Button**).*

2.2 Record



Record	
Resolution	6064x4040
Project FPS	23.98
Variable Framerate	Off
VFR Control	Coarse
Split Duration	15min
Time Code	...
Playback FR.	Default
Meta Setup	...
Pre Roll	Off
Pre Roll Duration	5s
Record Frame Indicator	Off

- Resolution

Resolution	Details
6064x4040	Open Gate
6064x3196	C6K
6064x2560	6K 2.4:1
5760x3240	6K UHD
5376x4032	5K 4:3
5120x2700	C5K
4848x4040	5K 6:5

4800x2700	5K UHD
4096x3072	4K 4:3
4096x2160	C4K
4096x1728	C4K 2.4:1
4080x3400	4K 6:5
4064x2712	C4K 3:2
3840x2160	4K UHD*
2112x1188	S16 16:9
1920x1080	FHD

** supersampling / cropping selectable, 4K supersampling is supported at the same frame rates as 6K DCI resolution mode*

- **Project FPS:** Frame rate of the video project. It will be different when the resolution is set to different values.

Resolution	Frame Rate (fps)
Open Gate / C6K / 6K UHD / 5K 4:3 / 5K 6:5 / 4K 6:5	23.98 / 24 / 25 / 29.97
4K 4:3	23.98 / 24 / 25 / 29.97 / 50
6K 2.4:1 / C5K / 5K UHD / C4K / C4K 2.4:1 / C4K 3:2 / 4K UHD / S16 16:9 / FHD	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	Max Variable Frame Rate (fps)
6064x4040 (Open Gate)	30
6064x3196 (C6K)	48
6064x2560 (6K 2.4:1)	60
5760x3240 (6K UHD)	48
5376x4032 (5K 4:3)	30
5120x2700 (C5K)	60
4848x4040 (5K 6:5)	30
4800x2700 (5K UHD)	60
4096x3072 (4K 4:3)	50
4096x2160 (C4K)	90
4096x1728 (C4K 2.4:1)	120
4080x3400 (4K 6:5)	30
4064x2712 (C4K 3:2)	60
3840x2160 (4K UHD)	90
2112x1188 (S16 16:9)	170

1920x1080 (FHD)	120
-----------------	-----

- **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.
- **Split duration:** 5 / 10 / 15 / 20 / 30 / 60 / 120 min. The camera will split the video with the length set here automatically.

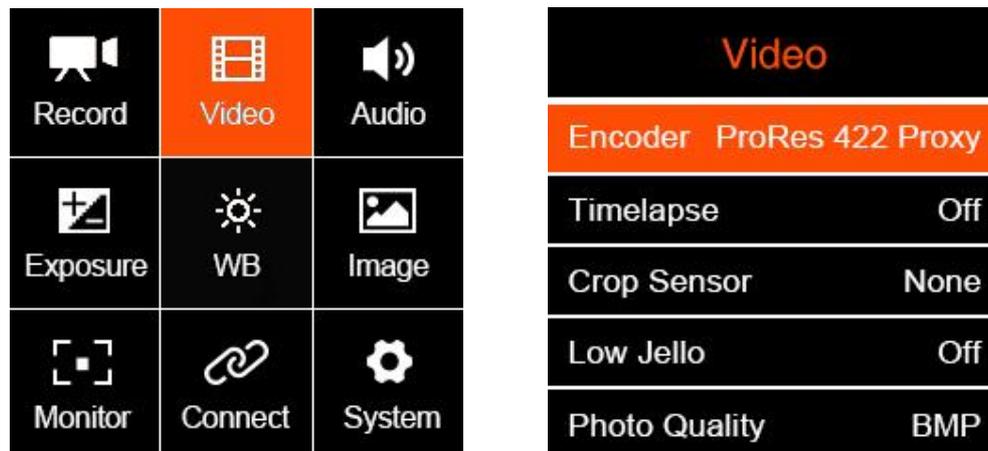
Note: After the first section via camera automatically splitting, the out of sync problem between audio and video will happen. You need to use "Z CAM Video Concatenator" to merge the video section before the post editing and processing. The download link as below: <http://www.z-cam.com/cn/software-update/>

- **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 (**2.2 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 ~ Z
 - **Reel Name:** 001 ~ 999
- **Pre Roll:** On / Off. Set Pre Roll to ON, there would appear one red flashing circle on the left of remaining recording time. To press Record button to start recording, the camera will automatically save the first 5 seconds before pressing record button.
- **Pre Roll Duration:** 1s / 3s / 5s / 7s / 10s
- **RAW Over HDMI:** On / Off.
- **Record Frame Indicator:** On / Off.

2.3 Video

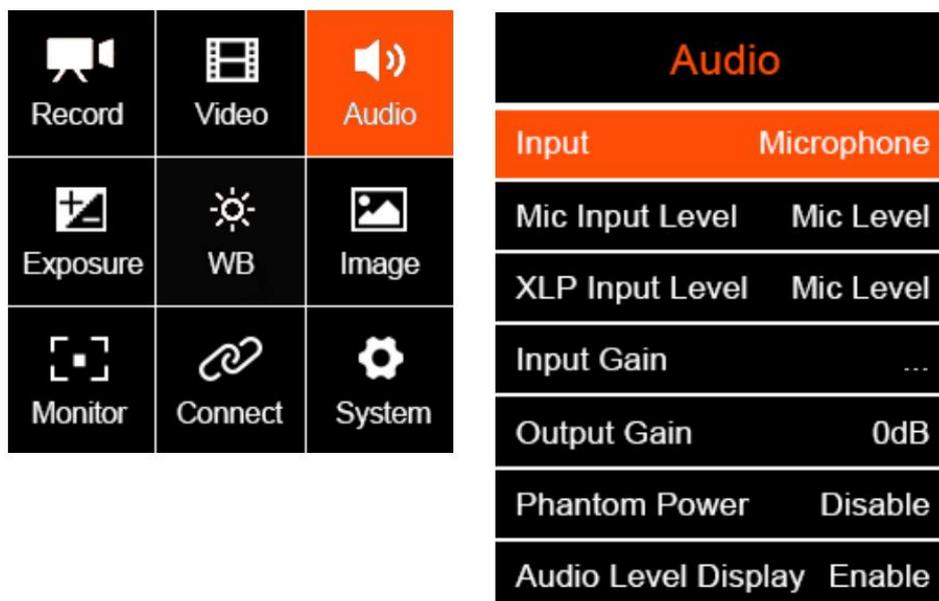


- **Encoder:** ProRes 422 Proxy / ProRes 422 LT / ProRes 422 / ProRes 422 HQ.
- **Timelapse:** Off / Manual, when it's Off, the camera is in normal record mode. When it is set to a specific value, the camera is in time lapse video mode.



- **Crop Sensor:** None / Super35 / Pixel to Pixel.
- **Low Jello:** Off / On.
- **Photo Quality:** BMP.

2.4 Audio



- **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 port, and will use the external microphone if there is one plugged into the 3.5mm audio-in port.
 - **XLR:** Take XLR port as audio-in.
 - **Mic Left + XLR Right:** Take 3.5mm audio-in(microphone) left channel, and XLR port right channel to merge for audio-in.
 - **Mic Right + XLR Left:** Take 3.5mm audio-in(microphone) right channel, and XLR port left channel to merge for audio-in.
- **Mic Input Level:** Mic Level / Line Level
- **XLR Input Level:** Mic Level / Line Level
- **Input Gain**
 - **Control:** Auto / Manual
 - **Left Gain:** -10 ~ 12 dB, can be set manually.

- **Right Gain:** -10 ~ 12 dB, can be set manually.
- **Output Gain:** 0 ~ 12 dB, can be set manually.
- **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 port.
- **Audio Level Display:** Disable / Enable, enabling this setting displays the audio level on the standby screen.



2.5 Exposure



Exposure	
Flicker Reduction	60Hz
EV	0
Shutter Speed	1/200
Aperture	F1.8
ISO	2500
eND	Clear
eND Module	ND 101
Min ISO	Auto
Max ISO	51200
Max Shutter Speed	Auto
Metering Mode	Center
Shutter Operation	Speed
Shutter Angle Ctrl.	Coarse
ISO Control	Fine
Extended Manual ISO	Off
AE Speed	Normal
Lock In Record	Off

- **Flicker Reduction:** 60Hz / 50Hz. It's set to eliminate light flicking caused by the frequency of the electricity, which is 60Hz in North America and some parts of Asia. (South Korea, Philippines, Taiwan of China), And 50Hz for China mainland, other countries and regions.
- **EV:** -3.0 ~ 3.0
- **Shutter Speed / Shutter Angle:** This setting depends on whether "Shutter Speed" or

“Shutter Angle” is selected in **2.5 Exposure - Shutter Operation**.

- **Shutter Speed:** Auto / Manual (1/24"~1/8000")*.
- **Shutter Angle:** Auto / Manual (1°~ 360°).
- **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:** Auto / Manual (400~51200)
- **eND:** 1.70~6.70 stop.
- **eND Module:** ND 101 / ND 102.
- **Mini ISO:** Auto / 400~3200, this setting will only be enabled when **ISO** is set to “Auto”.
- **Max ISO:** 25600~52100, this setting will only be enabled when **ISO** is set to “Auto”.
- **Max Shutter Speed / Max Shutter Angle:** This setting will be activated if Shutter Speed / Shutter Angle is in **Auto** mode.
 - **Max Shutter Speed:** Auto / Manual (1/30"~ 1/1600")*.
 - **Max Shutter Angle:** Auto / Manual (1°~ 360°).

** Minimum shutter speed “1” is optional only when variable frame rate is set to “1”.*

- **Metering Mode:** Center / Average / Spot, it sets the metering mode of exposure.
- **Shutter Operation:** Speed / Angle.
- **Shutter Angle Ctrl.:** Coarse / Fine, this setting will only be enabled when **Shutter Operation** is set to “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.

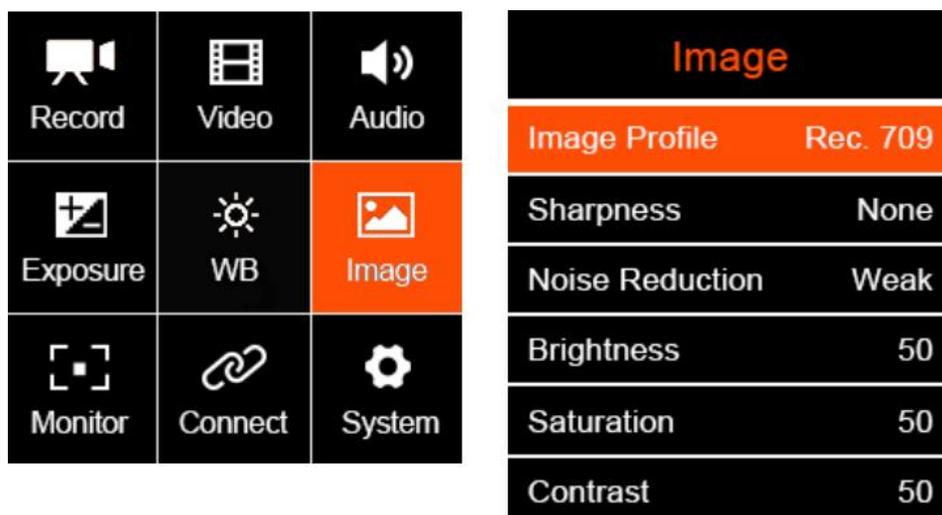
2.6 White Balance



White Balance	
Mode	Manual
Kelvin	5400
Tint	0
Priority	Ambiance
Lock In Record	Off

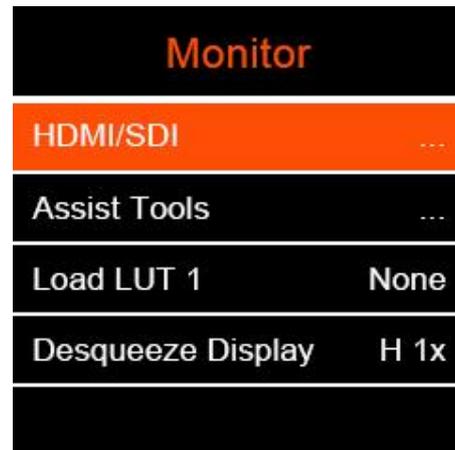
- **Mode:** Auto / Incandescent / Cloudy / D10000 / Fluorescent / Indoor / Daylight / Shade / Manual
- **Kelvin:** When **White Balance** is set to “Auto” or “Preset Value”, it shows the current color temperature, when **White Balance** is set to “Manual”, it can be adjusted manually (2300 K ~ 30000 K)
- **Tint:** -100 ~ 100, default is 0.
- **Priority:** Ambiance / White
 - **Ambiance:** To increase the intensity of the image’s warm color cast when shooting a tungsten-light scene.
 - **White:** To reduce the intensity of the image’s warm color cast when shooting a tungsten-light scene.
- **Lock In Record:** Off / On. Enable this function, it will automatically lock the white balance during recording.

2.7 Image



- **Image Profile:** Rec.709 / Z-Log2 / Flat / Concert / HLG
 - **Rec.709:** It is Rec.709 like color space, which is usually used for directly output.
 - **Z-Log2:** It is the log developed by Z CAM, with 13 stops of dynamic range and reserve more detail in highlight area, good enough for post processing.
 - **Flat:** It is 709 like curve with color information, and lower the contrast for easy post processing.
 - **Concert**
 - **HLG (Hybrid Log-Gamma):** Encode the high-light and low-light parts of the HDR signal in two different ways in which the low-light part use the standard gamma curve and the high-light part use the logarithmic curve.
- **Sharpness:** Strong / Medium / Weak, default is Medium.
- **Noise Reduction:** Medium / Weak / Off, default is Weak.
- **Brightness:** 0~100, default is 50.
- **Saturation:** 0~100, default is 50.
- **Contrast:** 0~100, default 50.

2.8 Monitor



- **HDMI/SDI:** HDMI Output / SDI Output / HDMI OSD / SDI OSD / OSD Layout / Show Assistool / Show Center Mark / Show Grid Line / Show Safe Area / Show Scope / Show Frame Line.
 - **HDMI Output:** Auto / Depends on Output device
 - **SDI Output:**

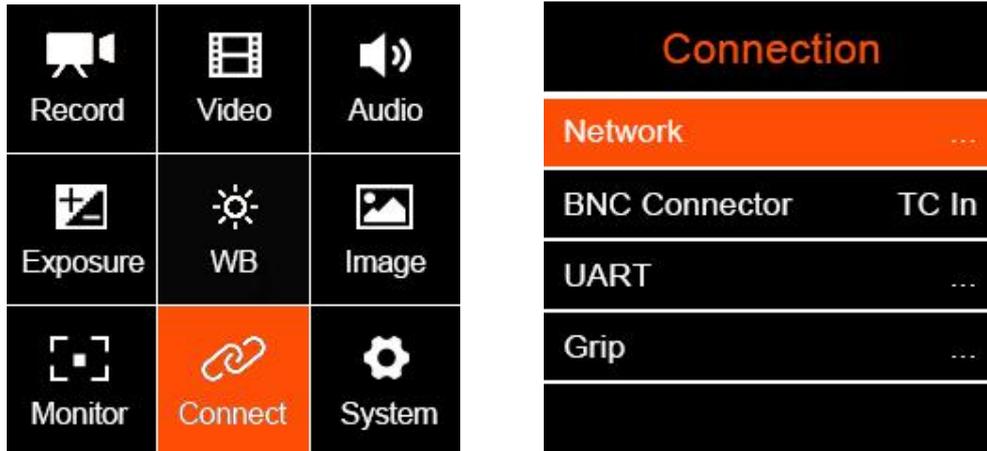
Resolution	SDI Output
Open Gate / 6K 2.4:1 / 6K / 5K 4:3 / 5K 6:5 / 5K / 4K 4:3 / C4K 2.4:1 / 4K 6:5 / C4K 3:2 / 4K / 1920x1080	4K UHD P30 / 1080P30
C6K / C5K / C4K	4K DCI P30 / 2K DCI P30
S16 16:9	1080P30

- **HDMI OSD:** Off / On, default is Off.
- **SDI OSD:** Off / On, default is Off.
- **OSD Layout:** Type 1 / Type 2.
- **Show Assistool:** Off / On, default is Off.
- **Show Center Mark:** Off / On, default is On.
- **Show Grid Line:** Off / On, default is On.

- **Show Safe Area:** Off / On, default is On.
- **Show Scope:** Off / On, default is Off.
- **Show Frame Line:** Off / On, default is On.
- **Assist Tools:** Scope / Peak / Exposure / Frame Line.
 - **Scope:** Tool / Opacity.
 - Tool: Disable / Wave form / Parade / Vectorscope / Histogram.
 - Opacity: 10~100, default is 50.
 - **Peak:** Enable / Color / Mode / Threshold.
 - Enable: Off / On, default is Off.
 - Color: Red / Green / Blue / Orange / Grey, default is Red.
 - Mode: Color.
 - Threshold: 10~100, default is 20.
 - **Exposure:** Tool / Zebra High Threshold / Zebra Low Threshold.
 - Tool: Disable / False Color / Zebra / Monochrome / Blue Only.
 - Zebra High Threshold: 55~100, default is 100.
 - Zebra Low Threshold: 0~50, default is 0.
 - **Frame Line:** : Ratio / Color / Opacity / Second Frame Line Size / 1.43:1 Frame / Customized.
 - Ratio: None / 2.4:1 / 2.35:1 / 1.9:1 / 1.85:1 / 16:9 / 4:3 / Customized.
 - Color: Red / Green / Blue / Orange / White, default is Red.
 - Opacity: 10~100, default is 75.
 - Second Frame Line Size: 90~100, default is 100.
 - 1.43:1 Frame: Off / On, default is Off.
 - Customized: None / Import

- **Load LUT 1:** None / Rec709 / V709 / LC709A / zRGB_AR / zRGB_AX2 / sRGB / Rec2020 / HLG / P3D60 / P3D65 / P3DCI / F709 / Import.
- **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.

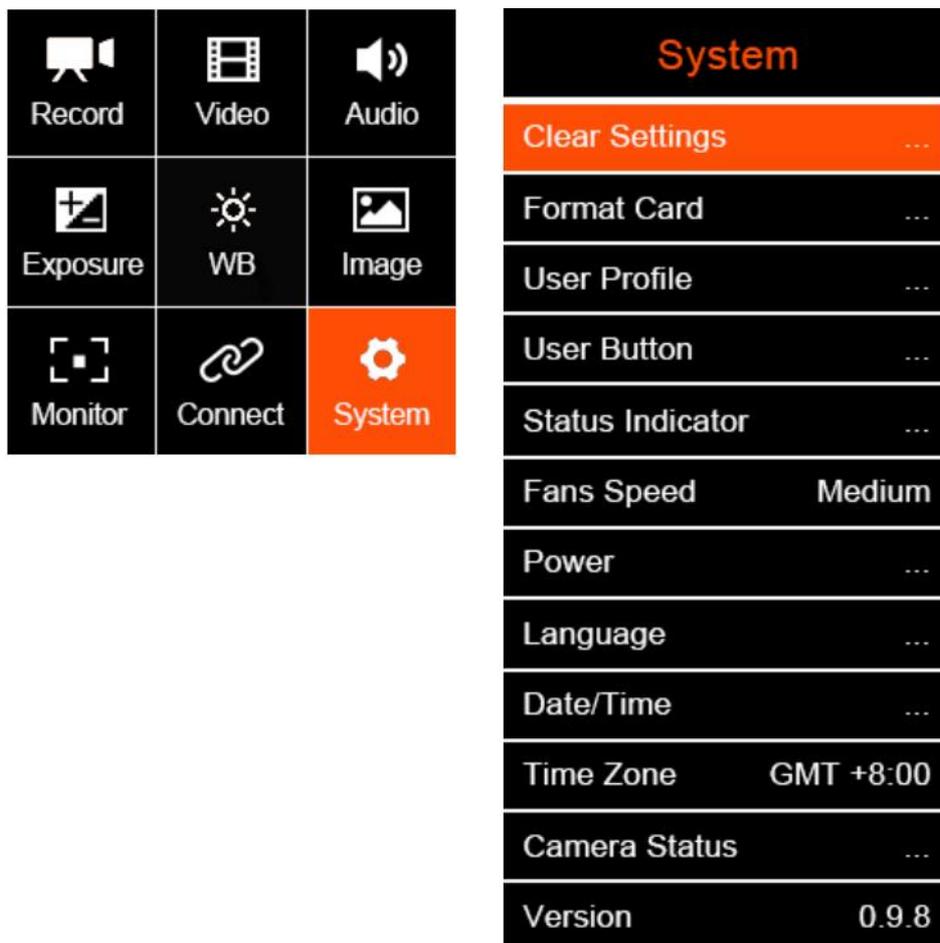
2.9 Connect



- **Network:** Wi-Fi / Wi-Fi IP / ETH. Mode / ETH. IP
 - **Wi-Fi:** Off / On. When the Wi-Fi is activated, here will show the Wi-Fi ID, which is ZCAM-E2-XX-XXXX (last four digits which match to the camera ID), and the default password is: **12345678**, which can only be changed with iOS app (**Using Z Camera App**).
 - **Wi-Fi IP:** Here will show IP address of the Wi-Fi when it's activated.
 - **ETH. Mode (Ethernet Mode):** Direct / Router / Static
 - Router: Camera is connected to the computer through a router, IP address will be assigned by the router.
 - Direct: Camera is connected to the computer directly through Ethernet cable, camera will generate the IP address. The default is: 10.98.32.1.
 - Static: to set the IP address with configuration file. (Please contact Z CAM's technical support if you want to set this).
 - **ETH. IP:** IP address of the Ethernet when it's connected.

- **BNC Connector:** TC In / Genlock In.
- **UART:** Role / Baud Rate
 - **Role:** Controller / Linear TC
 - **Baud Rate:** 9600 / 115200
- **Grip:** Left Button / Right Button / Front Wheel / Front Button / Rear Wheel / Rear Button / Focus Speed
 - **Left Button:** None / AE Lock / WB Lock / Peak / Exposure Tool / Scope Tool / Enable LUT / Magnifier / VFR / Take Photo / HDMI OSD / Menu / Crop S35.
 - **Right Button:** None / AE Lock / WB Lock / Peak / Exposure Tool / Scope Tool / Enable LUT / Magnifier / VFR / Take Photo / HDMI OSD / Menu / Crop S35.
 - **Front Wheel:** None / Aperture / Shutter / ISO / eND / White Balance / EV / Focus.
 - **Front Button:** None / AE Lock / WB Lock / Peak / Exposure Tool / Scope Tool / Enable LUT / Magnifier / VFR / Take Photo / HDMI OSD / Menu / Crop S35.
 - **Rear Wheel:** None / Aperture / Shutter / ISO / eND / White Balance / EV / Focus.
 - **Rear Button:** None / AE Lock / WB Lock / Peak / Exposure Tool / Scope Tool / Enable LUT / Magnifier / VFR / Take Photo / HDMI OSD / Menu / Crop S35.
 - **Focus Speed:** 1~1000, default is 30.

2.10 System



- **Clear Settings:** Clear all the Settings in the camera and set them to default values.
- **Format Card:** Format the CFast card (or ZBlade). **Please note that formatting will erase ALL DATA in the storage!**
- **User Profile:** Save Profile / Load Profile / Save To Card / Load From Card.
 - **Save Profile:** Export current camera settings to a file and save it in the memory of the camera.
 - **Load Profile:** Select the saved configuration in the camera, import and apply it to the camera settings.
 - **Save To Card:** Export the current camera settings as a configuration file and save in storage of the camera (save in /MISC/profile/ directory, with file name suffix.prf)
 - **Load From Card:** Import the configuration file from the storage, and apply it to

the camera settings.

Note: Configuration files saved on a memory card can be renamed, but only in English letters.

- **User Button:** Users can set the function for the keys (including **Up/Down Key Direction / F1~F13 / Fn / UP / DOWN / OK / Power**) on the camera except **MENU**. It can be defined as shortcut setting functions., which includes as below:

Playback (for power button only) / AE Lock / EV / Aperture / ISO / Shutter / eND / White Balance Lock / White Balance / Peak / Exposure Tool / Scope Tool / False Color / Zebra / Center Mark / Safe Area / Magnifier / Load LUT / Enable LUT / Record / VFR / Take Photo / HDMI OSD / Load Profile / Aud In Gain- / Aud In Gain+ / Crop S35 / Desqueeze / None.

Note: the custom function of the power button is short press trigger, long press the power button is still on/off function.

- **Status Indicator:** Front & Rear Indicator.
 - **Front Indicator:** On / Off.
 - **Rear Indicator:** On / Off.
- **Fans Speed:** Auto / Low / Medium / High.
- **Power:** Auto Power Off / Auto Standby / Low Alarm / Power Output
 - **Auto Power OFF:** Off / 30s / 1min / 2mins / 4mins / 8mins / 15mins.
 - **Auto Standby:** Off / 1min / 5mins / 15mins.
 - **Low Alarm:** Low battery alarm.
 - V Mount Battery: 12.8V ~ 16.8V
 - **Power Output:** auxiliary power output, DC 12V (2-pin LEMO socket), can supply power to other devices.
- **Language:** 简体中文 / English
- **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 and camera ID etc.



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

3 Monitor

3.1 Monitor Introduction

Monitor receives its power and signal from the single cable connected between the monitor and Z CAM E2-F6 Pro Monitor Port.

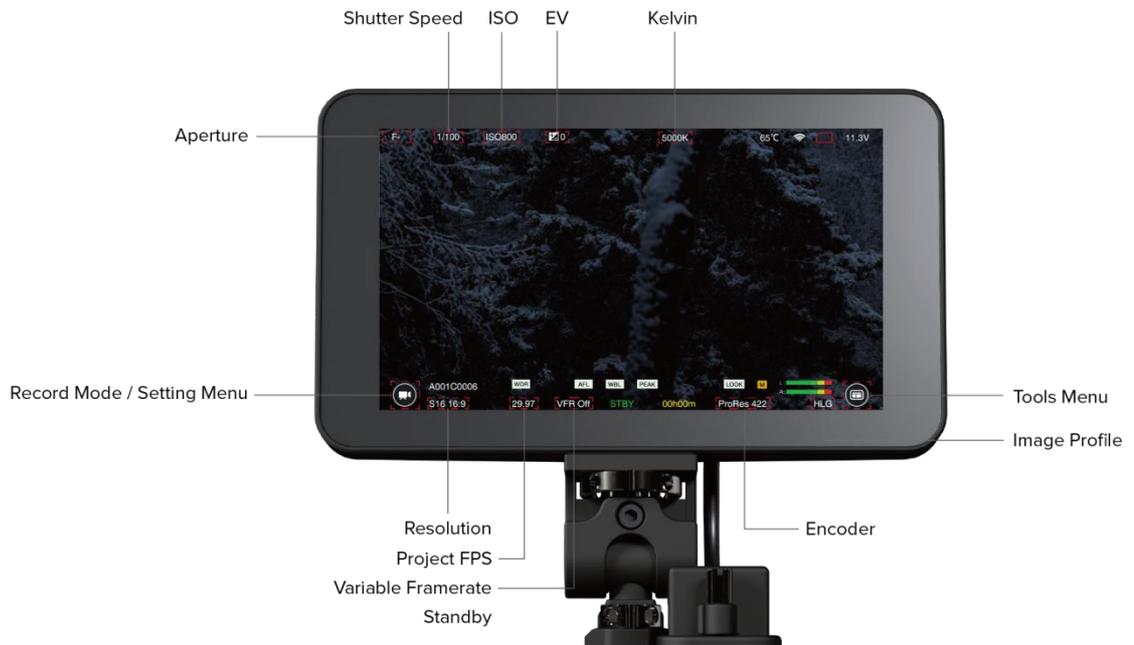


The Holder allows approximately 170 degree of vertical rotation and 360 degree of horizontal rotation.



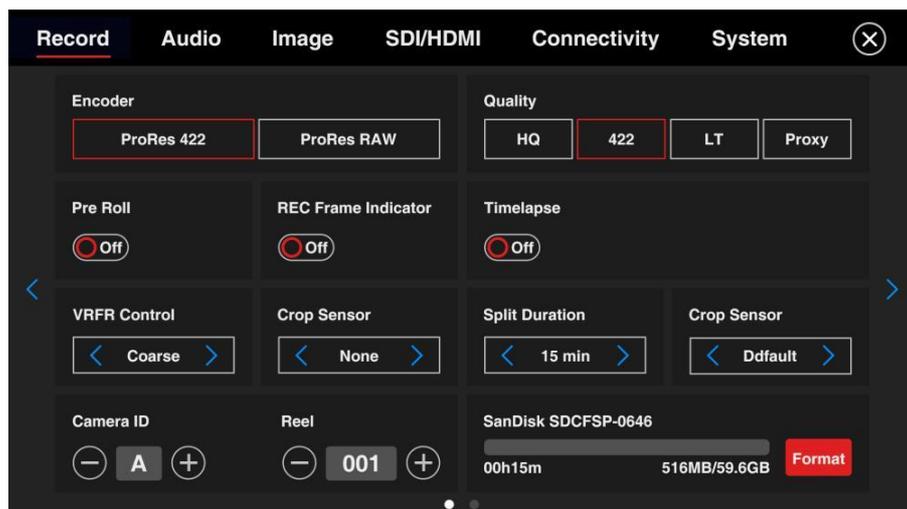
3.2 Record Mode

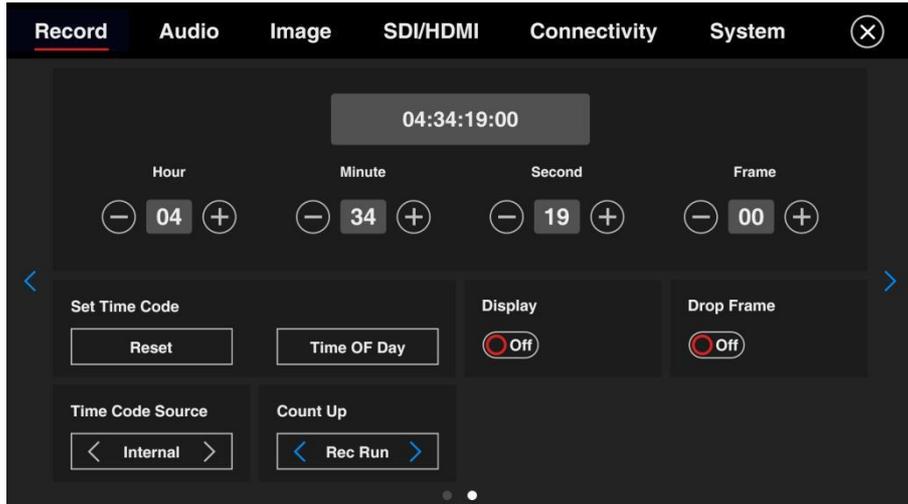
- **UI Overview:** Tap the icon to make quick adjustments.



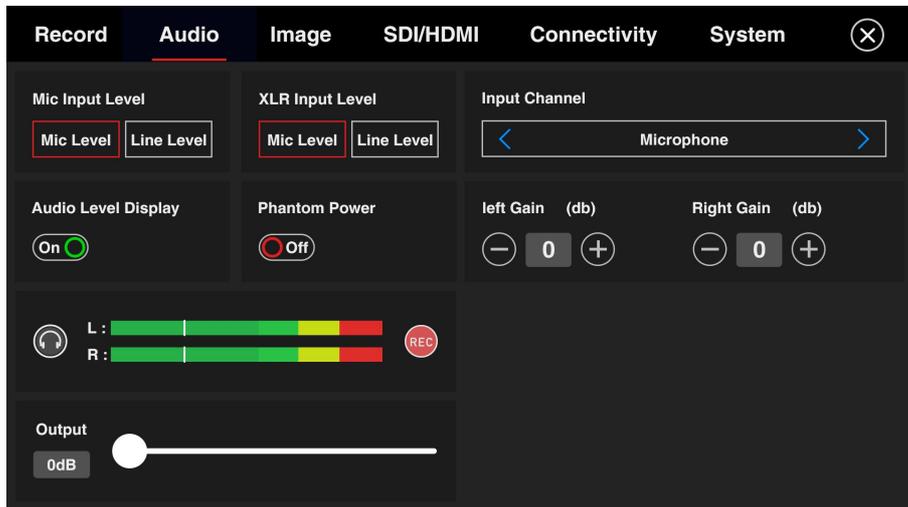
- **Setting Menu:** Tap the Setting Menu icon, enter the setting menu to adjust the settings of Record / Audio / Image / SDI/HDMI / Connectivity / System.

■ Record

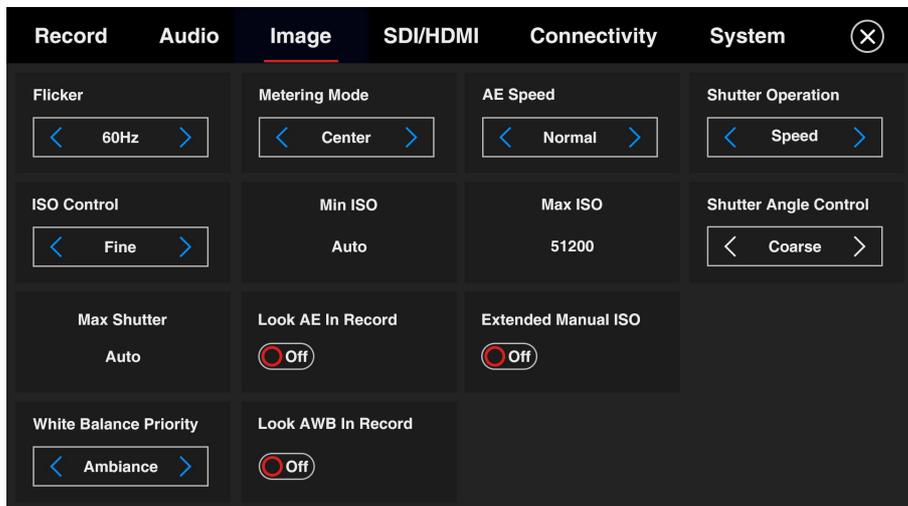




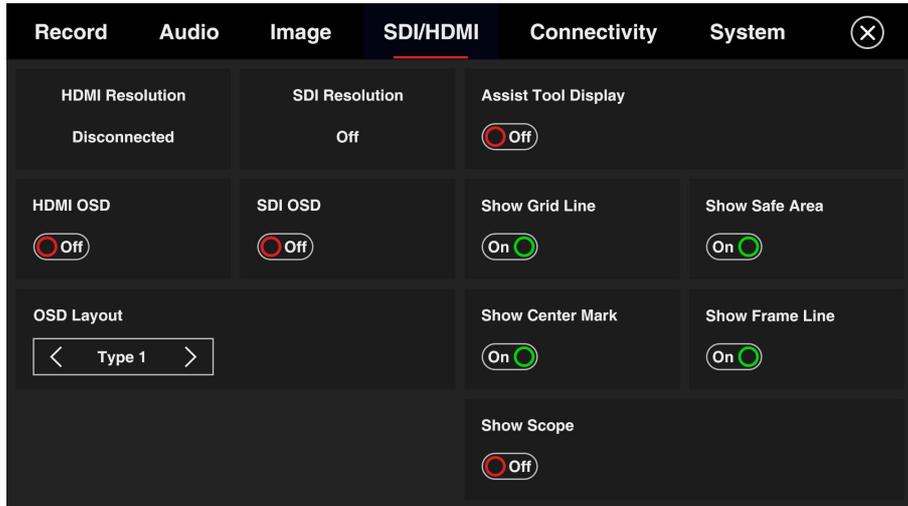
■ Audio



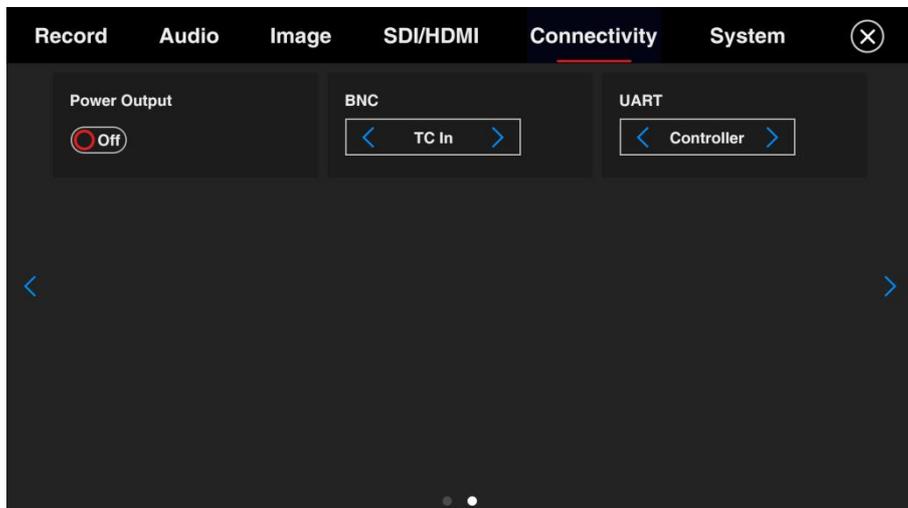
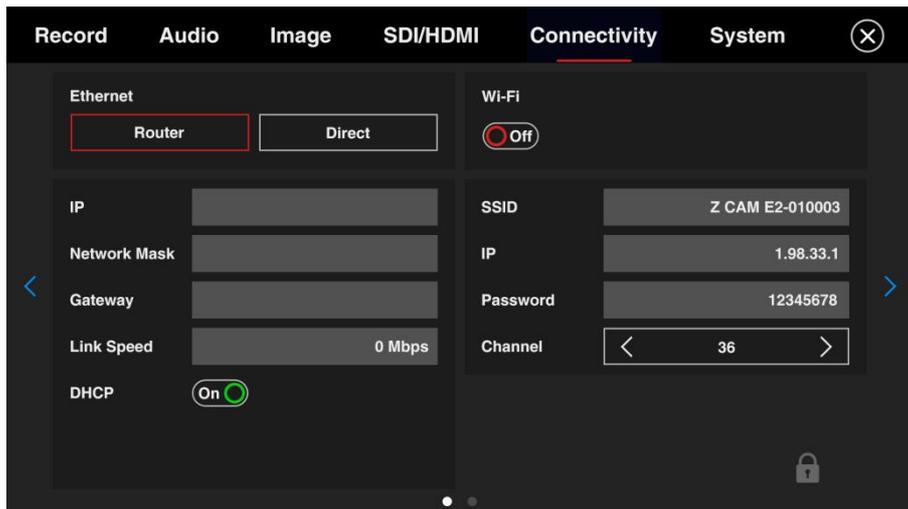
■ Image



■ SDI/HDMI



■ Connectivity



System

Record Audio Image SDI/HDMI Connectivity **System** (X)

Language English	Fan Speed High	Model: AVATAR
Auto Power Off 1 min	Auto Standby 15 min	Version: 0.0.0.(b973f4b)
Front Indicator On	Rear Indicator Off	Temperature: 68°C
Alarm On	Low Battery Alarm 10.0V	Voltage: 11.3V
		SN: Unknown
		Clear Settings Upgrade

Record Audio Image SDI/HDMI Connectivity **System** (X)

F1 Button AE Lock	F2 Button Load Profile	F3 Button Aperture	F4 Button None
F5 Button None	F6 Button None	F7 Button None	F8 Button None
F9 Button None	F10 Button Magnifier	F11 Button Peak	F12 Button Enable LUT
F13 Button False Color	Fn Button ISO	OK Button HDMI OSD	Up Button Shutter
Down Button EV	Power Button Playback		

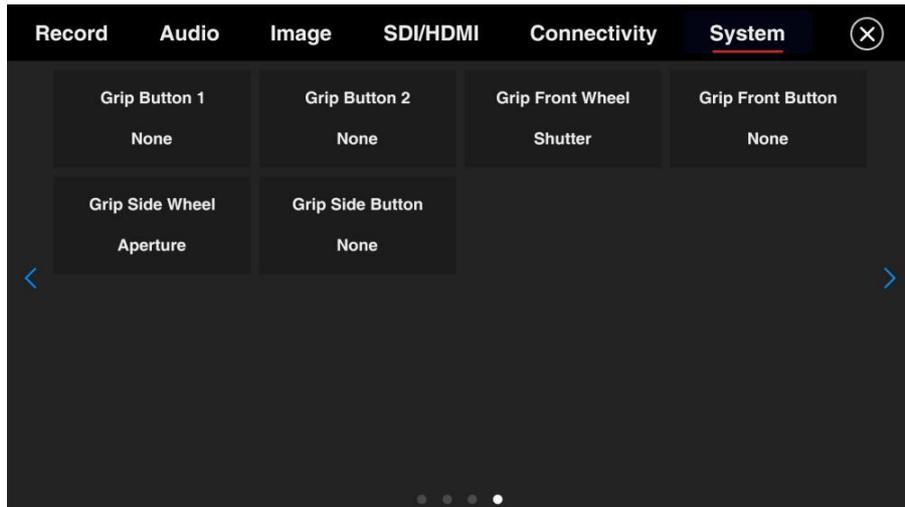
Record Audio Image SDI/HDMI Connectivity **System** (X)

Time Setting

Month	Day	Year
DATE 10	8	2049
Hour	Minute	Second
TIME 20	14	46

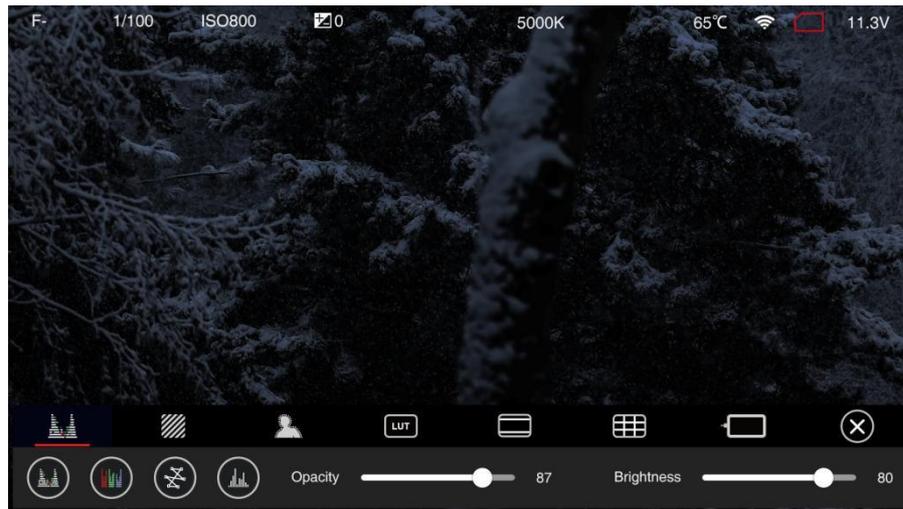
Time Zone

(GMT+0:00) London

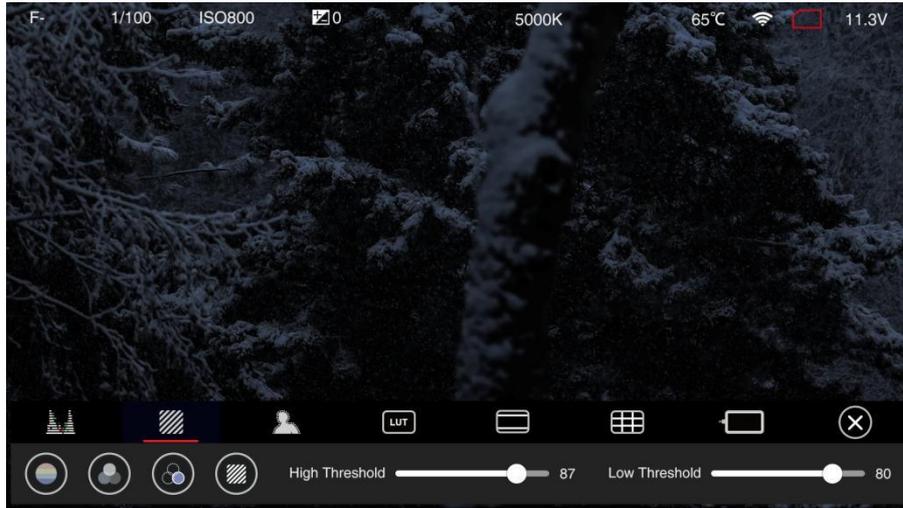


- **Tool Menu:** Tap the Tool Menu icon, to adjust the settings of Scope / Zebra / Peak / Lut / Frame Line / Auxiliary Line / Monitor

■ Scope



■ Zebra



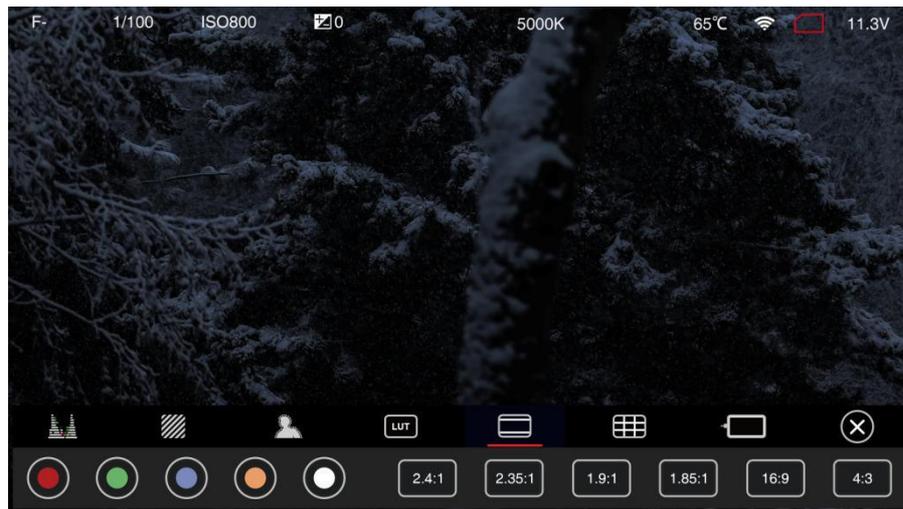
■ Peak



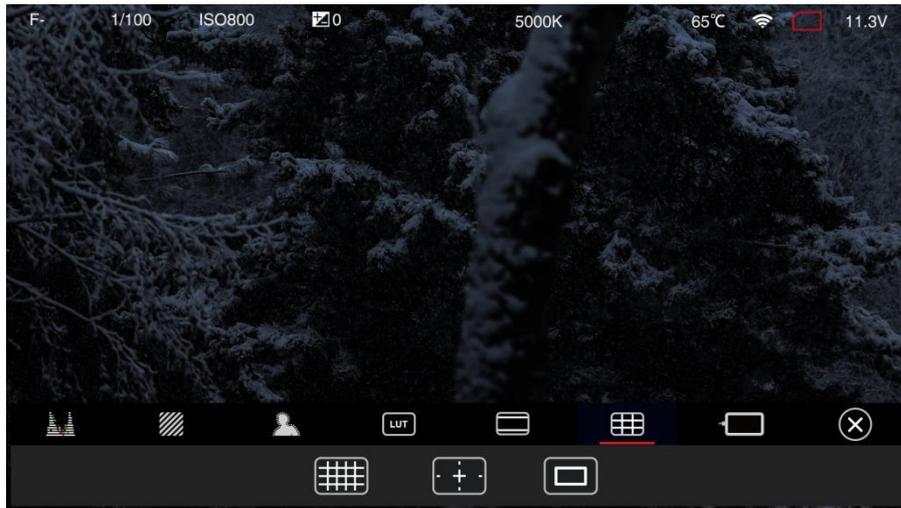
■ Lut



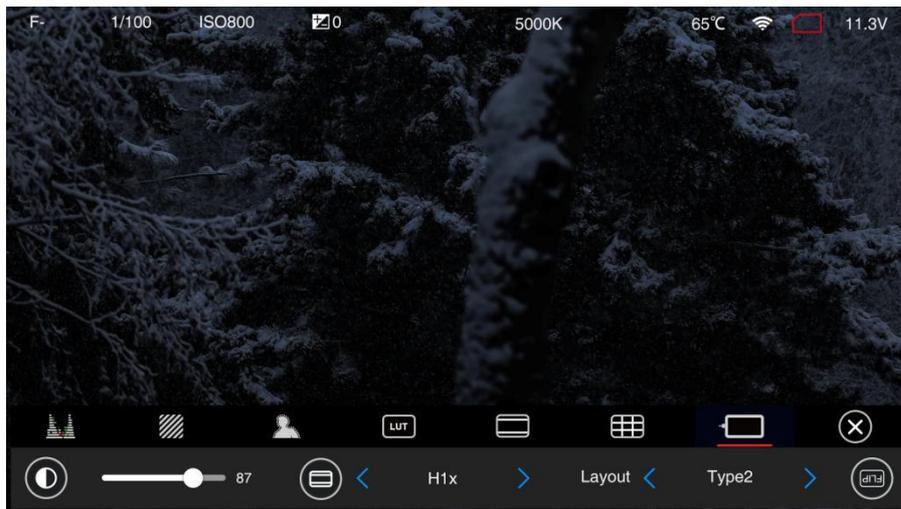
■ Frame Line



■ Auxiliary Line



■ Monitor

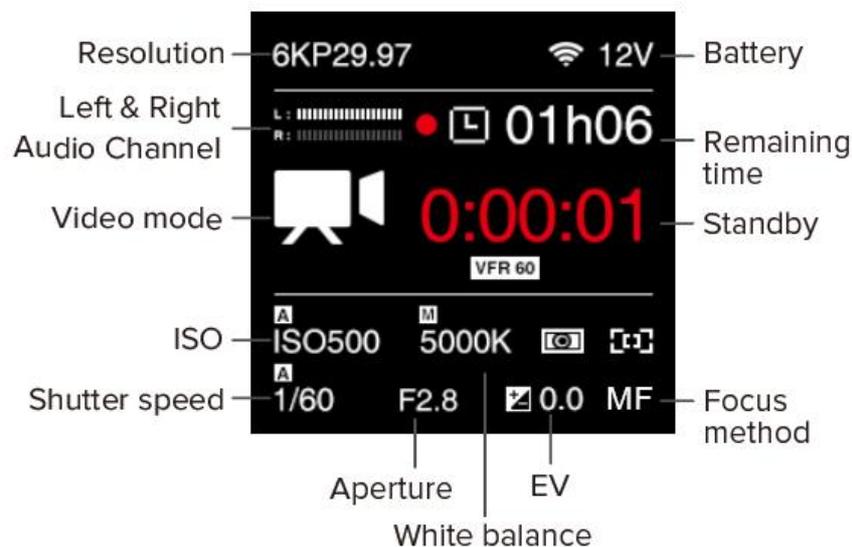


4 Video Recording

4.1 Start / Stop Recording

While camera is in **Standby** mode with CFast card (or ZBlade) inserted (and the storage is not full), press **Record** button to start recording, and press **Record** button again to stop recording.

The recording time and remaining time for recording (depends on the capacity of the storage) would appear on the LCD display.



4.2 Variable Framerate (VFR) Video Recording

VFR will enable you to record a footage with higher / lower frame rate in capturing than in playback, which is usually called slow motion / fast motion effect.

For example, to use the camera record a C4K 2.4:1 @120fps footage with playback frame rate in C4K 2.4:1 @29.97fps, you would need to follow the steps as below:

- 1) In **Record** setting, set **Resolution** to "C4K 2.4:1", **Project FPS** to "29.97" and make sure **Playback FR** is set to "Default".
- 2) Set **Variable Framerate (VFR)** to "120".

- 3) Go back to the standby status, an “VFR 120” icon would show up on LCD display, which means the camera is working with VFR in 120fps.

Note: Different resolution and frame rate settings correspond to different variable frame rate range. Refer to **2.2 Record**.

4.3 Timelapse Video Recording

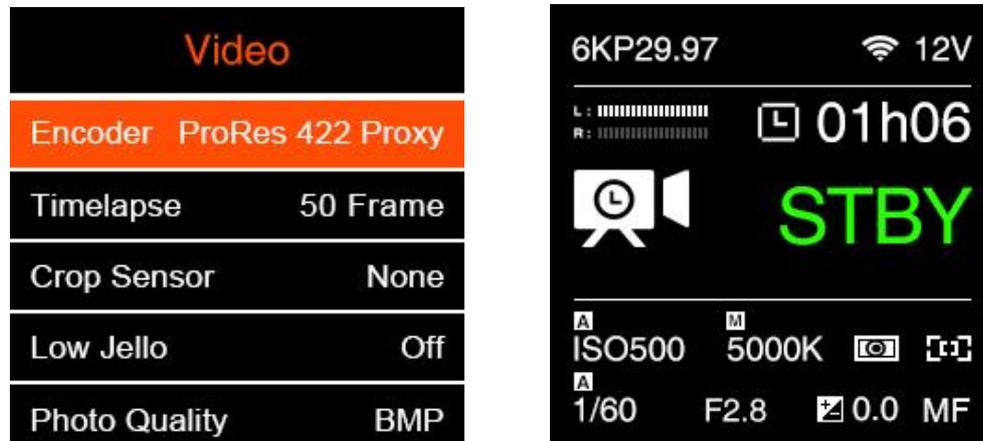
With **Timelapse** function, the camera can record time-lapse video with steps are as follows:

- 1) Set **Record - Variable Framerate** to "off", otherwise it is not able to enable Timelapse setting.
- 2) In **Video - Timelapse** setting, set the frame value through the **FN** key (skip to the next setting item), and **UP/ DOWN** button, then select “OK” to confirm it.

The minimum unit of frame is 1 frame, and the range can be set as 2~1800 frame.



- 3) After the timelapse frame is confirmed, the value will show in the item **Timelapse**, and the camera icon will change to timelapse recording mode on the standby screen.

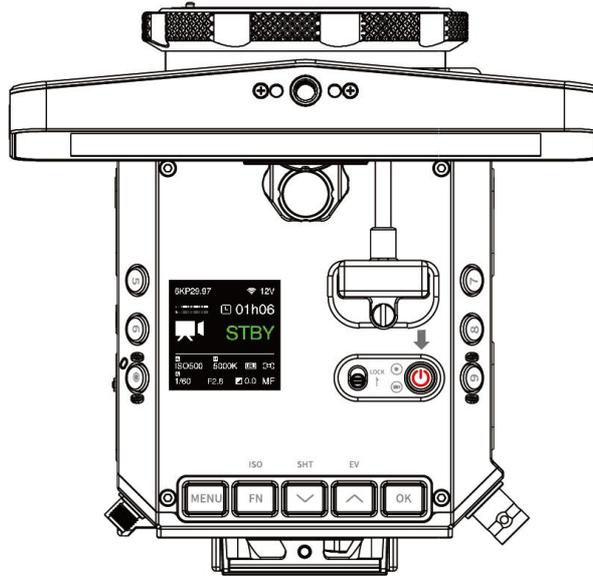


- 4) Set other required video parameters, except the **Variable Framerate** can not be opened, the rest is the same as normal recording video.
- 5) Press **Record** button and the camera will start recording. Note that the recording time shown on the screen is the time-length of the video file that is being recorded, but not the time used for recording.

5 Video Playback & File Management

5.1 Video Playback

While camera is in **Standby** mode, short press **Power** button to enter into **Playback** mode, the camera will prompt to reboot, select **OK**.



Press **OK** button or tap the **PLAY** icon to play the video.



Press the **Up / Down** button or tap the **speed up / slow down** icon to speed up / slow down (2x & 4x faster / slower).



Slide to control video playback progress.



Press **OK** button / tap the **Play** icon to pause, press **MENU** button to stop it.



Tap the **File Folders** icon, there would list the footages.

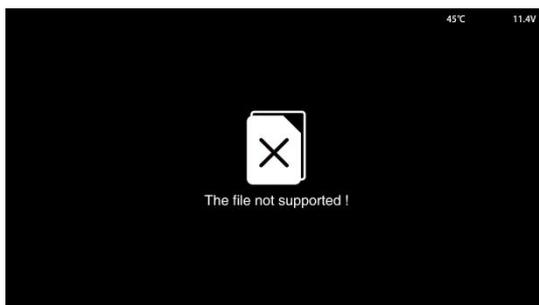
There would show the video serial No. , resolution, framerate and video duration. Press **Up** / **Down** button or tap the screen to choose the footages.



Tap the **Return** icon, there would list the file folders on the storage (CFast card or ZBlade).



Please note if there is **no storage** / **no valid media file** / **the file not supported** / **the file is damaged** in the camera, there will be alert message on the screen.



Note: LUT is supported in playback.

5.2 Delete Video

Under Playback mode, **long press FN button** when the video is not playing, there will be a pop-up confirmation message "Delete this file?", tap "Confirm" to delete the file.

Note: The deleted file is not restorable, please double check before this action.

5.3 Download Video

The Z CAM E2-F6 Pro only supports taking out the CFast card (or ZBlade) to get the footages recorded. Does not support export via USB Type-C port connected to computer.

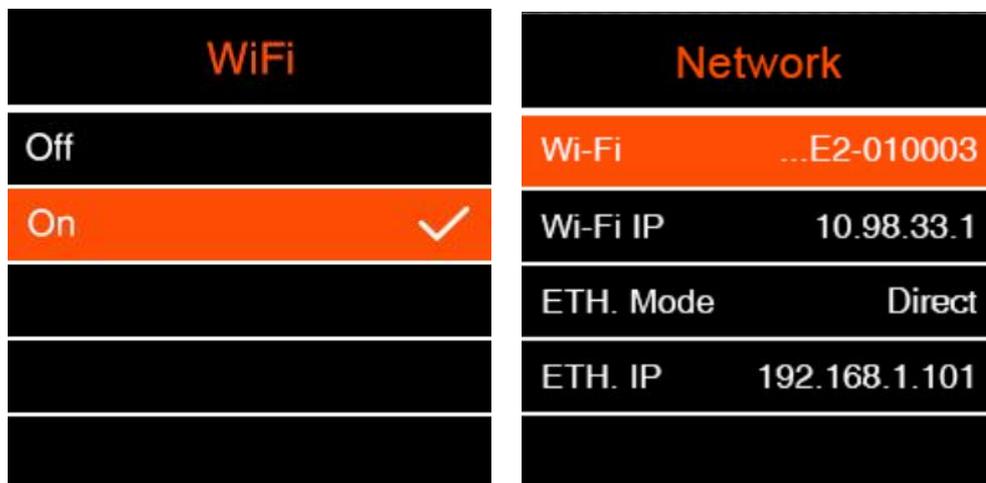
Note: Turn off the camera before removing the storage card.

6 Connect to the Camera

6.1 Wi-Fi Connection

You can connect the camera to an external device (smart phone / tablet) or a computer (PC / Mac) through Wi-Fi with following steps:

- 1) Install two Wi-Fi antennas to the two Wi-Fi antenna ports of the camera.
- 2) In **Connect – Network** setting menu, set the **Wi-Fi** to “On”, go back to **Network** setting, there will show the Wi-Fi ID: ZCAM-E2-XXXXXX (last 6 digits match to camera ID) on the **Wi-Fi** item.



- 3) Press **MENU** button to go back to **Standby** screen, there will be a **Wi-Fi** icon on top of the screen.



- 4) Connect to the camera from the mobile device or a computer with that Wi-Fi ID, and the default password of the Wi-Fi is **12345678**. (Password can be changed using Z CAM app).

6.2 Ethernet Connection

There are 2 options to connect the camera to a computer through Ethernet: **Direct**

Connection or **Connection through a Router**:

- **Direct connection**

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

- 1) Set the **Network - ETH. Mode** to “Direct” in **Connect - Network** setting (default).

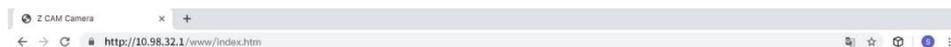


- 2) Connect the camera to a computer with an Ethernet cable.



- 3) Open a browser on the PC / Mac, type in the address:

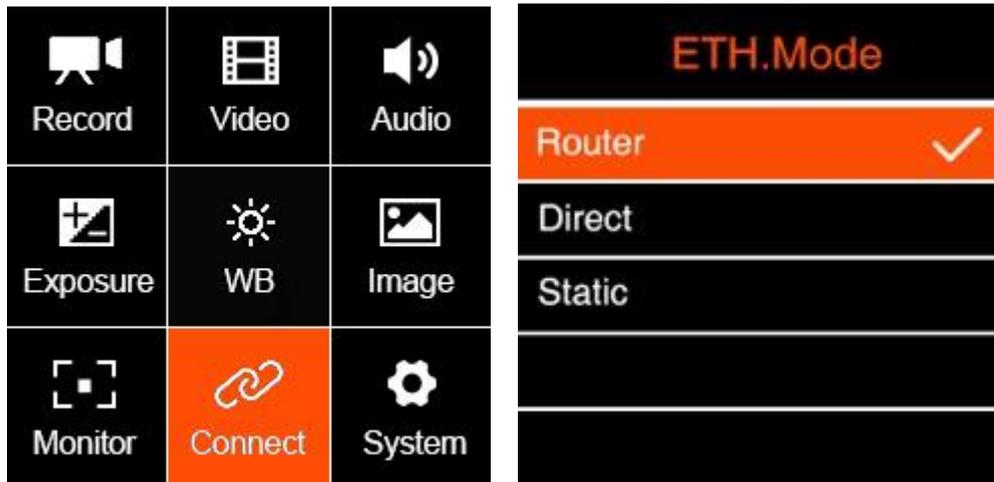
<http://10.98.32.1/www/index.html>. You will see the page below if it's connected successfully.



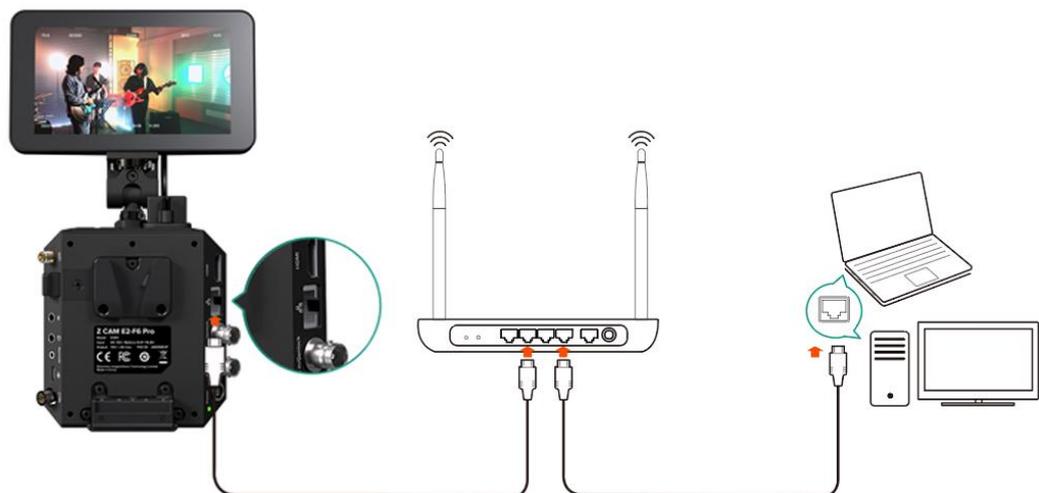
- **Connection through a Router**

You can set up an Ethernet connection between the camera and a computer through a router with following steps:

- 1) Set the **Network – ETH. Mode** to “Router” in **Connect-Network** setting (2.9 **Connect – Network-ETH. mode**)



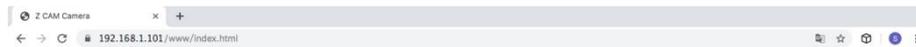
- 2) Connect the camera to a router with an Ethernet cable, then connect the router to the computer with Ethernet cable or Wi-Fi. (Note: Camera and PC should connect to the LAN port of router, not WAN port)



- 3) Check the **Connect – Network** setting, and there will show the IP address of the camera on **ETH.IP** item (e.g. 192.168.1.101) if the connection is OK.

Network	
Wi-Fi	...E2-010003
Wi-Fi IP	10.98.33.1
ETH. Mode	Router
ETH. IP	192.168.1.101

- 4) Open a browser on the PC / Mac, type in the address:
<http://192.168.1.101/www/index.html> (192.168.1.101 is the IP address example on step 3 above, please use the actual IP address of the camera. You will see the page below if it's connected successfully.



7 Using Z Camera App

7.1 Download & Connect

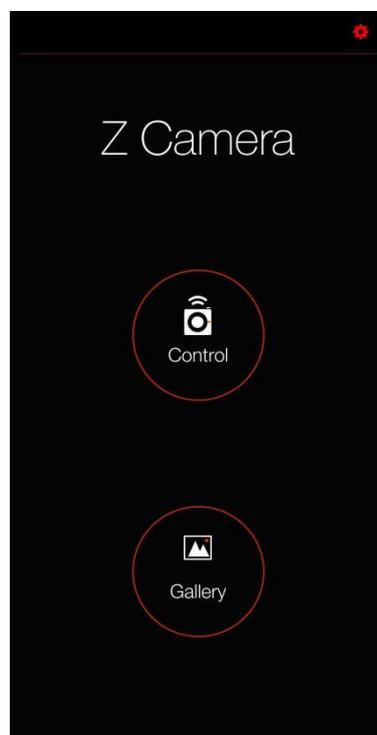
Download and install the **Z Camera App** from Apple App Store or Google Play Store (**Z CAM App**) to your device (smart phone or tablet), then you can use this device to live view and control the camera including start / stop recording and most of the settings, with following steps:

- 1) Install App: Search "Z Camera" in Apple App Store or Google Play Store (Z CAM) to download and install it.
- 2) Connect to camera: Connect the device to the camera with an USB Type C to Lightning cable (iOS device) / USB Type C to USB Type C cable (Android device) , or through Wi-Fi.
- 3) Wi-Fi connection refer to the section 6.1. The steps of USB connection are as follows:
 - 3.1. Connect the device to the camera via USB cable.



3.2. If it's the 1st time to connect the device to the camera, there will be a pop-up message on your device "Trust this device?", click "Yes" and it will ask you to input password, which is the password to unlock your iOS device.

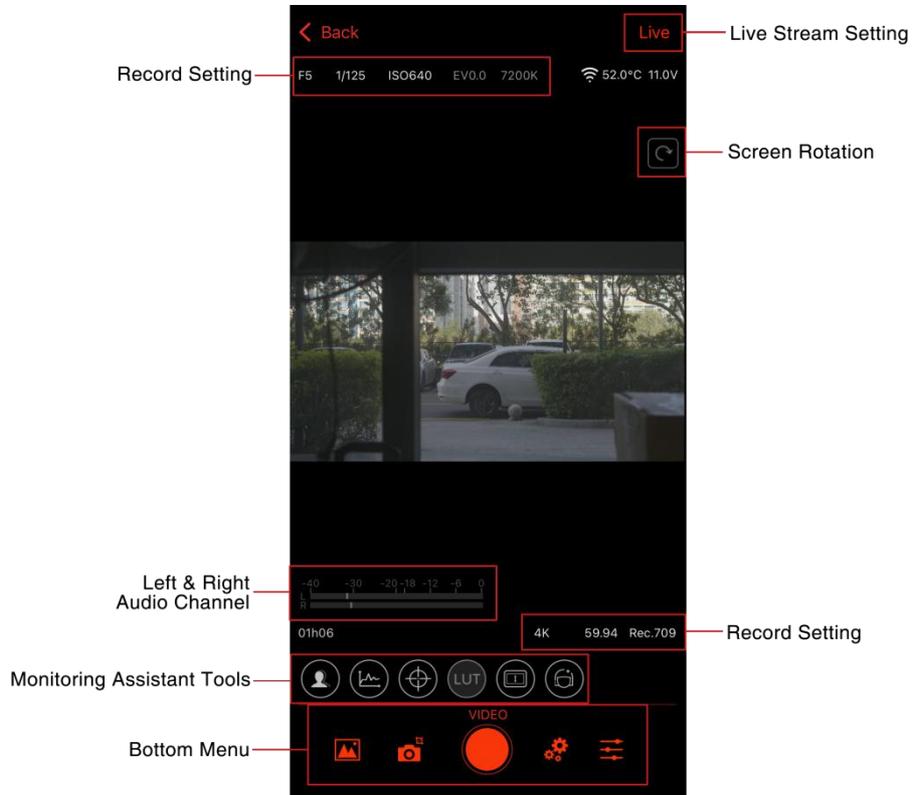
3.3. Open Z Camera App, if the camera is connected successfully, the "Control" icon will be activated (it's gray color if there is no connection) and there will be a small USB or Wi-Fi icon on (depends the connection method you use). Tap the "Control" icon and you will come into the live-view and control panel.



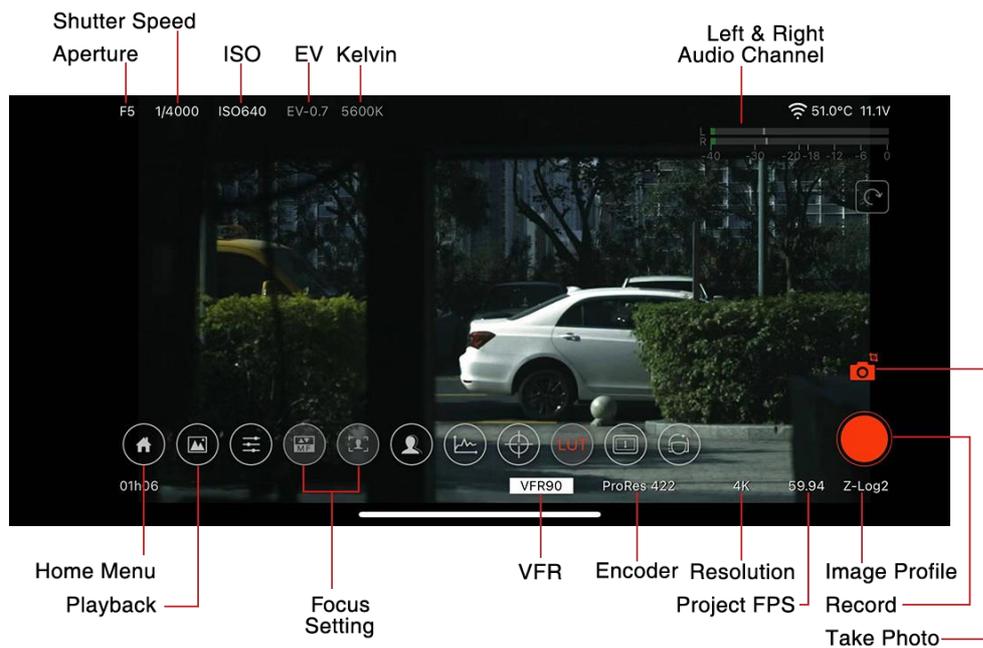
In the App, you can monitor and play back the video of the camera in real time, and set camera parameters through the menu.

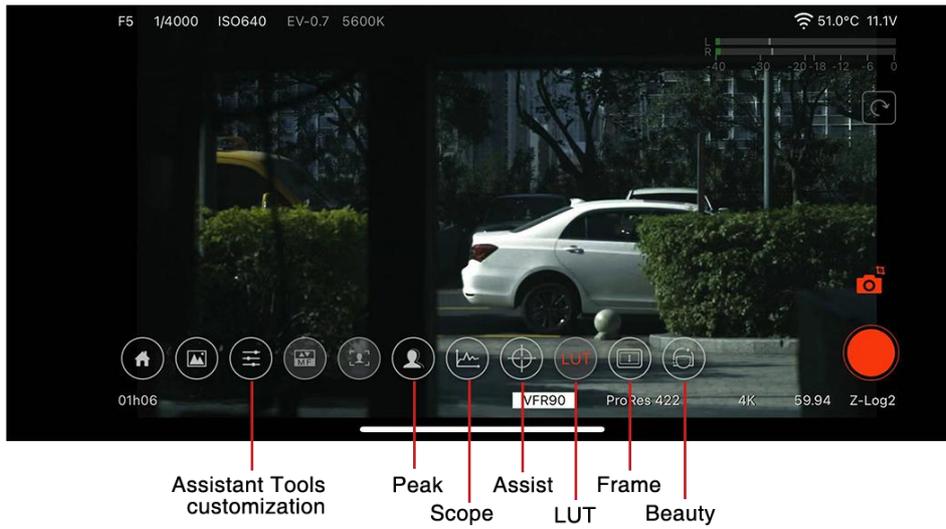
7.2 App Overview

- UI Overview



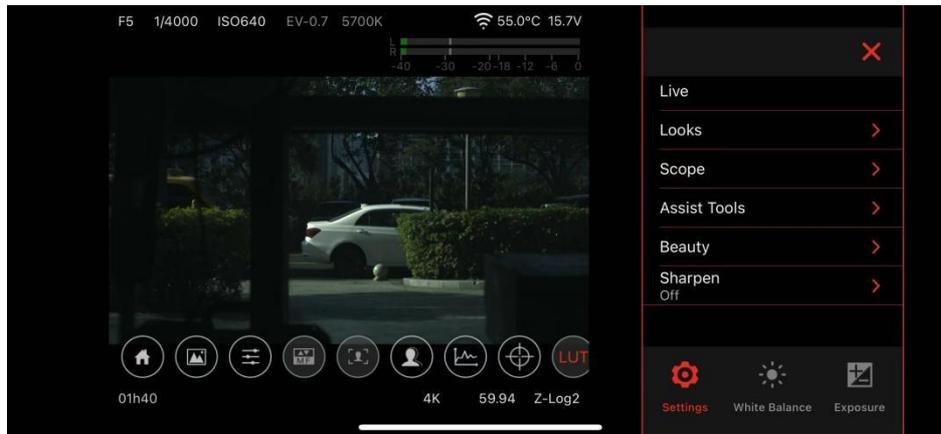
Tap the Screen Rotation switch to landscape.





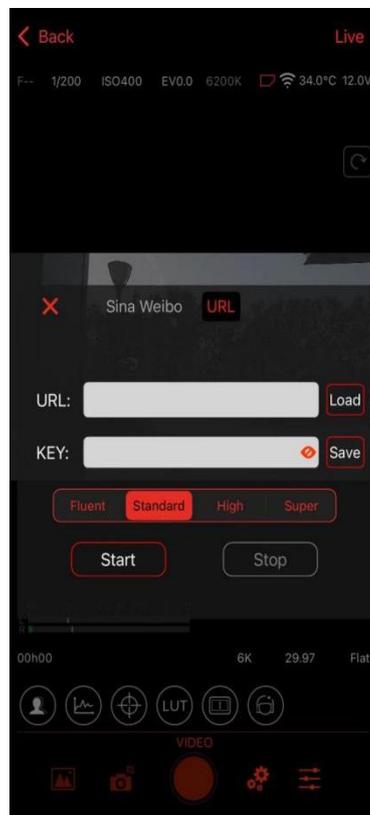
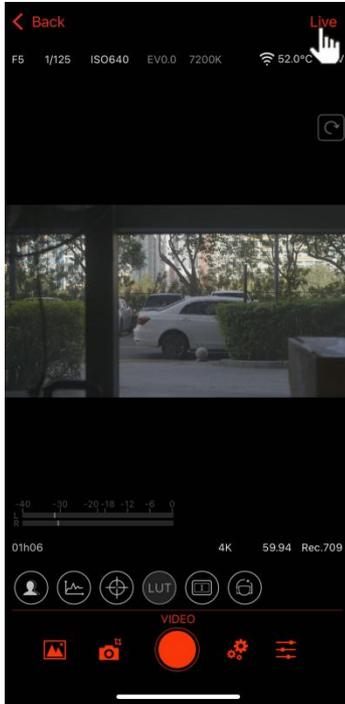
● Setting Menu

Slide left on the screen to pull out the settings menu, where you can adjust camera settings, white balance and exposure parameters.



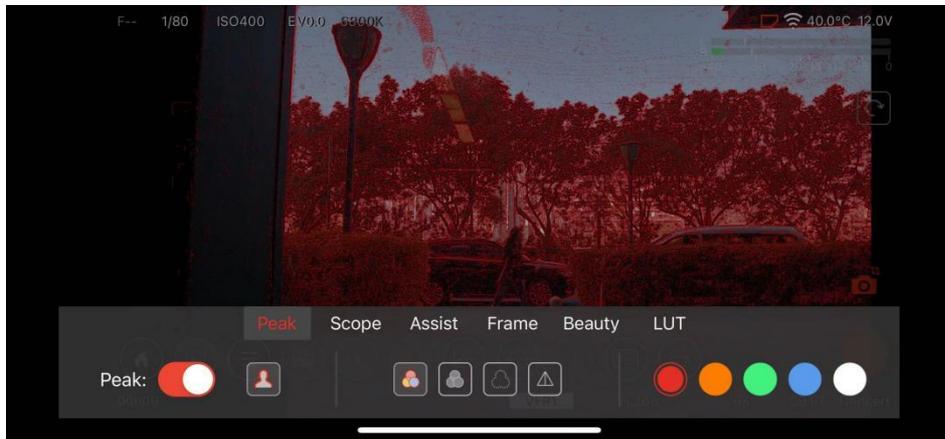
● Live Streaming

Tap the **Live** option in the settings menu or vertical screen interface, to enter the live streaming settings, supports Sina Weibo or URL streaming.

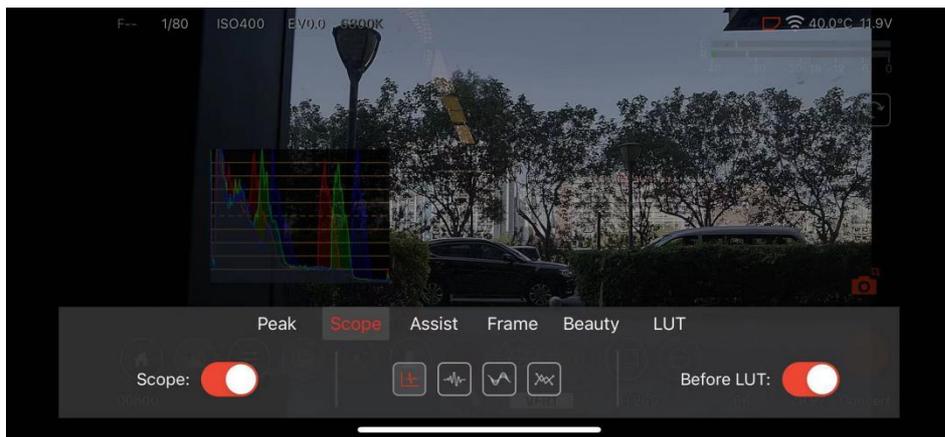


- **Assistant Tools Customization**

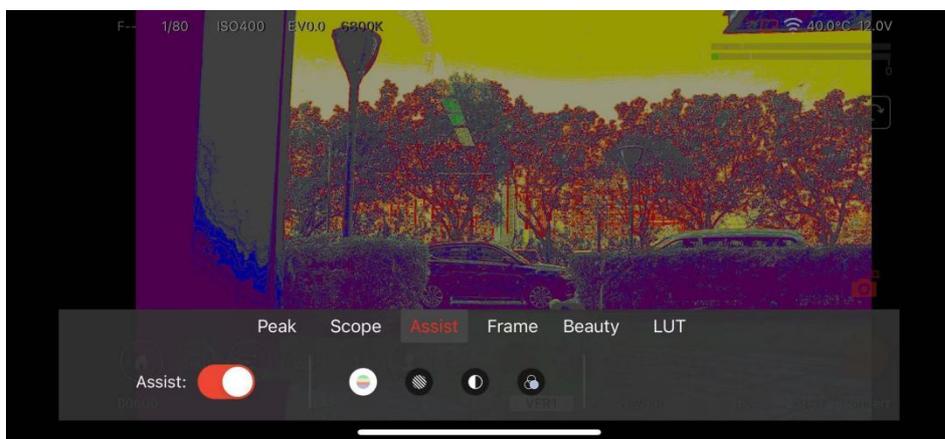
- **Peak**

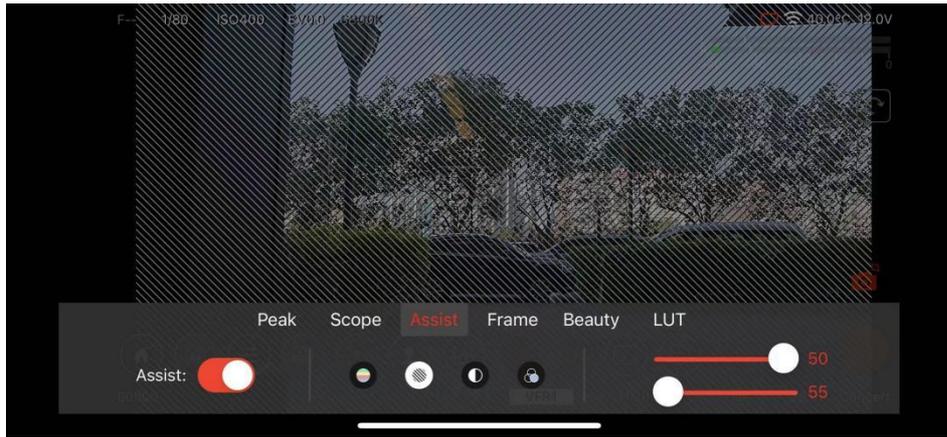


- **Scope**

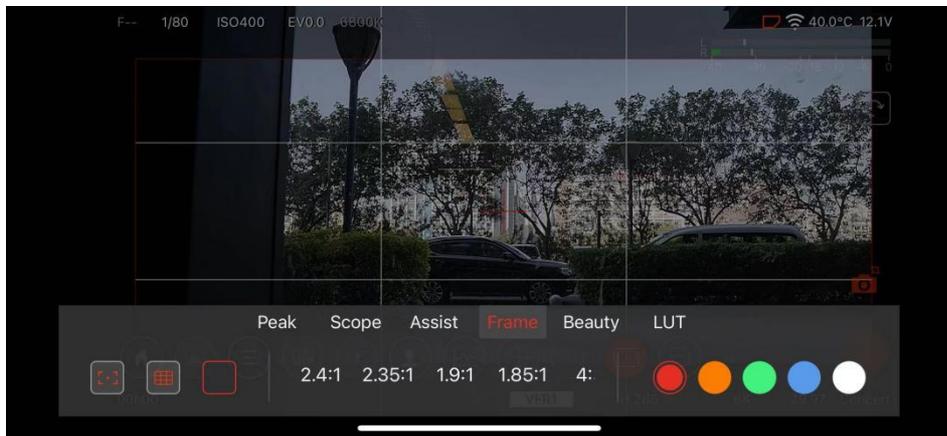


- **Assist**

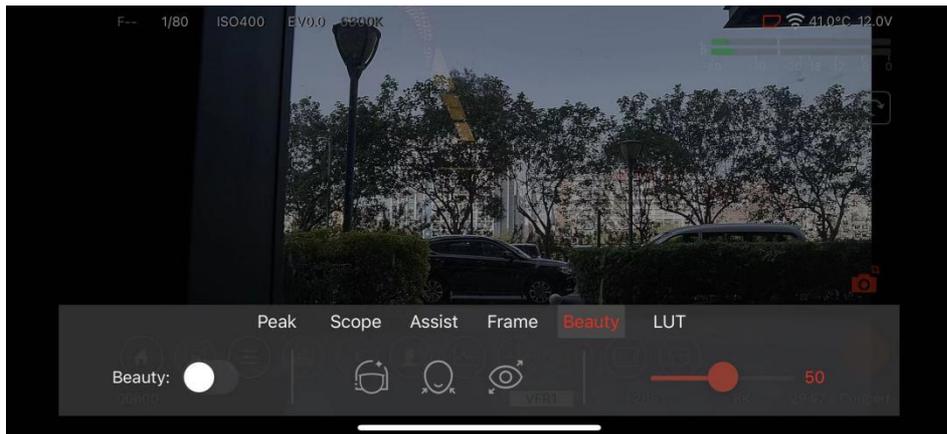




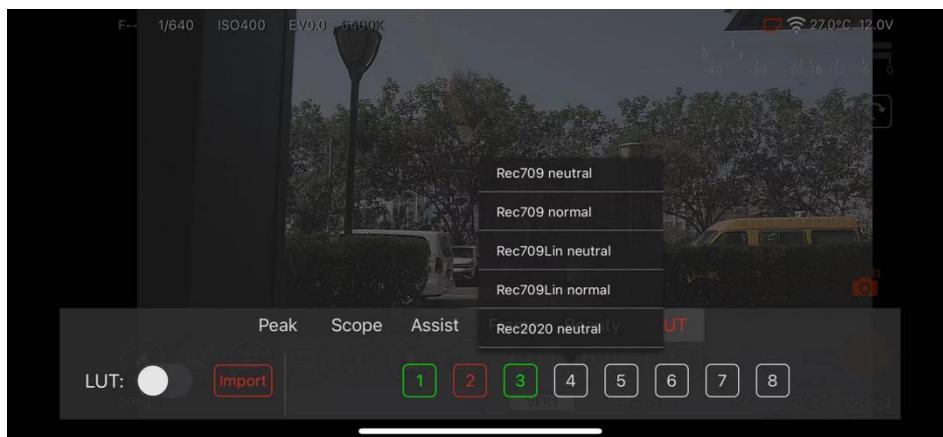
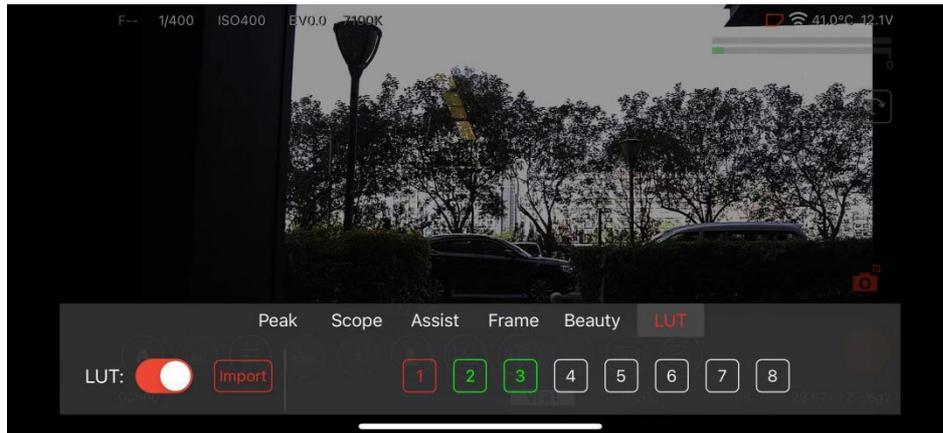
■ **Frame**



■ **Beauty**



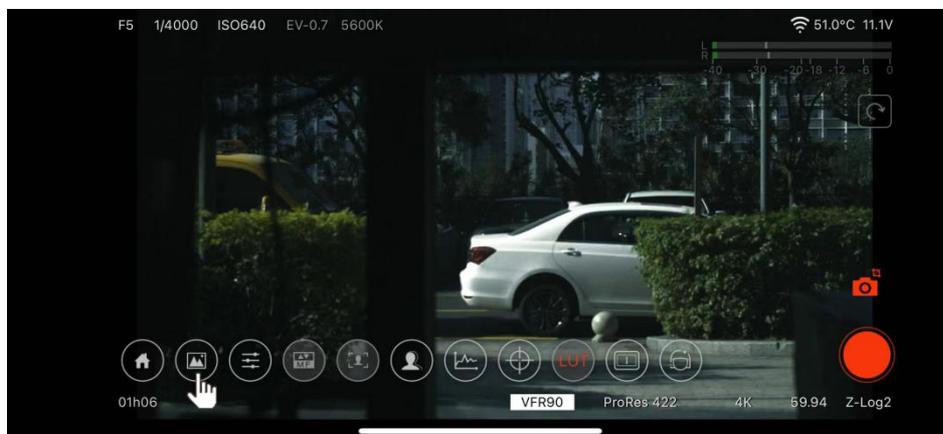
■ LUT*

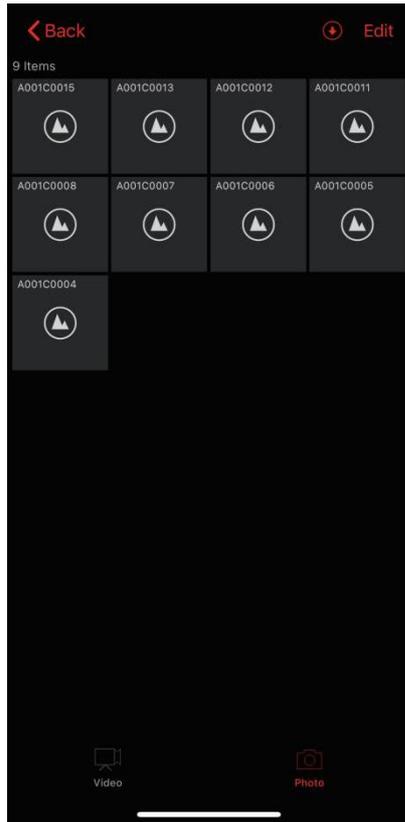


*LUT function requires camera image configuration set to Z-Log2 / Flat available.

● Playback Mode (Gallery)

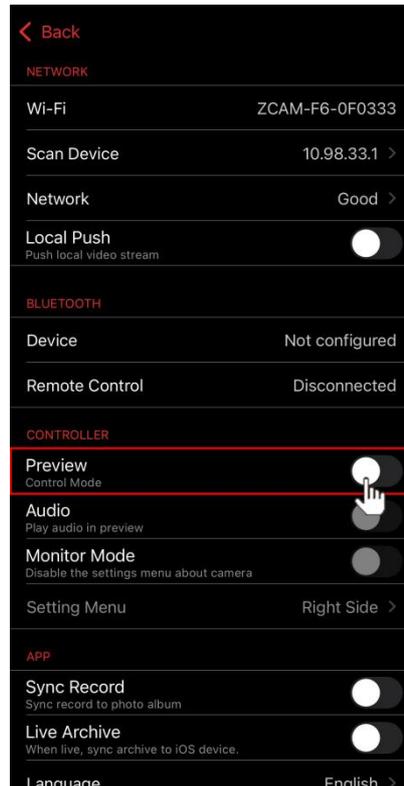
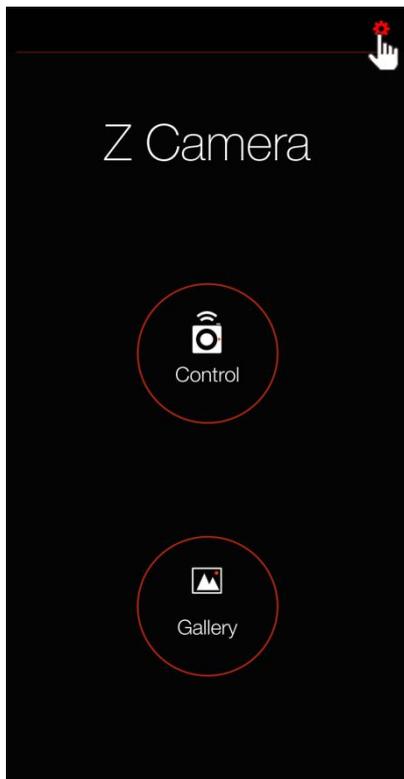
Tap the **Gallery** icon enter **Playback Mode** (The camera will switch modes synchronously), to playback on Camera, viewed on mobile phone or downloaded footage.





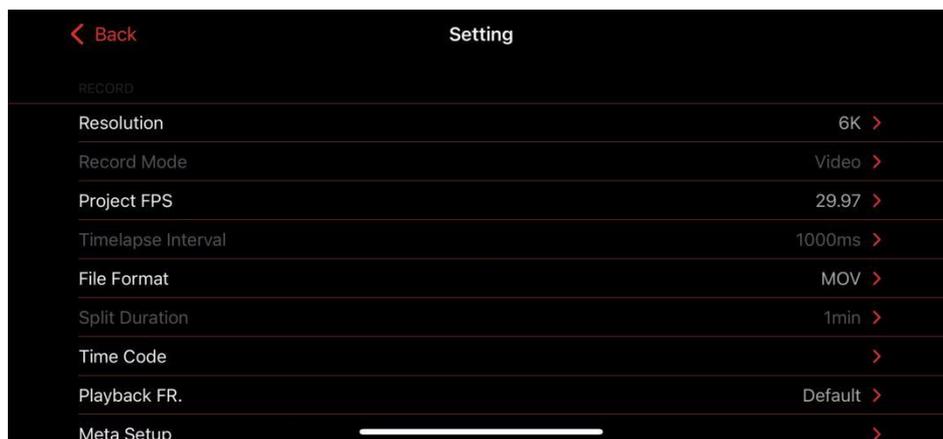
- **Parameter Control Mode**

Tap the **Setting** icon on the homepage to enter the settings menu, close **Controller - Preview**.



Return to the home page, tap the **Control** icon to ente **Parameter Control Mode**.

In this mode, main parameters can be quickly adjusted, tap the **More** icon to open the **Setting** menu for more function / parameter control.



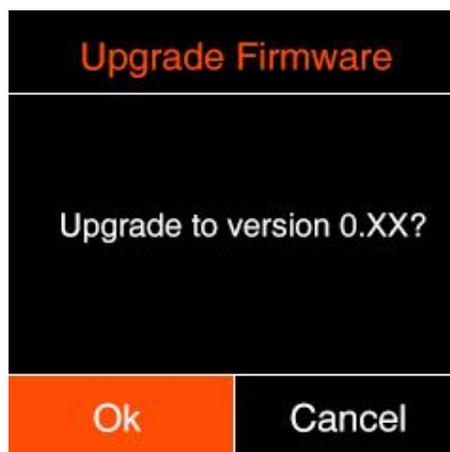
Note: The interface of Z Camera App on Android devices is slightly different from that on iOS devices, but the functions are basically the same.

8 Firmware Upgrade

Follow the steps below to upgrade the firmware of the camera:

- 1) Download the latest version of firmware for Z CAM E2-F6 Pro from Z CAM's website:
<http://www.z-cam.com/e2/updates/>
- 2) Put the firmware file to the root directory of the CFast card (or ZBlade) (**DO NOT unzip it!**).
- 3) Insert the CFast card (or ZBlade) to the camera and power it on.

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 CFast card (or ZBlade) 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** setting, press **OK** button and you will see the pop-up message for firmware update. Select "OK" and press **OK** button to update the firmware*.



** Please make sure the camera will not power off during the firmware upgrade / update process.*

9 Camera Maintenance

- As the camera is a precise instrument, please do not drop it or let it suffer physical strike.
- As the camera is not waterproof, please do not use it in water or under a humid environment.
- If the camera is infiltrated by water accidentally, please shut it down, cut off the power or take off the battery (if any), take out the memory card, and drying the camera within 24 hours.
- The working temperature of the camera is 0-40°C. Please do not place or use the camera in an environment where the temperature is lower than 0°C or higher than 40°C.
- Please do not let the camera and the installed lens to face the sun for long time.
- Please do not touch the image sensor while removing the lens.
- Please do not use any detergent containing organic solvent to clean the camera body and the lens.
- Please use soft lens cloth to clean the camera body regularly.
- Please do not disassemble the camera by yourself.
- Please do not place the camera in a darkroom or a lab or other places where corrosive chemicals are stored.

Disclaimer: All product features and technical specifications stated above are subjected to Z CAM's sole interpretation and explanation.