



S1 pro

WIRELESS HD VIDEO TRANSMISSION

INTRODUCTION / INSTRUCTION / INSTALLATION GUIDE

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Disclaimer

Thanks for purchasing S1pro. Please ensure that S1pro is used in accordance with local laws and regulations. Please read this disclaimer carefully before using. Once used, it shall be considered as an endorsement and acceptance of the whole content of this statement. Please strictly follow the installation steps in the instructions to operate and use the product. For any result or loss caused by improper use, installation, modification, etc., ShenZhen MainLink Aero communication Technology Co., Ltd and its affiliated companies will not hold any legal liability.

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Announcement

S1pro is a wireless video transmission equipment, please pay more attention to the announcement to prevent damage to terminal equipment and personal safety due to improper operation or usage.

1. Please use corresponding frequency of S1pro in accordance with local radio regulations.
2. For initial usage, please make sure that the transmitter and receiver are connected correctly and the antenna is installed correctly.

Installation Warning

1. Before Power On, user should install the antenna and make sure that the interface is tightened. Otherwise, it will damage to the circuit.
2. Please make sure the transmitter and receiver supply the voltage within the prescribed voltage range. Otherwise, it will damage to the circuit.
3. Be able to keep antenna of transmitter down vertically and without any obstacles to prevent shortening communication distance because of blocking.
4. The antenna of receiver should be able to keep away from large metal parts.
5. Please be sure to use the right type of antenna.
6. Please pay attention to keeping the proper distance between the electronic equipment to minimize the electromagnetic interference.

Usage warning

1. Please make sure that all connecting wires are fastened and connected correctly.
2. There is no entry into any foreign body (e.g. liquid, sand, etc.)
3. S1 pro needs 15 seconds to power on, after that, can transmit video.

4. Please ensure that there is no interference in the environment with the same frequency or high RF power wireless transmission equipment, otherwise the receiver may not receive the video normally.
5. If the signal of the Receiver is poor, try to change the direction of antenna (receiver) .
6. Using HDMI cable, LCD display and other accessories, select a better electromagnetic shielding performance of the product as far as possible.

Product profile

S1 pro is the upgraded version of S1, includes transmitter and receiver. Adopted by H.264 video decode, CODFM modulation technique etc., S1pro can transmit video in poor condition.

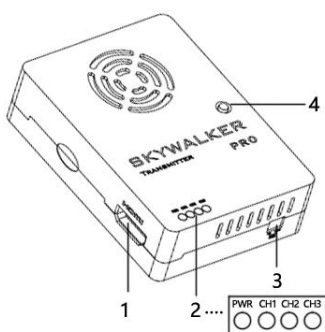
S1 pro Technological advantage:

- Bandwidth reaches 8M,
- Transmission distance reaches 5~10km;
- Stronger anti-interference capability;
- HDMI /AV input, HDMI output;
- Light and small (transmitter);
- More humanized HD Video transmission, OLED indicate current channel and signal strength;
- Strong environmental adaptability, working temperature range is -40~+70°C.

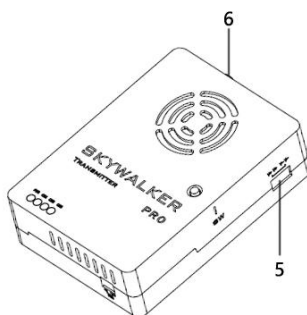
*Different specification has different transmission distance, please order the corresponding product.

Description

Transmitter



- 1、 HDMI input interface
- 2、 Signal indicator



- 4、 Channel switching switcher
- 5、 Power input

A1: Power&video signal indicator

A2: CH1 channel indicator

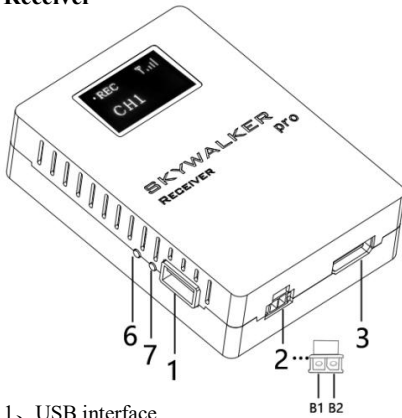
A3: CH2 channel indicator

A4: CH3 channel indicator

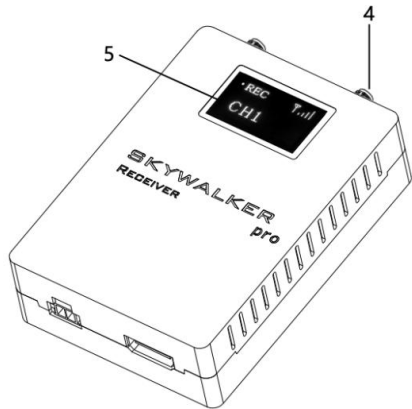
3、CVBS (AV) signal output interface

6、Antenna interface (SMA)

Receiver



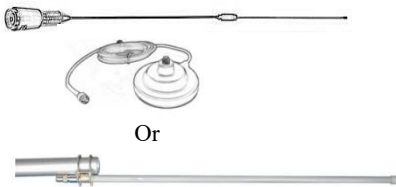
- 1、USB interface
- 2、Power interface
 - B1: VCC (9V~28V)
 - B2:GND
- 3、HDMI Output interface



- 4、Antenna interface
- 5、OLED display screen
- 6、CH Channel switching switch
- 7、REC Recording switch

Receiver antenna

Antenna ×2



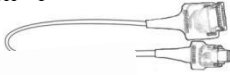
Transmitter antenna

Whip antenna ×1



Accessory

HDMI cable ×1



2pin power line×2



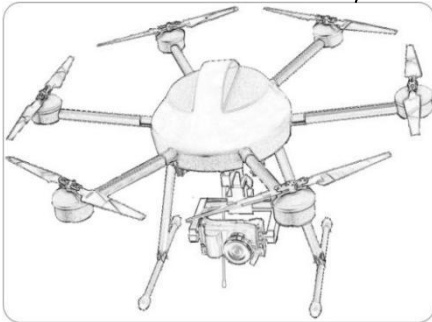
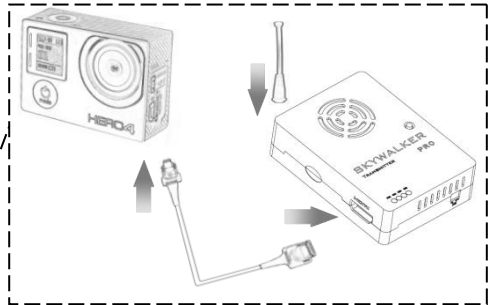
2pin CVBS cable×1

Installation and wiring

Take Multi-rotor UAV for an example:

Carrier connection example:

Fix the transmitter on the suitable Station of drone (by 3M strap), and then install antenna with vertical down. Next, camera and transmitter connect with HDMI cable (or with CVBS cable), and then connect to power.



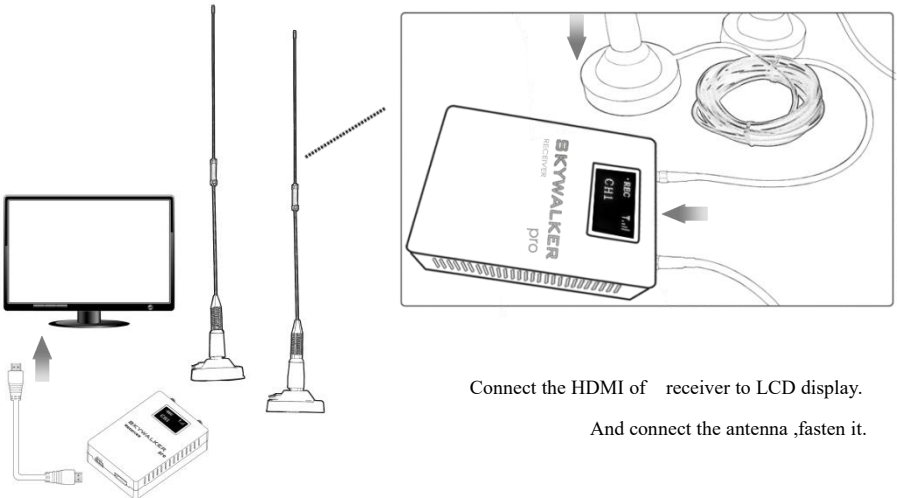
Attention:

Please ensure to install the transmitter antenna and fasten it before POWER ON. Otherwise, it will damage the transmitter.

Installation example



Receiver connection example:



Connect the HDMI of receiver to LCD display.

And connect the antenna ,fasten it.

Installation notes:

- 1.Keep the antenna away from metal equipment of UAV , and the antenna should have wide space within 20cm to other objects to ensure efficient transmission;
- 2.Make a proper planning about frequency of all wireless equipment on UAV. Otherwise it will cause the equipment to be unable to use normally.

Usage

S1 pro achieves long distance HD video transmission, suitable for high-real-time applications in point-to-point transmission. Please order in specific demand.

Channel setting

The transmitter and receiver are in the same channel by default. After the transmitter and receiver are installed normally, HD video transmission can be realized.

The steps of channel switching are as follows:

1. The product has three RF channel. Press “SW” on the transmitter, one of the signal indicator CH1/CH2/CH3lights. Green LED means the current channel is in use.
2. Press “SW” of receiver, the OLED will display current channel and indicate the current signal strength. As shown on the right, the indicator shows current signal quality.CH1 express current channel of receiver.



Video record (Receiver)

Wireless HD video receiver support record video. The steps are as follows:

- 1.Insert USB device, HDMI of receiver output “USB device is inserted”.
- 2.Start video recording by pressing receiver “REC” ;
- 3.To stop recording, please press “REC” again. After finishing recording, video is automatically saved to USB storage device.
- 4.Recording video is saved to USB storage device “HBPVR” document.



LED indicator

Transmitter status

Description

PWR CH1 CH2 CH3






PWR: A1 CH1: A2 CH2: A3 CH3: A4

	Power on: Green	Power on, device initialization
A1	Green (blink)	Completed initialization, video source input not detected
	Working: Green(all the time)	Working properly, video source input
A2、A3、A4	One of light : Green(all the time)	Indicates current channel, corresponding to CH1/CH2/CH3

Receiver status

Description



2.1	  	<ul style="list-style-type: none"> Spot on the left flashes to show that it is recording Received signal strength indicator Current channel indicator
2.2	<p>Press CH</p> <p>Press REC</p>	<p>Switch output clarify, display shows update clarify</p> <p>Display shows current SN number</p>

Specification

Product	HD video transmitter		
Model	MK-V0105		
Frequency	300~900MHz(can be customized) *		
Antenna interface	50Ω SMA female head		
Modulation	COFDM 2K		
Subcarrier Modulation	QPSK, 16QAM		
Transmission	Video Bit Rate	3~12Mbps	
	Bandwidth	8MHz	
	Latency	About 300ms	
	Compressed Format	H.264	
	Resolution	1080P @60/50/30 (downward compatibility)	
Voltage	DC9~28V		
Audio Input Interface	HDMI (type A)		
Power Consumption	≤10W		
Transmission Range Distance	5km@ output power >500mW		
	10km@ output power >1W		
	50km @ output power >5W*2		
Weight	About 90g		
Dimension	80*58*25mm		
Product	HD video receiver		

Model	MK-V0103B		
Frequency	300~900MHz (can be customized)		
Antenna interface	50Ω SMA female head		
Voltage	DC9~18V		
Video input interface	HDMI (type A)		
Reception Sensitivity	<-95dBm		
Power Consumption	≤3.5W		
Weight	About 150g		
Dimension	89*63*24mm		

Note: *1: Making the frequency is controlled by local Radio Management Committee, and by customer demand.



*2 The transmission distance 50km is belongs to customized product, please order in advance.

FAQ (frequently asked question)

Questions

Possible reason

Solution

Questions	Possible reason	Solution
Transmitter LED Output No signal	<ul style="list-style-type: none"> ●Unturned transmitter ●Abnormal decode of transmitter, is closing down ●Receiver channel and transmitter channel are inconsistent 	<ul style="list-style-type: none"> ●Check whether the transmitter is properly installed and powered on ●Close input video source, restart transmitter, until signal of receiver is normal, then turn on video source again ●Switch receiver channel to transmitter in same channel

Receiver LED Output Input Signal loss	<ul style="list-style-type: none"> ●Transmitter has no source input ●HDMI connecting Video source to transmitter is disturbed ●The compatibility problem of transmitter and video source 	<ul style="list-style-type: none"> ●Please check the signal status of transmitter, check HDMI interface again and camera ●Replace HDMI connection between video source and transmitter to the shielding line.(recommended original accessories) ●First, close the transmitter and video source, after confirming HDMI connection is normal, open video source
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Close range communication , video is not smooth	<ul style="list-style-type: none"> ●Abnormal signal of transmitter ●Video format of video source and transmitter does not match 	<ul style="list-style-type: none"> ●Check whether transmitter and the antenna connect fastening, if applicable, test output power of transmitter is normal or not ●Please try to use Gopro as video source first, check whether it is caused by video format, if no improvement, please check the output power of transmitter
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Communication distance of video is shortened	<ul style="list-style-type: none"> ●Antenna of transmitter does not match or the antenna is shielded 	<ul style="list-style-type: none"> ●Please ensure that the antenna of transmitter is original antenna, whether there are obstruction within 20cm around the antenna or mental, if any, please change the position of antenna
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- Wireless transmission devices interfere with other wireless devices

- Severe occlusion between transmitter and receiver antenna

- Close other wireless devices (data link), if transmission distance is longer, it might shows the interference exist, so please use suitable frequency

- Place the antenna of receiver on heights until without any obstruction

Video can not be recorded or recorded properly

- USB storage device version

- Compatibility of playing software on the computer

- Recommend USB3.0 to save video document

- Please play the stored files by player of windows