MAINLINK

S2

WIRELESS HD VIDEO TRANSMISSION

INTRODUCTION / INSTRUCTION / INSTALLATION GUIDE

Catalogue

MAINLINK

Disclaimer

Thanks for purchasing S2. Please ensure that S2 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.

Announcement

S2 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 S2 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. Skywalker S2 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

S2 includes transmitter and receiver. With H.265 video decode, CODFM modulation technique etc., the device can achieve wireless real-time HD video transmission in high-speed situation.

Technological advantage:

➢ H.265 decode, higher clarify;

➢ transmission distance reaches 5~50km;

➢ HDMI/AV transmit simultaneously with network camera;

➢ Latency is low to 250ms;

➢ Encryption make transmission more safe.

Component description

Transmitter
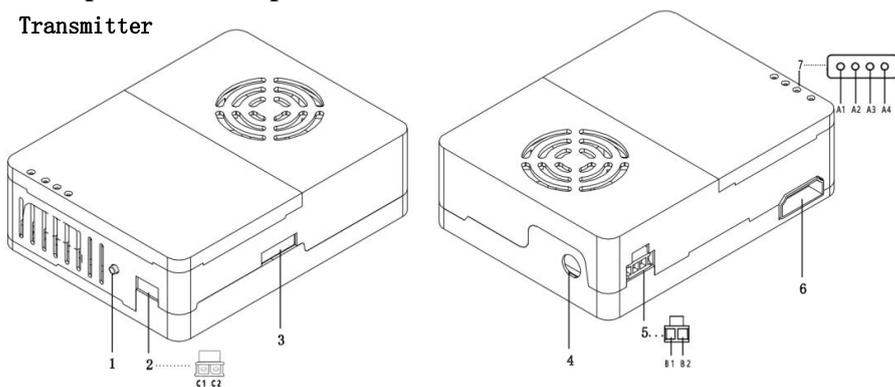
1、Channel switching switcher

2、CVBS

C1：GND

C2：video signal input

3、IP interface

6、HDMI interface

7、Usage status indicator

A1：power& usage status indicator

A2：CH1 usage status indicator

A3：CH2 usage status indicator

4、Antenna interface   A4：CH3 usage status indicator

5、Power interface

  B1：VCC（DC 9～28V）

  B2：GND

Receiver

1、Antenna interface

2.1、Power indicator

2.2、Signal indicator

3、Channel switching switcher

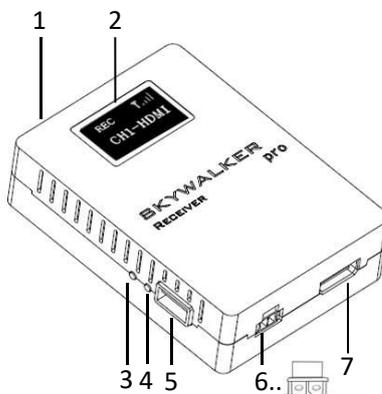4、Recording switch
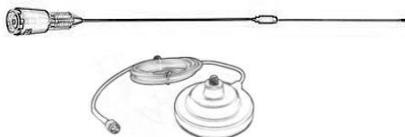
5、Power input

B1、VCC（DC 9～28V）

B2、GND

6、USB interface

7、HDMI interface

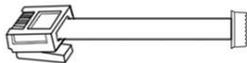# Receiver antenna

Antenna   ×2
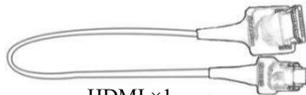
Accessory

IP ×1

Transmitter antenna

Whip antenna   ×1

HDMI ×1
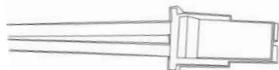
2pin ×2

Installation and wiring

Take Mutiple-rotor UAV for an example:

Connection diagram：

Fix the transmitter on the suitable
space of drone(by 3M strap) as follow,
and then install antenna vertical down.
Next, connect camera and transmitter
with HDMI cable (or with CVBS cable),
and then Power On.
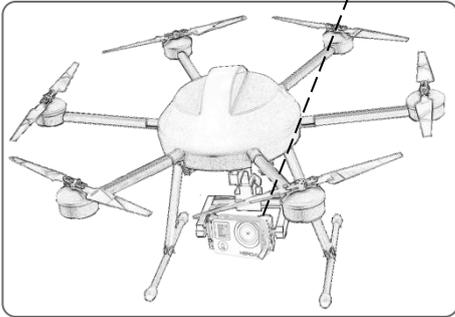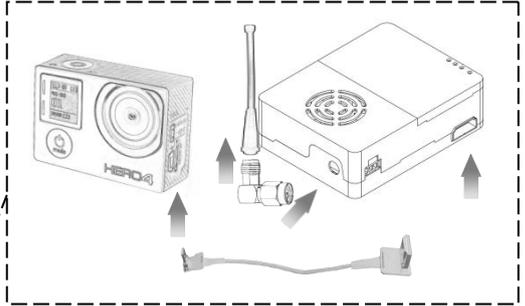
Attention：

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

Installation Example

Receiver connection diagram

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 drone, and the antenna should have wide space within 20cm to other objects to ensure efficient transmission;

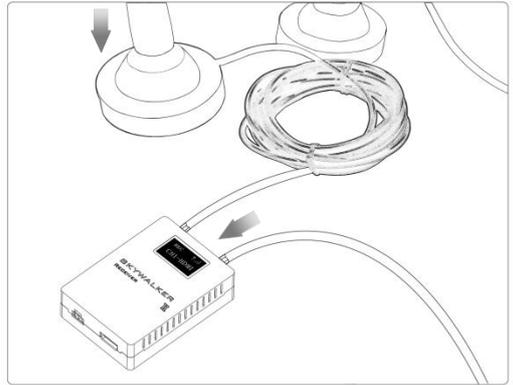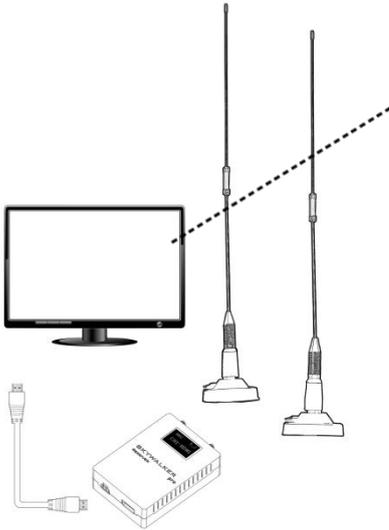2. Make a proper planning about frequency of all wireless equipment on UAV. Otherwise it will cause the equipment to be unable to use normally .

Usage

S2 HD video transmitter achieves long distance HD video transmission, suitable for real-time applications.

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.

To switch the channel, follow the steps as follows:

1. The product has two RF channel. Press "SW" on the transmitter, one of the signal indicator CH1/CH2 lights. 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. Since transmitter has two channels, each channel support two videos input(HDMI and IP), the receiver can

receive four videos: CH1-HDMI,CHI1-IPC, CH2-HDMI,CHI2-IPC.

Setting up the address of pulling stream at transmitter network

The network port input of the transmitter supports RTSP IP cameras. The default stream address of the transmitter is rtsp://192.168.1.100:554/stream0, and the network flow can only be available when IP address (192.168.1.100) and port (554) are both correct. There are two options to use the network flow:

1. Change the configuration of the IP camera to the stream address supported by our product;

2. Login to the background system of the transmitter through the web (the computer needs to be connected to the transmitter through the network cable and the default IP of the transmitter is 192.168.1.168. For the connection, the IP segment of the computer also needs to be consistent with the transmitter); modify the default stream address of IP cameras, as shown in the following chart. Except the IP address, it is usually unnecessary to change the port and name. Afterwards, click to save, and then click Reboot to restart the transmitter. Consequently, the video streaming can be accessible from the modified pull-stream address. RTSP User Name and Password are only used when stream of the IP camera needs to be authenticated.

RTSP Server Parameters			
RTSP://	192.168.1.100	:554	/stream0
RTSP User Name	admin		
RTSP Password	admin		
	Save		
System Operation			
	Reboot		

Video record （Receiver）

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

1.Insert USB device, OSD will 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 ◎ ◎ ◎		PWR: A1 CH1: A2 CH2: A3
A1	Power on: Green	Power on, device initialization
	Green(blink)	Completed initialization, video source input not detected
	Working: Green(all the time)	Working properly, video source input
A2、A3	One of light : Green	Indicates current channel, corresponding to CH1/CH2

Receiver status		Description

REC   Y.ıl
CH1-HDMI

2.1	·REC	Spot on the left flashes to show that it is recording
	Y.ıl	Received signal strength indicator
	CH1	Current channel indicator
2.2	Press CH	Switch output clarify, display shows update clarify
	Press REC	Display shows current SN number

Specification

Product		HD video transmitter
Model		MK-V0106
Frequency		300~900MHz (can be customized*)
Antenna interface		50Ω SMA
Modulation		COFDM 2K
Subcarrier Modulation		QPSK，16QAM
Transmitter	Video Bit Rate	3~12Mbps （can be customized）
	Bandwidth	8MHz
	Latency	About 250ms
	Compressed Format	H.265
	Resolution	1080P60 (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
Weight		About 98g
Dimension		82*62*24mm

Product	HD video receiver
Model	MK-V0107
Frequency	300~900MHz (can be customized)
Antenna interface	50Ω SMA female head
Voltage	DC9~18V
Video input interface	HDMI （type A）
Reception Sensitivity	<-96dBm
Power Consumption	≤3.5W
Weight	About 116g
Dimension	87*63*24mm

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

FAQ (frequently asked question)

Questions	Possible reason	Solution
OLED Output no signal	●Unturned transmitter	●Check that whether the transmitter is properly installed and powered on
	●Abnormal decode of transmitter, is closing down	●Close input video source, restart transmitter, until signal of receiver is normal, then turn on video source again
	●Receiver channel and transmitter channel are inconsistent	●Switch receiver channel to transmitter same channel
Video can not be recorded or recorded properly	●IP address can not match with transmitter	●Please refer to the usage method to reset IP address
	●Camera can not normally connect to transmitter	●Check if the wire is loose, if any, using Ping of transmitter (192.168.1.168) network cable to test
Receiver LED Output Input Signal loss	●Transmitter has no source input	●Please check the signal status of transmitter, check HDMI interface again, at the moment, check the camera
	●HDMI connecting Video source to transmitter is disturbed	●Replace HDMI connection between video source and transmitter to the shielding line.(recommended original accessories)
	●The compatibility problem of transmitter and video source	●Change another input source
	●The receiver does not switch corresponding program	●Each channel of receiver has two program, press CH in short time switch corresponding program
	●Abnormal signal of transmitter	●Check that whether transmitter and the

Close range communication, video is not smooth	●Video format of video source and transmitter does not match	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
Communication distance of video is shortened	●Antenna of transmitter does not match or the antenna is shielded ●Wireless transmission devices interfere with other wireless devices ●Severe occlusion between transmitter and receiver antenna	●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 ●Close other wireless devices (data link), if transmission distance is longer which shows the interference exist, so please use suitable frequency ●Place the antenna of receiver on heights until without any obstruction