CRYSTAL VIDEO

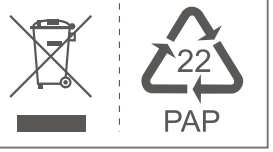
Zero Latency | 800m+ | Channel Scan | HDMI & SDI | Smart Cooling | Multicast Mode | 1080P60Hz

PRO Z

Zero Latency Wireless Video Transmission System

EU Environmental Protection

Waste electrical products should not be disposed of with household waste.Please recycle where facilities exist.Check with you local authority or retailer for recycling advice.



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USER MANUAL

This user manual applies to:
Transmitter: 7118
Receiver: 3118

Version: 1.0
2021.09.16

Important Information

Please read this user manual before you use this product, it contains all the notes and important things regarding operating this product. In accordance with the safety precautions and operating instructions listed on this user manual, our applies provided the product is handled properly for its intended use, but may not apply to below cases:

- Repairs or product modification and alterations have been executed by unauthorized personnel.
- The damages are caused by accidents including but not limited to lightning, fire, exposed to rain or water,and moisture.
- Do not use provided power adapter with specific power voltage which are not compliant with the rated voltage range in the attached label of the power adapter in package.
- The model label on the product has been modified or the warranty tag has been removed by unauthorized personnel.

Safety Precaution

	To reduce the risks of electricity, do not remove or open the cover. No user-serviceable parts are inside. Please return to original factory for maintenance
	The high temperature in the process of operating the device may cause the high risk of scalding.
	Please use our standard power adapter.Detailed information Please refer to the rated voltage range showed on the label at the back of package's power adapter.
	Handle with care!

Danger: Be careful with electricity.

- As connecting any equipment (such as any player or TV , etc.), please turn off the power to the product before any operation is undertaken.
- Power outlet: To prevent electric shock or fire, short circuit, please make sure the type of electrical plug used on the receiver's and transmitter's power cord are compliant with the rated voltage range in the attached label of the power adapter in package.
- Power cord: Do not place any heavy articles above on the power cord. To avoid being stepped on or pinched by heavy items, the power cord should not be located on the place where people pass by frequently.
- Power overloading: Avoid overloading wall's electrical outlets and extension cord or other multi-socket; otherwise could result in electric shock or fire.
- Lightning: For protection from lightning or when the product is left unattended for a long period, please disconnect it from the power source.
- Please disconnect the power cord from the power outlet when you are not using the receiver and transmitter, this will reduce the risk of electric shock or fire.

Warning

- This product should not be exposed to dripping or splashing. Do not place any object filled with liquid on the product(eg. vases).
- To avoid electric shock, please do not block or stick anything on the air vent of product; do not remove the cover or put the object just like pins, steel wire into the gap of the air vent.
- Please place the receiver/ transmitter on a flat with hard and stable surface.
- Ventilation: please do not block the air vents on the receiver/transmitter or place any heavy object on top of them . Blocking the air flow can damage the product itself. Please make sure that there is adequate ventilation distance between the receiver and TV, and also put the product away from direct sunlight or any source of heat.
- Water Exposure: To reduce the risk of electric shock or fire , please do not expose the receiver/transmitter to rain or moisture.
- We assume no responsibility for any damage or result caused by using other adapters instead of our standard adapters

Special Notice

- Although the product has provided the function of data encryption when transmitting, you still need to pay attention to deliberate signal interception. There will be the Possibility of a third party intentionally intercept the transmission signal since the product adopt wireless communication. Please do not use the product on confidential and important communications, or life-related communications The main concern is that the content of wireless communication might be received by the third party's wireless devices deliberately or accidentally.
- The impact of radio waves (such as the following environment may cause the abnormal audio and video(blocked image, noise ...etc.).
  1) Transmit near the wall which is hard for the radio waves to get through.
  2) Quite close to the refrigerator, metal fitment and appliances, or next to the crowded situation.
- This product has been tested and manufactured to comply with national electrical safety rules, however, there will be noise caused by the interference with other machines in rare cases. If the interference is happened, please keep a certain distance away from other machines.
- The product is susceptible to interference from 5GHz wireless local area network or other wireless devices.
- Optimal range between transmitter and receiver is between 1 meter and 50 meters within line of sight indoor.
- Please do not set up the transmitter and receiver in metal shelf, or it will hinder the wireless communications.
- 1080P/60 Hz Wireless transmitting.
- It will take 15-20 seconds to boot the system before wireless communication start, the media receiver can not be operated during this time.

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About the User Manual

- Please read this manual carefully before you use this product and retain it properly for future reference.
- If there is any question or difficulty about the operation of product, please feel free to contact us or the dealer.
- The company reserves the authority to modify the user manual.

Overview

The PRO Z is a zero latency wireless video transmission system designed for the most demanding cinema, broadcast applications. At less than 1 ms latency, the PRO Z Wireless Video Transmission System can transmit 1080P60 4:2:2 video at up to 2600ft line of sight over the 5GHz ISM frequency band.

The system features V-mount battery slots and bright OLED displays. Its channel scanning function can help the users to select the appropriate wireless channel to use. Its multicast mode means that the transmitter can simultaneously transmit the video signal to multiple receivers. The PRO Z system also supports the transmission of timecode and start/stop triggers from the camera.

Features

- Zero latency & uncompressed video transmission
- Up to 1080P60, 10-bit with 4:2:2 chroma sampling
- Channel scanning function to select the best channel
- 800m/2600ft (LoS) transmission range
- HDMI in/out, SDI loop out, dual 3G-SDI out
- 5GHz ISM frequency band
- The transmitter can transmit video signal to multiple receivers simultaneously
- Support V-mount battery slot
- Support time code (ATC_VITC and ATC_LTC formats)
- Smart cooling design, manual or auto mode

Packing List

Please check the following items carefully after unpacking. If any of them is missing, please contact your seller.

Transmitter



Wireless HD Transmitter *1



Antenna *2



Mushroom Antenna *2



Articulating Magic Arm with Cold Shoe (7") *1



SDI Cable *1

Receiver



Wireless HD Receiver *1



Antenna *5



D-Tap to 2-pin LEMO Cable *1



SDI Cable *1

* The shape, mark printing and accessories of the above items are subject to the actual product you received.

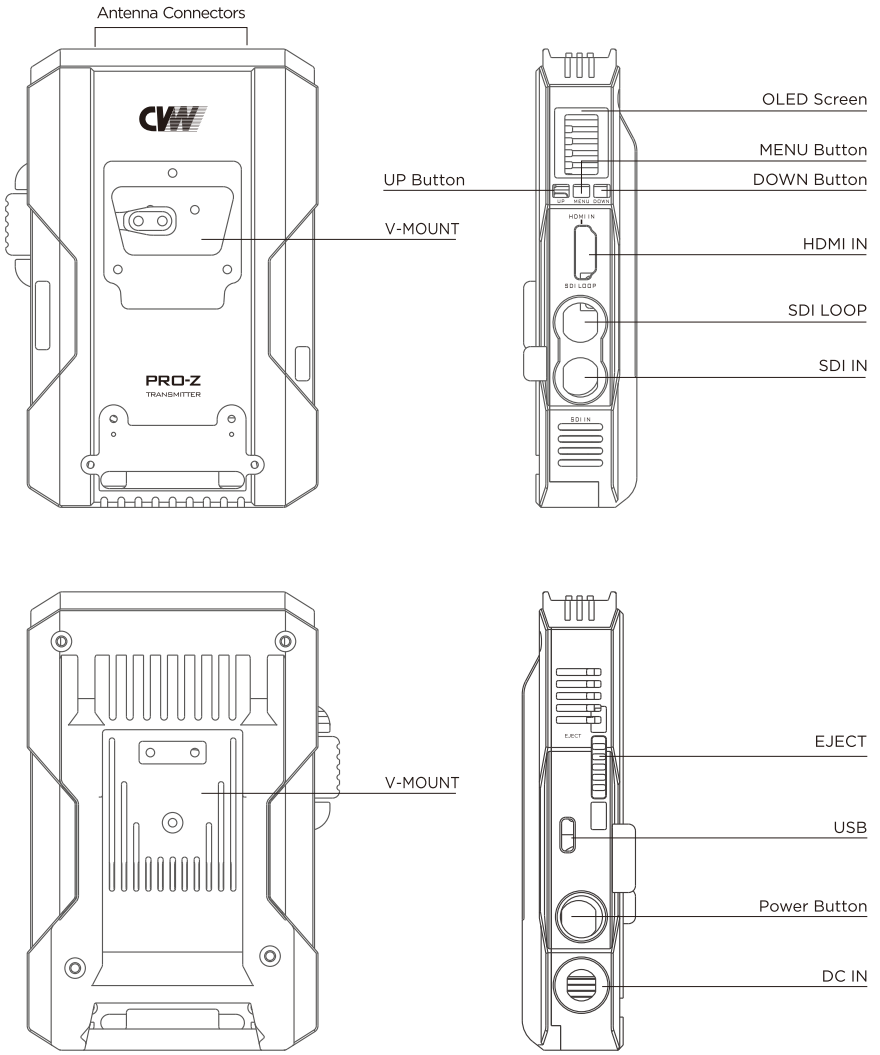
Specification

Item	Specification
Frequency	5.1-5.9 GHz
Bandwidth	40MHz
Video Resolution	1080P 23.98/24/25/30/50/60 1080psf 23.98/24/25 1080i 50/59.94/60 720P 50/59.94/60 576P 576i 480p 480i
Audio Format	PCM
Time Code	ATC-VITC ATC-LTC
Transmission Latency	Zero latency
Transmission Range	800m/2600ft(LoS)
Transmitter	
Antenna	External antenna*2
Transmission Power	20dBm
Interface	HDMI input; 3G-SDI input; SDI loop output; Type-C-USB; LEMO power input (OB/2-pin); Antenna RPSMA connector; Power on/off; OLED screen; Function button
Mounting	1/4-inch screw thread*3, V-mount battery slot*2
OLED Screen	Channel info; Video resolution; Battery voltage; Fan status; Signal info; and other information
Operating Voltage	7-36V
Power Consumption	MAX 12W
Dimensions (mm)	134*92.5*24.5mm
Temperature	-10 ~ 50°C (Working); -40-80°C (Storage)
Receiver	
Antenna	External antenna*5
Receiving Sensitivity	-70dBm
Interface	Dual SDI output; HDMI output; Type-C-USB; LEMO power input (OB/2-pin); Antenna RPSMA connector; Power on/off; OLED screen; Function button
Mounting	1/4-inch screw thread*2, 3/8-inch screw thread*1, V-mount battery slot*1
OLED Screen	Channel info; Video resolution; Battery voltage; Fan Status; Signal info; and other information
Operating Voltage	7-36V
Power Consumption	MAX 8W
Dimensions (mm)	165*106*26mm
Temperature	-10 ~ 50°C (Working); -40-80°C (Storage)

Structure & Interface

TX

Transmitter: 7118



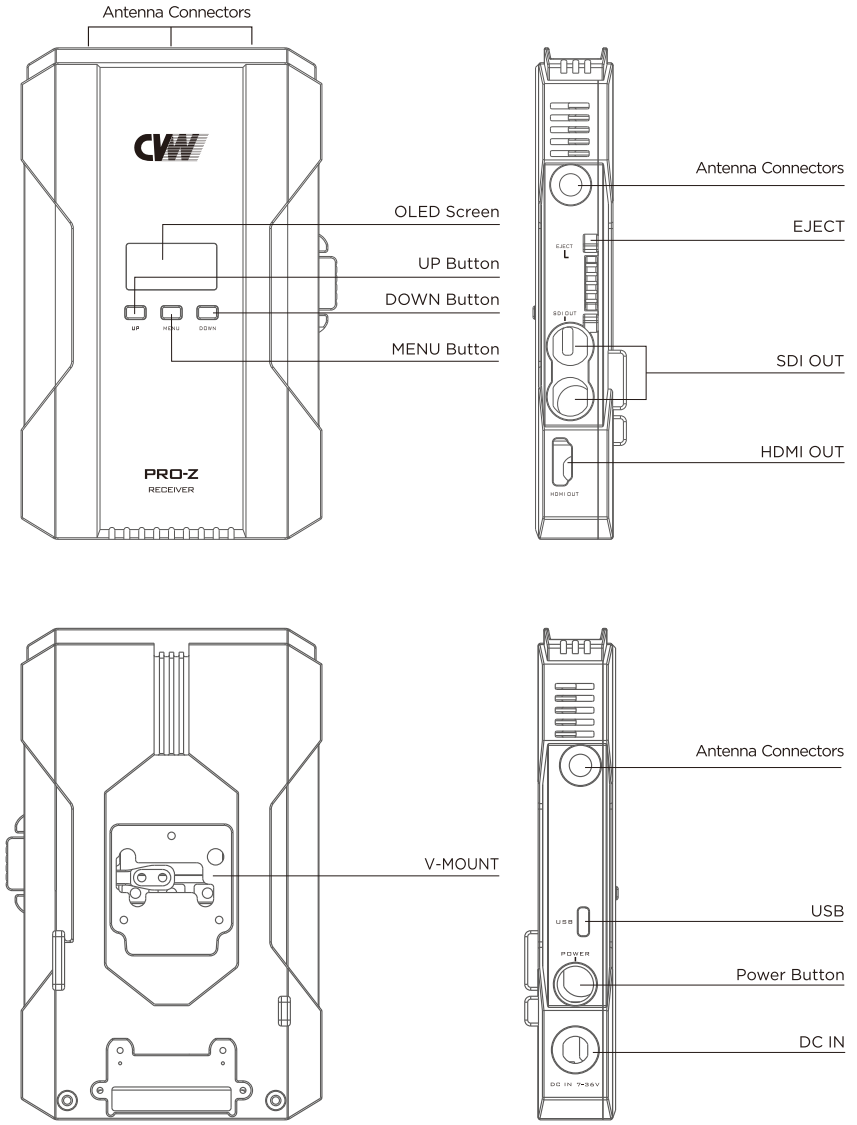
Transmitter Interface Description

Name	Function
OLED Screen	Displays channel info, video format, battery capacity, fan status, and other information.
UP Button	Channel switching (+)
MENU Button	Menu interface
Down Button	Channel switching (-)
HDMI IN	HDMI signal input
SDI LOOP	SDI signal loop output
SDI IN	SDI signal input
EJECT	Battery release
USB	Type-C (for firmware updating)
Power Button	Turn on/off the transmitter
DC IN	Power input (LEMO 2-pin); Supports 7-36V

Structure & Interface

Receiver: 3118

RX



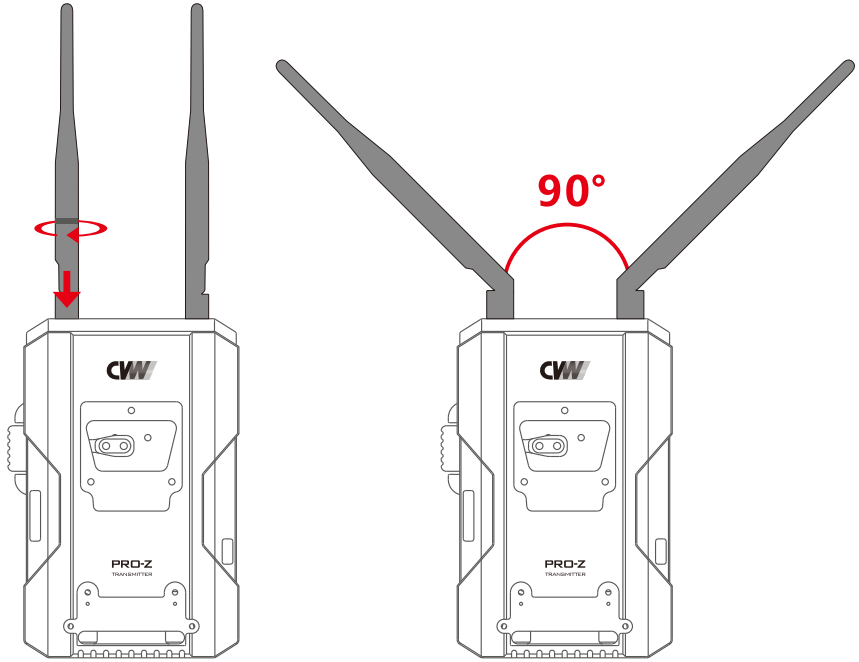
Receiver Interface Description

Name	Function
OLED Screen	Displays channel info, video format, battery capacity, fan status, and other information.
UP Button	Channel switching (+)
MENU Button	Menu interface
Down Button	Channel switching (-)
EJECT	Battery release
SDI OUT	SDI signal output
HDMI OUT	HDMI signal output
USB	Type-C (for firmware updating)
Power Button	Turn on/off the receiver
DC IN	Power input (LEMO 2-pin); Supports 7-36V

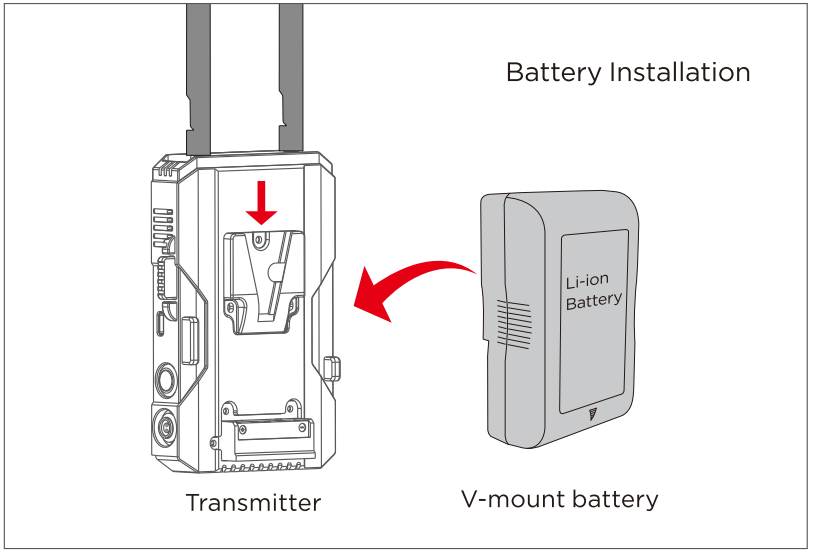
Mounting

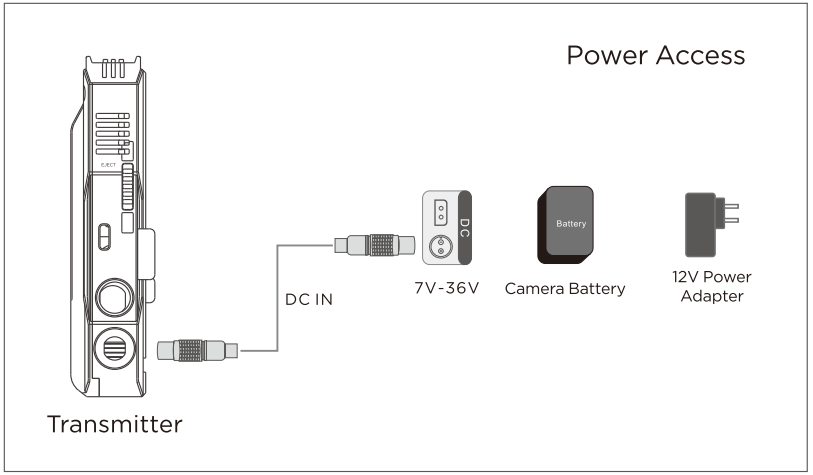
For transmitter 7118

1. Install the antennas and make sure they are tightened. The angle between the transmitter's two antennas should be perpendicular to achieve the best wireless transmission performance. See below:

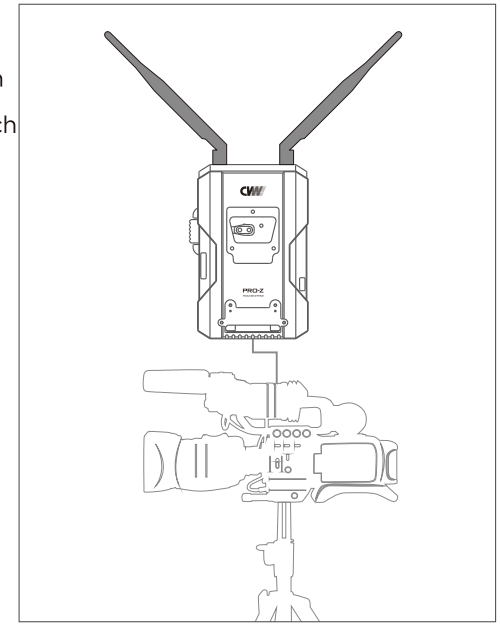


2. Powered by the V-mount battery or power adapter. See below:

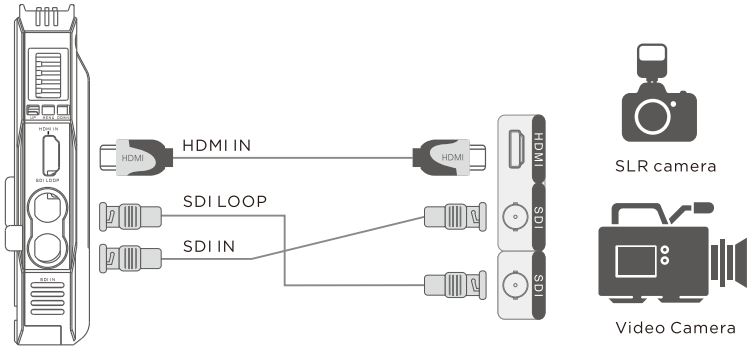




3. The transmitter can be mounted on a camera with the V-mount slot or 1/4-inch screw thread.

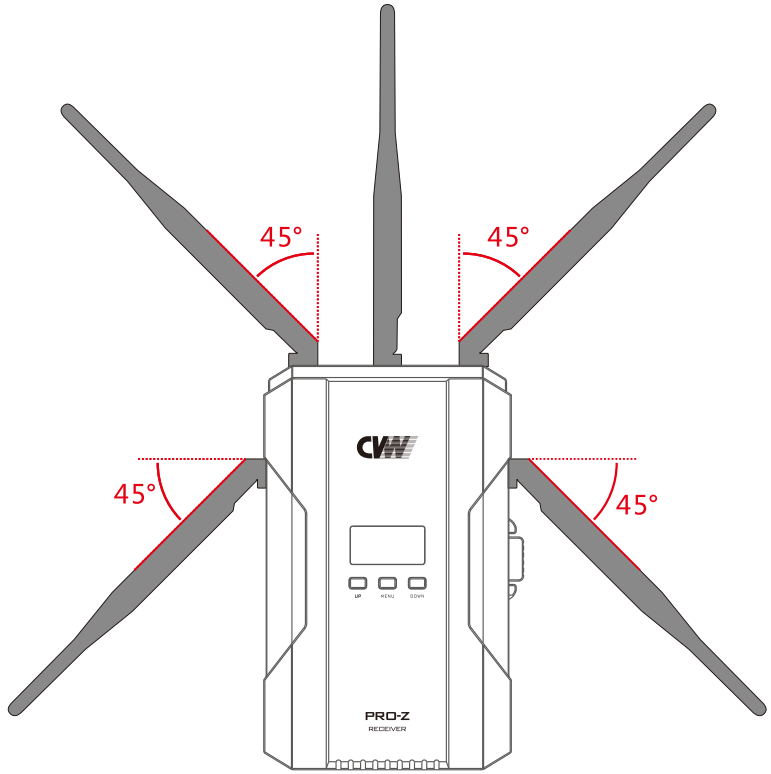


4. Connect the transmitter to the camera with HDMI/SDI cable. See below:

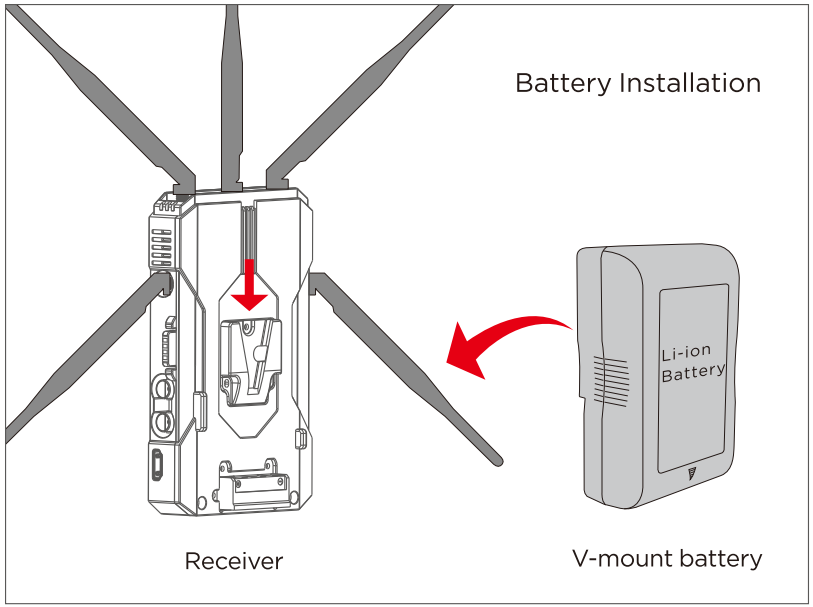


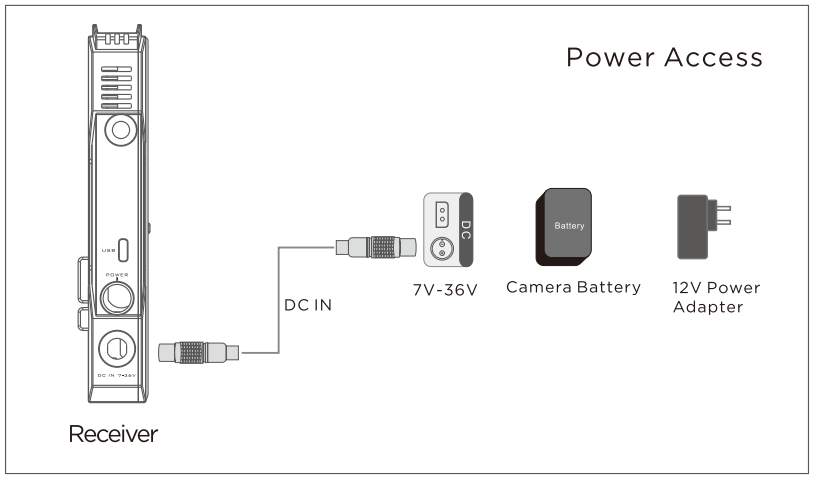
For receiver 3118

1. Install the antennas and make sure they are tightened. The angle between the receiver's two antennas should be arranged to a 45° angle to achieve the best wireless transmission performance. See below:

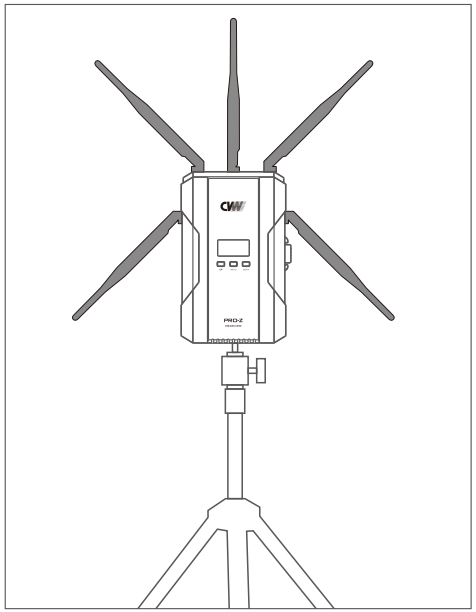


2. Powered by the V-mount battery or power adapter. See below:

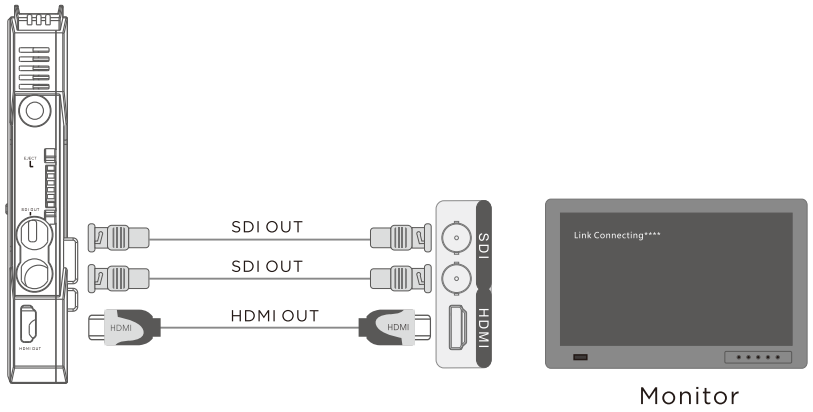




3. The receiver can be mounted on the tripod using 1/4-inch or 3/8-inch screw thread, or on the monitor using the magic arm.



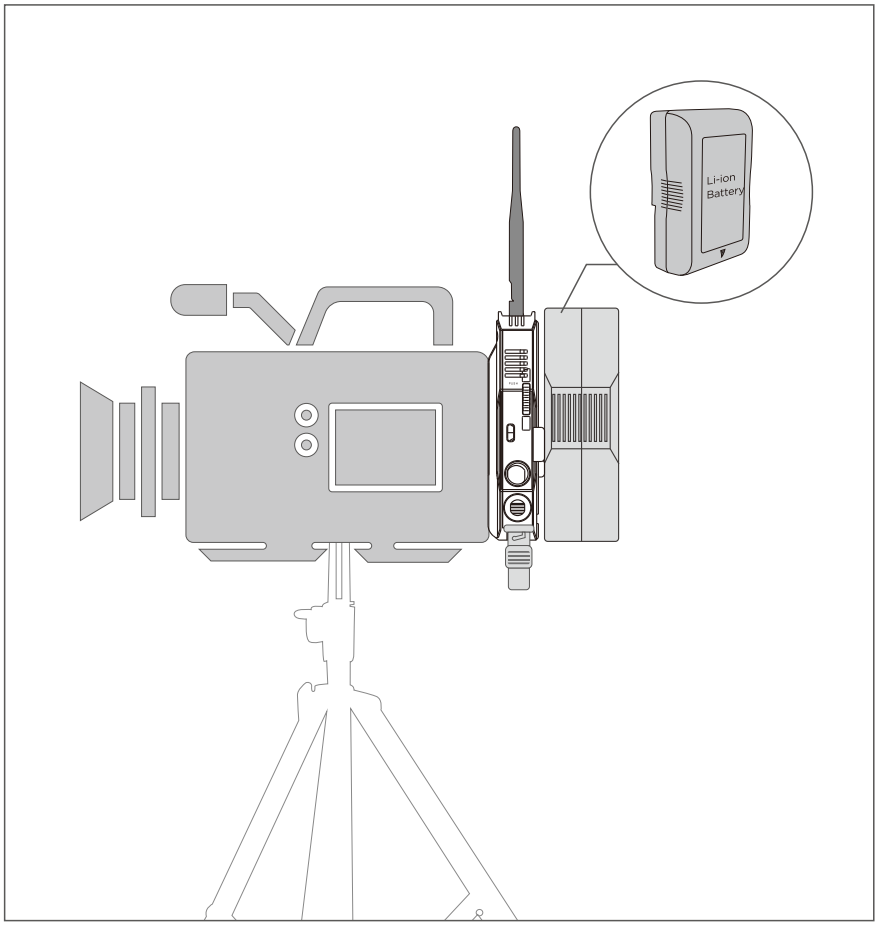
4. Connect the receiver to the monitor with HDMI/SDI cable. See below:



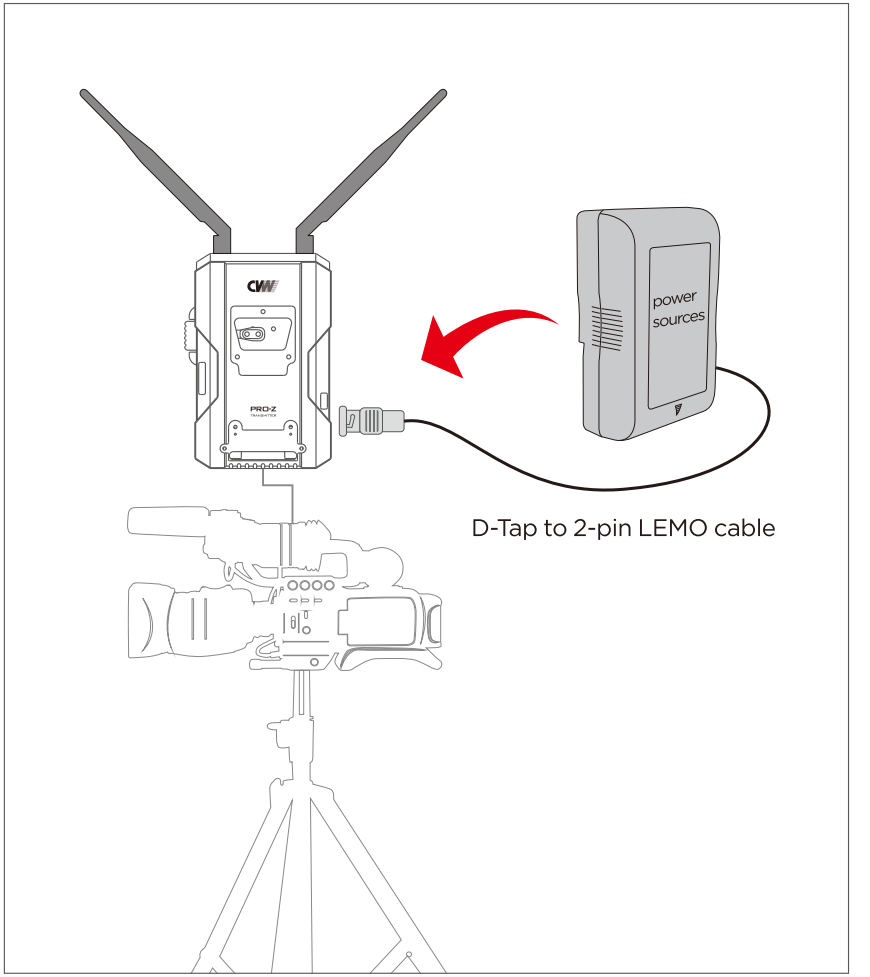
Power Supply and Start-Up

1. The transmitter can be powered by the following power sources:

a. Install the V-mount battery on the back of the transmitter. Both the camera and the transmitter can be powered by the V-mount battery.

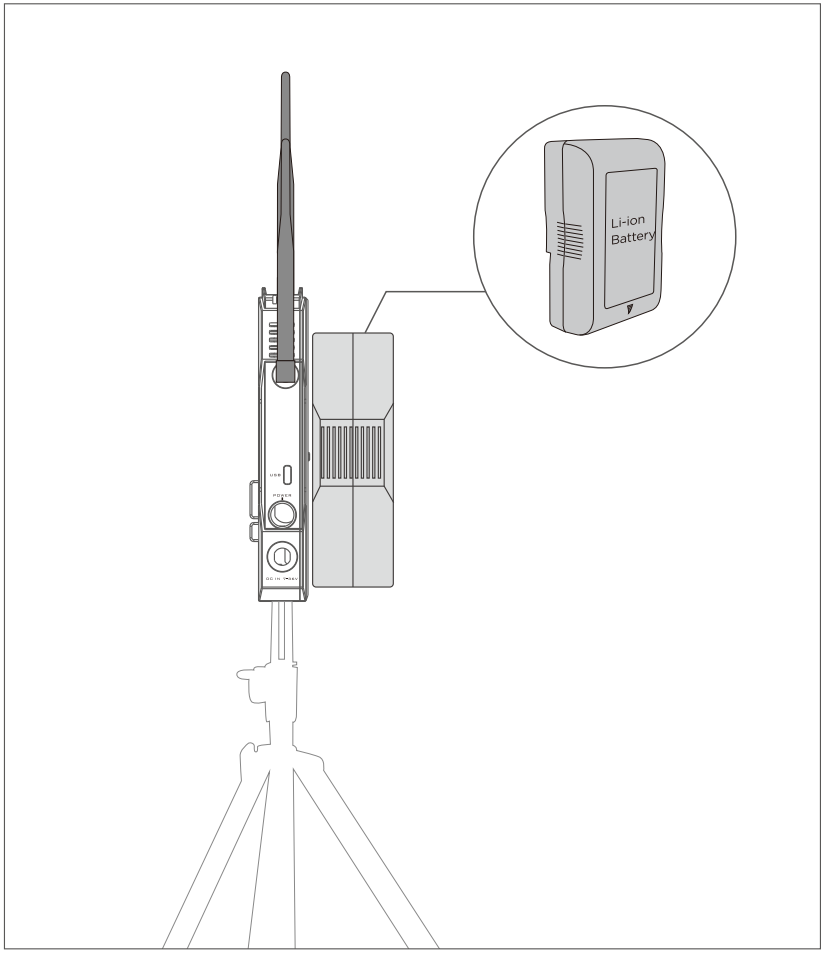


b. Powered by the V-mount battery or other power sources with D-Tap to 2-pin LEMO cable.

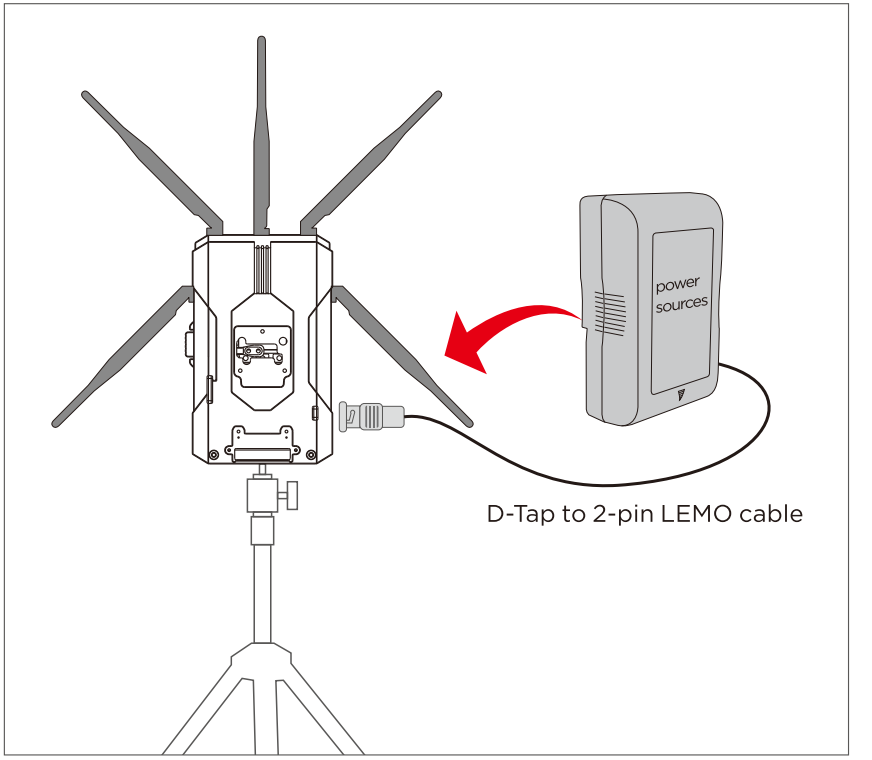


2. The receiver can be powered by the following power sources:

a. Powered by V-mount battery.



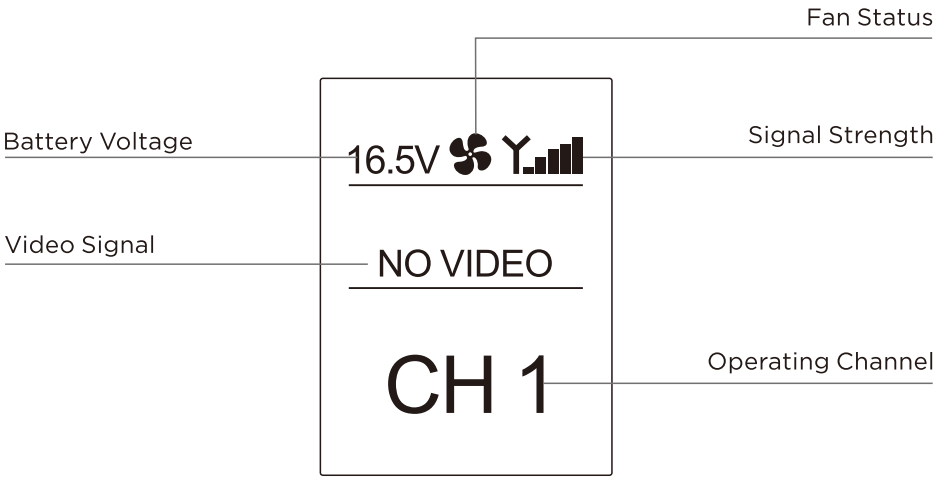
b. Powered by the V-mount battery or other power sources with D-Tap to 2-pin LEMO cable.



3. Press the power button, the transmitter and the receiver takes approximate 10s to start up. They will automatically connect if they starts up successfully.

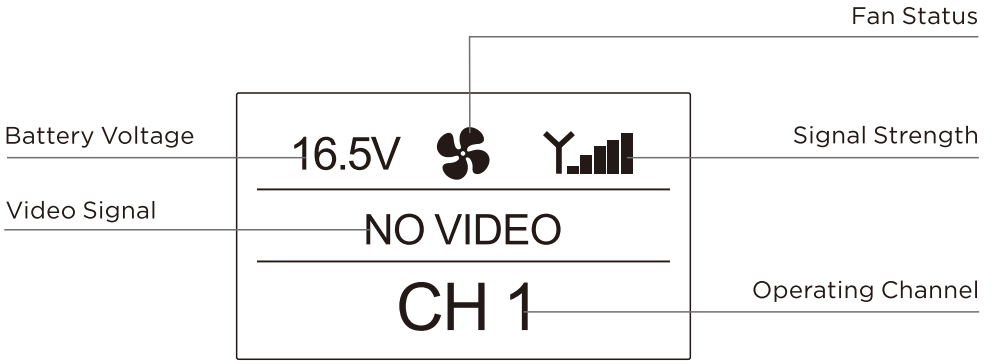
OLED Display Description

7118 OLED Status



Item	Status
Battery Voltage	Displays battery voltage
Fan Status	When the fan is on, it displays rotating fan blades; When the fan is off, it displays non-rotating fan blades.
Signal Strength	When the network is not connected, it displays “×”; When the network is connected, it displays the signal strength status.
Video Signal	When no signal is recognized, it displays ‘No Video’; When the signal is recognized, it displays the video format.
Operating Channel	Displays the current operating channel

3118 OLED Status



Item	Status
Battery Voltage	Displays battery voltage
Fan Status	When the fan is on, it displays rotating fan blades; When the fan is off, it displays non-rotating fan blades.
Signal Strength	When the network is not connected, it displays “×”; When the network is connected, it displays the signal strength status.
Video Signal	When no signal is recognized, it displays ‘No Video’; When the signal is recognized, it displays the video format.
Operating Channel	Displays the current operating channel

Channel Switching Operation

1. Press the Up or Down Button

2. Then press the Menu button to confirm.

Important reminder: When switching channels, please note that the transmitter and the receiver must be set to the same channel so they can stay connected.

Transmitter's Menu Button:

Long-press the Menu button for 3 seconds and enter the menu interface. The configurable settings are: fan set, languages, firmware version number check.

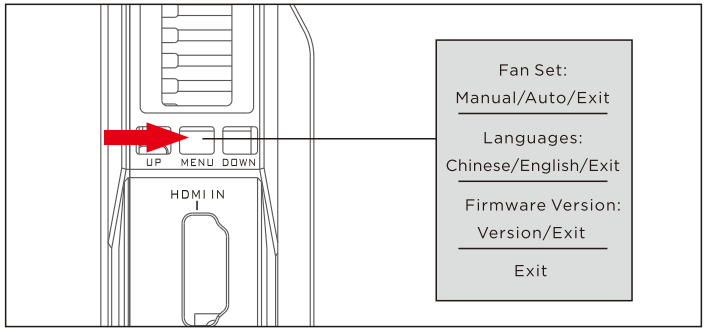
Fan set: The fan setting mode lets you choose auto (default) or manual operating modes.

Manual mode - You can manually turn on or off the fan. If the transmitter gets overheated when the fan is turned off, the fan can be automatically turned on to cool down the transmitter.

Auto mode - The rotate speed of the fan can be auto adjusted in accordance with the internal temperature of the transmitter.

Important reminder: The fan can be triggered to stop running while recording.

Languages: Chinese/English/Exit



Receiver's Menu Button:

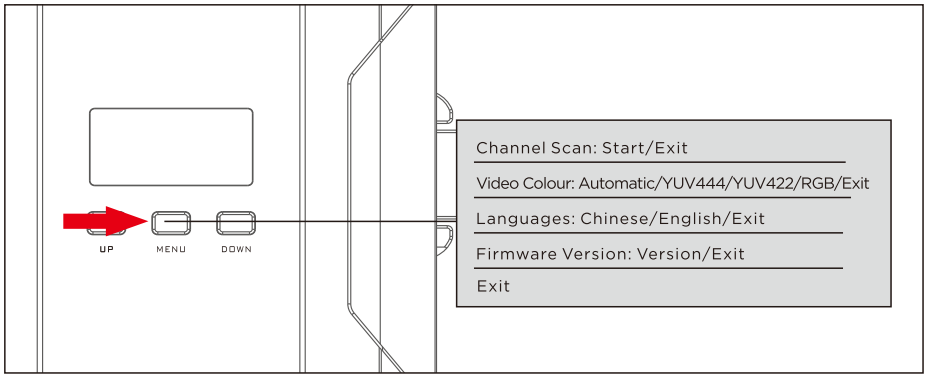
Long-press the Menu button for 3 seconds to enter the menu interface. The configurable settings are: channel scan, video colour, languages, firmware version number check.

Channel scan: Scan the existing channels and manually select the available one based on the displayed results.

Video colour: Automatic/YUV444/YUV422/RGB (default automatic, which is set as the receiver's HDMI signal output setting)

Fan set: Auto mode: When you are recording, the fan of receiver can be triggered to off simultaneously as the same as transmitter.

Languages: Chinese/English/Exit



Precautions

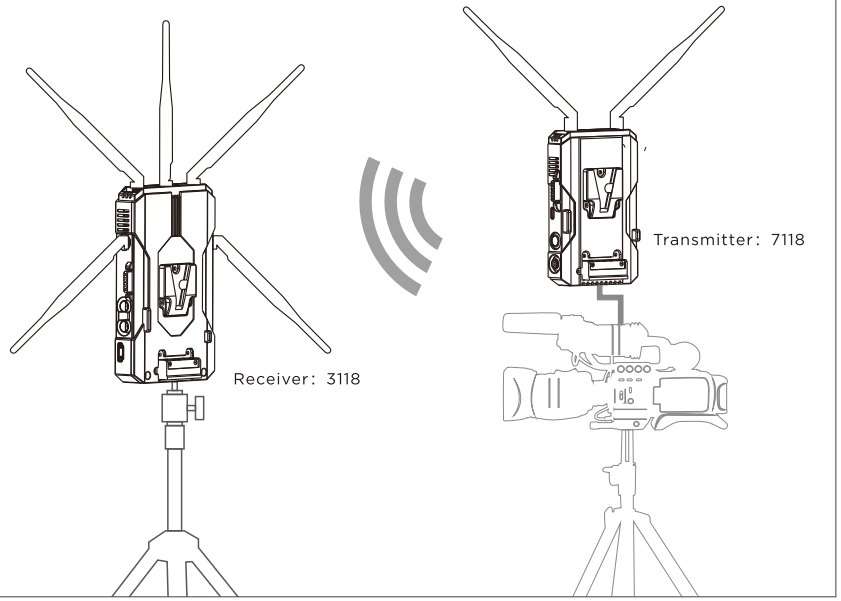
Installation Height and Distance

a. The transmission range is up to 800m in wide-open, unobstructed, and optimal antenna installation condition. This distance is shortened in non-optimal installation conditions. If multiple systems are operating simultaneously, each of their transmitters and receivers must be separated from each other at least 2 meters apart.

b. This system 's operating frequency is 5GHz band. In order to ensure stable wireless signal transmission, it is recommended that the transmitter's height should be at least 1.5 meters above the ground, while the receiver's height should be at least 2 meters above the ground.

Mounting:

The ideal position for this system antennas, please refer to the below diagram.



c. When this system and other wireless devices are operating simultaneously, please keep at least 2 meters distance between them in order to prevent the possible interference.

Channel Settings

a. When the system is in use, It is recommended to choose the channel among CH5-CH9 or CH12-CH18, as these WiFi channels usually are unoccupied in most cases.

b. When multiple systems are in use simultaneously, they must be set to different channels and it is recommended to keep them at least one channel apart. For example, if system 1 is set at CH5, system 2 must be set at CH7. In addition, the transmitters and the receivers of each system shall be at least 2 meters apart.

HDMI/SDI Connection and Antenna Installation

a. Please make sure that the antennas are already installed before starting up the system. Otherwise the system will be damaged easily.

b. Connect the transmitter to the camera with the HDMI/SDI cable, and then switch on the power source.

c. This system comes with a V-mount slot and a magic arm that can be installed and fixed on the other devices.

d. In order to get the best wireless transmission performance, all the transmitter antennas toward the receiver antennas shall be arranged to have a clear line of sight.

Battery Endurance

Note: Battery power density, usage environment, and other factors can impact battery endurance. The following values are only for reference. Using 95Wh V-mount battery as an example, a transmitter with 12W of power consumption and a receiver with 8W of power consumption, the battery can be working for the transmitter about 6-7 hours or for the receiver about 9-10 hours.

Troubleshooting

Problem	Solution
The connection can not be established between the transmitter and receiver.	Examine whether all the antennas are installed.
	Examine whether the power adapter or battery input meets the product's specification requirements.
	Examine the product whether it can be started up normally; Examine whether the screen can display normally.
	Examine whether the system channels are corresponding.
The image shows blurred or frozen	Switch the channel from CH5 to CH9 to check whether the signal is stable.
	Examine the distance between the transmitter and receiver, please try to shorten the distance between the transmitter and receiver (but at least 1.5m apart), or set them high (at least 1.5m above the ground), without any obstruction among them.
	When multiple systems are in use simultaneously, they must be set to different channels and it is recommended to keep them at least one channel apart. For example, if system 1 is set at CH5, system 2 could be set at CH7. In addition, the transmitters and the receivers of each system shall be at least 2 meters apart.
	Examine whether there are other wireless devices or not, such as a wireless intercom system. It is recommended that the CVW product should be away at least 2 meters apart from other wireless devices.
No image output	Examine whether the power adapter or battery input meets the product's specification requirements.
	Examine whether the transmitter and receiver have successfully established a network connection. Can examine this by viewing the signal strength icon on the display screen.
	Examine whether the transmitter and receiver can be turned on normally; whether the OLED screen can be displayed normally; whether the monitor connected to the receiver displays a boot-up image.
	Examine whether the transmitter's display screen detects the video format. If it does not, examine whether the video source and transmitter are correctly connected with the video signal cable.
	Examine whether the receiver's display screen detects the video format. If it does not, switch the video format to verify. For example, use a format such as 1080p60 or 1080i50. If it detects a video format, examine whether the cable connection among the switch console, monitor and receiver is correct.
The output image is a greenflashing screen	Examine whether the transmitter or receiver's video signal cable has a good connection.
	SDI/HDMI is a digital signal with a fast transmission speed, and it is recommended to use brand-name cables.

* If the preceding solutions cannot quickly resolve these problems, please contact the distributor or manufacturer for technical support.