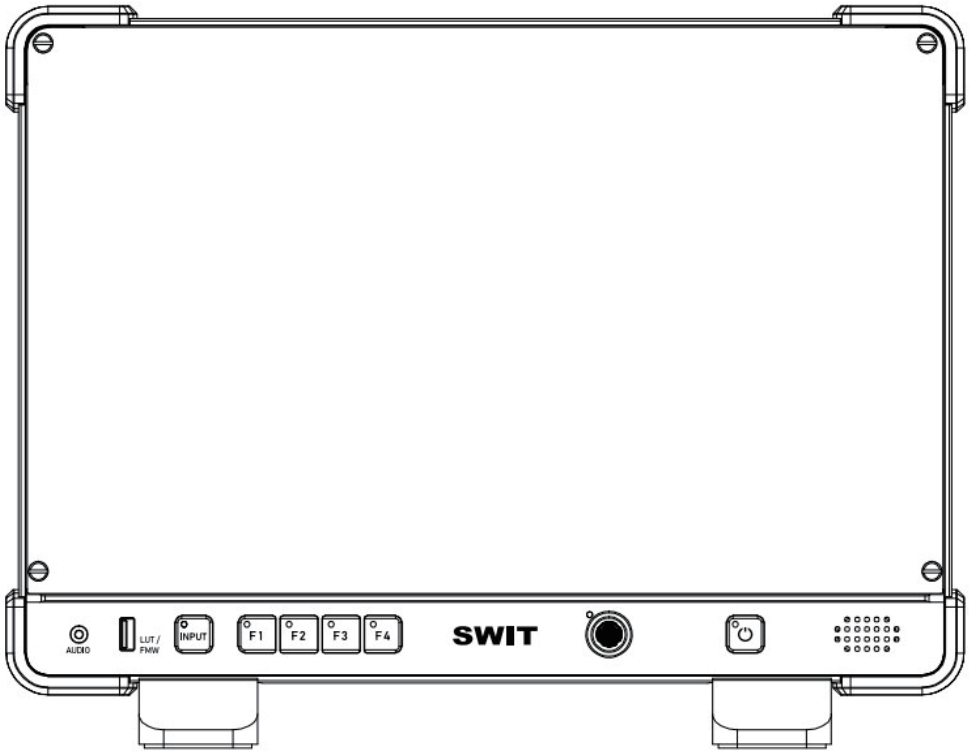
SWIT®

SWIT ELECTRONICS CO., LTD.

LCD Monitor

Model: K15/21



User Manual

Please read this user manual throughout before using

Ver：B

Preface

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All brands and trademarks of SWIT Electronics Co., Ltd. are protected and other relative trademarks in this user manual are the property of their respective owners.

Due to constant effort of product development, SWIT reserves the right to make changes and improvements to the product described in this manual without prior notice

The warranty period of this product is 2 years, and does not cover the following:

⑴ Physical damage to the surface of the products, including scratches, cracks or other damage to the LCD screen or other externally exposed parts;

⑵ The LCD dot defects are not over three;

⑶ Any damage caused by using third-party power adaptors;

⑷ Any damage or breakdown caused by use, maintenance or storage not according to the user manual;

⑸ The product is disassembled by anyone other than an authorized service center;

⑹ Any damage or breakdown not caused by the product design, workmanship, or manufacturing quality, etc;

＊ Any sales personnel have no rights to provide additional warranty.

For any suggestions and requirements on this product, please contact us through phone, fax, Email, etc.

※ This manual is applicable to all models of K and the schematic diagram is taken as the appearance diagram of K15. Any specification, appearance, this manual will be additional text description.

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Maintenance

Warning

1. In order to reduce the risk of fire and electrical shock, do not lay this product in rain or damp places.
2. Please keep away from the strong magnetic field; it may cause the noise of the video and audio signals.

The power

1. Please use the power adapter provided or recommended by the manufacturer in order to avoid damage.
2. For a third party power adapter, please make sure the voltage range, supplied power, and polarity of power lead are fit.
3. Please disconnect the power cable under the following situations:

(A) If you do not operate this monitor for a period of time.

(B) If the power cable or power adaptor is damaged.

(C) If the monitor housing is broken.

The monitor

1. Please do not touch the screen with your fingers, which would probably deface the screen.
2. Please do not press the screen , the LCD is extremely exquisite and flimsy.
3. Please do not lay this product on unstable place.

Cleaning

1. Please clean the screen with dry and downy cloth or special LCD cleaner.
2. Please do not press hard when cleaning the screen.
3. Please do not use water or other chemical cleanser to clean the screen.
   The chemical may damage the LCD

Contents

Packing List

Serial Number	Standard package	Details
1	Monitor	×1
2	Desktop Feet with 2 Screws	×2
3	Power Cable	×1
4	VESA Mount	×1
5	Battery Plate (V Mount & Gold-Mount)	×1
6	Cheese plate	×2
7	Warranty card	×1

1. Introduction

The K Series LCD Monitor is a high-performance professional LCD monitor suitable for various television station business systems, including programme production, central upload/download, broadcast control, studio use, and central monitoring.

The K Series monitors use advanced 10-bit digital processing technology, featuring functions such as 3D comb filtering, deinterlacing, The panels are equipped with broadcast-grade TFT screens: the K15 monitor has a resolution of 1920x1200, the K21 monitor has a resolution of 1920x1080. They support High Dynamic Range (HDR) mode and a wide colour gamut, providing more accurate colour reproduction and faster response times. Additionally, they offer a 178° viewing angle with excellent brightness and contrast.

The K Series monitors feature professional display functions and come with a range of built-in tools, including crosshairs, center markers, safe markers, area markers, waveforms, vectorscopes, RGB arrays, histograms, audio meters, focus assist, sharpness, false colour, and zebras. They also include preset camera LUTs and professional camera Log tables, with the capability to load different LUTs for various colour space mappings.

The K Series monitors support up to 2 channels of 3G/HD/SD-SDI signal input, 1 channel of HDMI input, and 2 channels of 3G/HD/SD-SDI output.

2. Product Features

- Popular metal narrow bezel design
- 178-degree wide viewing angle
- Multi-format inputs, including 3G/HD/SD-SDI and HDMI inputs
- FULL HD TFT panel with wide viewing angle
- 10-bit signal processing technology
- Supports HDR (High Dynamic Range) image quality technology
- Provides focus assist, false colour, zebras, and sharpness functions for adjusting brightness distribution and focus
- Supports high-quality waveform, vector scope, histogram, and audio meter monitoring
- Supports various markers, including area markers, safe markers, and center markers
- Supports audio level meters and timecode

3. Interface Operation Instructions

·The interface layout of the K15 is shown in Figures 1 and 2:

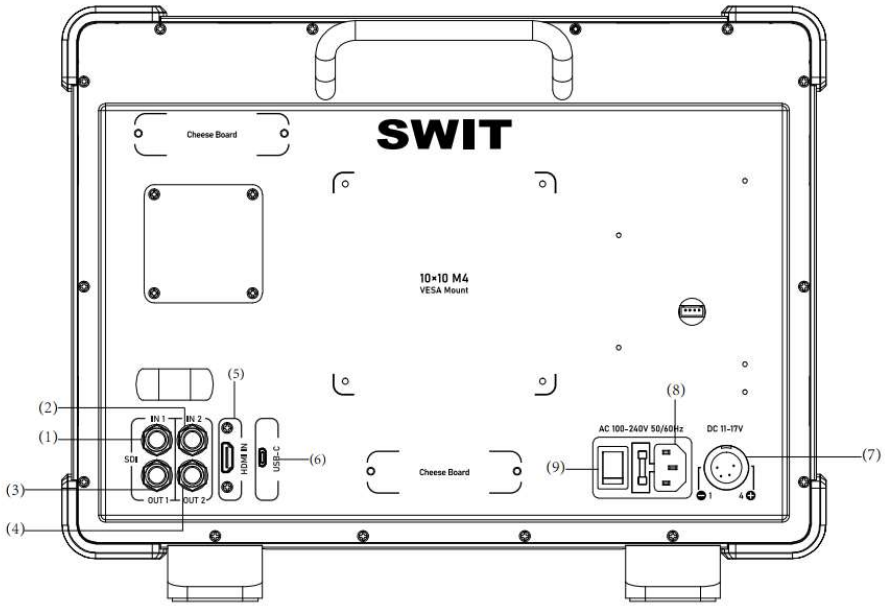


Figure 1: Rear Interface Diagram of the K15

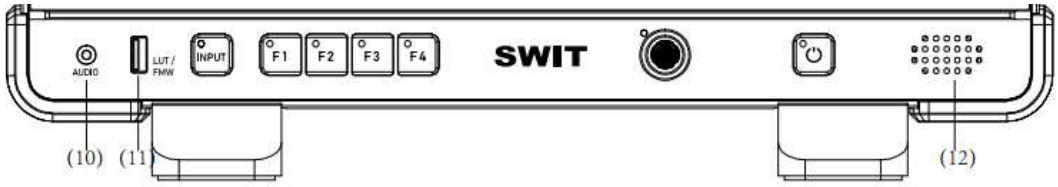


Figure 2: Front Panel Interface Diagram of the K15

No.	Connector	Description
1	SDI IN1	SDI Input interface
2	SDI IN2	SDI Input interface
3	SDI OUT1	SDI Output interface l
4	SDI OUT2	SDI Output interface l
5	HDMI IN	HDMI Input interface, supports HDCP, compatible with DVI 1.0, HDMI 1.4
6	USB-C	Calibration Interface
7	DC	DC Power Input Interface, XLR 4-pin, 11-17V
8	AC	AC Power Input Interface, 100-240V, 50/60Hz
9	Power Switch	Switching the button to the "—" position powers on the device; Switching
10	Monitoring	Front Headphone Jack, 3.5mm Stereo Jack
11	LUT/FMW	USB Port, used for loading user LUTs and firmware upgrades.
12	Speaker	External speaker

4. Buttons and Functions

The front panel of the K15 monitor features a row of control buttons, as shown in Figure 3. The five-way navigation button is used for monitor settings, editing auxiliary tools, and adjusting the display size.

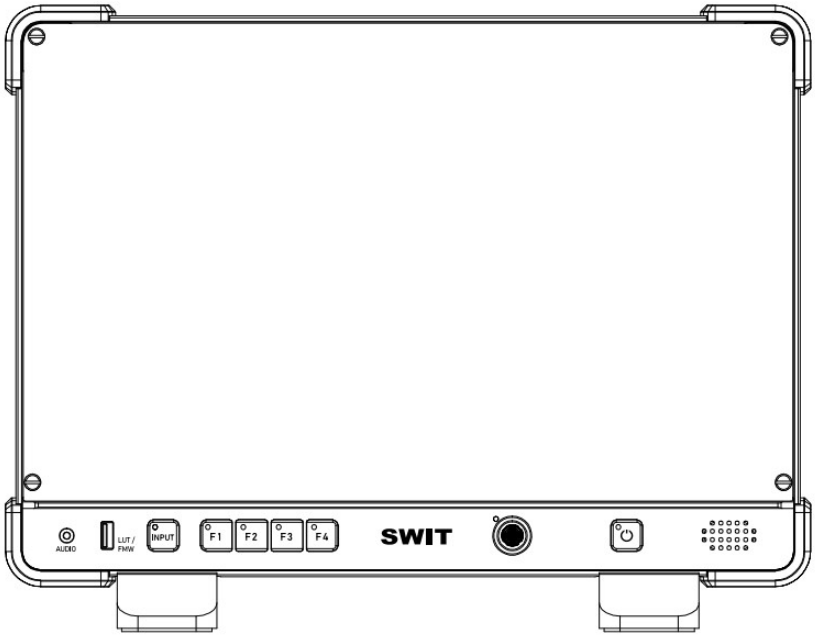


Figure 3 K15 Buttons in Front Panel

Buttons	Name	Function
INPUT	Input	Choose the input source channel
F1	F1	Choose the tool assigned to F1 button
F2	F2	Choose the tool assigned to F2 button
F3	F3	Choose the tool assigned to F3 button
F4	F4	Choose the tool assigned to F4 button
	Joystick	Monitor settings, tool settings and Myset operations
	Power	Power on or off

5.Joystick Operations

The monitor provides a Joystick at the front panel. It is used for monitor settings, adding tools for scenes, tools settings, zoom image and so on.

Use the joystick as a navigation tool to scroll between scenes and set features. The joystick provides multiple functions with five operation directions, Up, Down, Left, Right, Straight Down, and Clockwise Rotation or Counterclockwise Rotation, as shown in Figure 4.

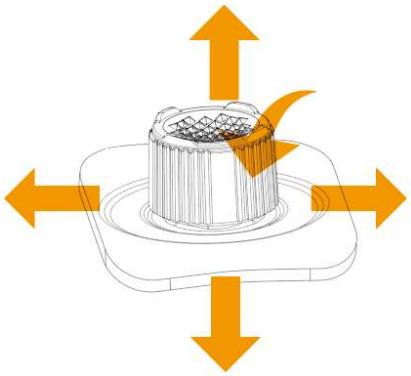


Figure 4: Five Operation Directions for Joystick

- Switch to next MySet
- Switch to last MySet
- Enter Zoom&Pan menu(with signal input)
- Enter Menu Bar(Volume adjustment, Backlight adjustment, Monitor settings, Add MySet and Delete MySet)
- Enter Tool Bar

The details about the joystick operations are described as shown in the following table:

Direction	Operation
UP	Without any menu, scroll up to access ZOOM mode. Keep scrolling up, and switching among these three modes FULL→2X→4X; In ZOOM 2X or ZOOM 4X editing mode, scroll up the joystick to move the starting position of the enlarged image; In monitor settings, scroll up to select the previous item; In scene tool menu, scroll up to select the previous item.
DOWN	In ZOOM mode, scroll down to exit ZOOM mode. In ZOOM 2X or ZOOM 4X editing mode, scroll down the joystick to move the starting position of the enlarged image; In monitor settings mode, scroll down to select the next item; In scene tool menu, scroll down to select the next item.
LEFT	Without any menu, scroll left to Next MySet; In ZOOM 2X or ZOOM 4X editing mode, scroll left to move left the starting position of the enlarged image; In monitor settings menu, scroll the joystick left to access the next level menu, or increase the item value; In a tool bar of a scene, scroll left to access the next level menu or the upward adjustment the item value.
RIGHT	Without any menu, scroll right to Next MySet; In ZOOM 2X or ZOOM 4X editing mode, scroll right to move right the starting position of the enlarged image; In monitor settings menu, scroll the joystick right to access the next level menu, or increase the item value; In a tool bar of a scene, scroll right to access the next level menu or the upward adjustment the item value.
STRATIGHT DOWN	In ZOOM 2X or ZOOM 4X mode, press straight down to access editing mode where the zoomed image can be panned up/down/right/left; In ZOOM 2X or ZOOM 4X editing mode, press straight down to exit editing mode; In a scene, press straight down to display the Tool bar; In a tool bar of a scene, press straight down the joystick to enable or disable the selected tool; In monitor settings menu, press straight down the joystick to confirm the selection of the last level menu item and return to the previous level menu.

Tips

You can also rotate the joystick in clockwise or counterclockwise to increase or decrease, or adjust the related selection. You can rotate clockwise or counterclockwise. Clockwise rotation achieves rapid downward scrolling or incremental operations, while counterclockwise rotation enables fast upward scrolling or decrement operations.

6. Power On

The power switch is located on the lower side of the rear panel and is used to power the device on or off. When the switch is in the "-" position, the device is powered on; when the switch is in the "O" position, the device is powered off.

- **Power Method**

This device offers the following three power supply options:

1. Battery Power: A battery plate is provided. Simply connect the battery to the plate. It supports a voltage range of 11-17V.
2. AC Power: External power is connected to the AC interface, with specifications of 100-240V, 50/60Hz.
3. DC Power: An external XLR 4-pin adapter is connected to the DC interface, supporting a voltage range of 11-17V.

- **Power On Operation**

First, install the battery and connect to BATT IN, or connect the AC power cord.

Second, switch the power switch to "—" position when using the AC power input;

Finally, press the power button located on the bottom right of the front panel to power on the device.

Tips

- It will display the boot screen after power on for 3~4 seconds.
- **Front Panel Power Indicator Light Colors:** When the power is connected, and the power switch is in the "1" position, the device is powered. At this point, pressing the power button on the front panel will cause the indicator light to turn white, indicating that the device is powered on. A short press of the power button will switch the device to standby mode, turning off the indicator light. Pressing and holding the power button for 4 seconds will turn off the device.

Warning

- Only use the adapter and the power cord specified by the manufacture for your safety!

7. Input Signal Selection

INPUT: Input Selection

Select the input signal from each input interface. Press this button to display the Input Source menu at the top right corner of the screen, as shown in Figure 5. Press the input button or UP/DOWN button to choose your input channel.

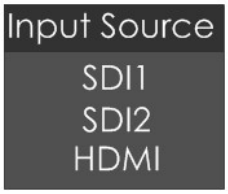


Figure 5 Source Menu

8. ZOOM&PAN

Activating the image zoom (ZOOM) function allows the image to be magnified by 2X or 4X, and you can also move the starting display position of the image.

ZOOM 2X

- **Enter Zoom 2X Mode**

Scroll right the joystick to access a scene, and then scroll up the joystick to access Zoom 2X mode, the image is enlarged twice as much as the original one. There will be a Zoom 2X icon at the bottom right of the screen, as shown in Figure 6:

Figure 6 Zoom 2X Mode

- **Zoom 2X Pan Mode**

Pressing the joystick vertically will enter the 2X image start position adjustment mode. A 2X adjustment icon will appear in the lower right corner of the screen, with a small rectangular box in the center of the icon representing the current zoomed-in display area within the original image, as shown in Figure 7.

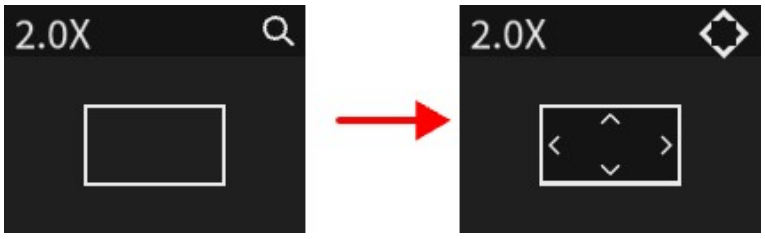


Figure 7 Zoom 2X Pan Mode

- **Pan Up, Down, Left, Right**

At this point, moving the joystick up, down, left, or right will shift the image in the corresponding direction, changing the start position accordingly. This helps the operator easily identify the

image's movement. Pressing the joystick vertically again confirms the adjustment of the image's start position and exits the adjustment mode.

ZOOM 4X

- **Enter Zoom 4X Mode**

Scroll up the joystick to show the Zoom 2X mode, and then keep scrolling the up the joystick to show the Zoom 4X mode, the image is enlarged by four times as much as the original one. There will be a Zoom 4X icon at the bottom right of the screen, as shown in Figure 8:

Figure 8 Zoom 4X Mode

- **Zoom 4X Pan Mode**

Pressing the joystick vertically will enter the 4X image start position adjustment mode. A 4X adjustment icon will appear in the lower right corner of the screen, with a small rectangular box in the center of the icon representing the current zoomed-in display area within the original image, as shown in Figure 9.

Figure 9 Zoom 4X Editing Mode

- **Pan Up, Down, Left, Right**

Similar to the 2X mode, moving the joystick up, down, left, or right will shift the image start position in the corresponding direction. Pressing the joystick vertically again confirms the adjustment of the image start position and exits the adjustment mode.

■ **Original Image Mode**

In 2X or 4X mode, pushing the joystick down will return to scene mode and restore the original image.

Tips

The scene tools are not editable in ZOOM 2X or ZOOM 4X mode.

9. Supported Signal Format

The supported signal format for this device is as shown in Table 1:

Table 1 Supported Signal Format

Signal Format		SDI	HDMI
HD	720P24/23.98		
	720P25		
	720P30/29.97		
	720P50	✓	✓
	720P60/59.94	✓	✓
	1080PSF24/23.98	✓	✓
	1080PSF25	✓	✓
	1080PSF29.97	✓	✓
	1080PSF30	✓	✓
	1080I50	✓	✓
	1080I60/59.94	✓	✓
	1080P24/23.98	✓	✓
	1080P25	✓	✓

Signal Format		SDI	HDMI
	1080P30/29.97	✓	✓
3G	1080I50	✓	✓
	1080I60/59.94	✓	✓
	1080P24/23.98	✓	✓
	1080P25	✓	✓
	1080P30/29.97	✓	✓
	1080P50	✓	✓
	1080P60/59.94	✓	✓
2K	1080PSF24/23.98	✓	
	1080PSF25	✓	
	1080PSF29.97	✓	
	1080PSF30	✓	
	1080P24/23.98	✓	✓
	1080P25	✓	✓
	1080P30/29.97	✓	✓
	1080P50	✓	✓
	1080P60/59.94	✓	✓
UHD	2160P24/23.98		✓
	2160P25		✓
	2160P30/29.97		✓
4K	4KP24/23.98		✓
	4KP25		✓
	4KP30/29.97		✓

10. Monitor Settings

This section mainly explains the settings of the monitor menu. The monitor menu is used to adjust parameters such as volume, backlight, display rotation, screen adjustment, status display, calibration, menu language, and version number. The main functions of each menu are illustrated in Figure 10:

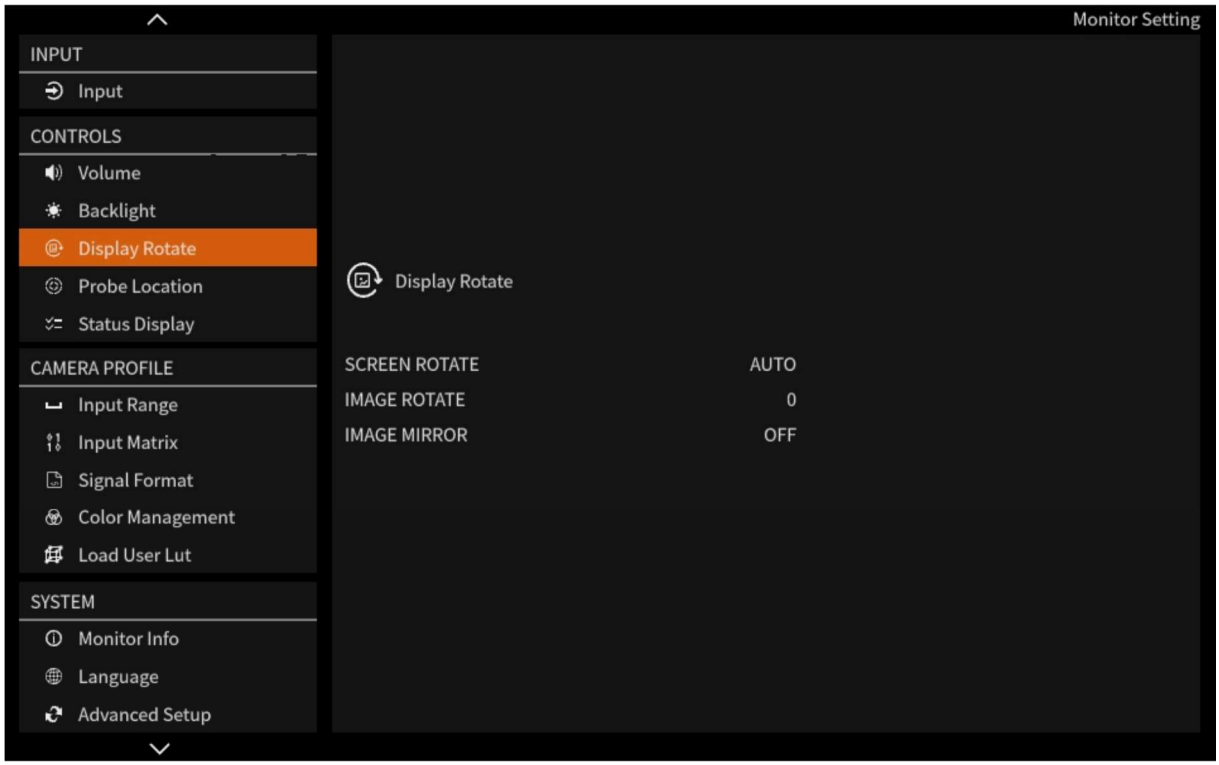


Figure 10 Monitor Settings

- Input: Used to set the signal interface.
- Control: Used to set common monitoring and listening options, such as adjusting volume, backlight, screen rotation, and various status bar display parameters.
- Camera Profile: Used to configure input-related parameters such as input range, input matrix, signal format, signal colour, LUT loading, and other settings.
- System: Used for device management, including displaying the current monitor's device and status information. It also allows for language settings, factory reset, self-calibration, and other operations.

11. Monitor Menu

Push the five-way joystick on the monitor device downward to display the menu bar, as shown in Figure 11. Select the monitor menu icon , then press the joystick downward vertically to confirm the selection. The monitor settings menu will appear on the screen, as shown in Figure 12.

Figure 11 Menu Bar

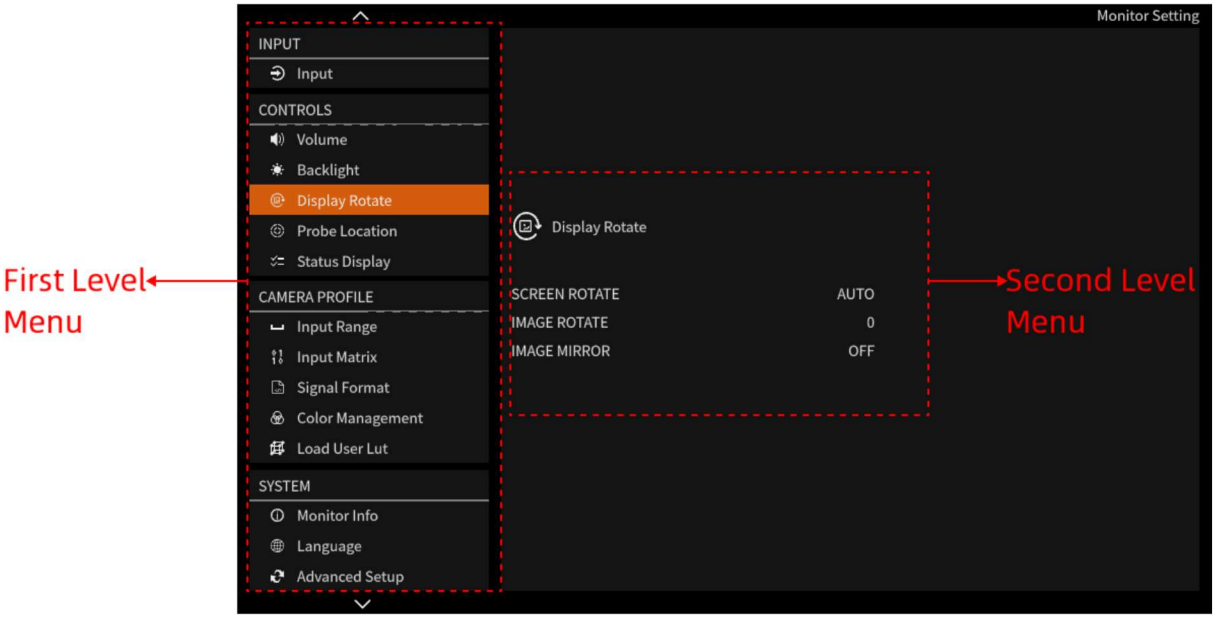


Figure 12 Structure of Monitor Settings

As shown in the figure, the monitor menu is primarily divided into two areas:

Monitor Settings Menu List: The menu list on the left side is the primary menu, displaying the monitor settings menu titles and their associated items. The main categories are **Input, Control, Camera Profile**, and **System**. You can switch between menu items by pushing the joystick up or down. The selected menu item is highlighted with a control indicator, displayed with white text on an orange background.

Submenu List: When a menu item is selected from the primary menu, the corresponding submenu items and their values are displayed in the central area of the screen as the secondary menu. By pushing the joystick to the right, you enter the secondary menu, and the control indicator moves to the submenu. At this point, you can switch between submenu items by pushing the joystick up or down. Then, by pushing the joystick left or right, you can adjust or select the submenu item values. Press the joystick downward vertically to confirm the submenu settings and return to the previous menu level.

Tips

- When selecting a menu item or value, a highlighted control indicator will appear. The background colour of the menu item will change to a highlight colour, indicating that the current item is in a selectable state.

The following section provides detailed explanations of each menu's content and the meaning of the parameters.

12. Input Settings

Provides SDI/HDMI input sources, as shown in Figure 13. The menu items and their corresponding content are detailed in Table 2.

Figure 13 Input Menu

Table2 Description of INPUT Menu

Menu	Default	Domain Range	Description
Input	SDI1	HDMI： signal from HDMI IN SDI1： signal from SDI IN1 SDI2： signal from SDI IN2	Choose the input signal source

13. CONTROLS

The **CONTROLS** menu items are used to adjust volume, backlight, rotating image, set probe position and status bar. The menu items are as shown in Figure 14:

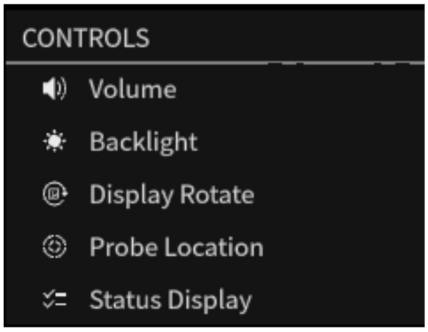


Figure 14 Controls Menu

The specific parameters and their value ranges for the menu items are detailed in Table 3.

Table 3 Description of Controls Menu Items

Menu	Items	Default	Domain Range	Description
Volume	OPTIONS	16	0 ~ 31	Adjust the volume
Backlight	OPTIONS	8	0 ~ 10	Adjust the backlight
Display Rotate	ROTATE	AUTO	AUTO /0/180	Rotate the image and menus (not supported currently)
	IMAGE ROTATE	0	0/180	Rotate the image in vertical direction
	IMAGE MIRROR	OFF	OFF/ON	Rotate the image in horizontal direction
Probe Location	OPTIONS	AFTER LUT	AFTER LUT/BEF ORE LUT	Set whether the probe data is collected before or after loading the LUT.

Menu	Items	Default	Domain Range	Description
Status Display	OPTIONS	OFF	OFF/ON/ BAT ONLY	Set whether to display the status menu at the top of the screen, which includes input signal format, scene page, and battery level information.

Adjust Volume

Select **controls→VOLUME** item, scroll right to enter the VOULME menu, as shown in Figure 15. Scroll left or rotate counterclockwise to decrease the volume, scroll right or rotate clockwise to increase the volume. Press it down to confirm the modification and return to the previous level menu.

Figure 15 Volume Menu

Adjust Backlight

Select controls→BACKLIGHT item, scroll right to enter the BACKLIGHT menu, as shown in Figure 16. Scroll left or rotate counterclockwise to decrease, scroll right or rotate clockwise to increase the backlight.

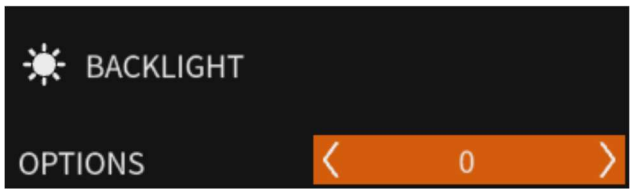


Figure 16 Backlight Menu

Display Rotate

- **Image Rotate**

Set controls→Display Rotate→ Image Rotate item to be 180 or 0, only the input image will reverse vertically, as shown in Figure 17:

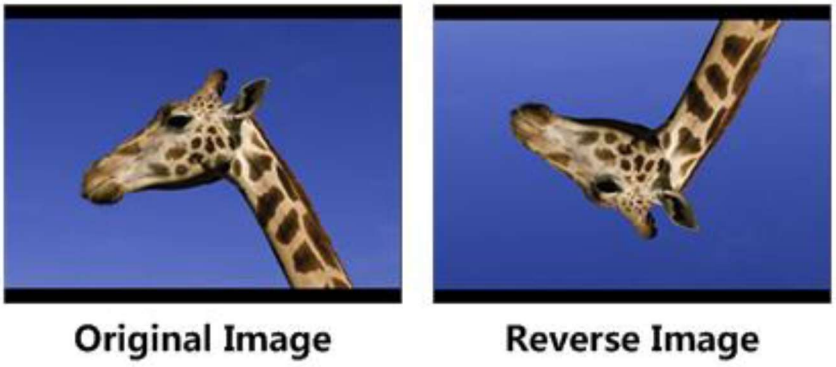


Figure 17 Vertical Rotate

- **Image mirror**

Set controls→Display Rotate→ Image MIRROR item to be ON or OFF, only the input image will reverse horizontally, as shown in Figure 18:

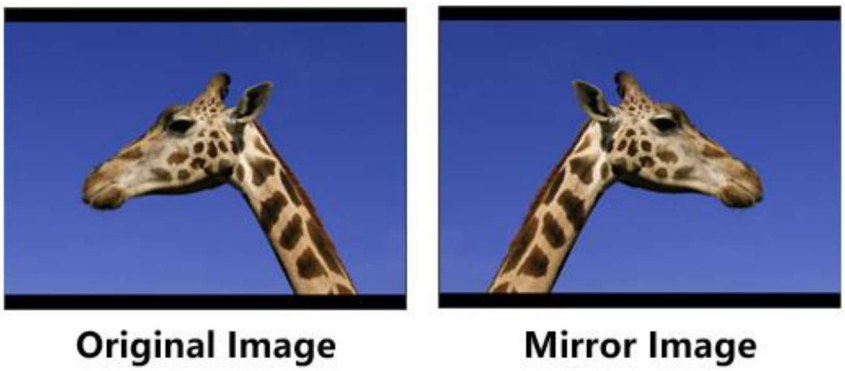


Figure 18 Horizontal Rotate

STATUS BAR

Set controls→STATUS DISPLAY item to be ON, it will display the Status bar at the top of the screen, including this information from left to right: Input source format, gamut, scene ID and battery capacity indication.

Figure 19 Status Bar

■ INPUT FORMAT

The Signal Format usually displays as the following situations:

- NO SIGNAL: appears if no signal is detected.
- UNKNOWN: appears if an unsupported signal is input.
- Normal: the signal format is displayed as HDMI 1080i59.94, etc. when the input is supported by the monitor.

Settings

- ON: display the input channel, signal format, scene ID and battery indicator (available only when the battery level is 11~17V);
- OFF: turn off the status bar display;
- BAT ONLY: only display the battery indicator, and the illustrations are different according to the battery level as shown in the table below. When the battery capacity is running out, it will pop up a warning as shown in Figure 20, please replace the battery in time, and click OK to close this prompt. And it will display an AC indicator when powered by AC power input.

Figure 20 Battery Warning

Range of battery level	Illustration
100%	
<100%, >80%	
<80%, >60%	
<60%, >40%	
<40%, >20%	
<20%	

Nearly running out	
Powered by AC	

Tips

- Due to differences in battery standards among manufacturers, the battery level indicator shown is for reference only. Please do not use the battery level indicator displayed by this device as a standard reference for battery capacity!

14. CAMERA PROFILE

The **CAMERA PROFILE** menu items are used to set the Input Range, Input Matrix, Signal Format, Color Management and Load User LUT, the menu items are as shown in Figure 21:

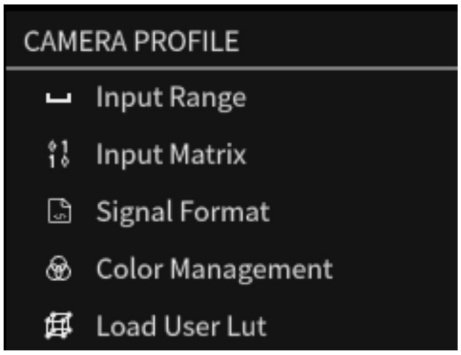


Figure 21 Camera Profile Menu

The specific parameters and their value ranges for the menu items are detailed in Table 4.

Table 4 Description of Camera Profile Items

Menu	Items	Default	Domain Range	Description
Input Range	OPTIONS	AUTO	AUTO/ 64~940/ 0~1023	Set color range
Input Matrix	OPTIONS	AUTO	AUTO/ Rec 601(SD)/ Rec 709(HD)/ Rec 2020(UHD)	Set color matrix
Signal Format	OPTIONS	AUTO	AUTO, 422 YCBCR 10BIT, 422 YCBCR 12BIT, 444 YCBCR 10BIT, 444 YCBCR 12BIT, 444 RGB 10BIT, 444 RGB 12BIT, 444 XYZ 10BIT, 444 XYZ 12BIT	Set signal format, available for SDI.
Color Management	LOG/HDR	OFF	ON/OFF	Enable/disable LOG/HDR function
	COLOR PROFILE	EBU	EBU/DCI/ ARRI/BMD/ Canon/FUJI/ Nikon/Panasonic/ RED/SONY	Select Colour Profile
	GAMMA	2.2	Refer to Table 5	Set Gamma
	GAMUT	Rec.709	Refer to Table 5	Set Gamut
Load User LUT	EXECUTE LOAD LUT FILE	--	LUT1~ LUT10	Load a color look profile from U disk

COLOR PROFILE

The monitor is equipped with versatile color profiles for different requirements. We provide the following color profiles:

Set **camera profile→ COLOR MANAGEMENT→ LOG/HDR** item **ON** and select **camera profile→ COLOR MANAGEMENT→ COLOR PROFILE** item according to your camera, then set GAMMA and GAMUT, as shown in Figure 22:

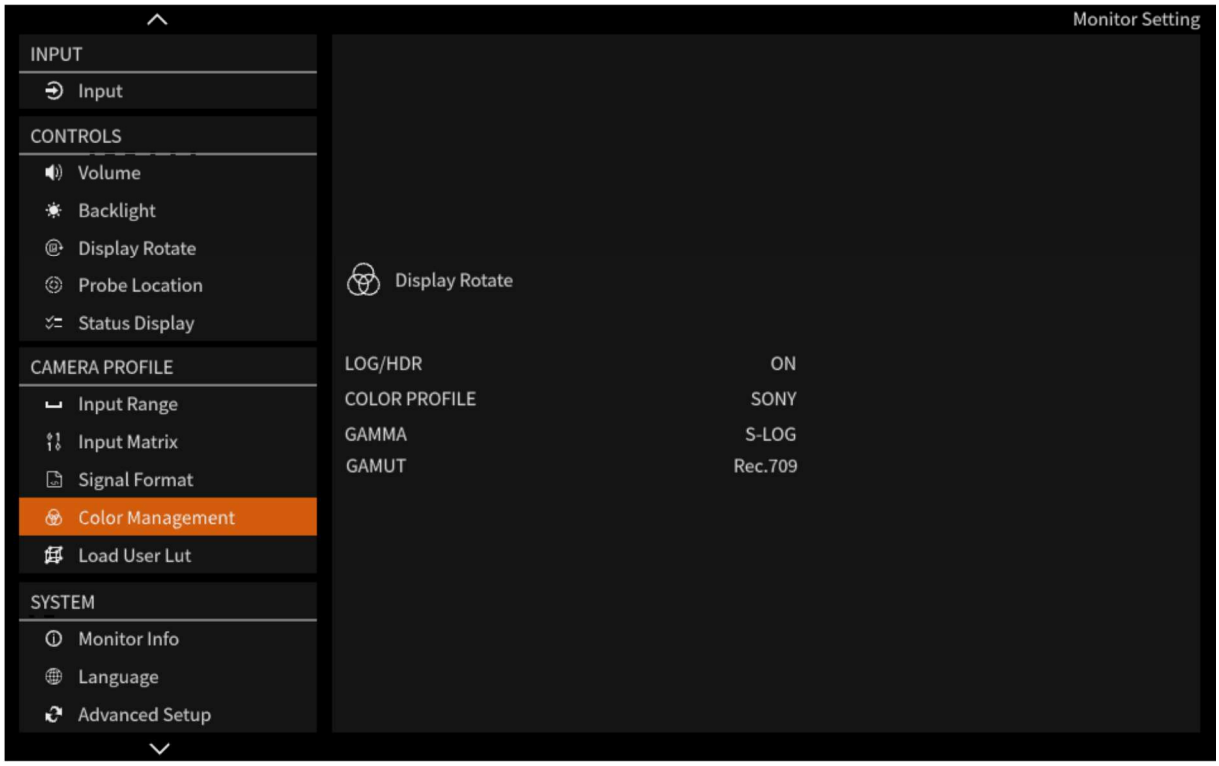


Figure 22　COLOR MANAGEMENT SETTINGS

- **Color Profile (For Versatile CAMERAs)**

  There are versatile color profiles for cameras of various brands, supporting EBU , DCI,ARRI, BMD, Canon, FUJI, Nikon, Panasonic, RED and SONY， as detailed in Table 5:

Table 5 COLOR PROFILES FOR CAMERAS

PROFILE	GAMMA	GAMUT
EBU	2.2	Rec.709
	2.4	Rec.709
	HLG	Rec.709, Rec.2100
	PQ	Rec.709, Rec.2100
DCI	2.6	P3 D65, DCI-P3
ARRI	EI160	Rec.709, ALEXA Wide Gamut
	EI200	
	EI250	
	EI320	
	EI400	
	EI500	
	EI640	
	EI800	
	EI1000	
	EI1280	
	EI1600	
BMD	BMD Film	BMD 4K Film, BMD 4.6K Film, BMD Pocket 6K Film
	BMD 4K Film	
	BMD 4.6K Film	
Canon	C LOG	Rec.709, Canon Cinema, Rec.2100, DCI-P3, DCI-P3+
	C LOG2	
	C LOG3	
FUJI	F-LOG	Rec.709, F-Gamut
Nikon	N-LOG	Rec.2100
Panasonic	V-LOG	Rec.709, V-Gamut

PROFILE	GAMMA	GAMUT
RED	Redlogfilm	Rec.709, DRAGONcolor, DRAGONcolor2, REDcolor2, REDcolor3, REDcolor4, REDWideGamut
	Log3G12	
	Log3G10	REDWideGamut
SONY	S-LOG	Rec.709, S-Gamut, S-Gamut3, S-Gamut3.cine, Rec.2100
	S-LOG2	
	S-LOG3	

Tips

- The preset color profiles are constantly under development.
- Determine the LOG/HDR settings to be used before shooting, then add the LOG conversion tool in the scene and configure this parameter.

Load User LUT File

Based on different display effects, various LUTs can be loaded into the device. In the monitor menu, select **"Camera Profile" → "Load User LUT"** to upload the LUT file from a USB drive. Then, add the **"User LUT"** tool to the scene to load the specified LUT file.
First, write the LUT file to the device using a USB drive.
Operation: Select "**Camera Profile" → "Load User LUT" → "LUT*"** and choose the LUT file from the USB drive. The LUT list is shown in Figure 23. Additionally, the configuration file names displayed to the right of each LUT ID are initially empty.

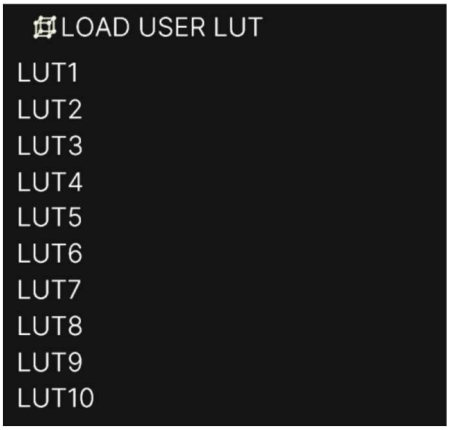


Figure 23 LUT Storage Directory

Push the joystick down to select a LUT ID, then push the joystick to the right to load the LUT file from the USB drive. A "**Overwrite 3D LUT**" prompt will appear, as shown in Figure 24. Press the joystick downward to select **"OK"** and continue with the LUT file loading.

Select the LUT file, which must have a **".cube"** extension, as shown in Figure 25. After confirmation, the system will write the LUT file. Once the writing is complete, a **"File Write Complete"** message will appear. Do not interrupt the power supply to the device during the LUT file writing process.

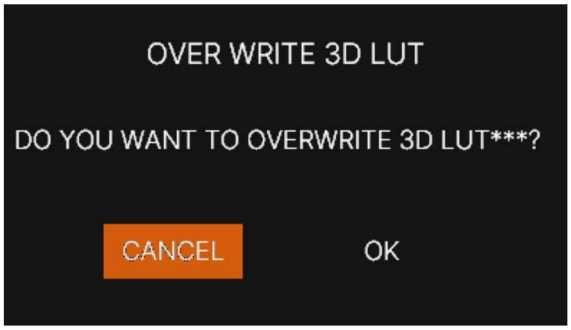


Figure 24 Prompt for Overwriting LUT

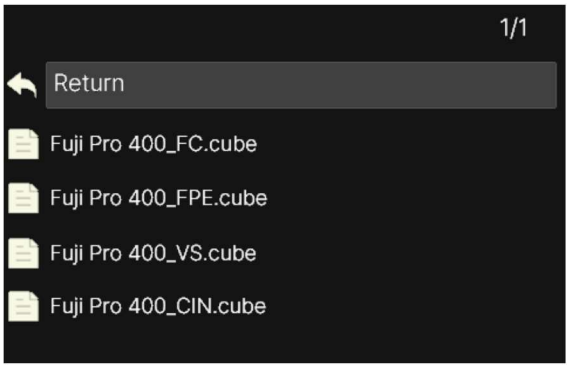


Figure 25 Calibration USER LUT Directory

For example, to load a user LUT file into LUT1: Select **LUT1** from the LUT list, then press the

joystick downward to load the LUT file from the USB drive. Choose the target LUT file and confirm the write operation. A write prompt will appear, as shown in Figure 26. After successful writing, a completion message will be displayed. The name of the LUT file will be visible next to **LUT1** in the LUT list.

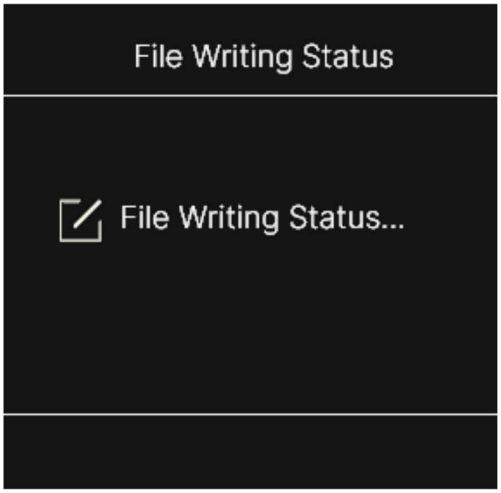


Figure 26　Prompt for File Writing

Then, activate the User LUT tool in the scene.

Operation: Push the joystick to the right to enter the scene. Press the joystick downward to display the tool menu, then add the "**User LUT**" tool. Press the joystick downward again to open the tool. For example, add the LUT with the "ID" of **"LUT1"** and set the **"Intensity"** of the lookup table to "**100%**". This will apply LUT1 to the scene, as shown in Figure 27:

Figure 27　User LUT Tool

Then apply the LUT. The comparison of the image before and after applying the LUT is shown in Figure 28:

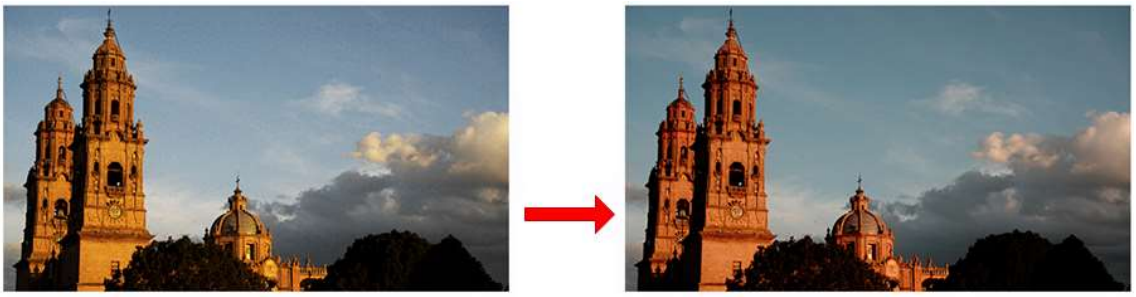


Figure 28　Output Image Applied with a LUT File

Tips

- When performing LUT file writing, if the file format is not supported, a **"File Format Not Supported"** message will be displayed.
- It is recommended to use a USB drive formatted with FAT32 and with a capacity of less than 32GB.
- The K series monitors support self-calibration, allowing screen color correction using the built-in color management software. Calibration is started via **"System" → "Advanced Settings" → "Calibration"**.

☐ **If no media containing the LUT file is detected during the operation, the system will display a "No Media" message. Any other errors will be accompanied by relevant error messages. Please read the prompts carefully to identify the issue.**

15. SYSTEM

The system settings menu is used to set the menu language, view monitor information, and restore factory settings. The menu display is shown in Figure 29:

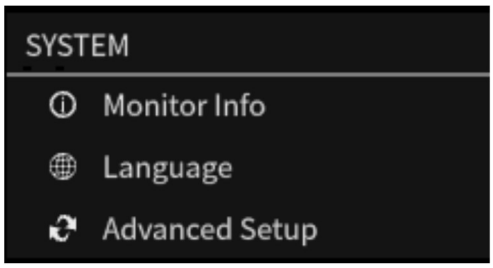


Figure 29 System Menu

The specific parameters and value ranges for the menu items are detailed in the table:

Table 6 Description of System Menu Items

Menu	Items	Default	Domain Range	Description
Monitor Info	VERSION	--	--	Show the firmware versions
	BUILD INFO	--	--	Show build information
	SERIAL NUMBER	--	--	Show serial number
	MODEL	--	--	Show device model
Language	OPTIONS	English	English/Chinese/ Français/Espaol	Choose a language mode
Advance Setup	FACTORY RESET	--	--	Revert the factory settings
	FACTORY MANAGE	ON	ON/OFF	Enable/disable factory manage functions
	COLOR CALIBRATE	--	--	Execute color calibrate process
Helper Display	OPTIONS	ON	ON/OFF	Enable/disable the helper prompt display
Function Key	F1	TOOL1	TOOL1~ TOOL8	Assigned a tool to F1 button
	F2	TOOL2	TOOL1~ TOOL8	Assigned a tool to F2 button
	F3	TOOL3	TOOL1~ TOOL8	Assigned a tool to F3 button
	F4	TOOL4	TOOL1~ TOOL8	Assigned a tool to F4 button

1. HELPER DISPLAY

The operation guide for the five-way joystick is shown in Figure 30, and this prompt appears after powering on the monitor. You can enable or disable this prompt through the **"System"** → **"Help DISPLAY"** menu item.

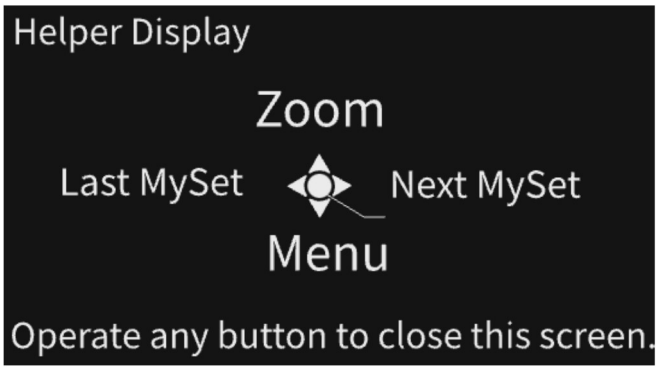


Figure 30 Helper Prompt for Joystick Operation

2. FIRMWARE UPDATE

Insert the U disk containing your upgrade file whose format should be with a file extension of ".bin", power on the device and it will upgrade automatically, then after successfully upgraded, it will prompt as shown in Figure 31. At last, please restart the device manually.

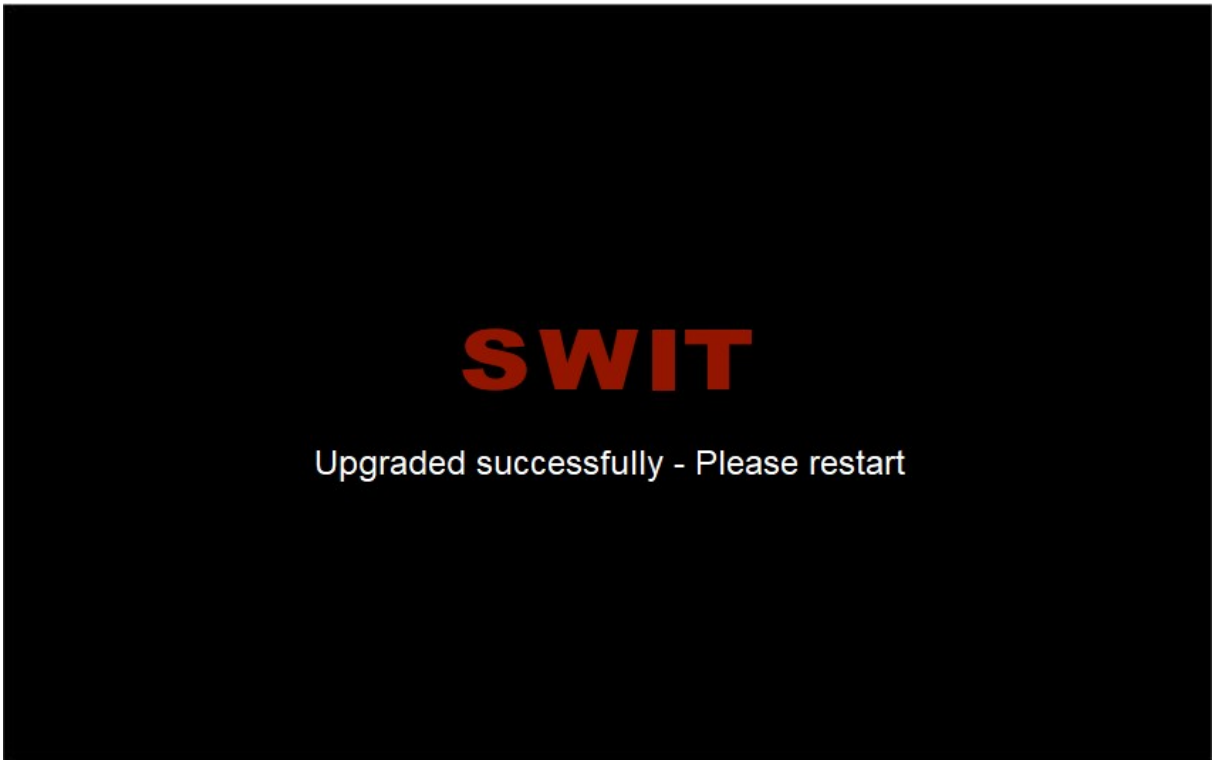


Figure 31 UPDATE

3. FACTORY RESET

Select **system→ Advance Setup → FACTORY RESET** item to initialize the settings to default values, it will pop up a prompt, as shown in Figure 32, scroll right to select **RESET** command, and press the joystick straight down to confirm the selection.

After confirming the reset operation, please be patient while the process completes. During the reset, the device will automatically restart, and the screen will briefly display a black screen. Once the reset is complete, the startup interface will appear.

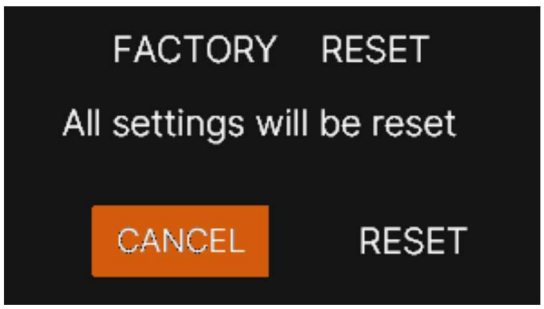


Figure 32 Prompt for Factory Reset

Tips

- The restart process takes approximately 1 minute. During this time, please refrain from performing any operations on the device!

4. Calibration

■ **Calibration Preparation:**

Connect the calibration probe to the monitor's USB-C port as shown in Figure 1 using a cable.

■ **Calibration Steps**

First, ensure that the autonomous calibration method is activated. Select **system→ Advance Setup → FACTORY MANAGE** item in the monitor settings, and confirm this parameter is set to the default state **OFF.**

Then, select **"System" → "Advanced Settings" → "Calibration."** A prompt will appear as shown in Figure 33. Choose the **"OK"** command and press the joystick downward to confirm the selection.

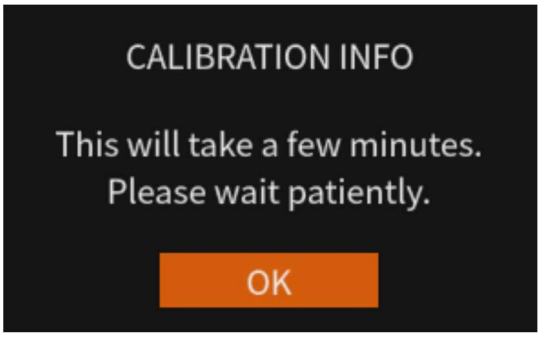


Figure 33 Autonomous Calibration Prompt

After a short wait, a prompt will appear as shown in Figure 34. Select the **"Start"** command and press the joystick downward to confirm. Next, a prompt will appear as shown in Figure 35. Follow the instructions to place the probe at the center of the screen, then select the "Confirm" command and press the joystick downward to confirm. Once calibration begins, a progress box will appear as shown in Figure 36.

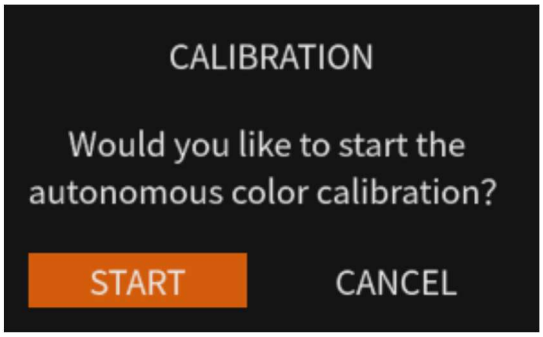


Figure 34 Start Calibration Prompt

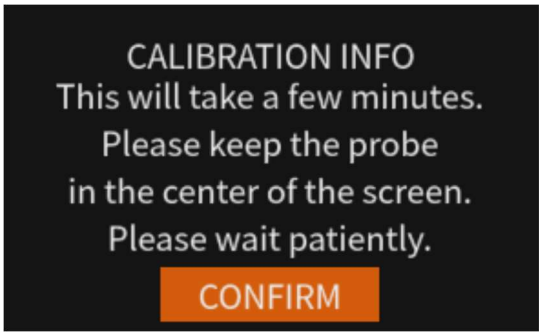


Figure 35 Probe Placement Prompt

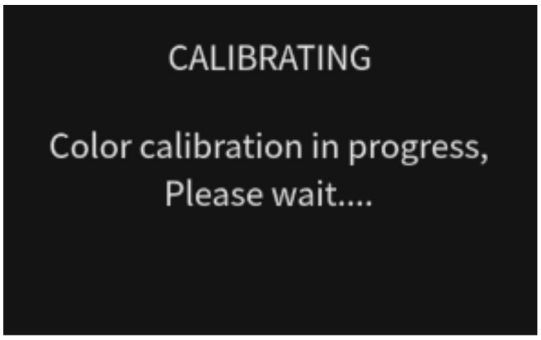


Figure 36 Calibration in Progress

After the calibration is complete, a preview and apply prompt will appear as shown in Figure 37. Select the **"PREVIEW NEW"** command to view the calibration results. Choose the **"APPLY"** command to apply the new calibration data to the monitor. Alternatively, select the **"REVOKE"** command to cancel the calibration.

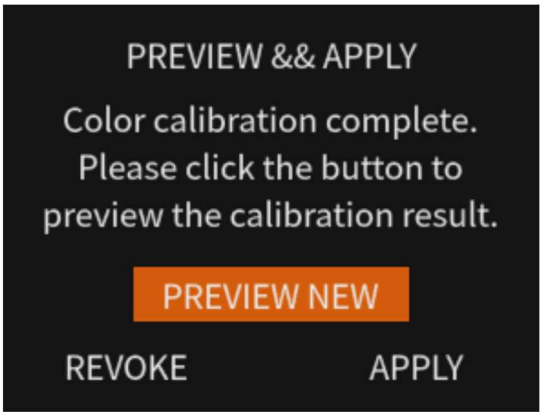


Figure 37 Calibration Preview and Apply Prompt

16. Menu Settings

During the main menu setup process, parameters can be viewed, modified, and confirmed by using the 5-way button  in coordination with left, right, up, and down movements, along with vertical downward presses.

Operations to the first level menu

- To display the monitor menu: Push the joystick downward to show the menu bar, as shown in Figure 38. Push the joystick to the right to select the third icon, labeled  .

which is the monitor menu item. Press the joystick downward to confirm the selection and display the monitor menu.

Figure 38 Menu Bar

- To switch between primary menu items: After displaying the monitor menu, push the joystick up or down to select the primary menu item you want to modify.
- To return to the primary monitor menu: After entering a secondary menu item or adjusting a secondary menu item value, press the joystick downward to return to the previous menu level.
- To close the monitor menu: When the control indicator is on the primary list of the monitor menu, push the joystick to the left to close the menu.

Operations to the second level menu

After displaying the monitor menu, a list of secondary menu items appears on the right side. You can perform the following operations using the directional buttons:

- Move the joystick to the right to enter the secondary menu;
- Move the joystick up or down to switch between secondary menu items;
- Press the joystick vertically downward to return to the primary menu area.

Operations to second level menu item value

- **Switch second level menu item value**

  When the control icon is in second level menu item value, scroll left or right to switch among its value list.

- **Confirm the modification to second level menu item value**

  Press down to confirm the selection of a value, and the control icon is back to the first level menu area.

17. Scene mode settings

To meet the needs of different shooting scenarios, this device allows you to set up to 8 custom scenes. Additionally, to facilitate monitoring, various auxiliary monitoring tools can be loaded in each scene, as shown in Figure 39.

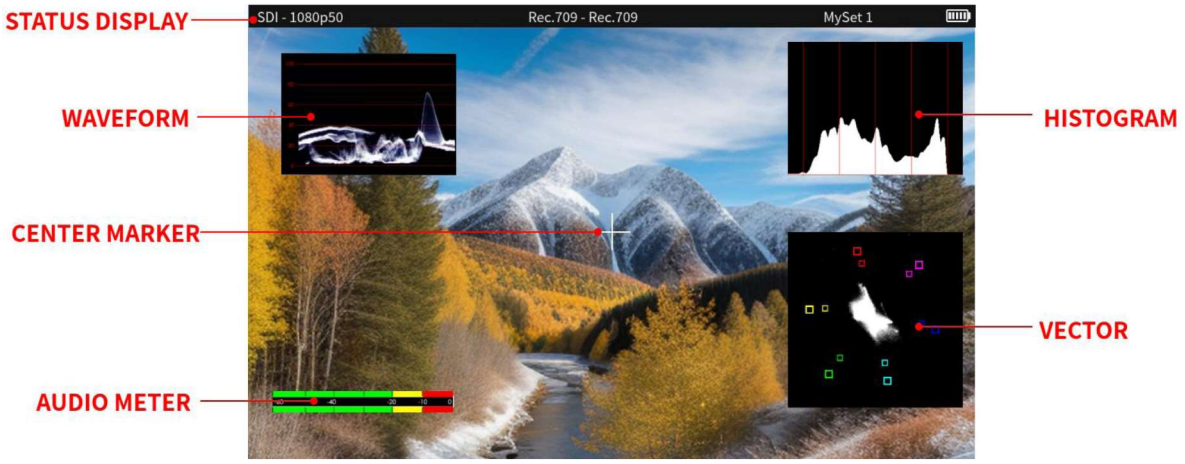


Figure 39 Tools for Scene

18. Tool settings

In the scene, press the joystick vertically downward to display the toolbar. Move the joystick down to select the **"ADD NEW TOOL"** command, and move the joystick to the right to display the scene tool settings menu.

Scene tools are categorized into **markers, exposure, focus, styles, analysis,** and **meters.** These tools provide various options for framing, exposure, focus, and more, allowing you to add the necessary tools to the selected scene. The added tools will appear in the toolbar of the current scene, displayed on the far left of the scene, as shown in Figure 40. After adding tools, you can edit and configure their properties through the tool settings menu, as shown in Figure 41.

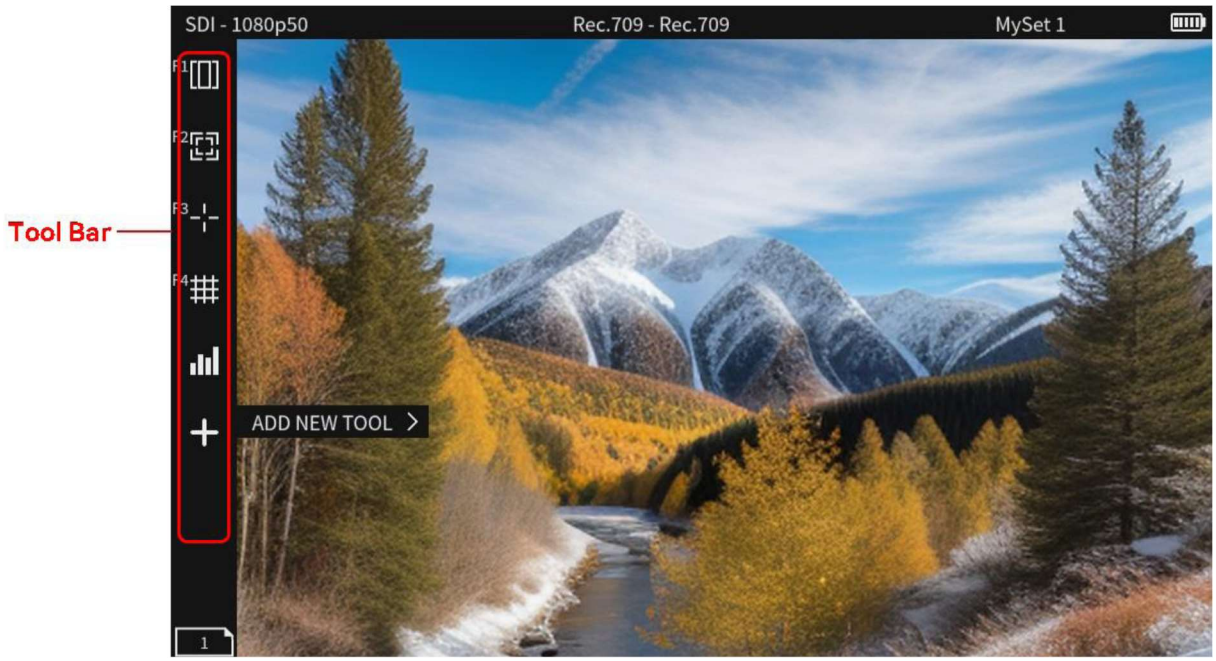


Figure 40 Tool Bar for A Scene

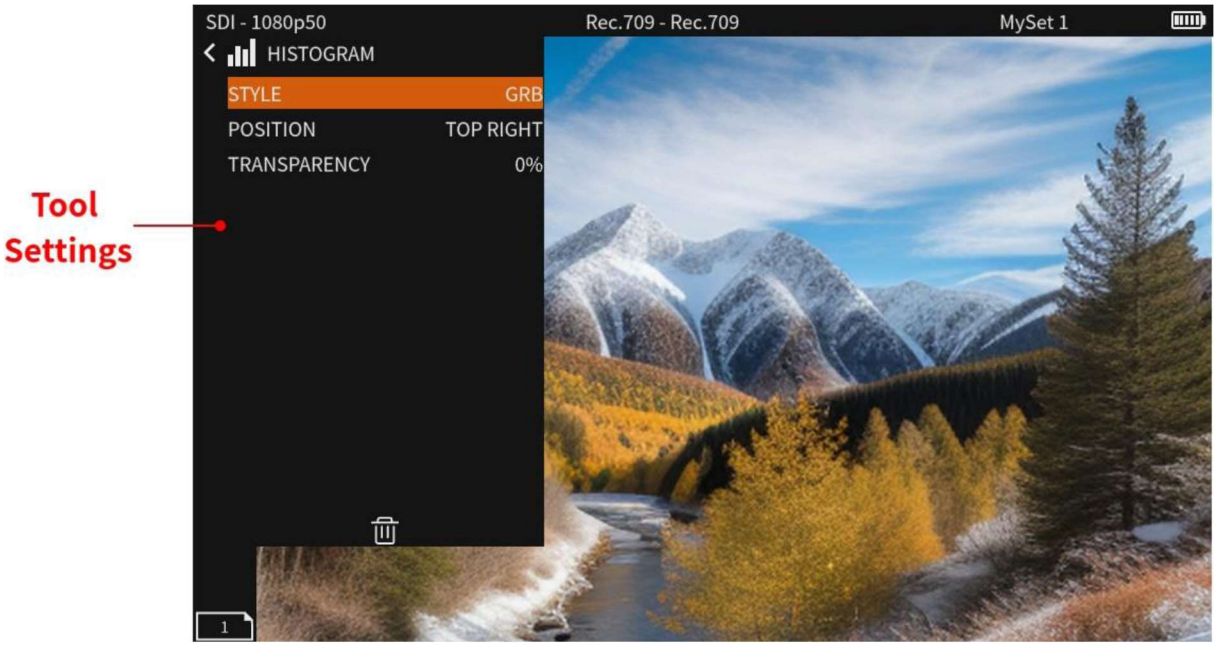


Figure 41 Tool Settings Menu

19. Frame Tools

Frame tools are primarily used to assist in setting up the framing and include: area markers, safety markers, center markers, reference lines, and distortion lens correction. You can turn each marker on or off and set the marker's masking range and display effects. The menu display is shown in Figure 42:

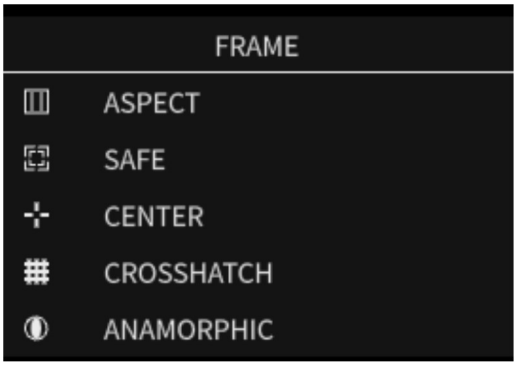


Figure 42 Frame Tools

The specific meanings of the menu items' parameters and the range of parameter values are shown in Table 7:

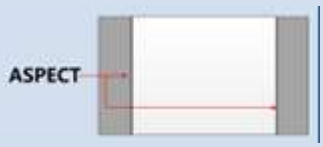
Table 7 Description of Frame Tools

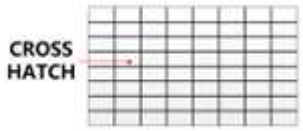
Tool	Items	Default	Domain Range	Description
ASPECT	RATIO	16:9 (HD TV)	16:9(HD TV)/ 2.41:1/2.37:1(Cinema)/ 2.35:1/1.91:1/ 1.9:1/1.85:1(Cinema)/ 1.37:1(Cinema) /4:3(SD TV)/ 1:1/4:5/9:16 (Phone)/ CUSTOM	Set the display ratio of the marker
	CUSTOM RATIO	1:1	3:1 ~1:3	Set the width of the matte area in CUSTOM mode, the step is 0.02
	OPACITY	0%	0% 25% 50% 75%	Set the transparency of the matte darken area
SAFE	ACTION	OFF	OFF/ON	The safe marker is displayed as an outside frame, proportional to 92% of the ASPECT RATIO
	TITLE	OFF	OFF/ON	The safe marker is displayed as an inside frame, proportional to 80% of the ASPECT RATIO in horizontal

Tool	Items	Default	Domain Range	Description
				direction, and 90% of the ASPECT RATIO in vertical direction.
CENTER	STYLE	CROSS	CROSS/	Set center marker style
CROSS HATCH	LINES	2X2	2X2/3X3/4X4/ 5X5/6X6/7X7/ 8X8/9X9	Set the cross line number
ANAMO RPHIC	MAGNIFY	OFF	OFF/ON	Enable/Disable magnify the image, that is to draw the image full screen after de-squeezing the image with the selected anamorphic ratio, cut the part which extend outside the screen
	RATIO	1.33X	1.33X/1.4X/ 1.5X/1.6X/1.8X/ 1.9X/2X	Set the anamorphic ratio

Marker

As shown in the table below, various marker diagrams are displayed:

Marker	Illustration	Description
Aspect (Area Marker)		This marker identifies an area with a specified aspect ratio and a covered matte, and the area's transparency could be adjusted.
Safety Marker		This marker displays a rectangle to identify the safety area with a specified percentage in Area Marker.
Center Marker		This marker enables easier checking the center portion's focus.

Marker	Illustration	Description
Cross hatch		This marker displays multiple vertical and horizontal lines to help when users check the composition of a picture.

Area Marker

Set the area marker **Aspect → Ratio** item as **CUSTOM**, the ratio of the marker is adjustable as your requirement.

And the outside area of the area maker is filled with matte with two white lines labeled the area marker, you can set the transparency for this matte area.

For example, tap **Aspect → Opacity** item as **50%**, the outside area of marker is 50% transparency of the background with two white lines, as shown in Figure 43 :

Figure 43 Area Marker

Set Anamorphic Ratio

Select the "Distortion Lens Correction" option to set the screen adjustment ratio. Move the joystick left or right to cycle through the screen adjustment ratios: 1.33X, 1.4X, 1.5X, 1.6X, 1.8X, 1.9X, 2X. After confirming your selection, black borders may appear around the restored image.

The relationship between input and output image resolution at different adjustment ratios is shown in Table 8:

Table 8 Resolution Relationship Between Input and Output

ANAMORPHIC	INPUT SIGNAL	INPUT	OUTPUT
1.33X	1080P/1080I	1920x1080	1920x812
	720P	1280x720	1920x812
1.4X	1080P/1080I	1920x1080	1920x771
	720P	1280x720	1920x771
1.5X	1080P/1080I	1920x1080	1920x720
	720P	1280x720	1920x720
1.6X	1080P/1080I	1920x1080	1920x650
	720P	1280x720	1920x650
1.8X	1080P/1080I	1920x1080	1920x600
	720P	1280x720	1920x600
1.9X	1080P/1080I	1920x1080	1920x568
	720P	1280x720	1920x568
2X	1080P/1080I	1920x1080	1920x540
	720P	1280x720	1920x540

- **Magnify**

This item will magnify the image of anamorphic ratio to full-fill the screen. Set **Anamorphic→ Magnify** item as **On**, it will enlarge and display the image at full screen, removing those blank bars, as shown in Figure 44:

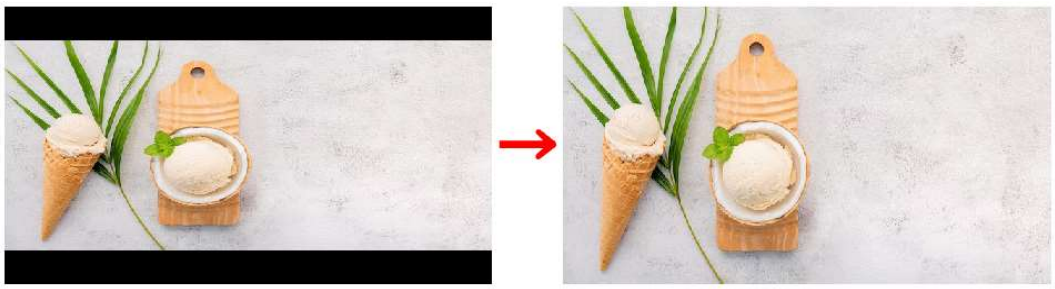


Figure 44 MAGNIFY

20. Expose Tools

Expose tools provide false color, zebra, waveform, vector and histogram, as shown in Figure 45:

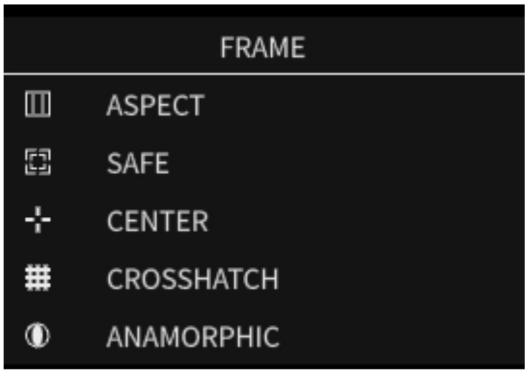


Figure 45 Expose Tools

The specific meanings of the menu items' parameters and the range of parameter values are shown in Table 9:

Table 9 Description of Expose Tools

Tool	Items	Default	Domain Range	Description
FALSE COLOR	STYLE	Spectrum	FOLLOW CAMERA/ SPECTRUM/CUSTOM	Set the type of the false color display
	BLACK CLIP	3%CV	1-99%CV	Set black clip, the step is 1%
	NEAR BLACK	4%CV	2-100%CV	Set near black, the step is 1%
	TONE1 MIN	46%CV	0-99%CV	Set minimum of tone1, the step is 1%
	TONE1 MAX	55%CV	1-100%CV	Set maximum of tone1, the step is 1%
	TONE2 MIN	77%CV	0-99%CV	Set minimum of tone2, the step is 1%
	TONE2 MAX	90%CV	1-100%CV	Set maximum of tone2, the step is 1%
	NEAR WHITE	96%CV	0-98%CV	Set near white, the step is 1%
	WHITE CLIP	98%CV	1-99%CV	Set white clip, the step is 1%
ZEBRA	TONE1 MIN	0%CV	0-99%CV	Set the TONE1 minimum reference level of detecting luminance.

Tool	Items	Default	Domain Range	Description
	TONE1 MAX	4%CV	1-100%CV	Set the TONE1 maximum reference level of detecting luminance.
	TONE2 MIN	97%CV	0-99%CV	Set the TONE2 minimum reference level of detecting luminance.
	TONE2 MAX	100%CV	1-100%CV	Set the TONE2 maximum reference level of detecting luminance.
WAVE FORM	STYLE	LUMA	LUMA/RGB/PARADE	Set the type of the waveform
	SIZE	SMALL	SMALL/LARGE/ BOTTOM	Set the size of the waveform
	POSITION	TOP LEFT	TOP RIGHT/ BOTTOM RIGHT/ TOP LEFT/ BOTTOM LEFT	Set the position of the waveform, only available for small size waveform
	DENSITY	50%	0~100%	Set the display brightness of the waveform monitor.
	TRANSPARENCY	0%	0% 25% 50% 75%	Set the transparency of the waveform monitor display.
VECTOR	POSITION	TOP RIGHT	TOP RIGHT/ BOTTOM RIGHT/ TOP LEFT/ BOTTOM LEFT	Set the position of the vector
	GAIN	X1	X1/X2	Set the gain of vector
	DENSITY	50%	0~100%	Set the display brightness of the waveform monitor.
	TRANSPARENCY	0%	0% 25% 50% 75%	Set the transparency of the waveform monitor display.

Tool	Items	Default	Domain Range	Description
HISTOGRAM	STYLE	LUMA	LUMA: luminance histogram RGB: RGB histogram	Set the type of the histogram
	POSITION	TOP RIGHT	TOP RIGHT/ BOTTOM RIGHT/ TOP LEFT/ BOTTOM LEFT	Set the position of the histogram
	TRANSPARENCY	0%	0% 25% 50% 75%	Set the transparency of the histogram

False Color

The auxiliary exposure, or false color function, is used to represent the brightness information in the image with different colors, making it easier to check for areas that are too bright or too dark. This helps in adjusting the camera's exposure settings.

Add the "False Color" tool and enable this feature. Different brightness ranges correspond to different color ranges, and in different modes, the colors corresponding to various brightness ranges may vary.

This monitor offers the following exposure modes: Follow Camera, Spectrum, and Custom.

For example: Add and Enable a **False Color** tool, set **Style** item as **Spectrum**, as shown in Figure 46: :

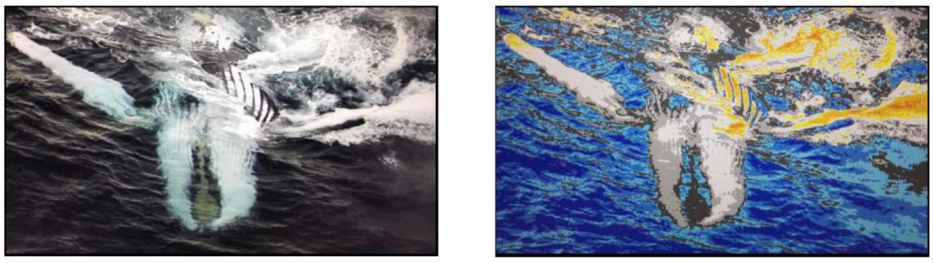


Figure 46 Comparison Mode- Original Image and Normal Mode Image

Zebra

The zebra function highlights areas of the image where the brightness exceeds a reference value with zebra stripes, helping to adjust the camera's exposure. Two tonal values can be set here: Tone 1 and Tone 2. Zebra stripes detected by Tone 1 are marked with black and white stripes, while those detected by Tone 2 are marked with blue and white stripes.
For example, set Tone1 MIN as 0% and Tone1 MAX as 4%, Tone2 MIN as 97% and Tone2 MAX as 100%, the compared results are as shown in Figure 6.1-10, the special Area is filled with a zebra pattern.

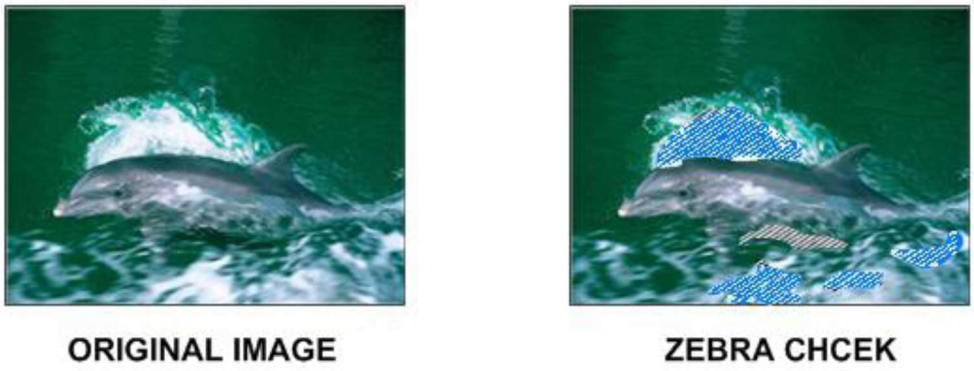


Figure 47 Comparison Mode- Original Image and Normal Mode Image

Waveform

The waveform monitor is used to accurately observe the brightness levels of the image, displaying the brightness values and distribution statistics for each column of pixels in the image.
The size of the waveform monitor can be adjusted through the **"Waveform" → "Scale"** setting, and it can be displayed as:

- Small size waveform: set Size item as Small, and this kind of waveform could be located in any one of the 4 positions listed in Position item;
- 75% waveform: set Size item as Large, and this kind of waveform is located in the center of the screen, and it can't be moved;
- Full size waveform: set Size item as Bottom, and this kind of waveform is located in the bottom of the screen from left to right, and it can't be moved.

This device can display the waveform monitor as a brightness, red-green-blue, or component histogram, depending on the settings in "Waveform" → "Style," as shown in Figure 48:

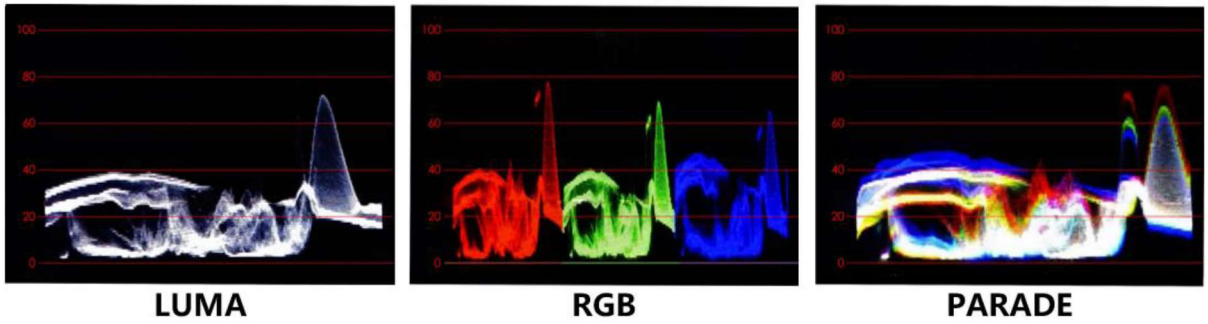


Figure 48 LUMA and RGB and PARADE Waveform

Vector

The vector scope displays color and its distribution using the distance and angle of pixels from the center point, as shown in Figure 49. The distance from the center represents the saturation level, while the angle indicates the hue.

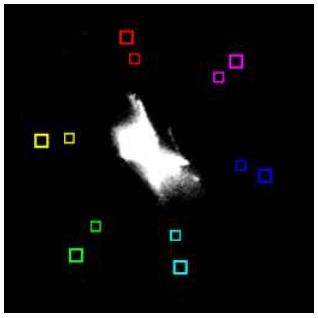


Figure 49 Vector

Histogram

Histogram assists in judging the distribution of luminance in the image.

- **Histogram Type**

Set Histogram→Style item as LUMA or RGB, these two histogram types are as shown in Figure 50:

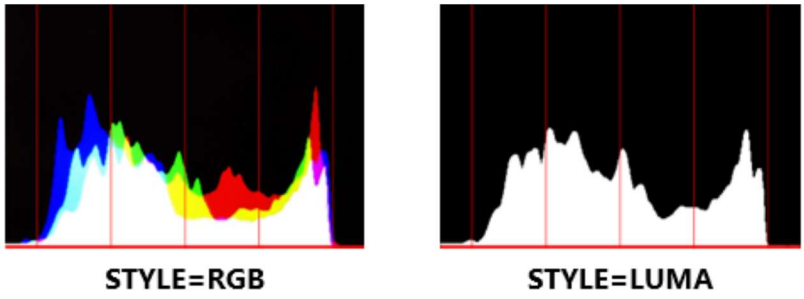


Figure 50 RGB and LUMA Histogram

Position

The histogram, waveform monitor, and vector scope can be positioned in one of four locations on the screen: top right, bottom right, bottom left, and top left, as shown in Figure 51. You can adjust their positions using the "Position" setting.

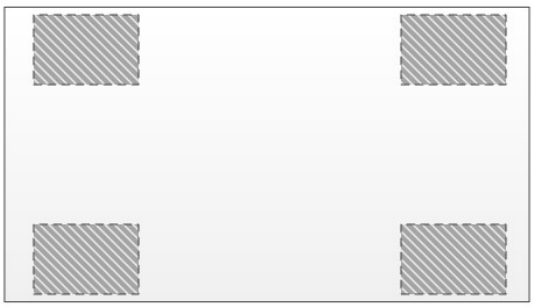


Figure 51 Position of the Assistant Elements

TRANSPARENCY

Adjust the "Transparency" setting to configure the display transparency of the histogram, waveform monitor, and vector scope on the screen. The transparency can be set to four levels: 0%, 25%, 50%, and 75%.

- 0%: **Normal background color**
- 25%: **Normal background color at 25% transparency**
- 50%: **Normal background color at 50% transparency**
- 75%: **Normal background color at 75% transparency**

For example, setting the "Transparency" of the LUMA histogram to 0%, 25%, 50%, and 75%

respectively, is illustrated in Figure 52:

Figure 52 Different Transparency for Histogram

21. Focus Tools

The focus tool is used to configure whether to enable auxiliary exposure display mode, sharpness mode, and to set parameters such as the threshold value, marker color, and sharpness detection value in auxiliary exposure mode. The menu display is shown in Figure 53:

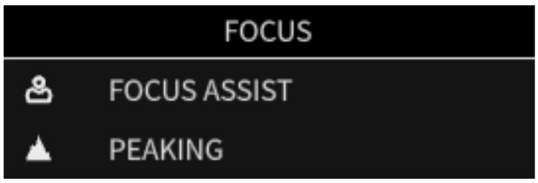


Figure 53 Focus Tools

The specific meanings of the menu items' parameters and the range of parameter values are shown in Table 10:

Table 10 Description of Focus Tools

Tool	Items	Default	Domain Range	Description
FOCUS ASSIST	COLOR	RED	WHITE /RED /GREEN	Choose the color of the focus assist edge. The intensified edges highlight in selected color.

Tool	Items	Default	Domain Range	Description
			/BLUE	
	SENSITIVITY	5	1 ~ 10	Set the edge difference value between the edges in an image, and take this value as the reference value. Larger value means more detail detection.
	BACKGROUND	COLOR	COLOR: Color Mode B&W: Black &White Mode	Set the Focus Assist display mode: color mode or black&white mode.
PEAKING	INTENSITY	5	1 ~ 10	Set the sharpness level of the image. The higher the value, the sharpener the image.

Focus Assist

The Focus Assist function is used to display images on the screen with intensified edge to help camera focus operation. The intensified edges are those areas whose difference value exceeds the reference focus level (Sensitivity), and the intensified edge are displayed in the designated color set by Color.

Focus Assist Mode:

- **Color Mode:** Set the **Focus Assist → Background** option to "Color" to display in color mode, as shown in Figure 54:

- **B&W Mode**: Set the **" Focus Assist" → "Background"** option to **"B&W"** to display in black and white mode, as shown in Figure 55. This mode removes color information from the image, retaining only the highlight information.

Figure 54 Illustration for FOCUS ASSIST Function

Figure 55 Illustration for FOCUS ASSIST Function

22. Look Tool

Look tool provides loading 3D USER LUT and DE-LOG mode to current scene, as shown in Figure 56:

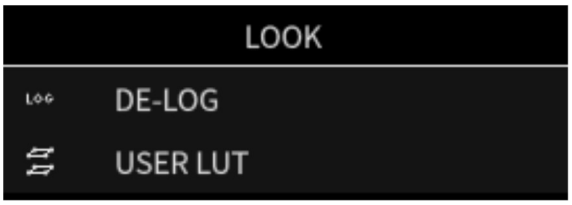


Figure 56 Look Tools

The specific meanings of the menu items' parameters and the range of parameter values are shown in Table 11:

Table 11　Description of Look Tools

Tool	Items	Default	Domain Range	Description
DE-LOG	TYPE	HDR	SDR/HDR	Choose a de-log type
USER LUT	ID	LUT1	LUT1~LUT10	Choose a user LUT ID
	INTENSITY	100%	0~100%	Set the intensity of the LUT effected to current display
	USER LUT NAME	--	--	Display the user LUT name selected in ID

DE-LOG & COLOR MANAGEMENT

To accommodate input signals with different dynamic ranges, you can select either HDR or SDR by loading the LOG restoration tool. Before doing this, you need to enable the LOG/HDR menu item in the color management menu settings to activate this function.

First, enable the LOG/HDR option by following these steps:

In the monitor menu, set **"Camera Profile" → "Color Management" → "LOG/HDR"** to On.

Then, select a file type through **"Camera Profile" → "Color Management" → "Color Profile"** and configure the gamma and color gamut settings. The settings panel is shown in Figure 57.

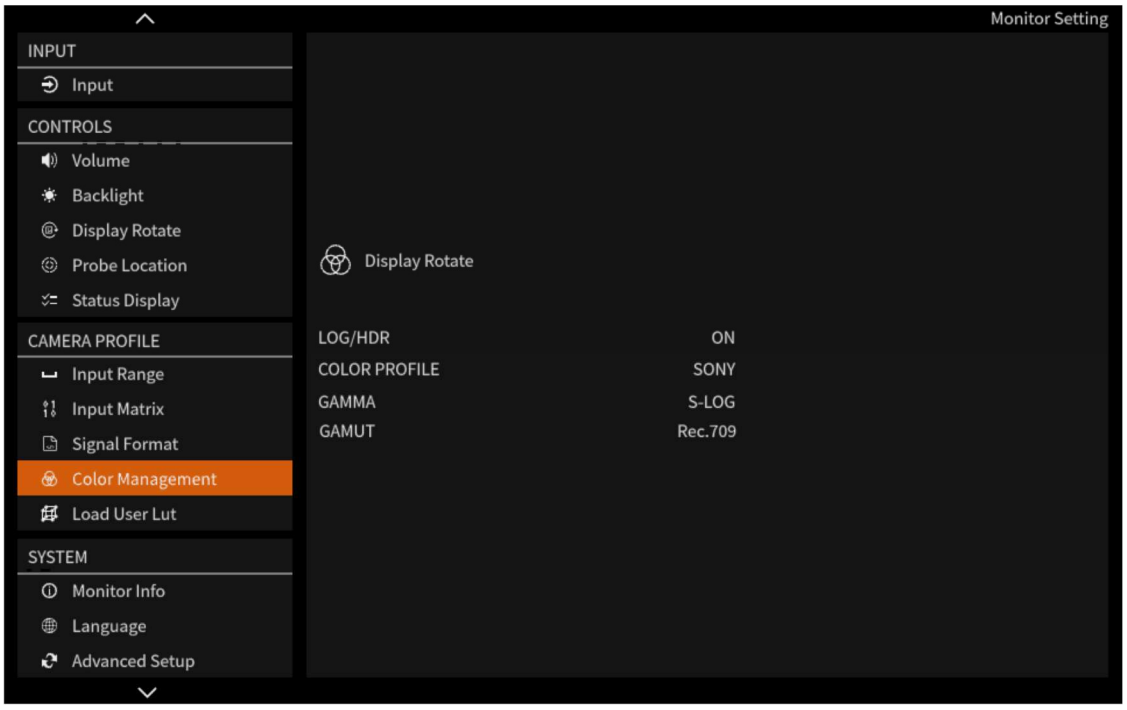


Figure 57　COLOR MANAGEMENT SETTINGS

After that, add a DE-LOG tool in scene, and press the tool again to enable it, then switch HDR or SDR through TYPE item, as shown in Figure 58:

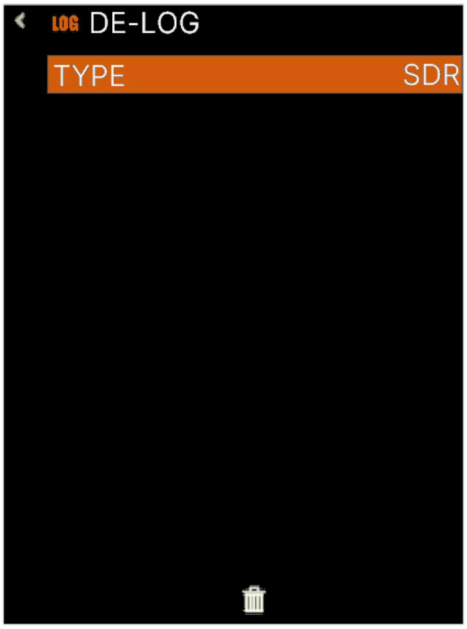


Figure 58 DE-LOG SETTINGS

Tips

- For details on color management settings, refer to the "CAMERA PROFILE" section.

User LUT File

If you want to apply a USER LUT tool to current signal displayed on screen, you should load the USER LUT in monitor settings at first.

First, write the designated LUT file to the monitor.

Operation: Select **camera profile→ LOAD USER LUT → LUT*** item in monitor settings, thus you can choose a LUT file from U disk, and you can see LUT ID in the list. Choose one LUT ID, then it will pop up a prompt for reminding you overwriting operation for LUT file, as shown in Figure 59, press **Confirm** and choose the target LUT from U disk, the file should be a LUT file with a file extension of ".cube", and specify its storage directory, please don't cut off the power during loading.

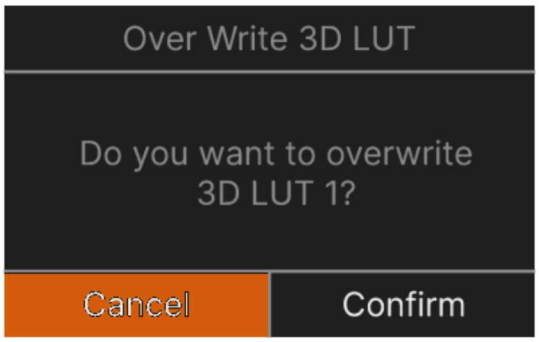


Figure 59 Prompt for Overwriting LUT

Figure 60 Calibration USER LUT Directory

It will prompt file write complete after file loading. Then, you can see the profile name is on the left side of the current LUT ID in the list. You can load up to 10 USER LUTs into the device, for example as shown in Figure 61.

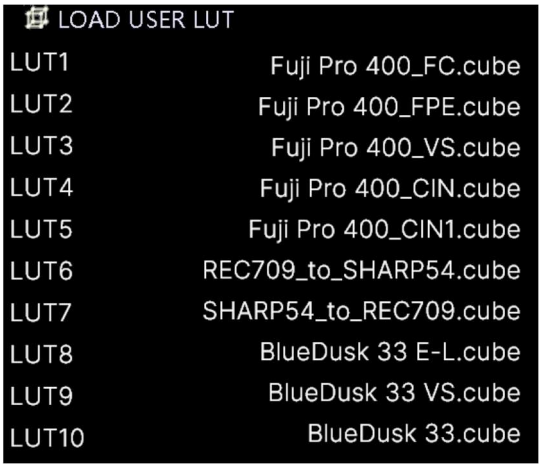


Figure 61 User LUT List

Second, apply USER LUT in the tool. Select and enable a Look tool in a scene, and choose **ID** item to your designated, the LUT name will be displayed in **USER LUT NAME** in gray, as shown in Figure 62:

Figure 62　User LUT Tool

23. Analysis Tool

The analysis tools are used to simultaneously display common image analysis charts: waveform monitor, histogram, and vector scope. The menu display is shown in Figure 63:

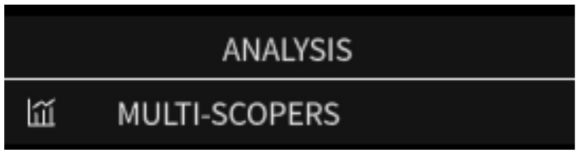


Figure 63　Analysis Tools

The specific meanings of the menu items' parameters and the range of parameter values are shown in Table 12:

Table 12　Description of Multi-Scopes Tool

Tool	Items	Default	Domain Range	Description
MULTI-SCOPES	WAVEFORM	LUMA	LUMA/RGB/PARADE	Set the type of the waveform
	VECTOR	X1	X1/X2	Set the gain of vector
	HISTOGRAM	LUMA	LUMA/RGB	Set the type of the histogram
	DENSITY	50%	0~100%	Set the density of current waveform, histogram and vector displayed on screen, the step is 1%

MULTI-SCOPES

■ **Activate the MULTI-SCOPES function**

After enabling the "Analysis" → "Multi-Scopes" option, the multi-scopes tool is activated. The display of the waveform monitor, histogram, and vector scope is shown in Figure 64.

Figure 64　Analysis Tools

24. Meter Tool

Meter tool provides adding audio meter to current scene, as shown in Figure 65:

Figure 65 Meter Tools

The specific meanings of the menu items' parameters and the range of parameter values are shown in Table 13:

Table 13 Description of Meter Tools

Tool	Items	Default	Domain Range	Description
AUDIO METER	POSITION	Bottom right	BOT LEFT/ BOT RIGHT	Set the position of the audio meter
	TRANSPARENCY	0%	0% 25% 50% 75%	Set the transparency of the audio meter
	METER SELECT	CH1-2	CH1-2 CH3-4 CH5-6 CH7-8 CH9-10 CH11-12 CH13-14 CH15-16	Choose an audio channel
TIME CODE	TRANSPARENCY	0%	0% 25% 50% 75%	Set the transparency of the time code

Audio Meter

This function is used to activate the audio meter display. The audio meter can be positioned in the bottom left or bottom right corner of the screen and can be set to one of four levels of transparency. The audio meter is only effective for SDI signals.
Audio bars within the normal range are displayed in green. Bars exceeding "-20dB" are shown in yellow, and those exceeding "-10dB" are shown in red, as shown in Figure 66.

Figure 66 Audio Meter

Time Code

Select Time Code tool to adjust the transparency of embedded timecode on screen, only valid for SDI input signal.
Timecode is displayed as the format of "HH:MM:SS:FF" at the bottom center of the screen, and if there is no available timecode, it will not appear.

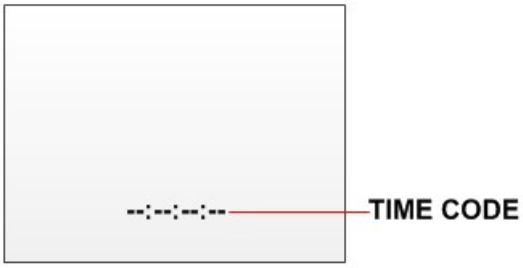


Figure 67 Timecode

25. Add a scene

Using the joystick, you can add up to 8 custom display scenes to the monitor to suit different work environments. Additionally, you can quickly switch between these scenes by moving the joystick left or right.
Move the joystick downward to display the menu bar, as shown in Figure 68. Move the joystick to the right to select the fourth option, "Add Scene," which will bring up a prompt card as shown in Figure 69.

Figure 68 Menu Bar

Press the joystick vertically downward to confirm the scene addition. The scenes will be automatically numbered in the order they are added, with the scene numbers displayed in the bottom left corner of the screen.

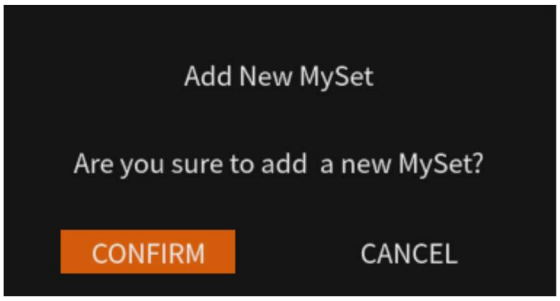


Figure 69 Add a Scene

Tips

- Each device can add up to 8 custom scenes, allowing for 8 different work environment applications.
- Factory has 3 MySets (frame, exposure, focus) preset, you can edit them as your preferences.
- No.1 scene exists by default and undeletable

When the toolbar is not displayed, switch between different scene modes by moving the joystick left or right.

26. Delete a Scene

Move the joystick downward to display the menu bar. Continue moving the joystick to the right to select the fifth option, "Delete Scene," which will bring up a prompt card as shown in Figure 70. Press the joystick vertically downward to confirm the scene deletion and wait for the deletion completion prompt box. After deletion is complete, wait for the prompt box to close.

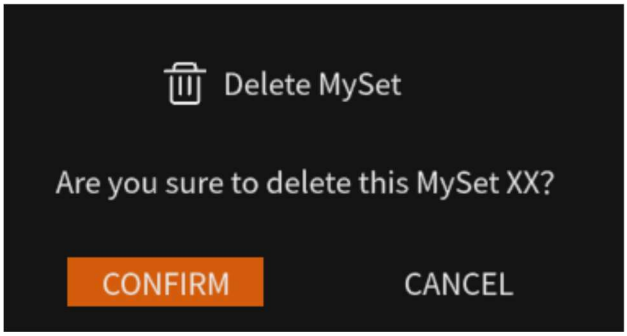


Figure 70 Delete a Scene

Tips

- The default Scene 1 cannot be deleted.

27. Add a Tool

After creating a scene, add some tools to assist in composition, for example, add a marker, waveform, histogram or audio meter, etc.

Tips

- Each scene supports up to 8 scene tools.
- You can add more than one of the same tool in a scene.

Press the joystick vertically downward to display the toolbar list on the left side, showing the auxiliary tools already added to the current scene. Move the joystick up or down to select the "ADD NEW TOOL" icon, as shown in Figure 71. Move the joystick to the right to display the scene tool menu, as shown in Figure 72.

Figure 71 Add a New Tool

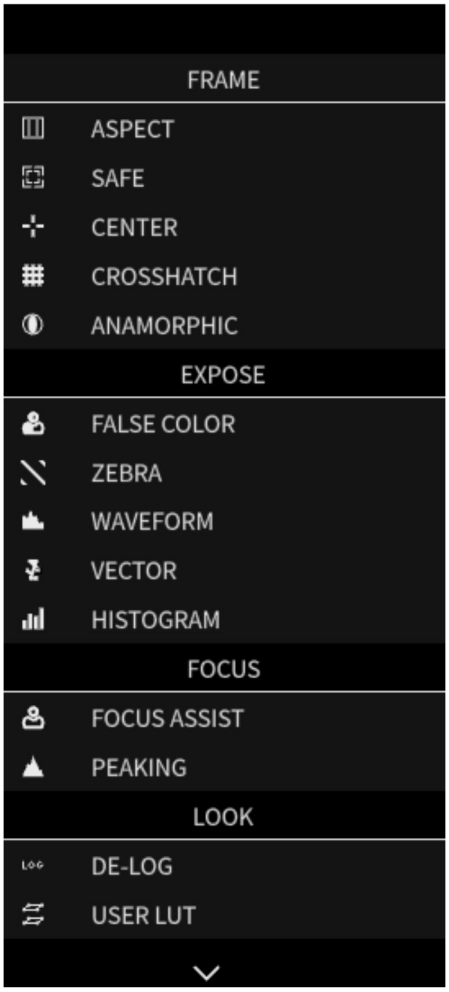


Figure 72 Tools Menu for Scene

Move the joystick up or down to select the desired scene tool. After selecting, press the joystick vertically downward to confirm adding the tool. The added tool will be included in the toolbar list.

For example: Select the histogram tool.

Move the joystick downward until the cursor is on the "Histogram" command, as shown in Figure 73. Press the joystick vertically downward to confirm adding the histogram tool. The display will appear as shown in Figure 74.

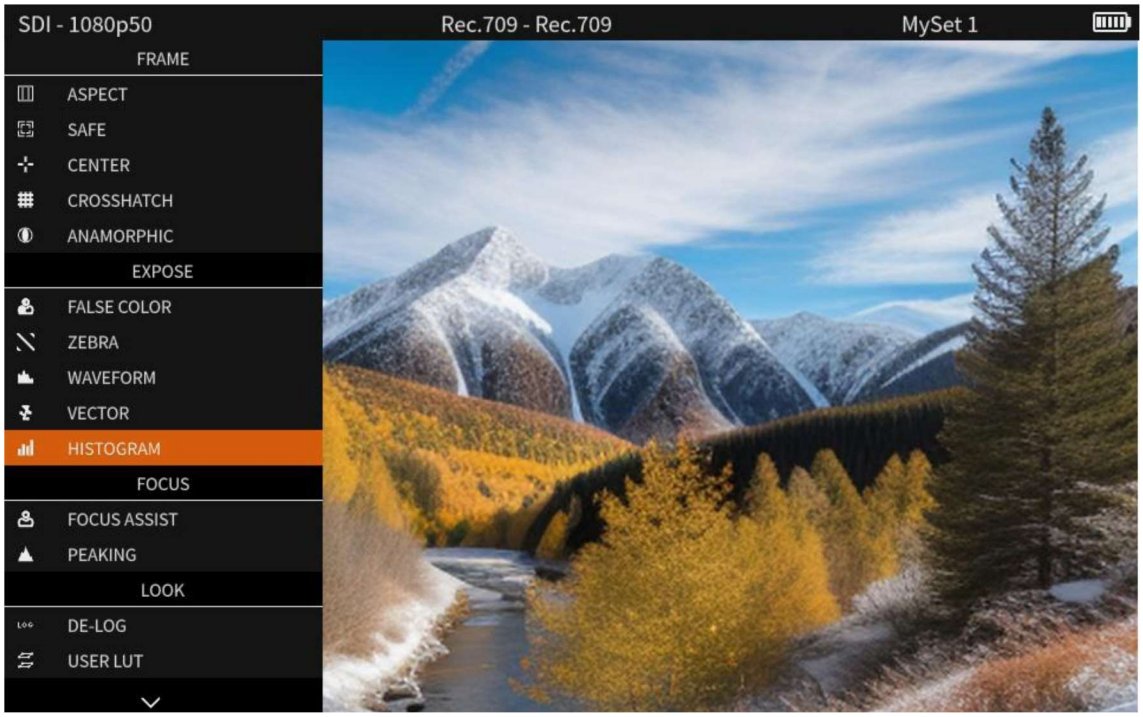


Figure 73 Show Tool Bar

Figure 74 Show Tool Menu

Continue using the joystick to add tools. Each scene can have up to 8 scene tools.

28. Load/Close Tool Bar

Follow the instructions below to load or close tool bar in a scene.

- **Load Tool Bar**

First, scroll the joystick right to access a scene;
Second, press down to load the tool bar for the current scene, the tool bar will be displayed the leftmost of the screen, as shown in Figure 75. The bar labeled in the red rectangle is the tool bar for the current scene.

Figure 75 Scene toolbar

- **Close Tool Bar**

  - ☐ After loading a tool bar, scroll left to close the tool bar.

  - ☐ When in tool setting panel, press down to return to tool bar and close the tool bar.

29. Turn ON/OFF a Tool

In tool bar, follow the instructions below to turn on or off a tool swiftly:

- **Turn on a Tool**

  First, press the joystick vertically downward to load the toolbar for the scene;

  Then, move the joystick up or down to select the desired scene tool;

  Finally, press the joystick vertically downward on the selected tool icon to activate the tool. The tool icon will be highlighted.

- **Turn off a Tool**

  After opening the tool, press the joystick vertically downward again to close the tool.

- **Open the tool's settings menu**

  After opening the toolbar, move the joystick up or down to select the desired scene tool. Then, move the joystick to the right to open the settings menu for the selected tool, as shown in Figure 76:

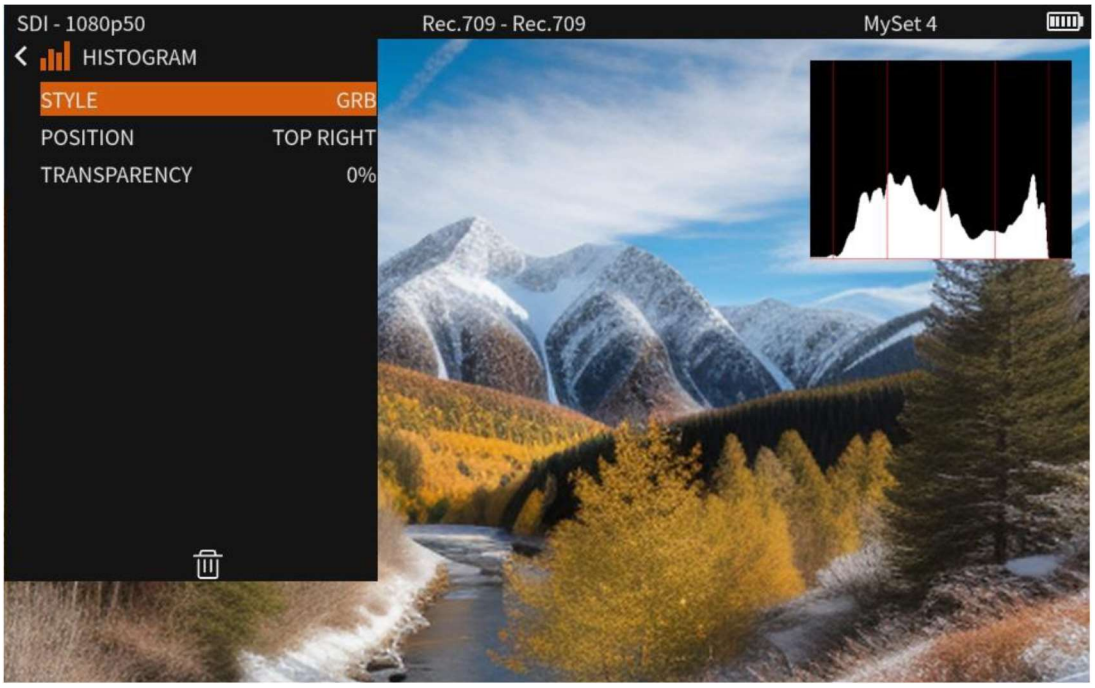


Figure 76 Turn off a Tool

Press the joystick vertically downward to close the tool's settings menu and return to the toolbar.

■ **Choose a Tool**

After loading the tool bar, scroll up or down to choose a tool in current tool bar.

Tips

- Pressing the joystick vertically downward on the toolbar can open or close the selected tool.

  The icon for an open tool will be highlighted in orange, while the icon for a closed tool will be white

30. Tool Settings

Scene tool settings are completed through the tool settings menu. After selecting the desired scene tool, move the joystick to the right to display the settings menu for that tool.
Additionally, after switching between different scene modes by moving the joystick left or right, the scene tool list is not displayed by default. In this case, press the joystick vertically downward to display the list of tools added to the current scene.
Tools within the scene can have their properties modified through the tool settings menu. This includes parameters such as display style, position, size, and other settings.
For example: Setting up the histogram.
In the scene, press the joystick vertically downward to display the toolbar on the left side. Select the "Add Tool" command, as shown in Figure 77. Then, move the joystick to the right to display the tool menu, as shown in Figure 78:

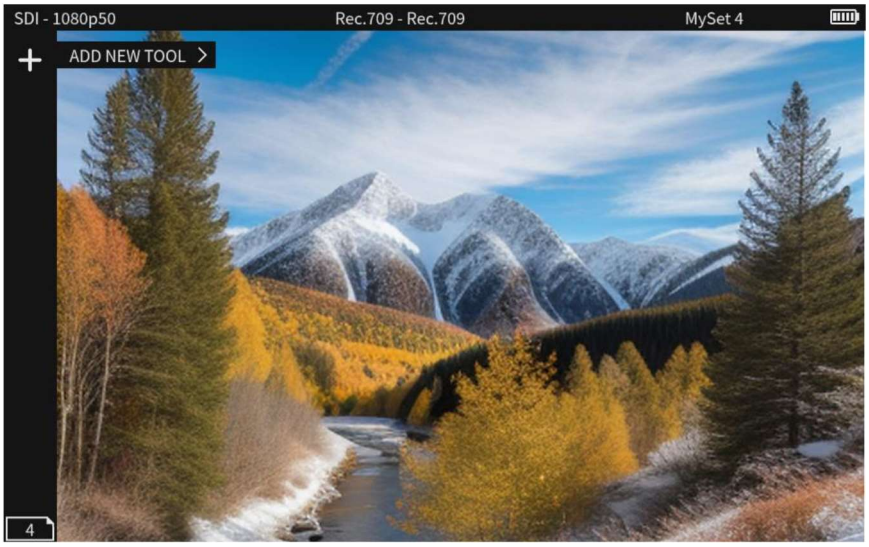


Figure 77 Load Tool Bar

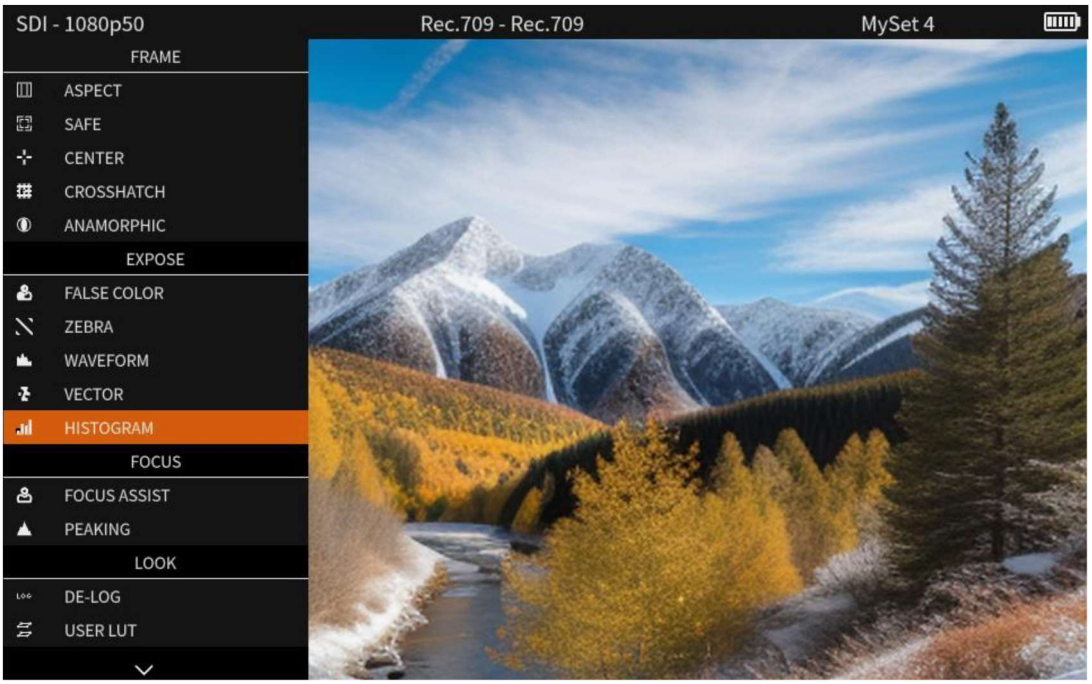


Figure 78　Load Tool Menu Panel

Move the joystick downward to select the **"Histogram"** tool. Press the joystick vertically downward to confirm the selection. The histogram will then be loaded onto the toolbar, as shown in Figure 79：

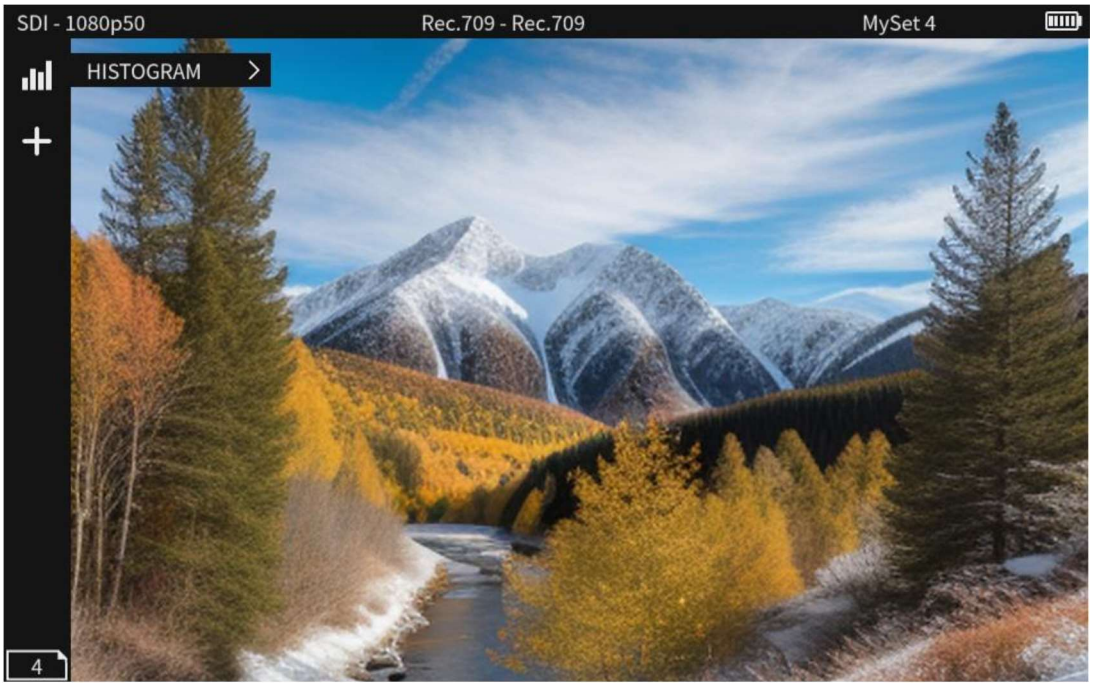


Figure 79　Add a Tool

Press the joystick again to activate the tool. The histogram icon will be highlighted, and the tool will be opened on the screen. The default position of the histogram is in the top right corner, as shown in Figure 80:

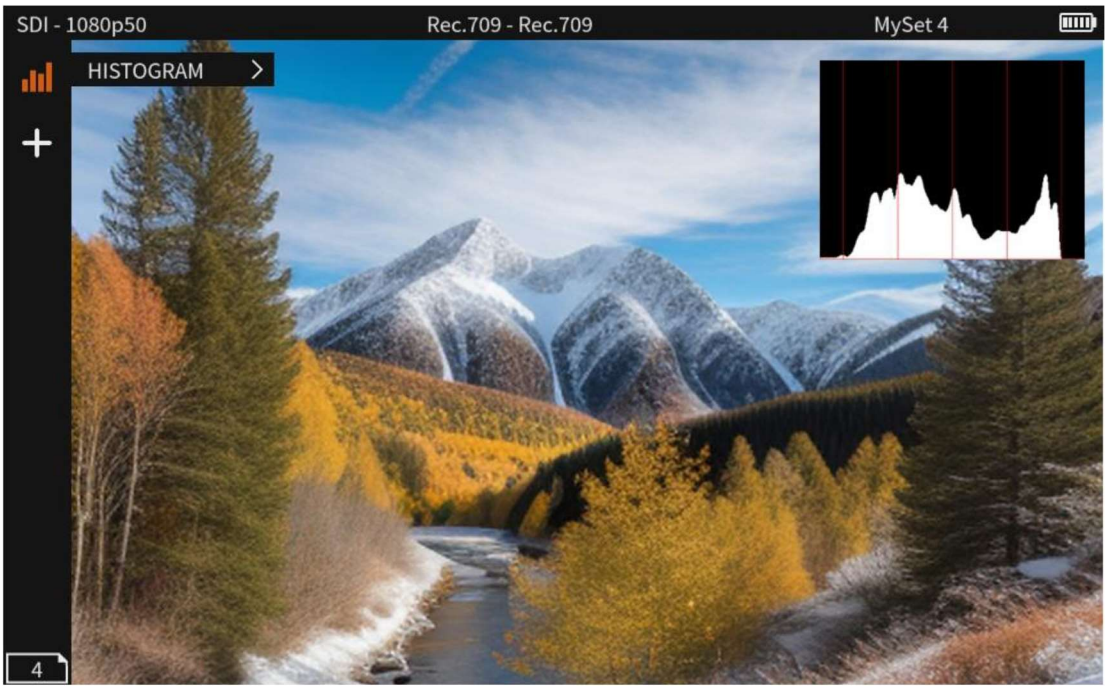


Figure 80 Activate a Tool

Move the joystick to the right to enter the histogram tool settings menu, as shown in Figure 81. Based on the scene display requirements, you can adjust the histogram's style, position, and transparency. Once the settings are complete, press the joystick vertically downward to return to the toolbar.

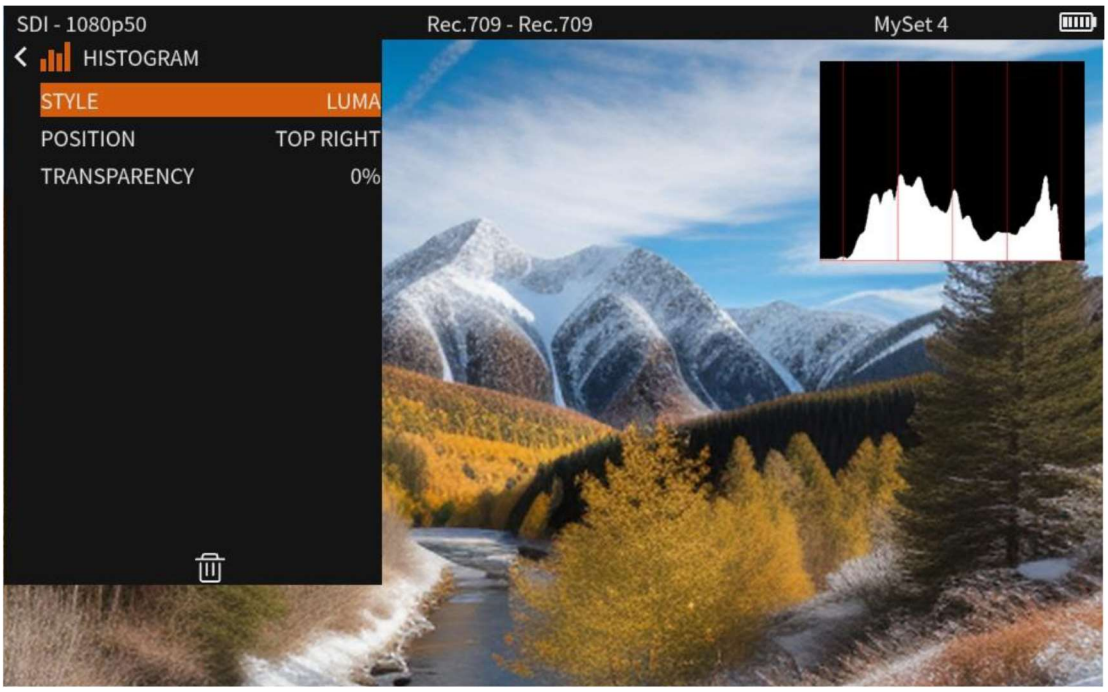


Figure 81 Tool Settings Menu-HISTOGRAM

31. Delete a Tool

In the scene, press the joystick vertically downward to display the list of tools already added to the scene. Move the joystick up or down to select the tool you want to delete. Move the joystick to the right to enter the tool's menu, which will take you to the tool's settings menu. At the bottom of the tool settings menu, the delete option is displayed, as shown in Figure 82.

Move down to select the delete option, and a prompt will appear asking for confirmation to delete the tool, as shown in Figure 83 :

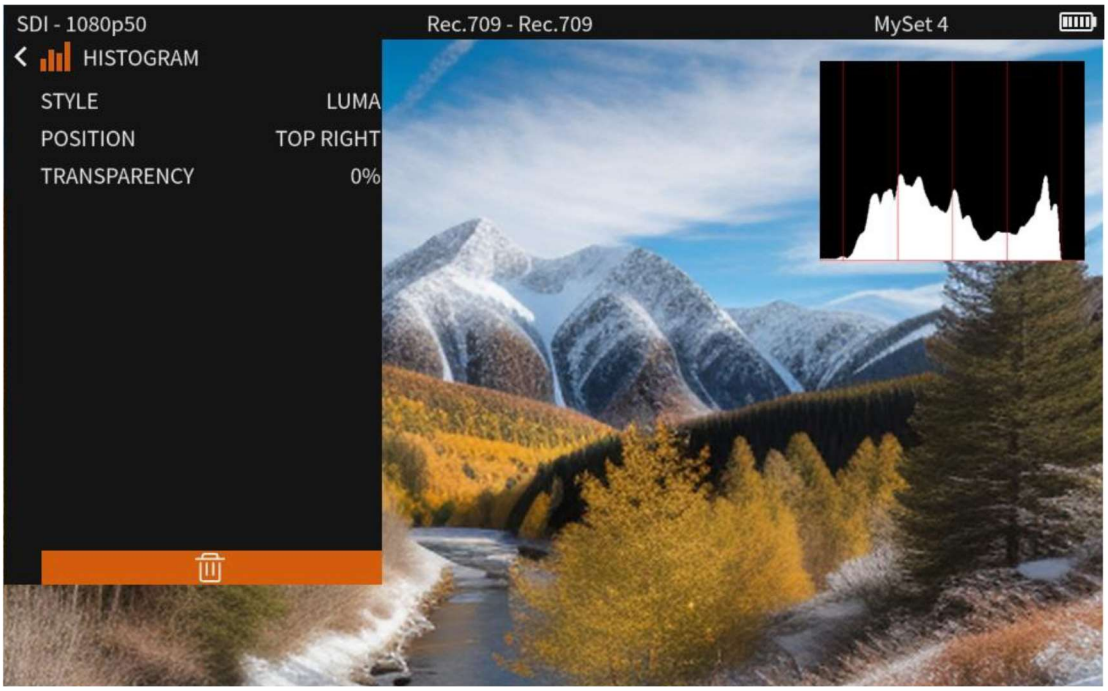


Figure 82 Delete a Tool

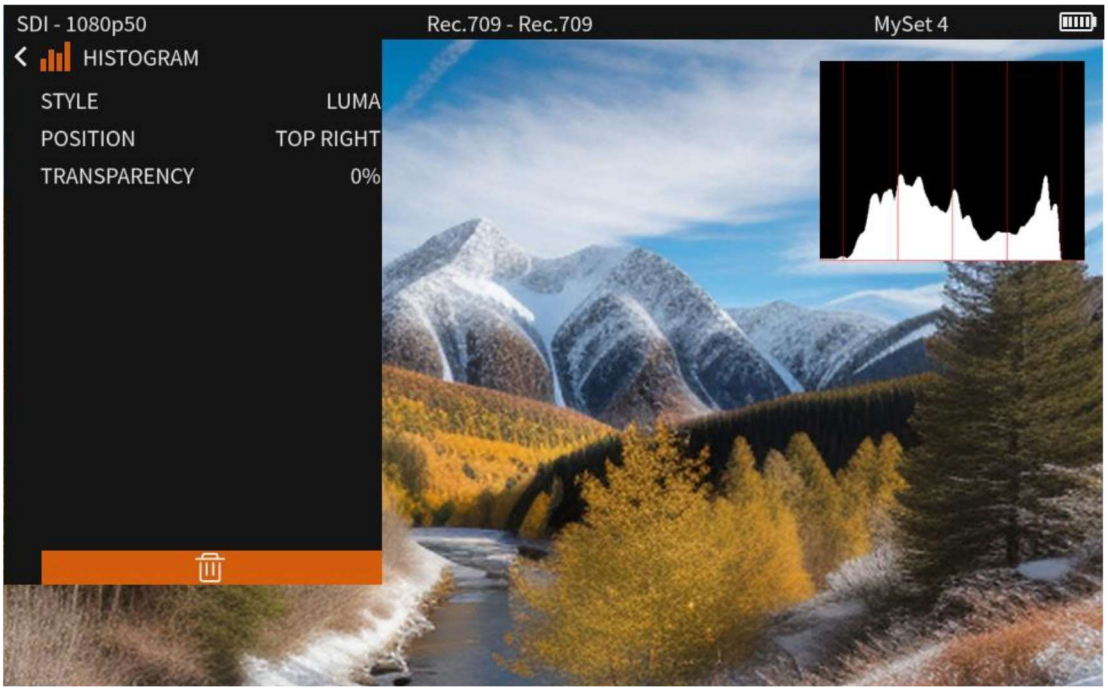


Figure 83 Delete a Tool

Tips

- After deleting the scene tool, its loading effect or window in the scene will be closed.

32. Technical Indicators

Product detailed information

Specification	Values	
Model	K15	K21
Dimension	15.4"	21.5”
Dimension (WxHxD)	387.4x280x 90.7mm	531x345.7x 92.7mm
Pixel Pitch (WxH)	0.1722×0.1722mm	0.24795×0.24795mm
Aspect Ratio	16:10	16:9
Display Area (WxH)	330.62×206.64mm	476.064×267.786mm
Viewing Angle (HxV)	178° x178°	
Color Depth	10bit	
Resolution	1920×1200	1920×1080
Contrast (Typ.)	1650:1(Typ.)	1100:1
Luminance (cd/㎡)	1500	1500
Response Time (ms)	18	25
Backlight	WhiteLED	
Backlight Life (Hrs)	20000(Min.)	50000(Min.)
Work Temperature	0° C~40° C	
Power Supply	100～240V 50/60Hz（AC） /11～17V 3A DC battery	100～240V 50/60Hz（AC） /11～17V 5A DC battery
Power Consumption	≤45W	≤55W
Video Input Interface	3G/HD/SD-SDI(X2)	
	HDMI(X1)	
Video Output Interface	3G/HD/SD-SDI(X2)	
Audio Output Interface	3.5mm Jack(Headphone)	
Control Interface	USB-C	
	LUT/FMW	
Input Signal Format	See details in table	
3G-SDI /HD-SDI /SDI-SDI Input/Output		
Signal Formats	SMPTE 424M, SMPTE 292M, SMPTE 259M, SMPTE 297M, SMPTE ST 2048-2	

Specification	Values
Connector	BNC per IEC 169-8
Impedance	75Ω
Return Loss	>18 dB 5 to 270 MHz >15 dB 270 MHz to 1.5 GHz >10 dB up to 3 GHz
Maximum Signal Level	800 mV pk-pk 10%
Signal Amplitude	800 mV pk-pk 10%
DC Offset	0 V ±0.5 V
Overshoot	<10%
Jitter	<0.2 UI
Rise/Fall Time	<700 ps for SD <270 ps for 1.5 Gb/s HD <135 ps for 3 Gb/s HD
Extinction Ratio	>8
Back Reflection	<-14 dB

Product Structure Description

- **The main dimensions of the K15's product appearance are shown in the diagram below:**

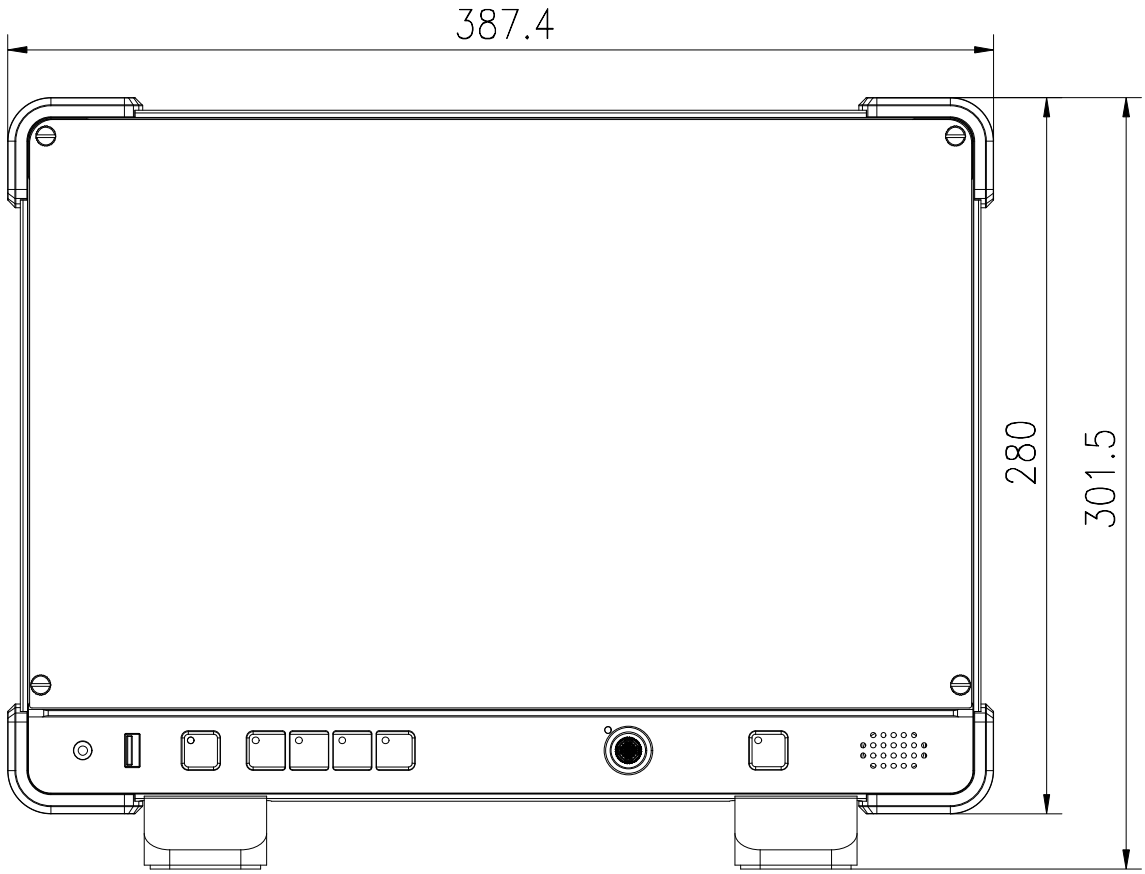


Figure 79: Front View (Unit: mm)

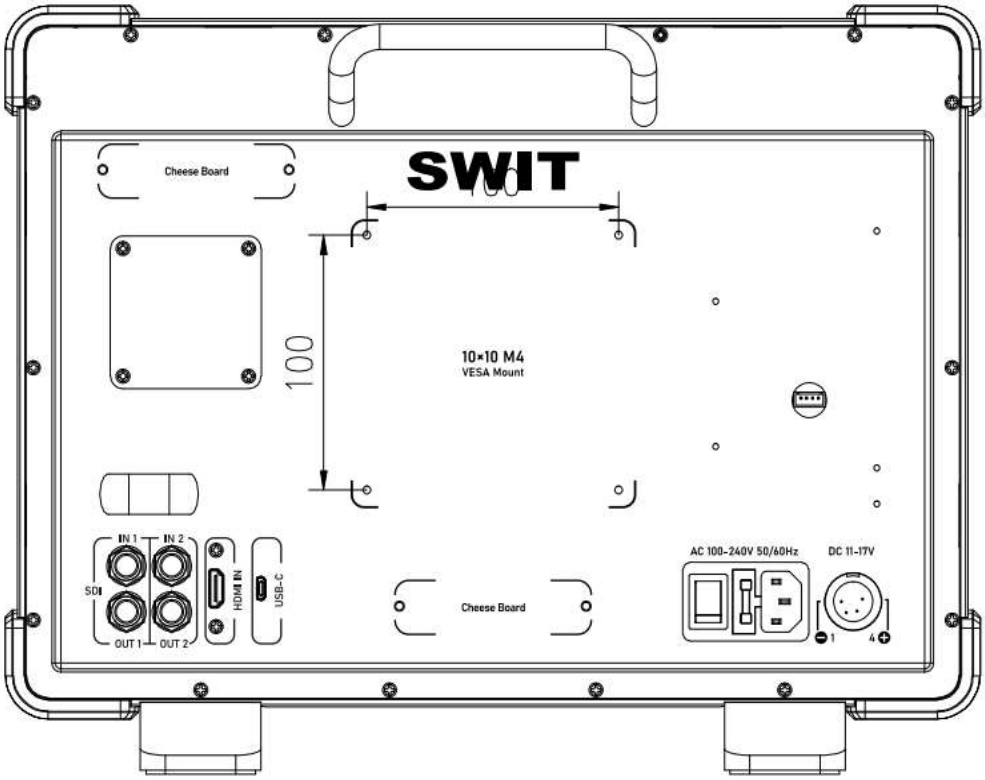


Figure 80: Rear View (Unit: mm)

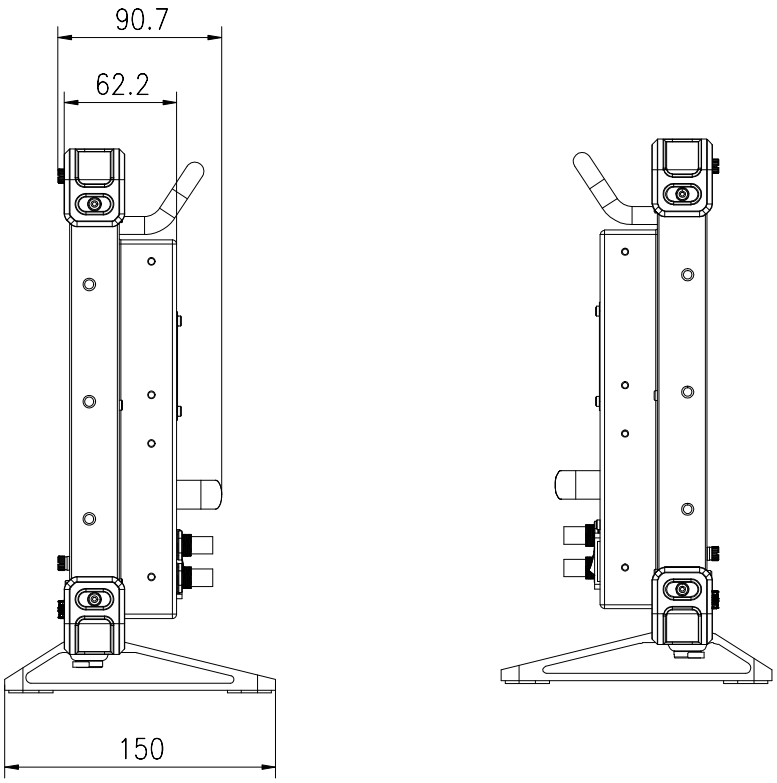


Figure 81: Side View (Unit: mm)

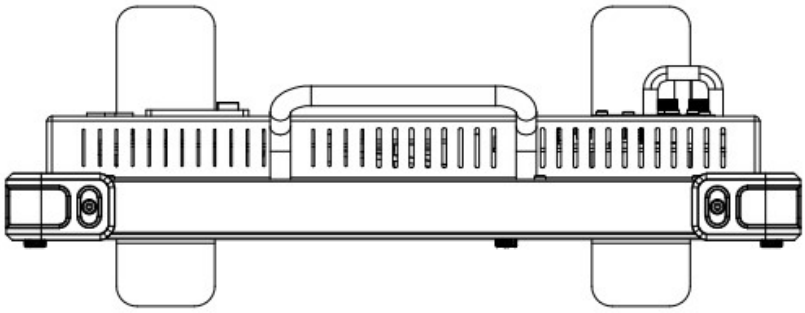


Figure 82: Top View (Unit: mm)

- **The main dimensions of the K21's product appearance are shown in the diagram below:**

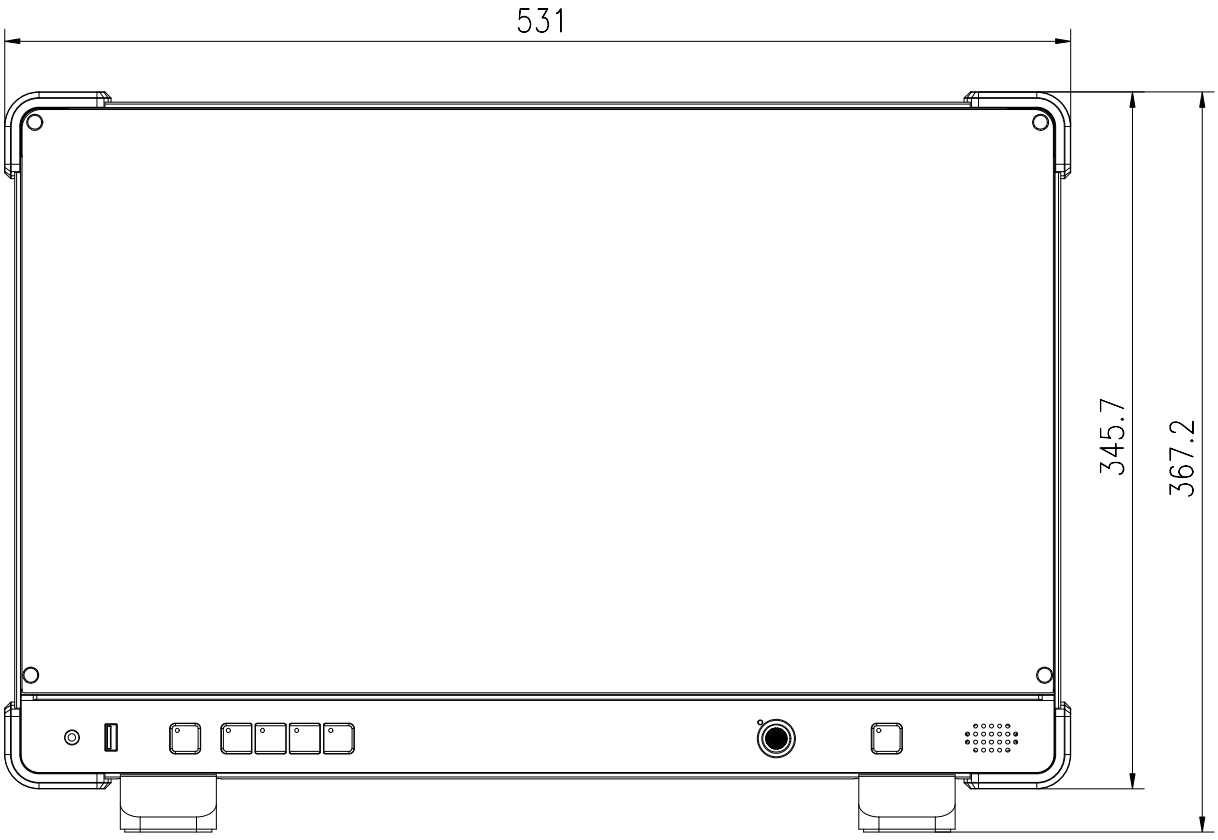


Figure 83: Front View (Unit: mm)

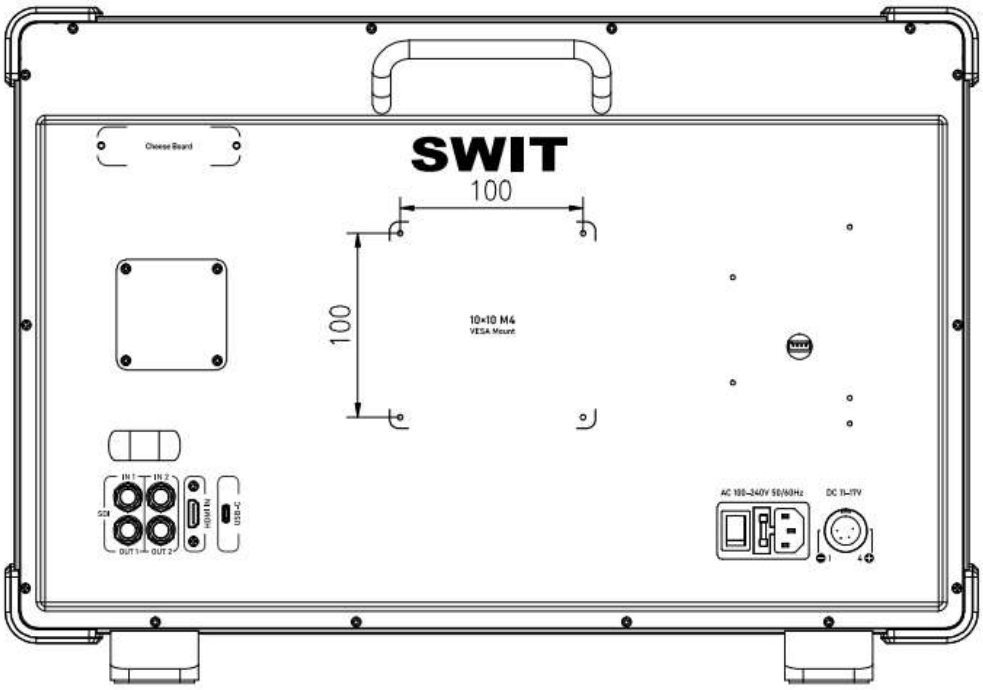


Figure 84: Rear View (Unit: mm)

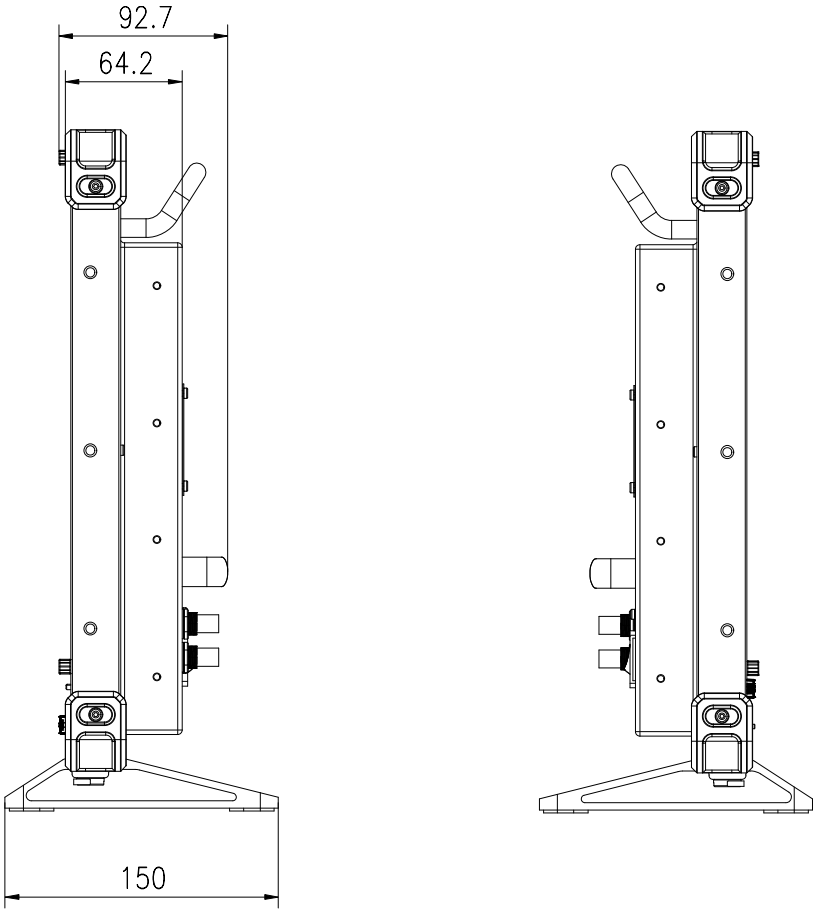


Figure 85: Side View (Unit: mm)

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