Mars M1

User Guide

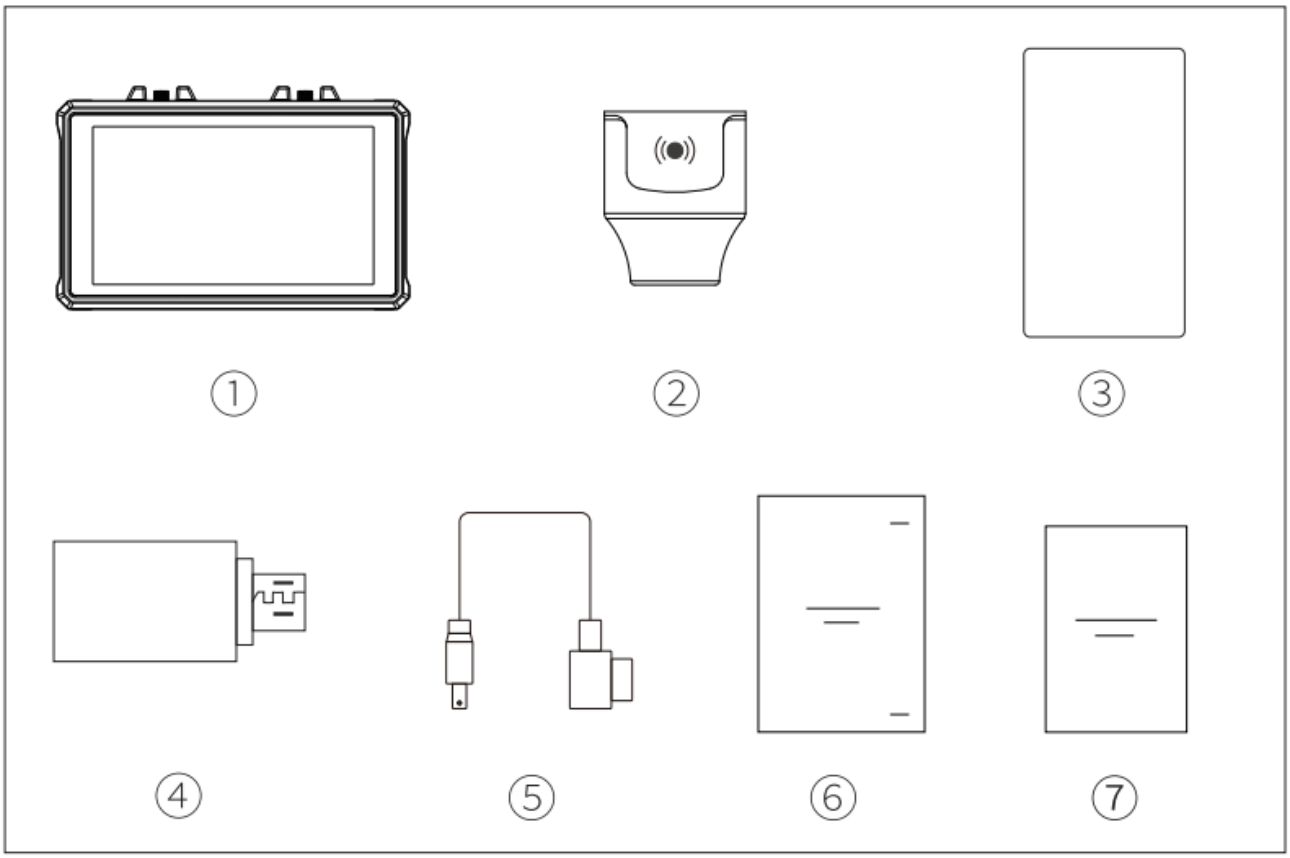
V1.0

1. Specifications

Category	Item	Details
Size & Interface	Weight	380g (without antenna)
	Size	152*96*40mm (without antenna)
	Interface	DC IN: 2.0mm Power Port DC OUT: 2.0mm Power Port SDI IN: 3G SDI HDMI IN: HDMI 1.4b HDMI OUT: HDMI 1.4b TYPE C: USB 2.0 OTG 3.5mm Headphone Monitor Interface Antenna: SMA Male Port
Wireless Parameters	Frequency	5.1-5.8 GHz
	Transmission Power	<21dBm
	Frequency Bandwidth	20MHz
	Modulation Mode	802.11n
	Sensitivity	-80dBm
	MIMO	2T2R
Code and Rate	Maximum Data Rate	12Mbps
	Video Coding	H.264
Electrical Performance Parameters	Power Consumption	TX<14W, RX<10W (1 to 2) TX<10.5W, RX<9W (1 to 1)
	Supply Voltage Range	6~16V
	Output Voltage	8.4V±5%
	Duration	About 4 Hours (NP-F970 Battery 7800mAh)
Audio & Video Parameters	Input Video Format	HDMI: 720p 50/59.94/60Hz 1080i 50/59.94/60Hz 1080p 23.98/24/25/29.97/30/50/59.94/60Hz 3840*2160p 23.98/24/25/29.97/30Hz 4096*2160p 23.98/24/25/29.97/30Hz SDI: 720p 50/59.94/60Hz 1080i 50/59.94/60Hz 1080p 23.98/24/25/29.97/30/50/59.94/60Hz

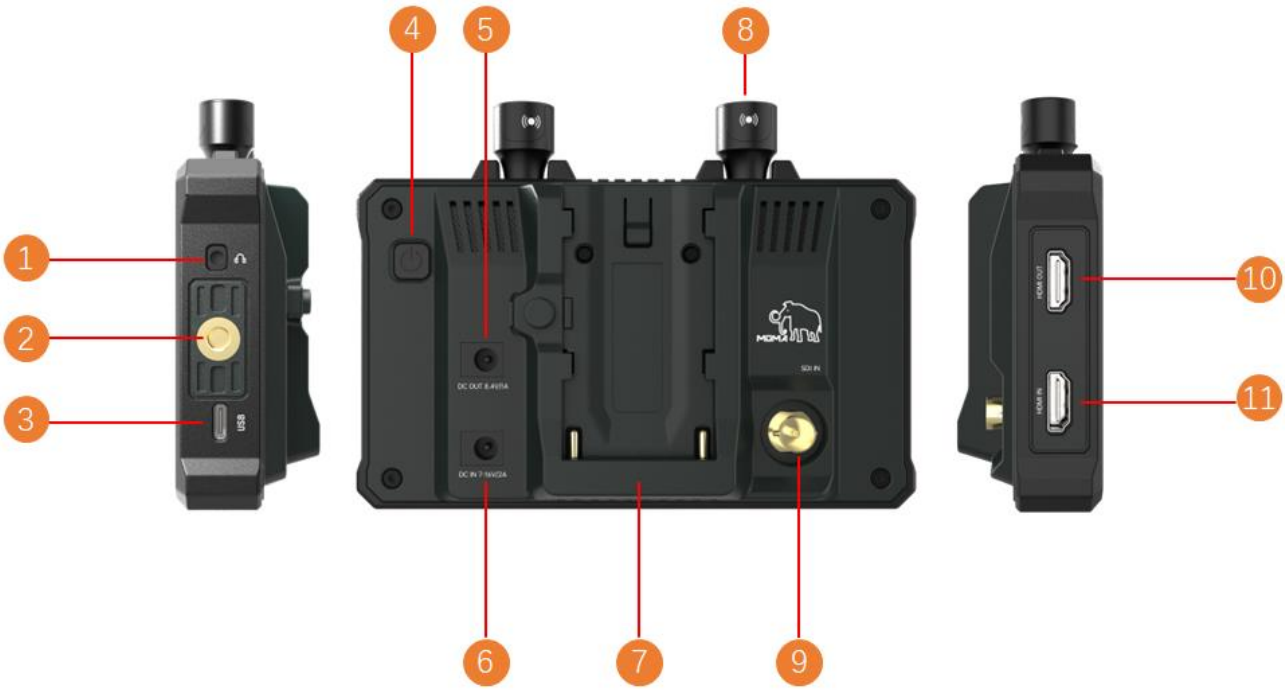
	Output Video Format	TX HDMI: 720p 50/59.94/60Hz 1080i 50/59.94/60Hz 1080p 23.98/24/25/29.97/30/50/59.94/60Hz 3840*2160p 23.98/24/25/29.97/30Hz 4096*2160p 23.98/24/25/29.97/30Hz RX HDMI: 720p 50/59.94/60Hz 1080i 50/59.94/60Hz 1080p 23.98/24/25/29.97/30/50/59.94/60Hz
	Color Depth Mode	8bit, RGB limit/full, YUV444/422
	Input Audio Format	SDI Embedded 2 channels, HDMI Embedded up to 8 channels
	Output Audio Format	HDMI Embedded up to 8 channels
Transmission Parameters	Transmission Data Rate	TX to RX 12Mbps TX to APP 4Mbps
	Delay	1080p60: 84ms TX to RX (1 to 1 connection)
	Distance	150m Between TX & RX (LOS) 100m Between TX & APP (LOS)
Reliability Parameters	Working Temperature	-10℃ to 60℃
	Storage Temperature	-40℃ to 60℃
	QVC drop test requirment	Reference Standard: GB/T 2423.8-1995
	Vibration Standard	Reference Standard: GB T 2423.10-2008
	ESD Electrostatic	Contact Discharge±6KV, Air Discharge±8KV

2. Packing List



Name	Num
1. Monitor	*1
2. Capsule Antenna	*2
3. Tempered Glass Screen Protector	*1
4. OTG Adapter	*1
5. D-Tap to DC Cable	*1
6. User Manual	*1
7. Warranty Card	*1

3. Interface & Keys



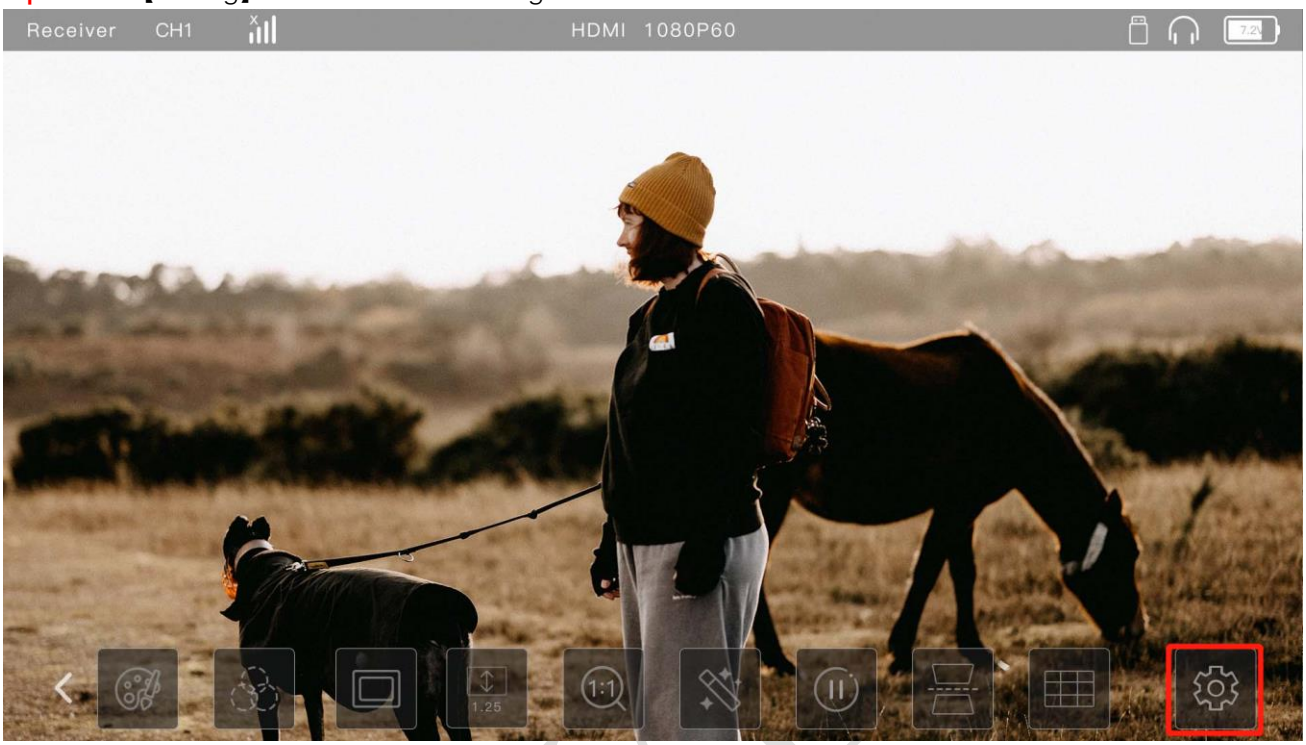
Interface	Function
1. 3.5mm Earphone Interface	Monitor the audio through 3.5mm TRRS earphone
2. 1/4 Screw Hole	Mount horizontally on camera through magic arm
3. USB Interface	USB upgrade, 3D-LUT import
4. Power, Lock Screen Key	Long-press 3s to power ON/OFF; Click to lock/unlock the screen
5. DC OUT	DC OUT 8.3~8.6V/1A
6. DC IN	DC IN, support 6~16V
7. NP-F battery plate	Supports NP-F 970/750/550 battery power supply
8. Antenna	Video transmission antenna 5.1~5.9GHz
9. SDI IN	SDI IN Video Input (Only work in TX mode)
10. HDMI IN	HDMI IN Video Input (Only work in TX mode)
11. HDMI OUT	HDMI OUT Video Output

4. Status Display

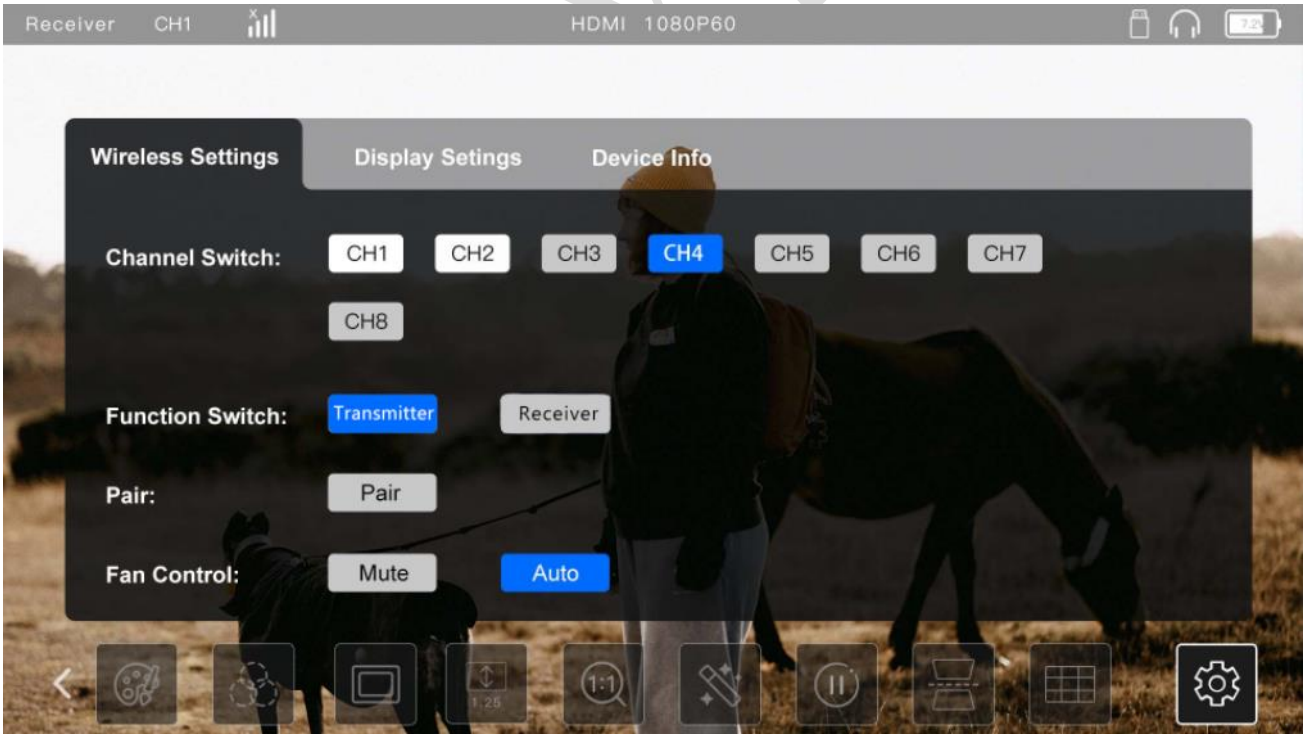
Status	Detail
1. Device Mode	Current mode: 【Transmitter】/【Receiver】
2. Channel	Mars M1 current channel
3. Connection	RX1/RX2 connection signal
4. Video Input Format	Video Input: Display current video input format No Video Input: Display 【NO VIDEO】
5. LUT name display	Displays the loaded LUT file name
6. USB Disk icon	Only display when USB disk plug in
7. Earphone icon	Only display when earphone plug in
8. Battery Voltage	7.0V lower battery warning
9. Image Analysis Options	Monitor corresponding image analysis function
10. Setting	Monitor settings menu button
11. record	Click the button to enter the recording state
12. Playback	Click the button to enter the interface of the previous recording video

5. Setting

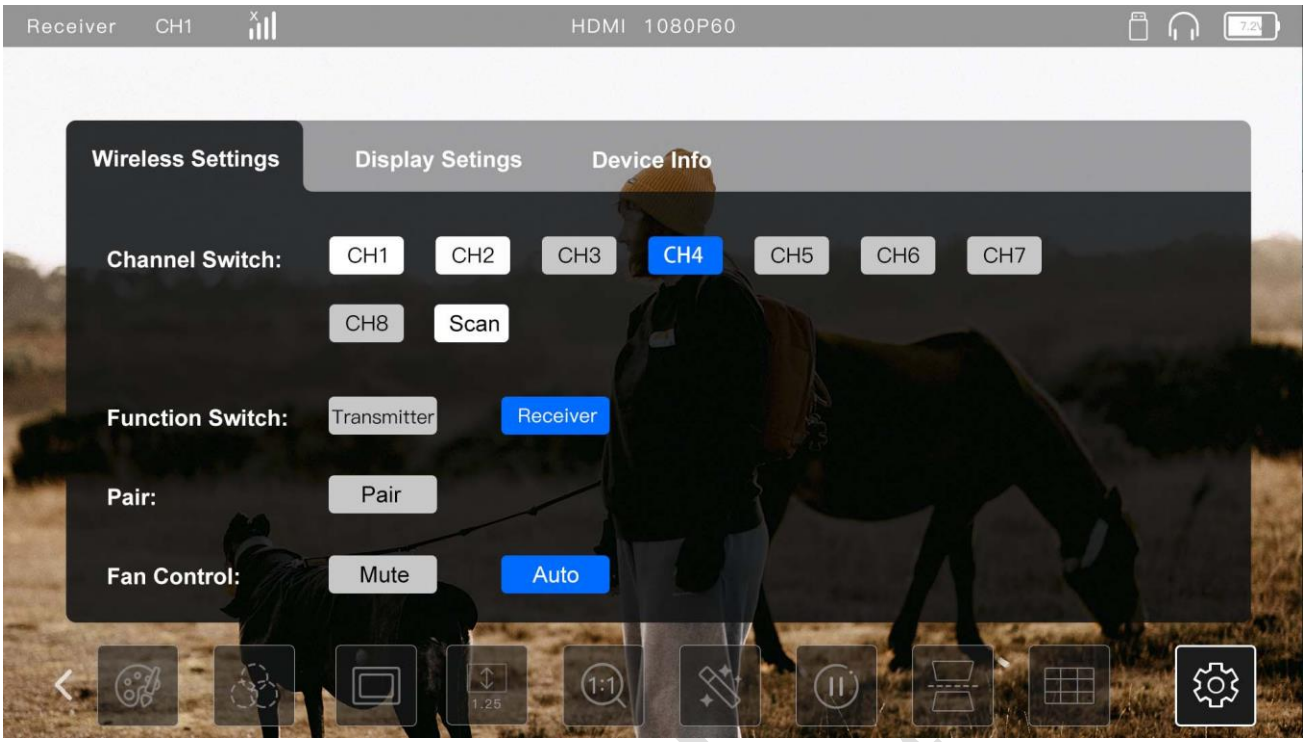
Tip: Click 【Setting】 icon in the bottom right corner to enter the menu



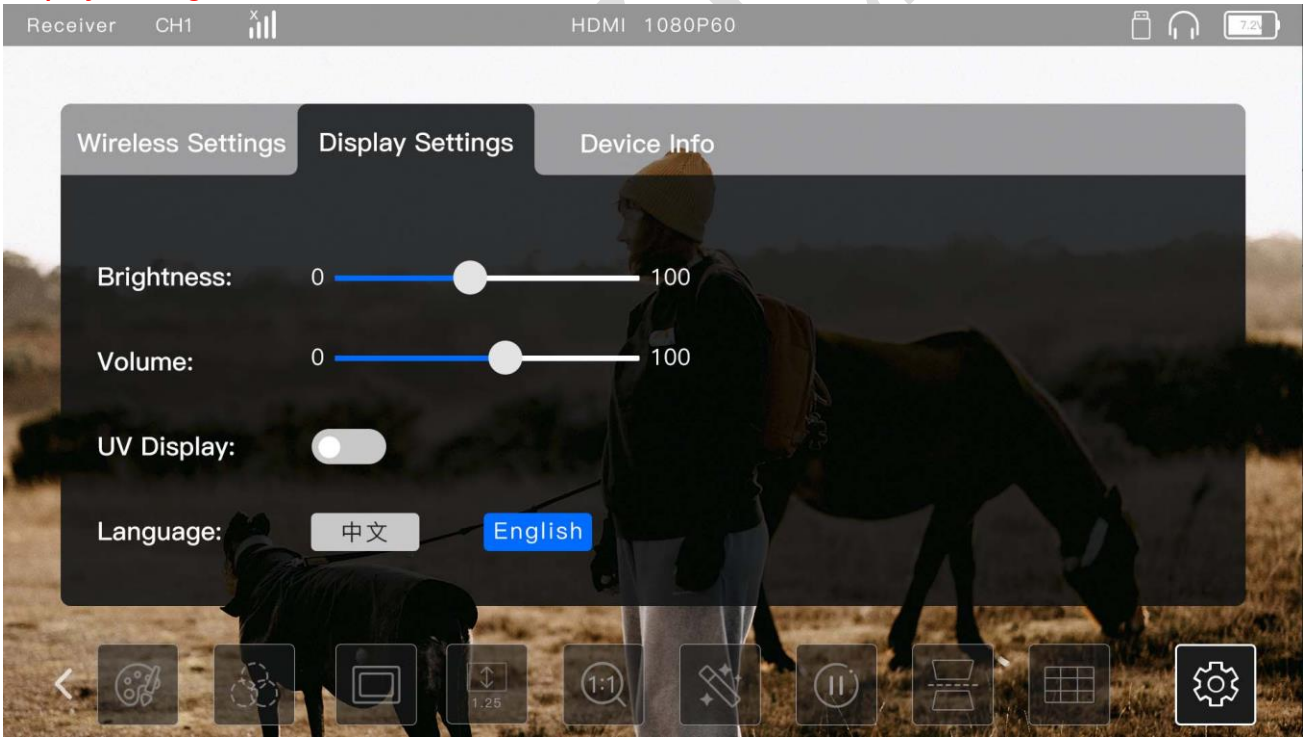
Transmitter Status:



Receiver Status:



Display Settings：



5.1. Channel Switch

Operation: Enter menu 【Wireless Settings】--> 【Channel Switch】 --> Click corresponding 【CH-】 to switch the channel.

Note: The frequency number and frequency band vary by country and region.
(There are 13 frequencies in China, 8 in the United States, 8 in Japan, and 8 in Europe.)

5.2. Function Switch

Operation: Enter menu 【Wireless Settings】--> 【Function Switch】 --> Click 【Transmitter】 or 【Receiver】 to switch TX or RX mode.

5.3. Pair

Operation:

(1) Mars M1 as a TX/RX to enter the menu 【Wireless Settings】 --> 【Pair】 --> Click Pair

(2) RX/TX to enter the pairing mode.

Note: TX and RX need to enter pairing mode at the same time.

5.4. Fan Control

Operation: Enter menu 【Wireless Settings】--> 【Fan Control】 --> Click 【Mute】 or 【Auto】 to change fan working mode.

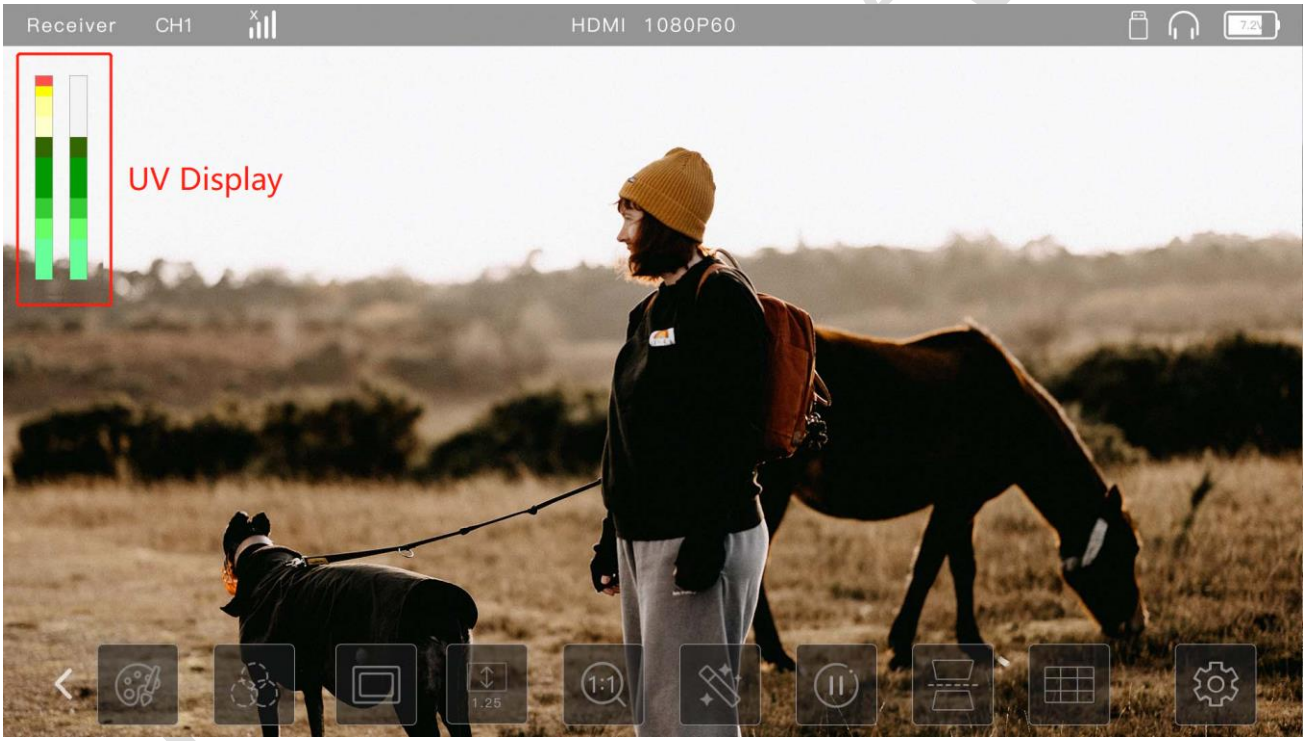
5.5. Brightness

Operation: Enter menu 【Display Settings】--> 【Brightness】 --> Drag the slider to adjust brightness

5.6. Volume

Operation: Enter menu 【Display Settings】--> 【Volume】 --> Drag the slider to adjust the monitoring volume

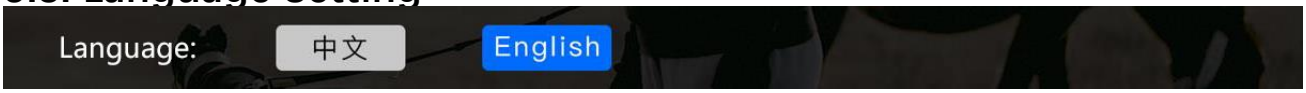
5.7. UV Display Settings



UV Display: Display/Turn off【Audio Level Display】

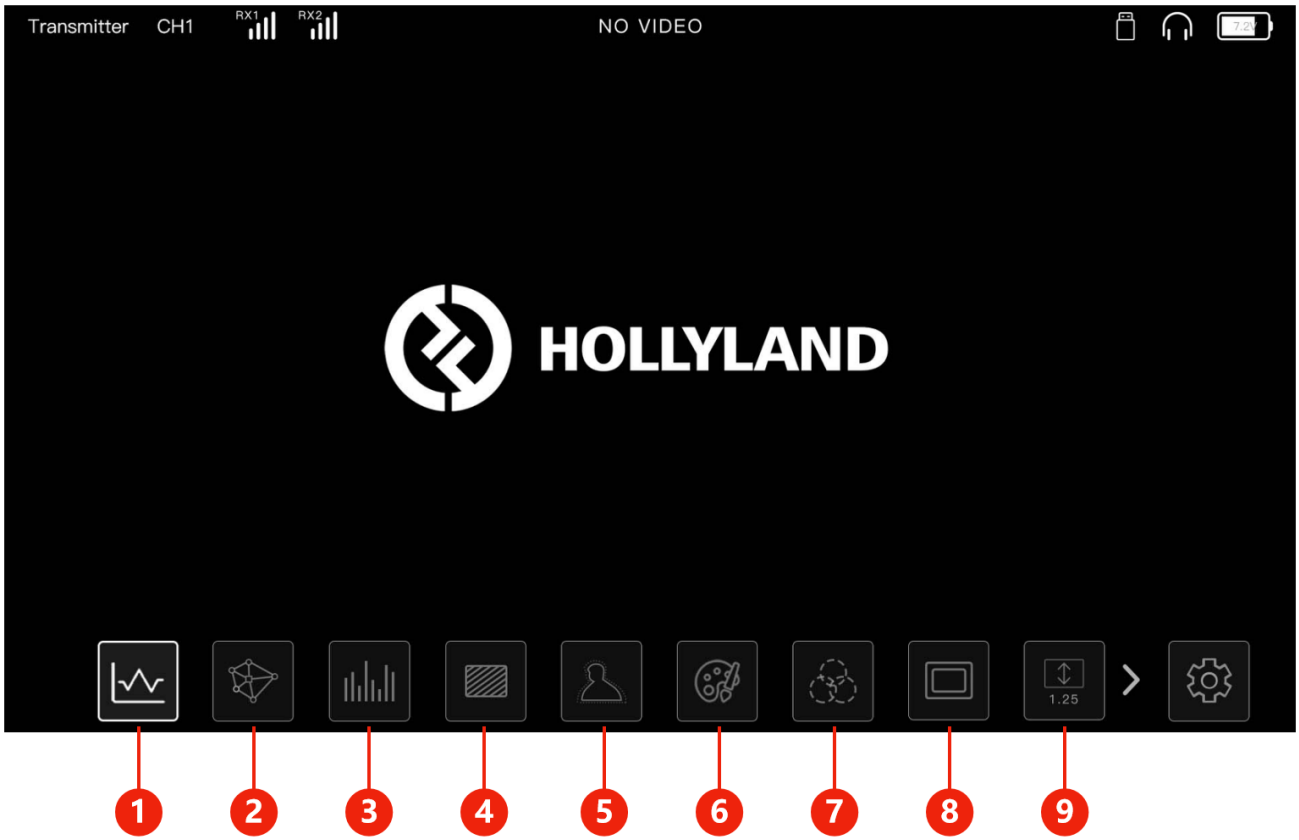
Operation: Enter menu 【Display Settings】--> 【UV Display】 --> Click to turn ON/OFF

5.8. Language Setting



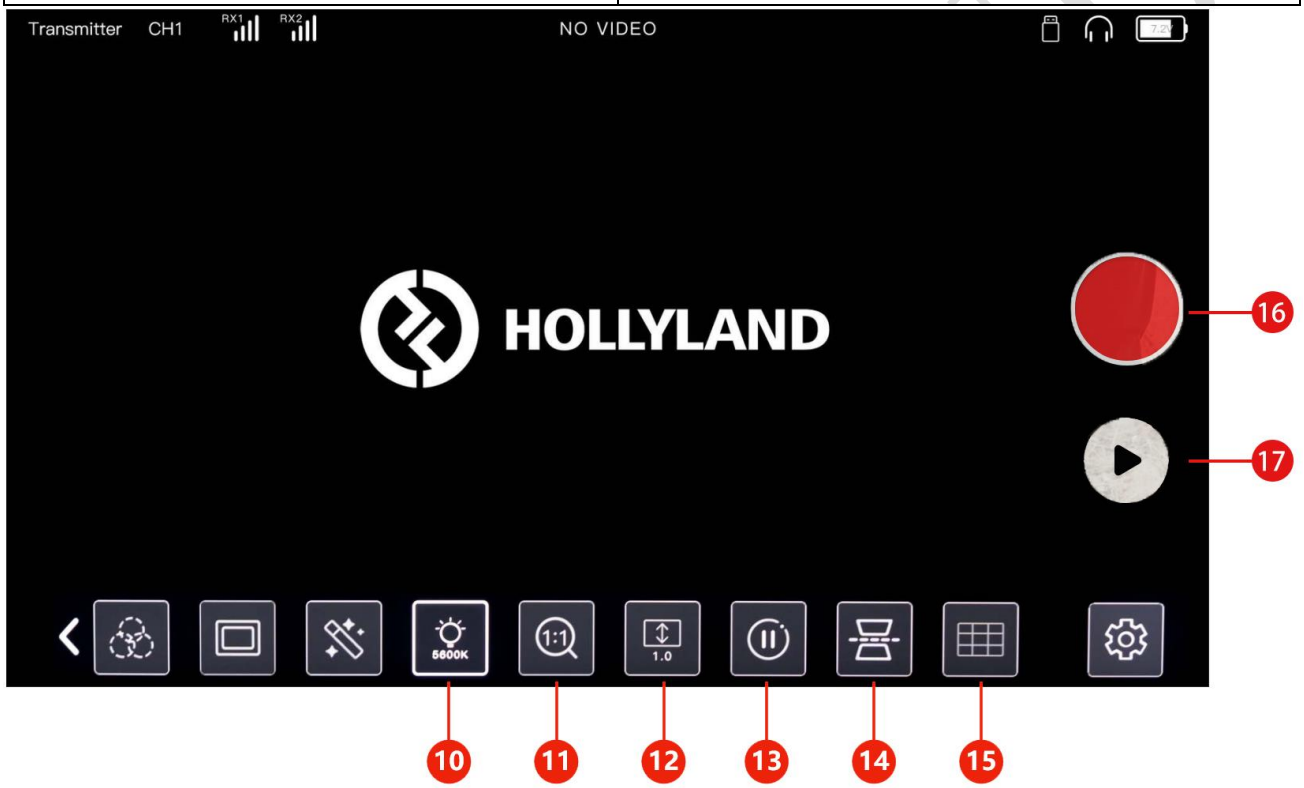
Operation: Enter menu 【Display Settings】--> 【Language】 --> Click 【中文】 or 【English】to change Language.

6. Function description



Features	Details
1. Waveform (WFM)	Display the distribution of brightness or black and white information in the image in the horizontal direction, press and drag the waveform to change the display position of the waveform
2. Vectorscope	Displays the degree of saturation of each color in the image, press and drag the vector map to change the display position of the vector map
3. Histogram	Displays the ratio of brightness or black and white information in the image, press and drag the histogram to change the display position of the histogram
4. Zebra	The area in the image that exceeds the set exposure level displays a diagonal line, and the zebra pattern threshold can be adjusted in the range of 0~100, where the exposure corresponding to 0 is IRE=50, and the exposure corresponding to 100 is IRE=100
5. Auxiliary focus	Colored lines are displayed around the sharp outline of the image. The focus color can be selected from red, yellow, blue, green, and white. The focus sensitivity can be adjusted in the range of 0~100.
6. Pseudo-color	Change to the corresponding color according to the brightness value of the element of the image

7. RGB & Gray	In "Gray" mode, all colors are disabled and the image only displays a gray image. In "Red", "Green", "Blue" mode, only the corresponding color in the image is displayed
8. Cropping	Block the upper and lower sides of the image according to the set aspect ratio to change the aspect ratio of the image. The masking transparency can be adjusted in the range of 0~100. The masking mark function supports the following ratio adjustments: Off, 16:9, 4:3 , 5:4, 1:1.9, 2.41:1, 2.39:1, 2.35:1, 1.9:1, 1.85:185
9. LUT	Color-calibrate the image, preset 5 different 3D-LUT filters, and replace 5 other LUT filters by importing changes from a USB flash drive

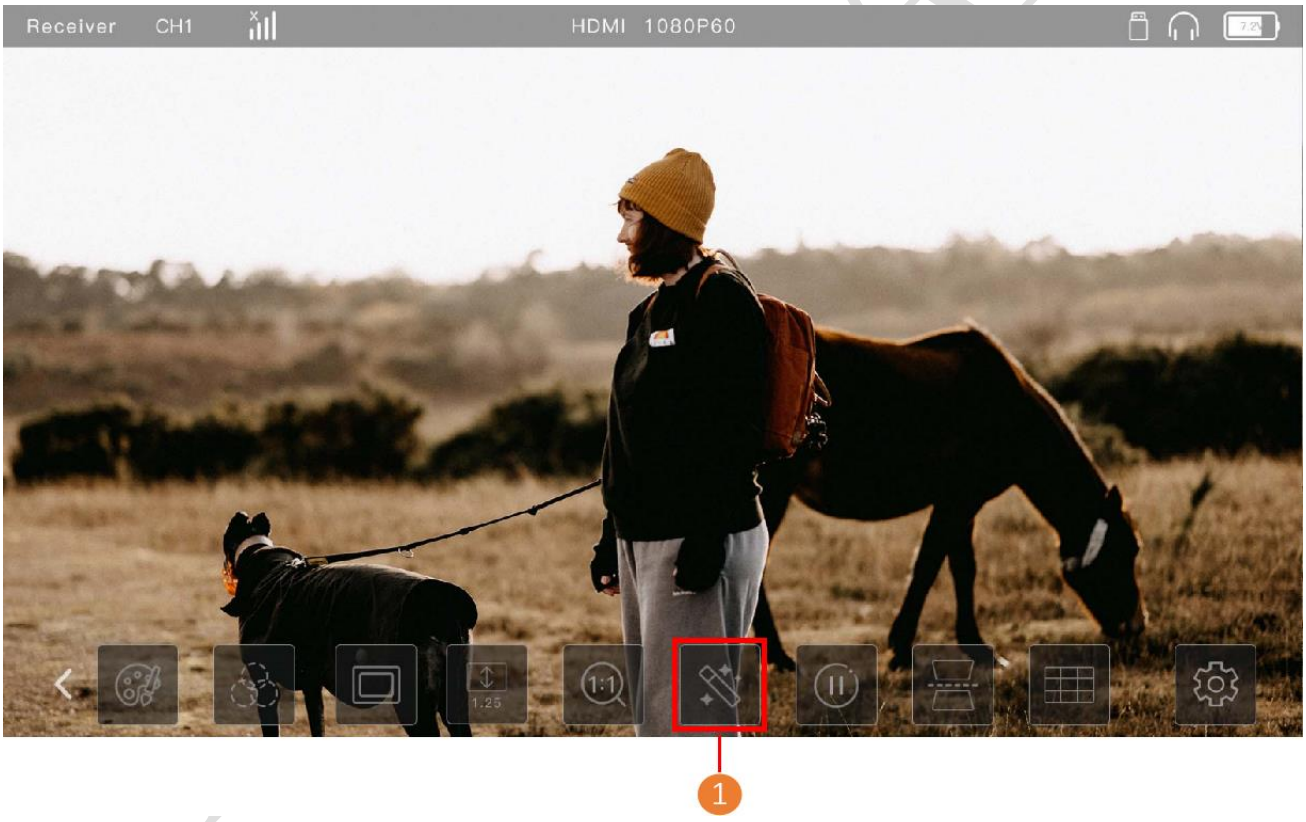


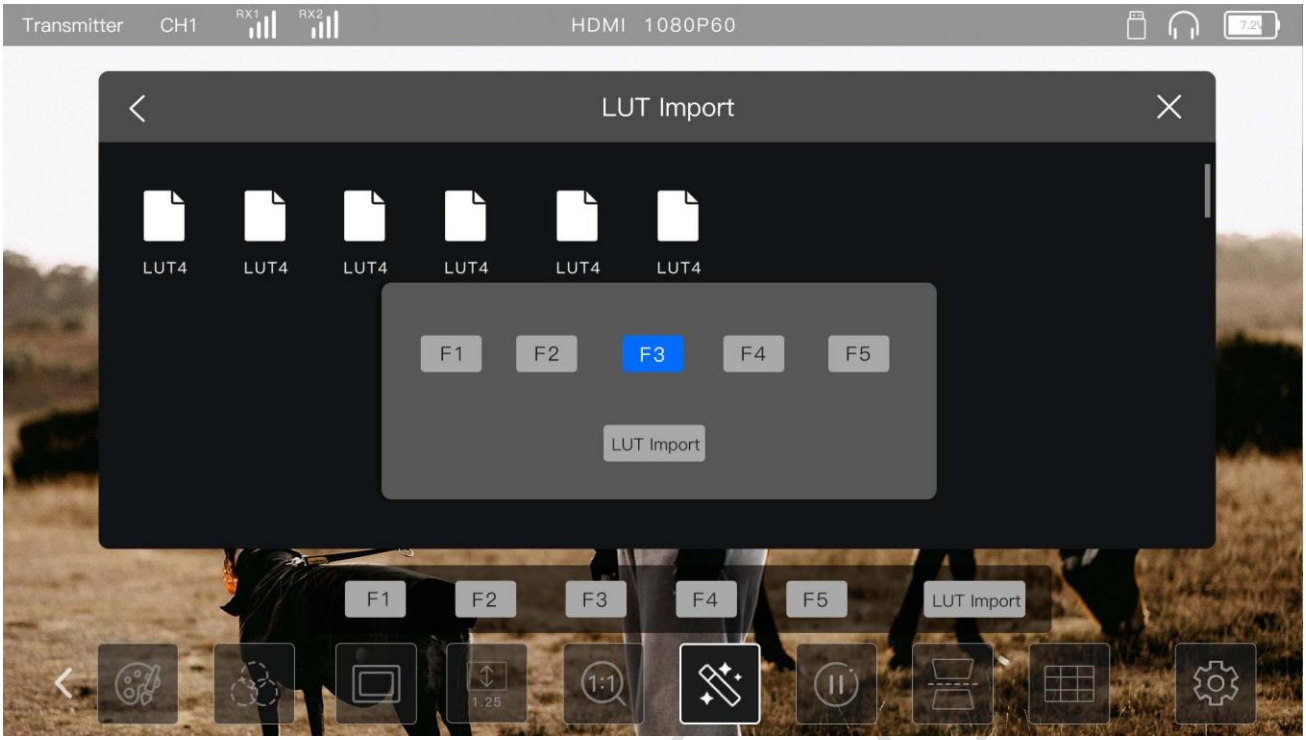
Features	Details
10. Color Temperture	Realize that the picture can be viewed at different color temperatures, and four modes of 5600K / 6500K / 7500K / 9300K can be selected
11. Zoom Tool	The part of the screen is enlarged by ×2, ×4, and the zoomed area can be moved and switched by manually sliding the screen.
12. Image Compression	Capable of achieving ×1.25, ×1.33, ×1.5, ×2.0 compression in the vertical direction, and ×2.0 compression in the horizontal direction
13. Screen Freezes	The picture remains the current frame, and the audio continues to play normally

14. Horizontal/vertical Flip	Mirror the screen horizontally or vertically
15. Assistive Grid	You can turn on/off the Jiugongge auxiliary composition
16. record	Turn on the recording mode in the settings, click the record button to record a video of up to 3 minutes
17. playback	Enter the playback interface, you can playback the last recorded video

7. 3D-LUT

7.1、LUT import





①【3D-LUT】Function switching, import

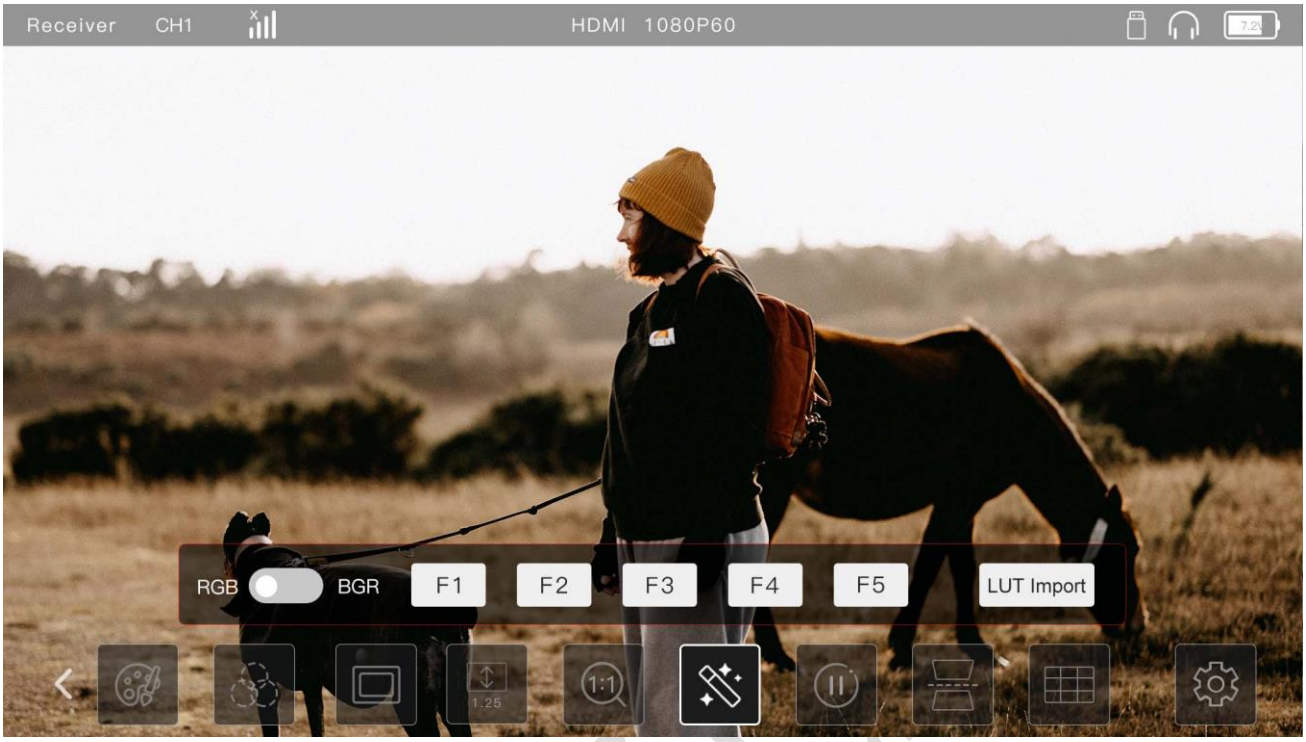
operate:

- Put the LUT file into the U disk formatted as FAT32, and use the OTG adapter to connect the U disk to the [USB-C] interface of Xiaojian
- Click the [LUT icon] of Xiaojian, select [LUT import], and wait for the system to retrieve the LUT file to be loaded in the U disk

Note: The suffix of the LUT file must be [.cube], and the file name cannot exceed 128 letters

- Select the LUT file to be loaded, and select any location (F1~F5) in the pop-up window as the target import location of the file
- Click [LUT Import] to import the corresponding LUT file to the selected import location

7.2. LUT application



operate:

- Click the LUT icon to apply the LUT file on the F1 button by default
- Click other buttons to apply the LUT on the corresponding button
- Click the selected button again to close the corresponding LUT application
- Click on the LUT icon or elsewhere on the screen to close the LUT secondary application menu

Note: The 5 default camera LUT files are:

F1: Canon_C-Log.cube

F2: Canon_C-Log2.cube

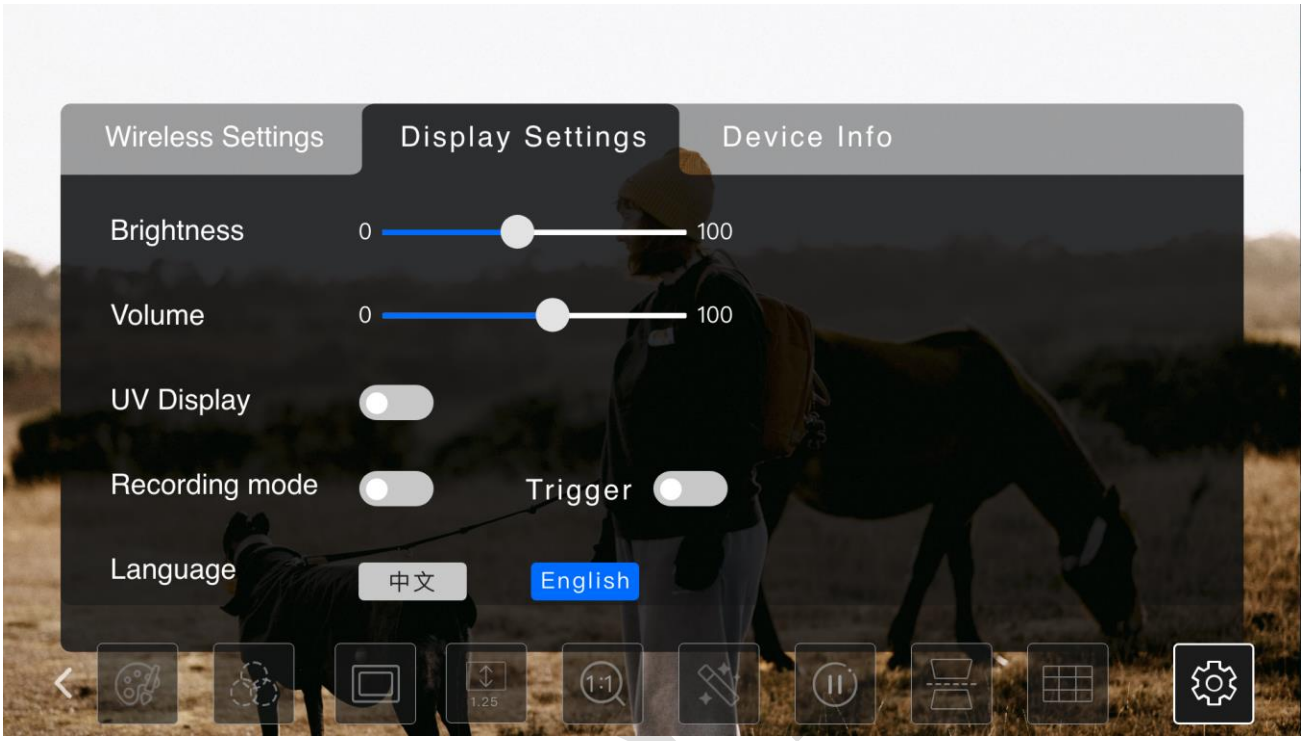
F3: Sony_S-Log.cube

F4: Sony_S-Log2.cube

F5: Slog3to709TypeA.cube

8. Recording mode（After V2.1.0.3 version）

8.1、Enable recording mode



operate:

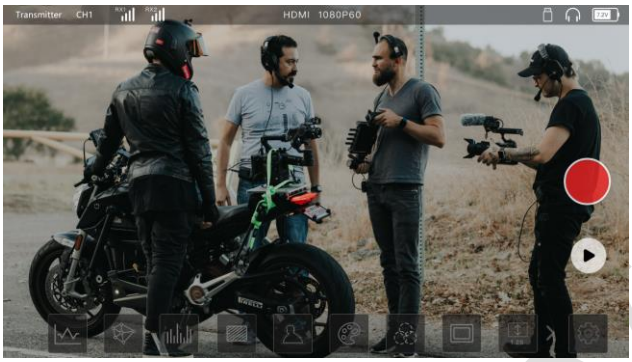
- Click the Settings button
- Select Display Settings at the top to enter the Display Settings interface
- Click the record mode switch on the display interface to turn on/off the record mode
- Trigger mode: After enabling Trigger, the camera will start recording and end recording, etc.

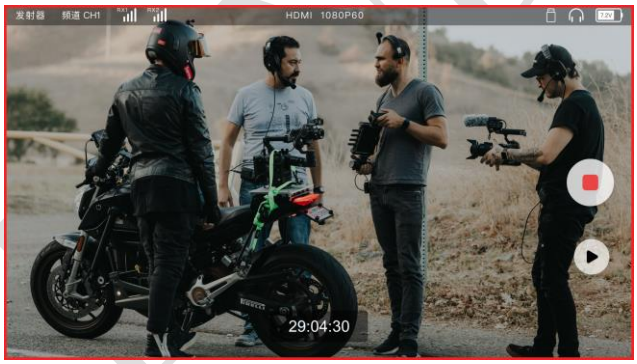
Note: Trigger mode currently supports the following camera models:

Manufacturer	Model	Version
SONY	ZV-E10	Body：ZV-E10 Ver. 1.00 Lens: Ver. 01
	PXW-Z150	Body：PXW-Z150 Ver. 1.00
	PXW-Z1280V	V4.00
	ILCE-7M3	Body：ILCE-7M3 Ver. 4.01 Lens:Ver. 02
	Fs7	Lens：Ver.02
	Fx3	ILME-FX3 Ver.2.00 Lens:Ver.02
	ILCE-7M3	Ver.4.11 Lens:Ver.02
	ILCE-7M4	Ver.1.00

		Lens:Ver.02
	ILCE-7SM2	Ver.3.01 Lens:Ver.02
Canon	C500 Mark II	1.0.5.1 Lens
	EOSR5	Ver.1.4.0 Lens 1.0.2
	Canon 5D MarkIV	Ver.1.2.1 Lens:Ver.1.0.2
BMD	BMPCC 6K	Ver 7.3
FUJIFILM	XS-10	

8.2、Record



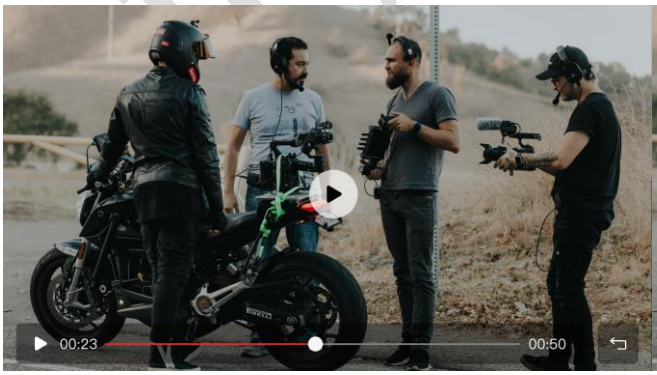


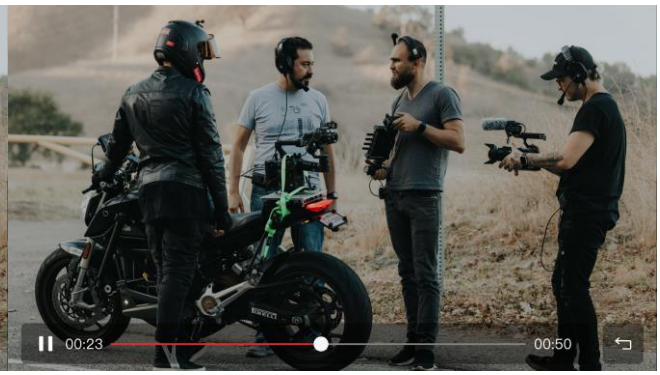
operate:

- Click the red record button on the right side of the screen to start recording, the screen will have a red border during the recording process
- Click the end button to end the current recording
- Clicking the record button again will delete the last recorded video and store the latest video in the current recording state

Note: The video recording is only 3 minutes at most, and the latest recorded video is saved, and the video is automatically deleted after the shutdown.

8.3、Playback





operate:

- Click the playback button to enter the playback interface
- Click the middle start button to start playback, there will be a green frame during playback
- Click the pause button in the lower left corner to pause playback
- Drag the progress bar to control the playback process

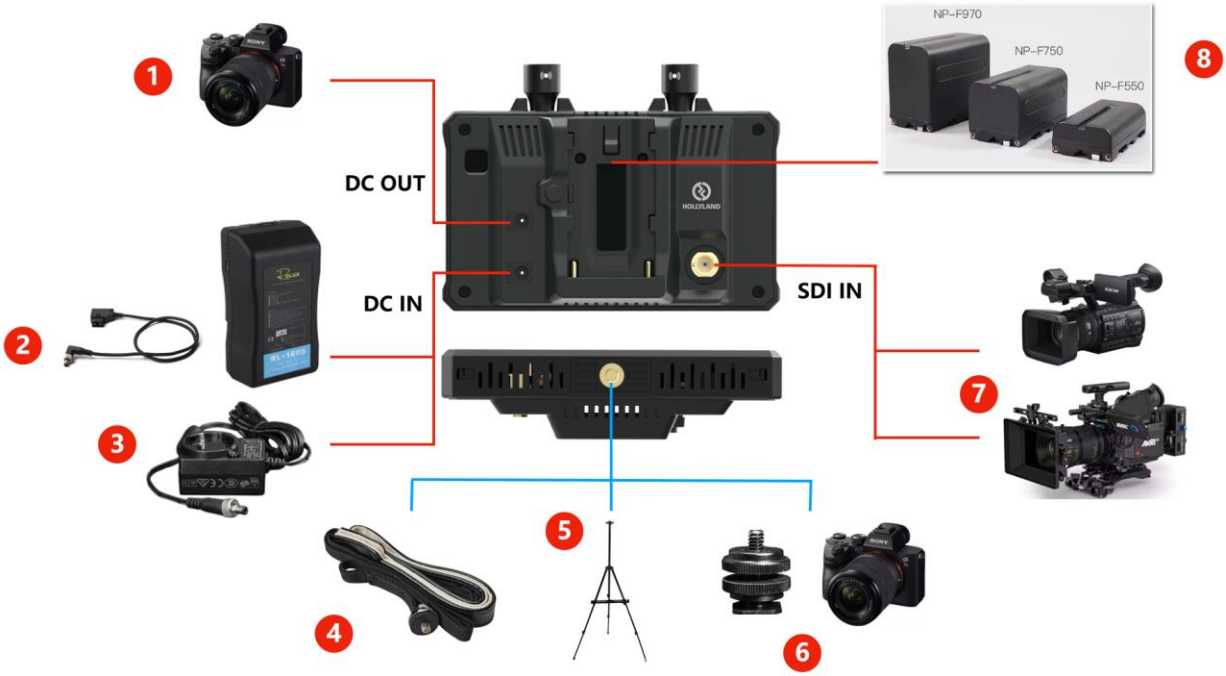
● Click the back button in the lower right corner to exit the playback interface

Note: Only the last recorded video can be played back, it cannot be selected, and the playback video cannot be exported

9. Installation

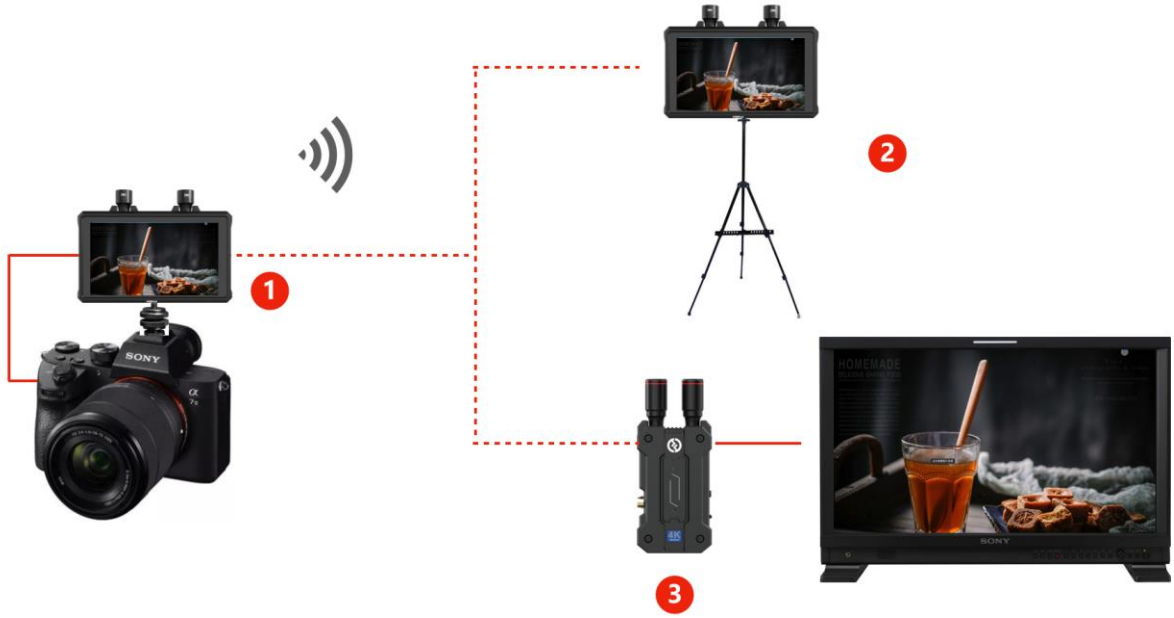
9.1. Interface Connection & Installation

Feature	Details
1. Micro-single Camera	SONY, Canon, Fuji, Nikon and other cameras
2. Video Camera	Panasonic, SONY and other cameras
3. Cinematograph	ARRI, RED, SONY Telecine Camera and other cameras
4. Sun Shield	Shield from direct sunlight when used outdoors
5. Monitor	Connect to big monitor to review
6. Hand Shank	Mount it to handle the Mars M1 easily
7. USB Disk	Connect USB flash disk to upgrade.



Feature	Details
1. DC OUT to Camera	DC OUT to power the camera (Also work when power by battery)
2. D-Tap to DC	Power by V-mount / G-mount battery
3. DC Adapter	Powre by DC Adapter (6~16V)
4. Shoulder Girdle	Mount it to hang Mars M1 over your shoulder
5. Tripod	Mount it to the tripod when using as RX
6. Cold shoe to Camera	Mount it on the camera cold shoe when using as TX
7. Camera SDI IN	Camera SDI input only work when using as TX
8. NP-F Battery	NPF970, NPF750, NPF550 battery

9.2. Installation



Connection	Details
1. Connect to Camera as TX	Connect to camera output as monitor (also a TX)
2. Mars M1 as RX	Mars M1 as RX to monitor (Can also output to big monitor)
3. Connect to Mars 4K RX	Connect to Mars 4K RX to monitor

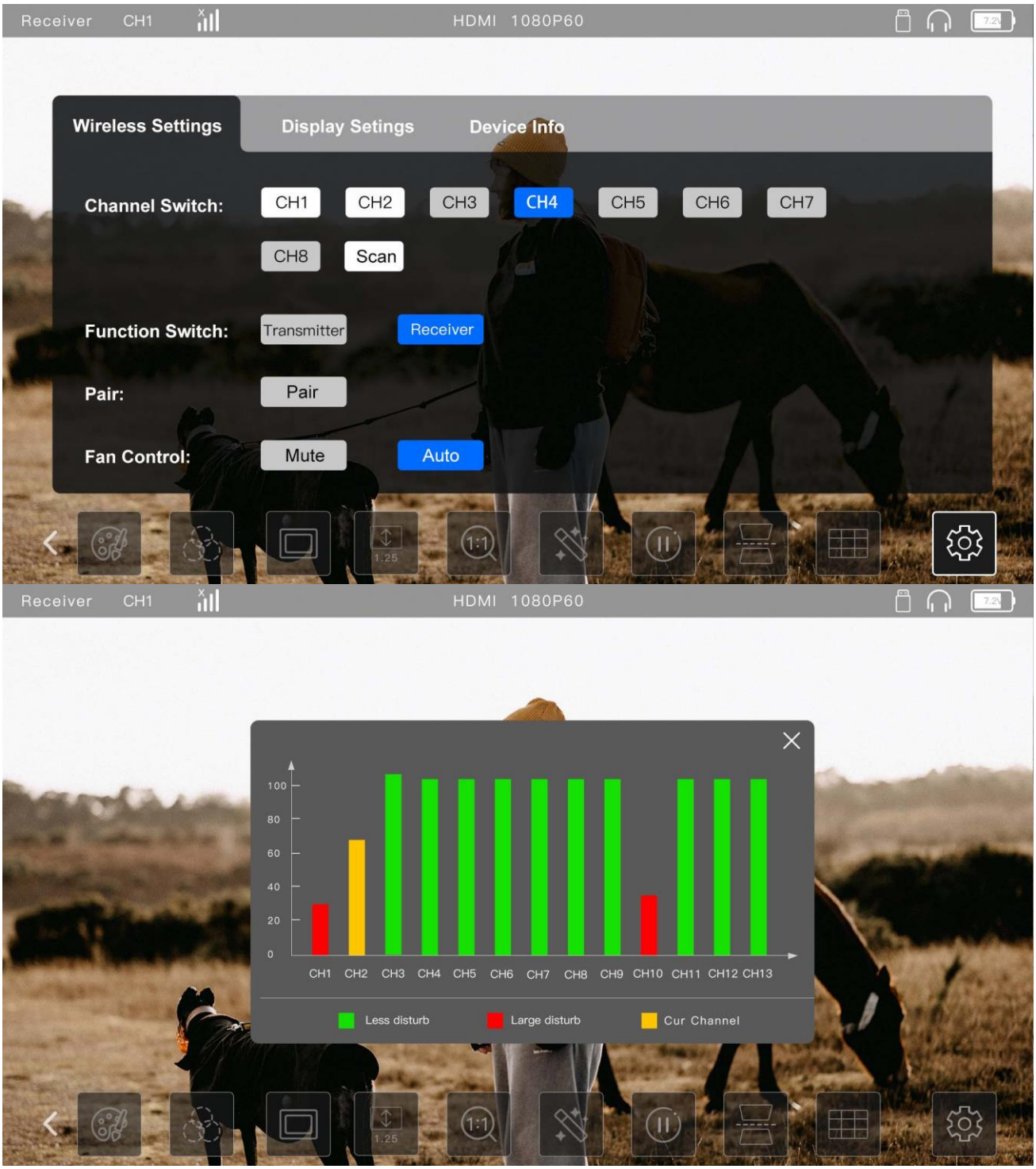
9.3. Hollyview APP Connection

Mode	Detail
Mars M1 Only	Support 4 APP connection
Connect to 1RX	Support 2 APP connection
Connect to 2RX	Don't support APP connection
Note: The WIFI name is 【"HLD_"+"SN"】. You can check the wifi info on 【Device Info】 **WiFi default password:** 12345678	

Operation:

- Set Mars M1 to【Transmitter】 mode
- Open WIFI setting on smartphone, and search WIFI name 【HLD_XXXXXXX】
- Connect WIFI enter default password: 12345678
- Open 【HollyView】 app on smartphone, click connect to watch the video

10. Scan Channels (Only work in Receiver mode)



Operation: Enter menu 【Wireless Settings】--> 【Channel Switch】 --> Click 【Scan】 to check the clean channel.

11. FAQ

1. When in receiver mode, Mars M1 SDI IN without output?

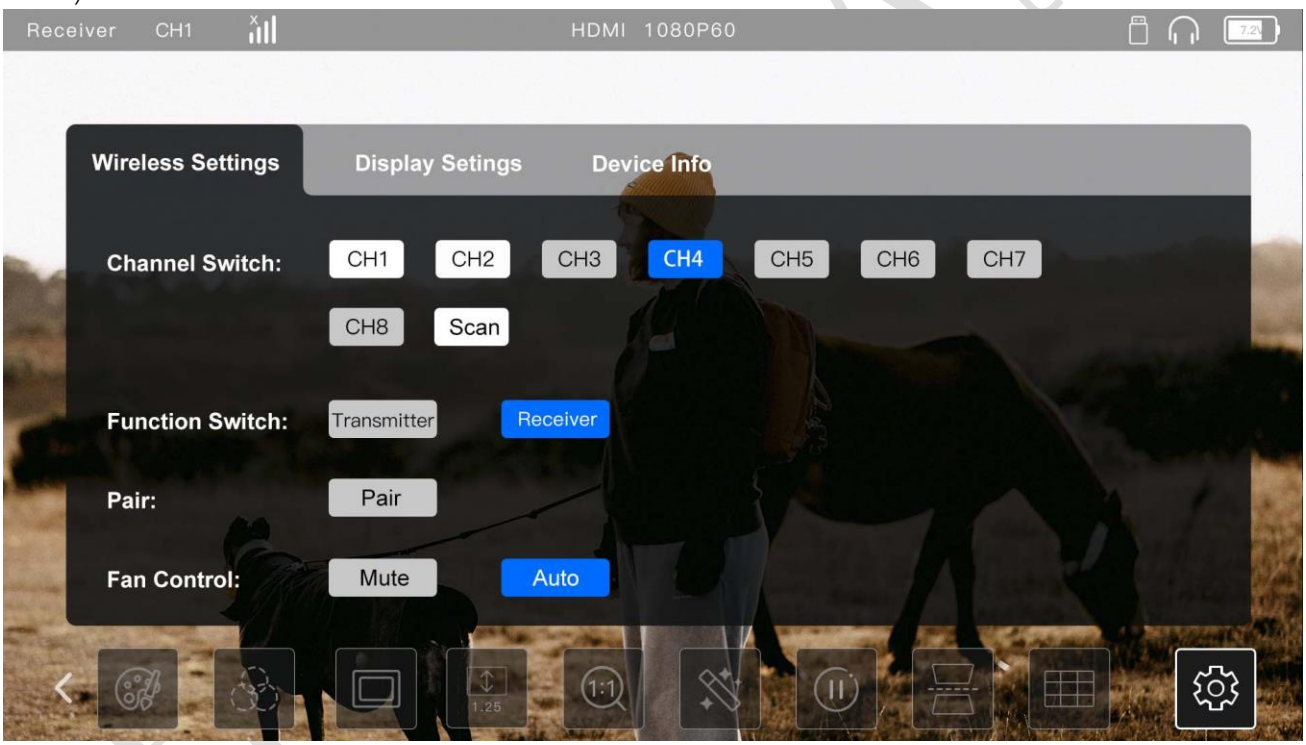
A: The SDI port on Mars M1 is SDI IN, so it only work as Transmitter Mode, in Receiver mode it won't work.

2. Why it show "x" on one of signal icon when working in TX mode?

A: Mars M1 support 2 RX when working in TX mode, so if you only connect 1 RX, the other signal icon will show "x".

3. Which devices can connect to Mars M1? And how to pair them?

A: Mars M1 can pair to Mars Pro series (Mars 300 Pro, Mars 400s pro) and Mars 4K, also Mars M1 (in Receiver Mode)



(1) Mars M1 as receiver pair to the transmitter of Mars Pro or Mars 4K:

- Mars M1 switch to 【Receiver】 mode: Click【Setting】 => 【Receiver】 on 【Function Switch】
- Mars Pro or Mars 4K Transmitter enter 【menu】 => 【Setting】 => 【Pair】
- Mars M1 click 【Pair】 to enter pairing mode at the same time.

(2) Mars M1 as transmitter pair to the receiver of Mars Pro or Mars 4K:
①Mars M1 switch to 【Transmitter】 mode: Click【Setting】 => 【Transmitter】 on 【Function Switch】
②Mars Pro or Mars 4K Receiver enter 【menu】 => 【Setting】 => 【Pair】
③Mars M1 click 【Pair】 to enter pairing mode at the same time.

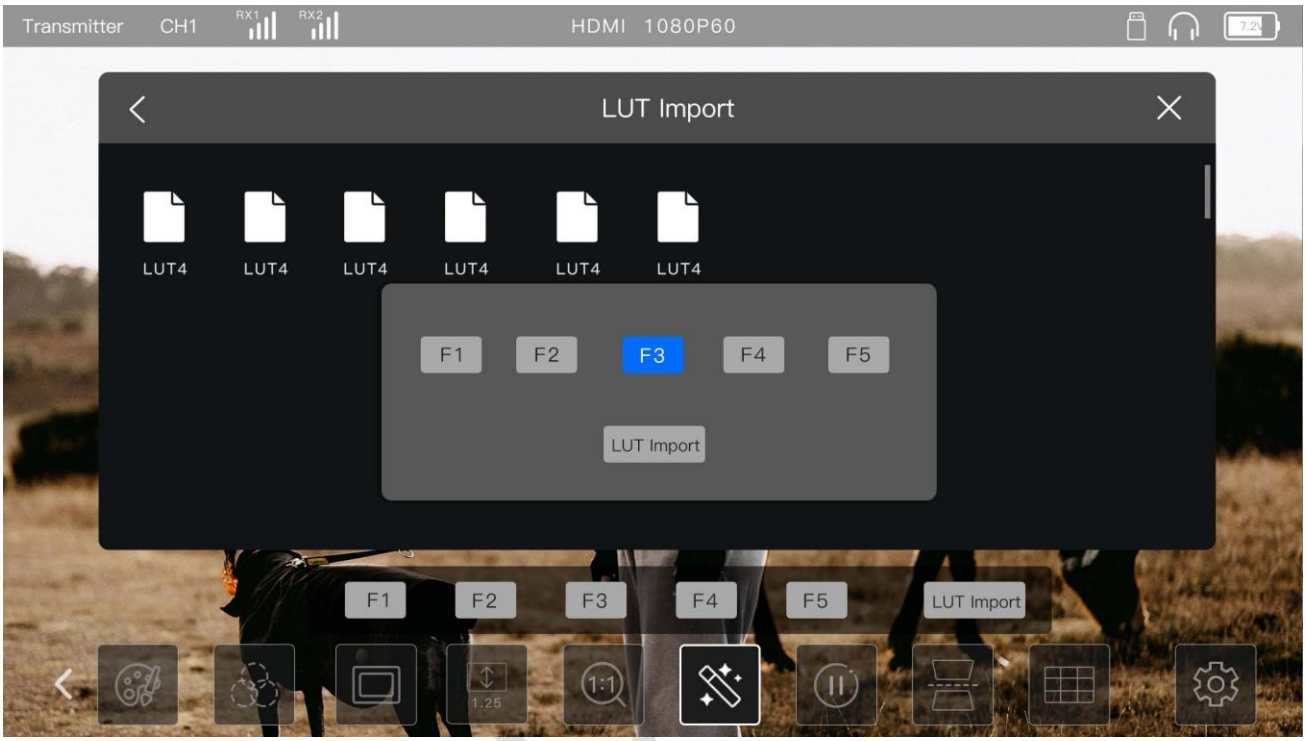
Note: STEP ② and ③ enter pairing mode at the same time to pair it.

4. Does Mars M1 support 4K input and output?

A: Mars M1 supports up to 4K30 input but it only shows 1080p on the screen, and it just transmit 1080p when as transmitter.

5. How to Import LUT file to Mars M1?

A:



- Format USB disk to 【FAT32】
- Copy 3D-LUT file (.cube) to USB disk
- USB disk plug to 【USB-C】 interface of Mars M1
- Click 【LUT icon】 --> 【 LUT Import】
- Select corresponding LUT file import to F1~F5, it will cover the current LUT in F1~F5

6. Mars M1 can be TX or RX, how to switch it?

A: Click 【Setting】 icon, on 【Function Switch】 select 【Transmitter】 or 【Receiver】 to switch to TX or RX mode.

7. How to switch the channels for Mars M1?

A: Click 【Setting】 icon, on 【Wireless Settings】 => 【Channel Switch】 to switch the channel.

8. How to connect to Mars M1 via Hollyview APP?

A:

Note: Mars M1 should be in 【Transmitter】 mode when connect the APP.

- Download 【Hollyview】application in APP Store.
- Set Mars M1 to【Transmitter】 mode.
- Open WIFI setting on smartphone, and search WIFI name 【HLD_XXXXXXX】, you can check it on 【Setting】 => 【Device Info】
- Connect WIFI enter default password: 12345678
  (Some smartphone have 【WIFI Assist】 function need to be turn off)
- Open 【HollyView】 app on smartphone, click connect to watch the video

9. How long does Mars M1 work using a NP-F970 battery?

A: The specifications and performance of each battery are different; the approximate usage time can be calculated by the following formula:
E.g: NP-F970 battery specification: 7.4V 6600mAh 48.8Wh
Mars M1 maximum working power：14.5W
Working time = 7.4V * (6600mAh / 1000)A / 14.5W = 48.8Wh/14.5W≈3.36h≈201min

10. Image stuck, mosaic or snowflakes

A:

- Check the video input SDI, HDMI cable connection is reliable, or replace the cable.
- The concrete walls and human body will great attenuate the signal, so reduce wall occlusion and when there is crowd blocking between the TX and RX, the RX should be elevated 1.7m to avoid signal attenuation.
- Scan channels on RX to check whether there is interference.

11. How can I use Mars M1 to power my Camera through DC out interface?

A: DC OUT can power the camera when power via NP-F battery or DC IN. You just need a 2.0mm DC Port to Dummy Battery.

12. Does Mars M1 supports decimal / fractional video format?

A: Mars M1 supports HDMI / SDI input decimal video format such as 23.98/29.97/59.94, and output decimal video format from HDMI out.