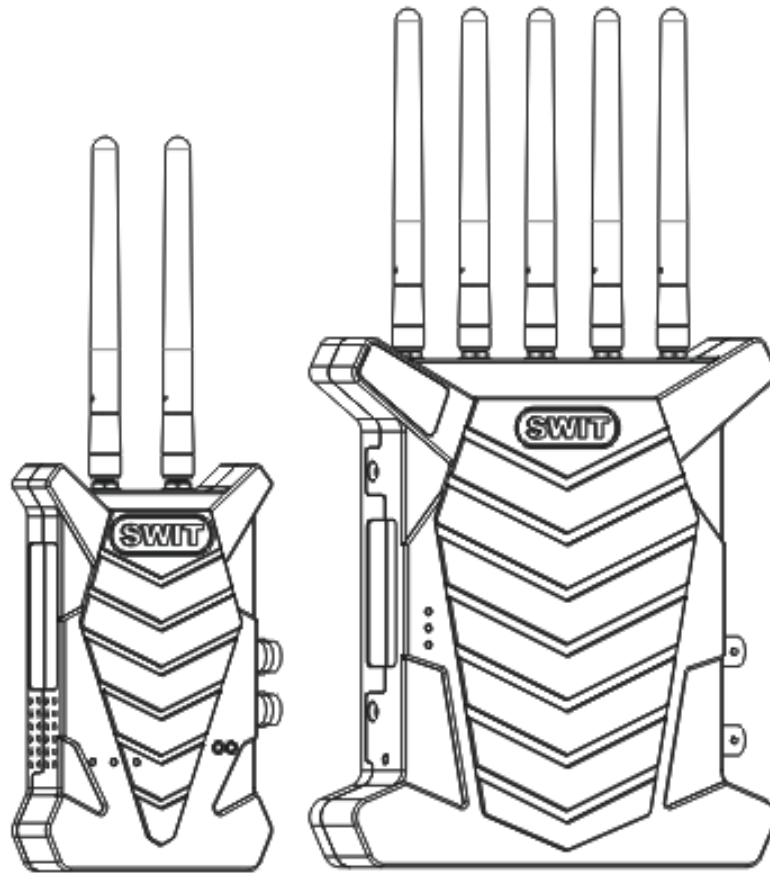


SWIT[®]

SWIT ELECTRONICS CO., LTD.

Model: CW-S300

Professional SDI-300m Wireless HD Transmission System



User Manual

Please read this user manual
throughout before using.

Preface

1. All internal technologies of this product are protected, including device, software and trademark.
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2. 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.
3. 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.
4. The warranty period of this product is 2 years, and does not cover the following:
 - (1) Physical damage to the products;
 - (2) Any damage or breakdown caused by use, maintenance, or storage not according to the user manual's instructions;
 - (3) The attenuation of signal quality resulting from being used in any special environments;
 - (4) Any damage caused by not powering the product by package supplied power adaptor.
 - (5) Any damage or breakdown not caused by the product's design, workmanship, or manufacturing quality, etc.
5. For any suggestions and requirements on this product, please contact us through phone, fax, Email, etc.

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For Your Safety

Before start, please follow the safety precautions below

Do not try the followings:

1. Unauthorized repairs or parts replacement or other operations.
2. Inappropriate placement including but not limited to lighting, fire, exposure to rain, water or gas.
3. Switch to the power not in the voltage allowable range.



Warning

- Do not get any liquid inside the product.
- Do not block the ventilation openings or get substances inside, in order to avoid short circuit, fire or electric shock.
- Do not place the product in the rain or moisture to avoid electric shock or fire.



Danger

- Switch the power off before connecting other devices.
- Power socket: Make sure the power socket under the voltage range of the product to avoid short circuit, electric shock and fire.
- Power cable: Make sure the power cable is not pressed or tightened by any items or weights.
- Power Load: Do not exceed the load on the wall outlet, extension cable or other porous receptacle to avoid fire or electric shock.
- Lighting: Disconnect the power cable if it is lighting or not using in a lperiod of time.

Working environment

- Please don't lay the product on any unstable place to avoid fallen damage.
- Please don't use the product in a place overheating, undercooling or with lots of moisture, or near by strong magnetic devices.
- Please don't lay the product on metal shelf, in order to ensure the effective wireless transmission.

Packing list

This wireless system includes below accessories:

- | | | | |
|--|--------------------------------------|-----------------|-----------------------------|
| 1.Transmitter | 2.Receiver | 3. Antenna*7 | 4. Articulating arm trestle |
| 5. D-tap to 4-pin LEMO DC cable (0.6m) | 6. D-tap to 4-pin LEMO DC cable (1m) | | |
| 7.Power adaptor | 8.User manual | 9.Warranty card | |

1. Product Introduction

This broadcast industry wireless system CW-S300 includes transmitter and receiver, adopts WHDI (OFDM) technology, supports uncompressed SDI wirelessly transmitted in 300 meters scale, auto pairing and with less than 1ms latency, equipped with 4-pin LEMO DC power connector, and the receiving signal is very stable.

2. Features

◆ SDI uncompressed transmission

Support up to 1080p 50/60Hz uncompressed SDI wireless transmission

◆ 300 meters transmission distance

In open outdoor area, the effective transmission distance is approx 300 meters.

◆ Less than 1ms latency

There's no discernible video delay and you can use it as real time on-location monitoring.

◆ License free operation frequency

The wireless frequency is 5.1-5.9GHz, license free operated.

◆ Pairing mode

Support auto pairing connection and one transmitter to four receivers multicast mode, support DFS request.

◆ Encryption

Support AES 128-bit encryption to protect the transmission.

◆ Battery plate optional

User can choose various standard DV battery plates for CW-S300 transmitter and V-mount or Gold mount battery plate for receiver.

◆ All-Metal Shell

Both the transmitter and receiver adopt metal shell which is durable and solid.

◆ Simple connection

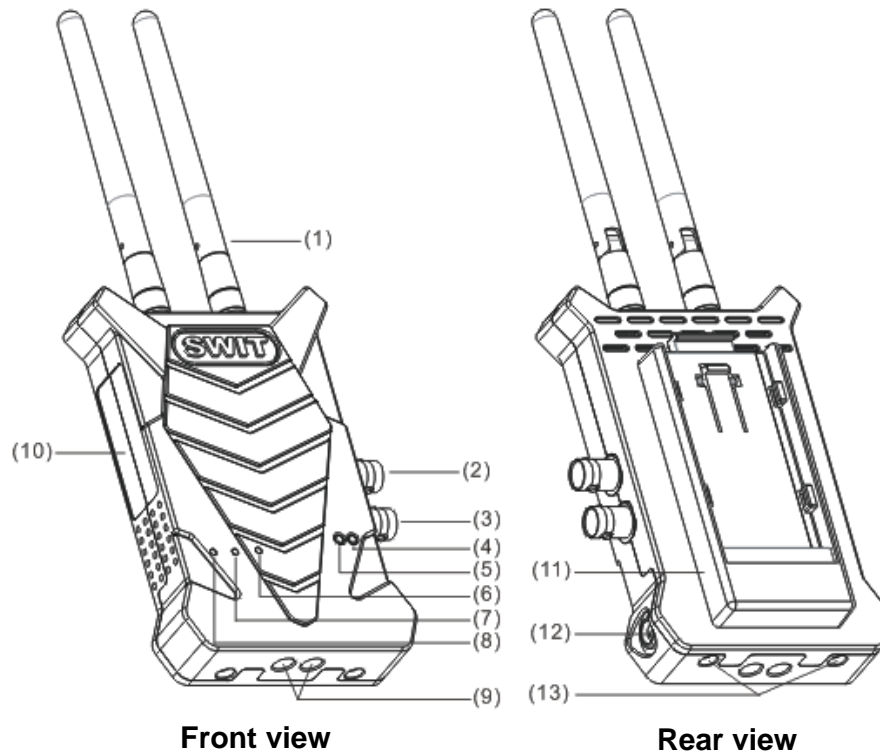
The wireless system is plug-and-play designed, without any software connection and configuration

Remark:

1. The transmission distance may be different, and depend on surroundings, radio wave conditions, buildings, etc., the 300 meters transmission distance may be not guaranteed.
2. The wireless transmission might be interrupt if there're many other devices of 5GHz wireless bandwidth operated in the in the same location.
3. Signal reception may be affected by the position, height and angle of devices. If reception video is not stable, please physically adjust placement for the optimized signal.
4. Set the antennas straight up and set receiver higher will enhance the transmission efficiency.
5. The product offers the AES 128-bit encryption to protect the wireless transmission. Anyway, please be ware of the intentional capture from third person.

3. Product Instruction

Transmitter CW-S300

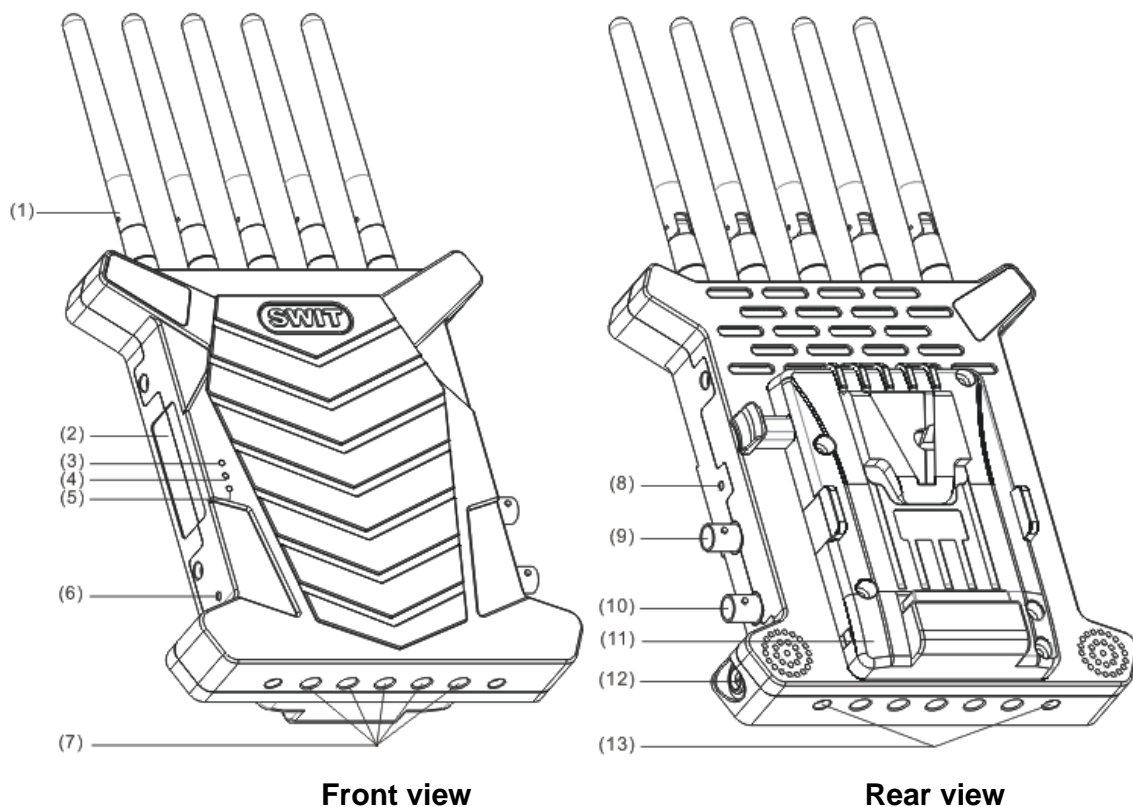


- (1) **Antenna**
- (2) **SDI LOOP:** SDI loop output (BNC connector)
- (3) **SDI in:** SDI input (BNC connector)
- (4) **Reset:** Reset (Reboot) status indication button
- (5) **Pair:** Pairing button
- (6) **Power:** Power status indicator
- (7) **Video:** Video signal indicator
- (8) **Network:** RSSI LED indicator
- (9) **Installation thread:**
1/4"-20 thread. Use the package supplied articulating arm trestle to install the device to the camera
- (10) **Product label**
- (11) **Battery plate:** Various DV battery plates optional. See details in "7. Optional Battery Plate"
- (12) **DC in:** Support DC 7-17V voltage input, 4-pin lockable LEMO interface.
- (13) **Screw hole**

The description of LED status indicator

Device	Indicator	Status	Description
CW-S300 Transmitter	Power	Constant On	Power connected and switched on
		Off	Power disconnected and switched off
	Video	Constant On	Network is connected, and there is recognizable video signal input
		Flash	Network connection failed and there is no recognizable video signal input
	Network	Constant On	The wireless network connection is normal
		Flash	The wireless network connection is abnormal

Receiver CW-S300



- (1) **Antenna**
- (2) **Product label**
- (3) **Power:** Power status indicator
- (4) **Video:** Video signal indicator
- (5) **Network:** RSSI LED indicator
- (6) **Pair:** Pairing button
- (7) **Installation thread:** 1/4"-20 thread.
- (8) **Reset:** Reset (Reboot) status indication button
- (9)、(10) **SDI out:** SDI output (BNC connector)
- (11) **Battery plate:** V-mount or Gold mount battery plate optional. See details in "7. Optional Battery Plate"
- (12) **DC in:** Support DC 7-17V voltage input, 4-pin lockable LEMO interface.
- (13) **Screw hole**

The description of LED status indicator

Device	Indicator	Status	Description
CW-S300 Receiver	Power	Constant On	Power connected and switched on
		Off	Power disconnected and switched off
	Video	Constant On	Network is connected, and there is recognizable video signal input
		Flash	Network connection failed and there is no recognizable video signal input
	Network	Constant On	The wireless network connection is normal
		Flash	The wireless network connection is abnormal

4. Build connection

- (1) Connect the SDI video source with the “SDI IN” port CW-S300 transmitter.
- (2) Connect the “SDI OUT” port of CW-S300 receiver with monitor or other receiving devices.
- (3) Power the CW-S300 transmitter and receiver, the transmitter “Power” LED on, “Video” and “Network” LED flash; the receiver “Video” and “Network” LED flash; they will automatically search the network, and detect video signal, when the “Video” and “Network” LED is constant on, the output display is normal.

5. Pairing

- (1) Connect the SDI video source with the “SDI IN” port CW-S300 transmitter.
- (2) Connect the “SDI OUT” port of CW-S300 receiver with monitor or other receiving devices.
- (3) Power the CW-S300 transmitter and receiver, the transmitter “Power” LED on, “Video” and “Network” LED flash; the receiver “Video” and “Network” LED flash; the monitor or switcher will display as Fig. 1
- (4) Press the Receiver Pair button and hold for 5-10 seconds, the monitor or switcher will display Fig.2, then release the Pair button; Press the Transmitter Pair button and hold till the monitor or switcher display progress bar as in Fig. 3, then release the Pair button.
- (5) When the progress bar completed, they are successfully paired.

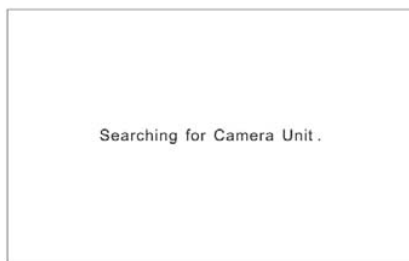


Fig.1

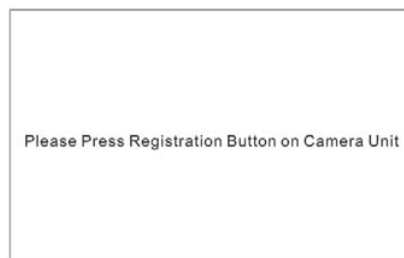


Fig. 2



Fig.3

- Note:
1. Please keep the transmitter and receiver in distance of 1-2m to avoid pairing failure.
 2. Please do not use more than 3 sets of devices under the same environment to avoid interference.
 3. User can use at most 4 receivers to pair with one transmitter under the same environment.

6. How to get the best effective of Wireless Transmission

- (1) Set the antenna on both transmitter and receiver vertically straight up, no request to spread. If lay down installation, still keep the antenna vertically straight up to extend transmission distance and stabilize transmission quality. (See Fig. 4)

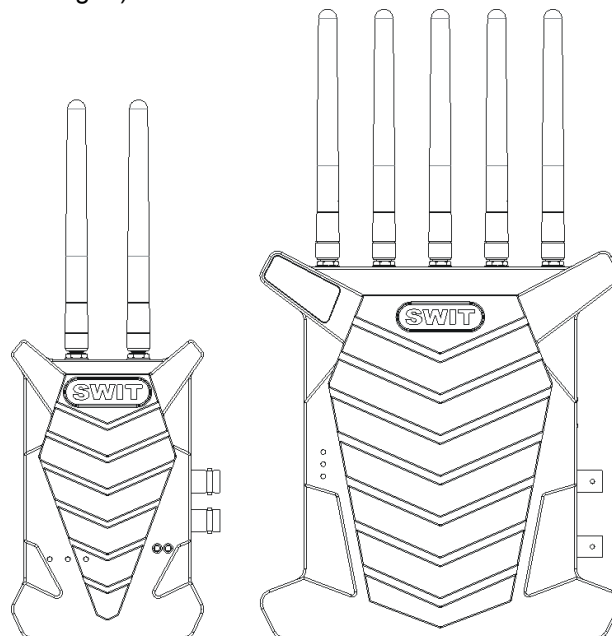
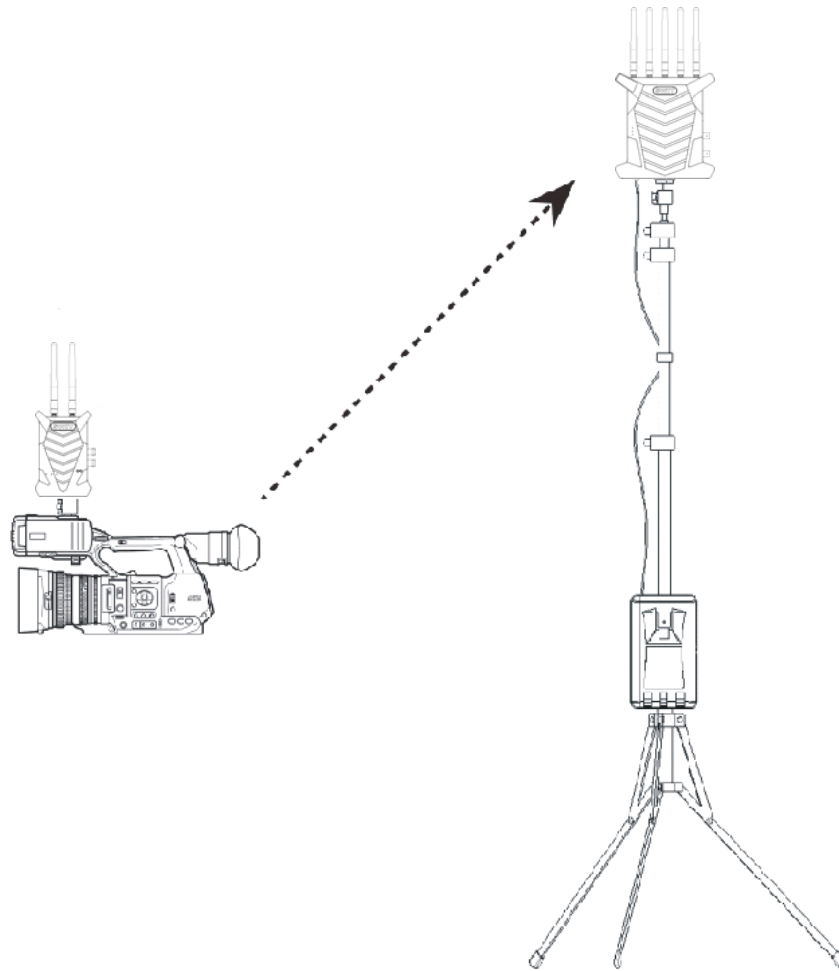
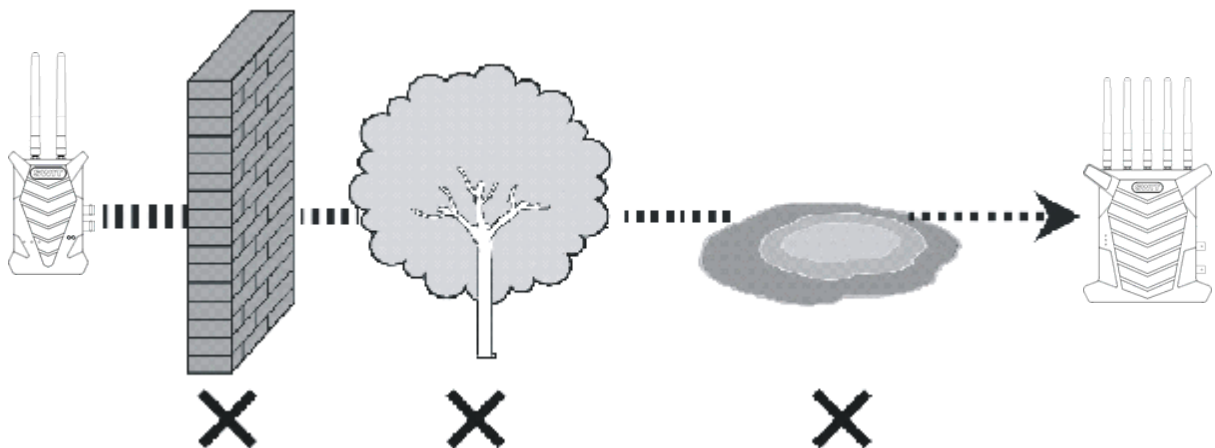


Fig. 4

(2) Set the receiver as high as possible to avoid interference.



(3) Avoid walls, trees, water and any blockage as best as you can,



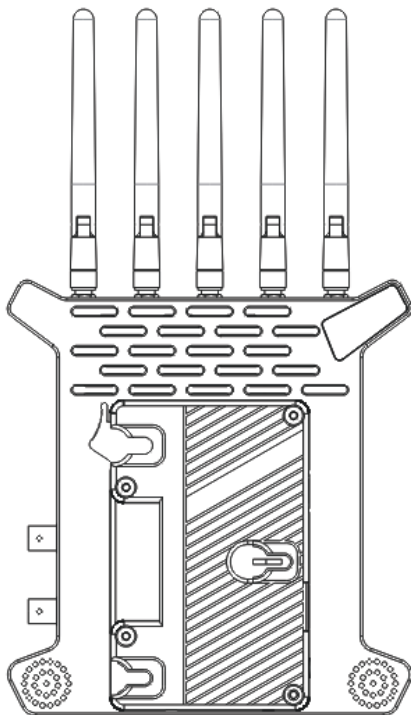
7. Battery plate

CW-S300 offers various battery plates to be powered for Transmitter and Receiver.

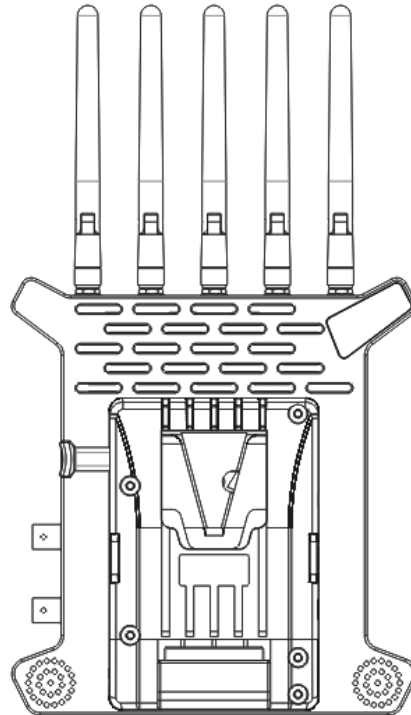
The CW-S300 transmitter is equipped with various DV battery plates to be powered by standard DV camera batteries, there are following different kinds of battery plates for option:

Plate Type	Compatible battery	Recommended SWIT battery
F	Sony L series NP-F770/970	S-8972, S-8970, S-8770
U	Sony BP-U60/30	S-8U93, S-8U63
D	Panasonic CGA CGA-D54S/D28S Panasonic VBD VW-VBD58	S-8D62, S-8D58
B	Panasonic VW-VBG6	S-8BG6
J	JVC BN-V428	S-8428
V	JVC BN-VF823	S-8823
I	JVC SSL-JVC50	S-8I50
C	Canon BP-930/945/970G	S-8945, S-8845
E	Canon DSLR battery LP-E6	S-8PE6

The CW-S300 receiver is equipped with V-mount or Gold mount battery plates to be powered with batteries:



Gold mount



V-mount

Note: The battery plates are fixed at factory, please specify the suitable plate type before purchase.

8. Trouble shooting

If the receiver failed to output video correctly, the possible causes are as below, please find the solution from following chart:

The receiving video	Possible causes	Solution
No display	No power	Check power connection and switch on the transmitter and receiver
	The antennas are not installed properly and screwed tightly	Install the antennas properly and screw tightly of both transmitter and receiver
	Bad connection of video cable	Check video cable connection of both transmitter and receiver
	Video format is not supported	Check the format of video source. (See the supported video formats at Specifications.)
Video quality is poor	Bad connection of video cable	Check video cable connection and if possible, change to better quality cables
	The wireless transmission is disturbed by environment, such as other electronic devices in the same location.	Wait for one minute or reboot both the transmitter and receiver
	The transmission distance is out of effective range or being interfered by obstacles.	Try the wireless transmission at a closer distance or clean out the obstacles

9. Specification

Model	CW-S300 Transmitter	CW-S300 Receiver
Input	SDI×1	/
Output	SDI×1	SDI×2
SDI format	1080i (60 / 59.94 / 50) / 720p (60 / 59.94 / 50) / 1080p (60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 / 23.98) 1080PsF (30 / 29.97 / 25 / 24 / 23.98)	
Wireless frequency	5.1~5.9GHz	
Radio module	OFDM 16QAM	
Max transmission distance	300m (Line of sight)	
Latency	≤1 millisecond	
Power consumption	≤10W	≤10W
Radio power	Max 100mW	/
Input voltage	DC/Battery: 7~17V	DC/Battery: 7~17V
Working environment	Temperature: 0℃~+40℃	
Dimension (exclude antenna)	89×128×36 (mm)	148×167×49 (mm)
Net weight (include antenna)	335g	761g

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