



- Full HD Video
- SDI & HDMI
- Zero Latency
- Plug & Play
- Rugged Design

Wireless Video Link

PRO 200

EU Environmental Protection

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



User Manual

Model:7051+3051




Version:1.0

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

| | |
|---|---|
|  Danger! High voltage | 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 |
|  Beware of hot surfaces! | The high temperature in the process of operating the device may cause the high risk of scalding. |
|  Caution! | 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. |

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.
- CVW reserves the authority to modify the instruction manuals.

Brief Introduction

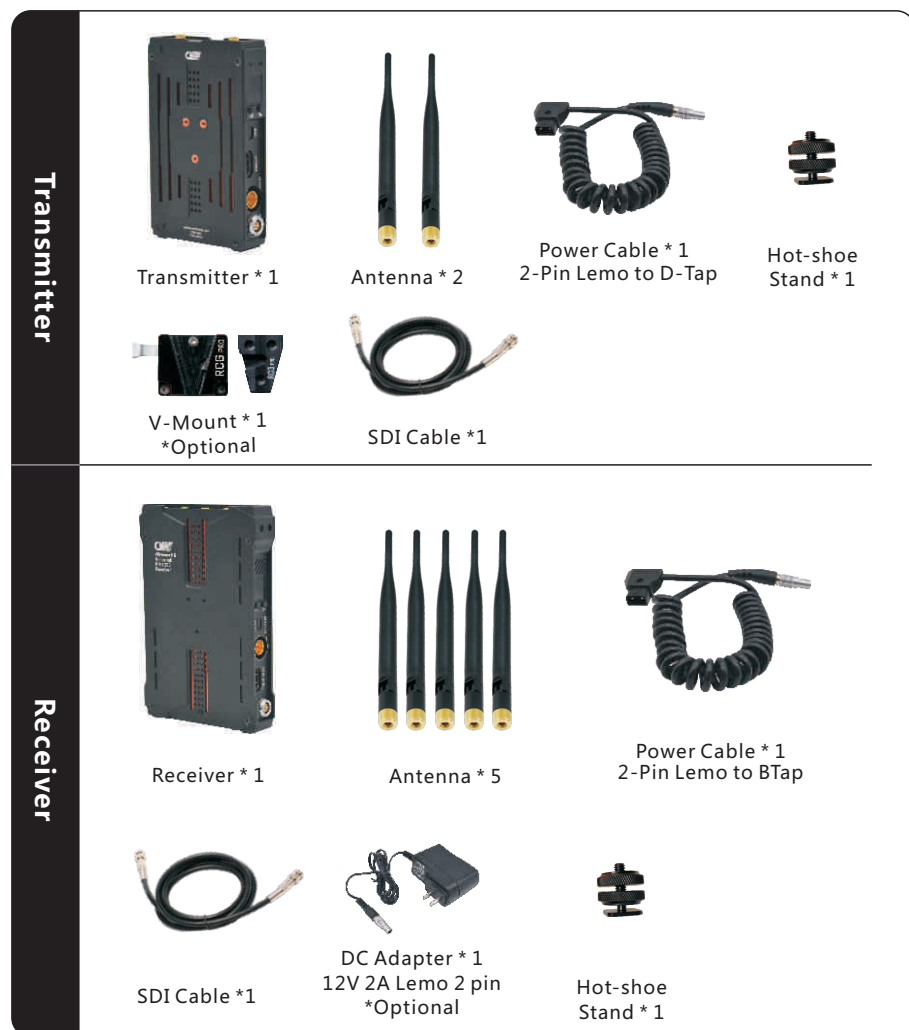
As the widely use of live broadcasting , many problems about wiring appear, such as the high cost and short life time of the cable. Further, some other factors affect the user experience of live broadcast, such as the insufficient cable protection and the tread bycrowded people, which will lead to the poor cable transmission capability or even to accident. PRO200 provides you more convenient and safer solution for live broadcasting. With the advantage of long distance transmission, plug-and-play usage, it can satisfy your various indoor and out door shooting requirements. With addition of its free cable wiring needed,it will bring much safer and more professional experience to you!

Features

- The product with its transmission distance of up to 200 meters can meet the demands of film shooting, television broadcasting, live events, large conference, etc.
- The product delivers uncompressed real-time 1080P/60Hz full HD video (4:2:2, 10bit).
- Support HDMI, HD-SDI, 3G-SDI.
- Full hardware design, plug & play;
- 5.1G-5.9G,support manual seting for channel switching and broadcast mode.
- Support SDI time code transmission (time code format: ATC_VITC, ATC_LTC).
- Support SDI camera recording trigger function (Start/Stop Flag) transmission.
- Comply with EDID 1.1 ,support HDMI 1.3.
- Support AES128 bit encryption.

Packing List

Please check the package inside to assure it contains the parts as below, if any parts missed, please contact the distributor or us.



* Some of the accessories are optional with extra cost, if you need to purchase, please contact the distributor or us.

* If some changes on the appearance, logo and accessories, subject to the actual received product.

Specification

| Item | Specification |
|-----------------------|---|
| Frequency | Image transmission : 5.1~5.9GHz |
| Bandwidth | 40MHz |
| Video Formats | 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 Formats | PCM |
| Time Code | ATC_VITC ATC_LTC |
| Transmission distance | Up to 200m |
| Transmitter | |
| Antenna | External antenna * 2 |
| Transmission Power | 17dBm |
| Interface | HDMI input, SDI input, Mini-USB, Lemo(0B/2pin) DC in, Antenna RPSMA, Power switch |
| Mechanical Interface | V-mount, 1/4" fixing screw hole |
| LED Digits Display | Working channe number |
| Working Voltage | 7V~36V |
| Power Consumption | <8W |
| Size(mm) | 117.5*72*27.5mm |
| Temperature | -10~50°C(Working) ; -40~80°C(Storage) |
| Receiver | |
| Antenna | External antenna * 5 |
| Receiver Sensitivity | -70dBm |
| Interface | HDMI output, SDI output, Mini-USB, Lemo(2pin) DC in, Antenna RPSMA, Power switch |
| Mechanical Interface | V-mount, 1/4" fixing screw hole |
| LED Digits Display | Display the working channel |
| Working Voltage | 7V~36V |
| Power Consumption | <7W |
| Size(mm) | 144*95*27.5mm |
| Temperature | -10~50°C(Working) ; -40~80°C(Storage) |

* As the product's continuous improvement, the performance, design and specifications are subject to minus change without prior notice.

Interface Information

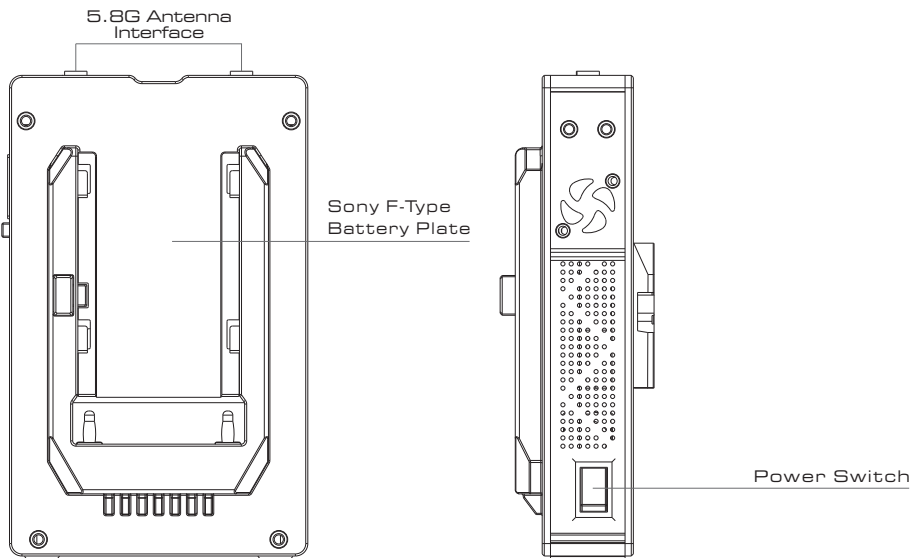
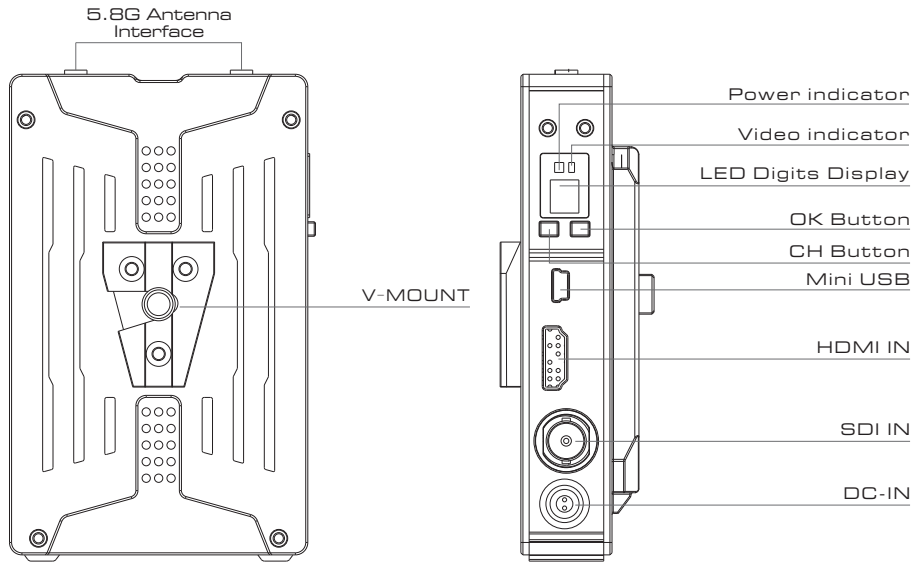
Transmitter Interface

Model : 7051

TX

Transmitter Interface Description

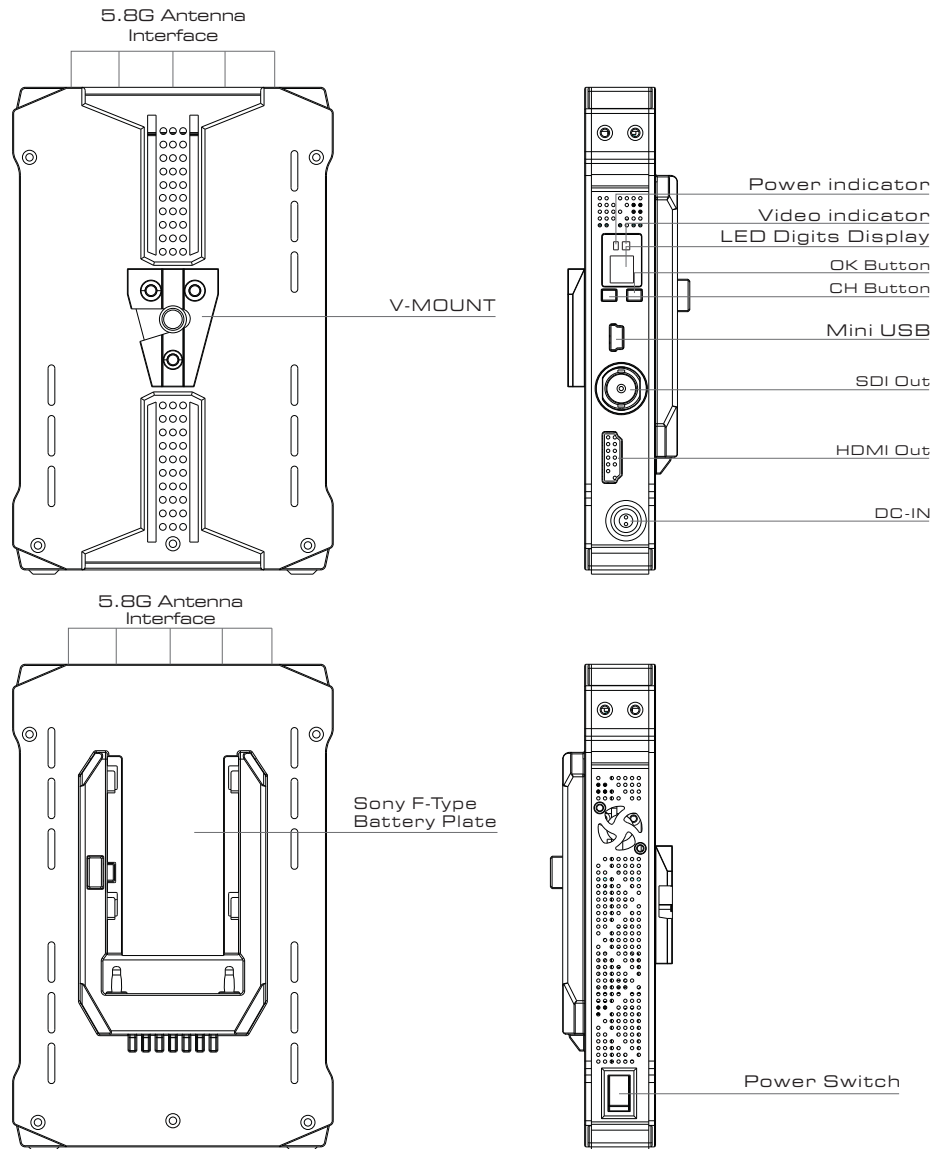
| Item | Specification |
|---------------------------|---|
| LED Digits Display | Display the working channel 1~9, A(10), b(11) |
| OK Button | Confirm the function selection |
| CH Button | Switch the working channel |
| Mini USB | Be used for software upgrading |
| HDMI IN | HDMI IN |
| SDI IN | SDI IN |
| DC-IN | Power input interface (LEMO): support 7V to 36V (Notice: please confirm the polarity before you plugging in the power supply.) |
| 5.8G Antenna Connector | Connect with RP-SMA antenna |
| V-MOUNT | Support installation of V-mount devices |
| Sony F-Type Battery Plate | Be used for installing external Sony F-type battery |
| Power Switch | Power ON/OFF |



Receiver Interface

Model : 3051

RX



Receiver Interface Description

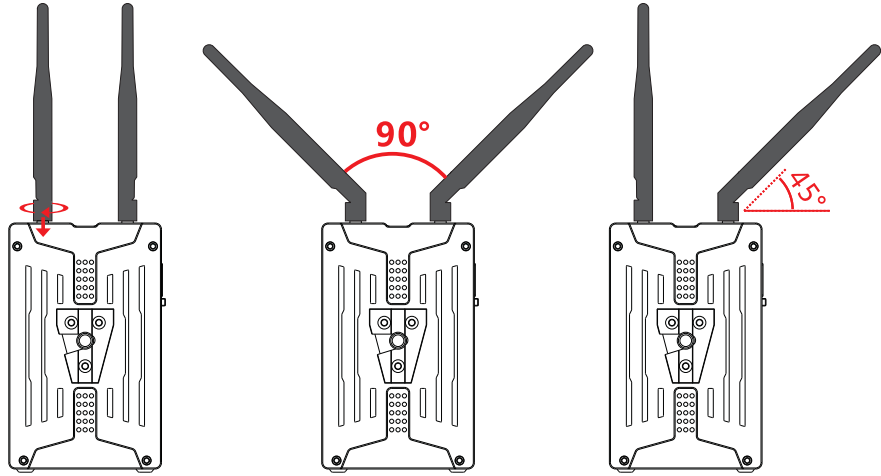
| Item | Specification |
|----------------------------------|--|
| LED Digits Display | Display the working channel 1~9, A(10), b(11) |
| OK Button (Dual-function button) | Confirm the function selection/Switching between normal mode and enhanced anti-interference mode |
| CH Button | Switch the working channel |
| Mini USB | Be used for software upgrading |
| HDMI OUT | HDMI OUT |
| SDI OUT | SDI OUT |
| DC-IN | Power input interface (LEMO): support 7V to 36V (Notice: please confirm the polarity before you plugging in the power supply.) |
| 5.8G Antenna Connector | Connect with RP-SMA antenna |
| V-MOUNT | Support installation of V-mount devices |
| Sony F-Type Battery Plate | Be used for installing external Sony F-type battery |
| Power Switch | Power ON/OFF |

Product Installation

TX

Transmitter Installation Steps:

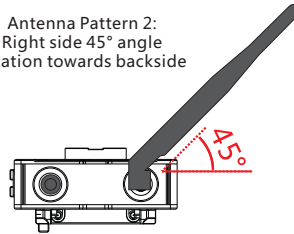
1. Fix the antennas and adjust their angles as shown in the figure below.
(For details, please refer to the transmission distance description.)



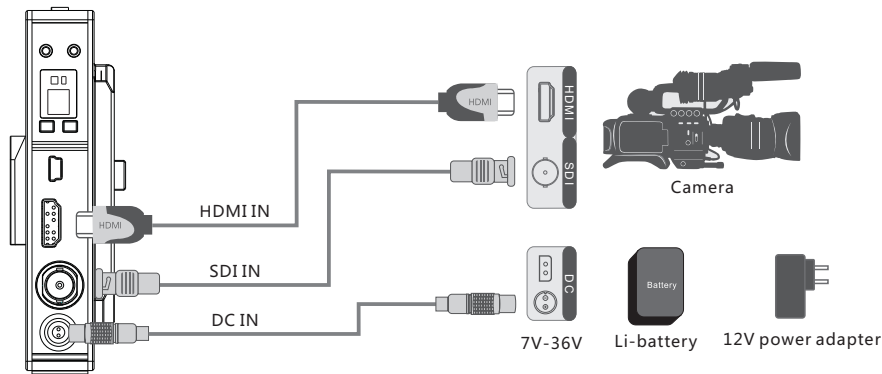
Notice: please rotate the golden mental part of antenna to fasten the antenna.

Antenna Pattern 1: 90° angle in the same plane

Antenna Pattern 2: Right side 45° angle rotation towards backside

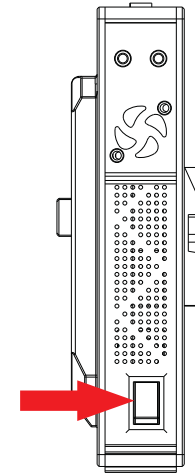


2. Connect Tx with the camera via corresponding power cable and HD video cables as shown in the figure below.

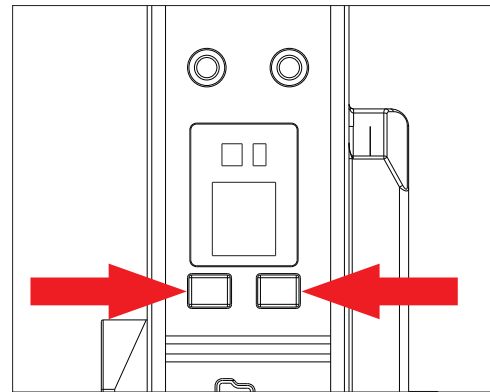


3. Turn on the power switch to start power supplying.

Power Switch: ON turn on
OFF turn off



4. Press "CH" button to select the corresponding working channel of receiver and then press "OK" button for confirmation. The LED digits display will display one of the characters from 1 ~ 9, A and b when the video signal of device is normal. (Tx and Rx use same default working channel)



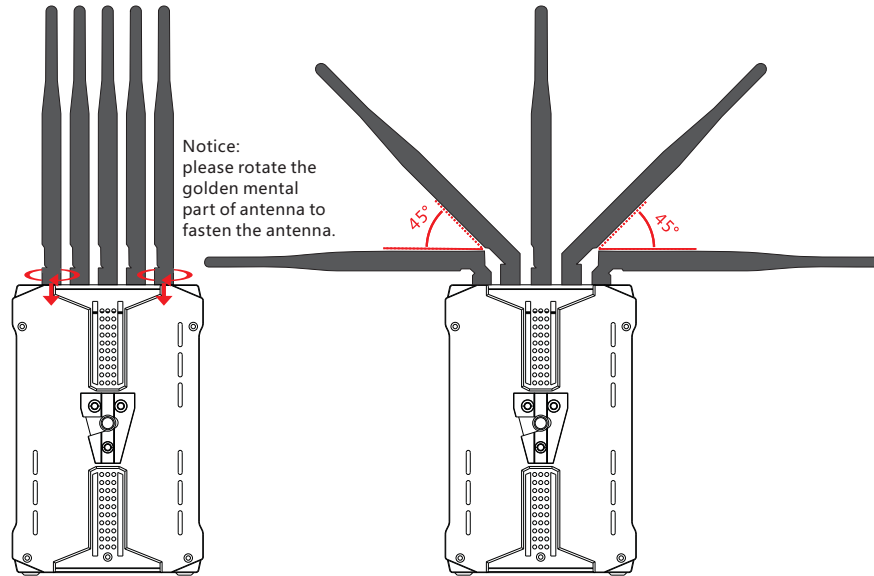
5. The transmitter supports manually switching the SDI audio input mode by long pressing "OK" button. (Notice: This function is only valid for SDI audio input and won't affect the HDMI audio input.) The default value of SDI audio input mode is 0 and the decimal point will be set to be non-bright under this mode; long press "OK" key button for more than 3 seconds, and then the LED digits display will display SDI audio input mode as 1 while the decimal point will be bright.

Audio input mode 0: adopt internal SDI clock signal of TX
Audio input mode 1: adopt SDI clock signal of SDI input signal

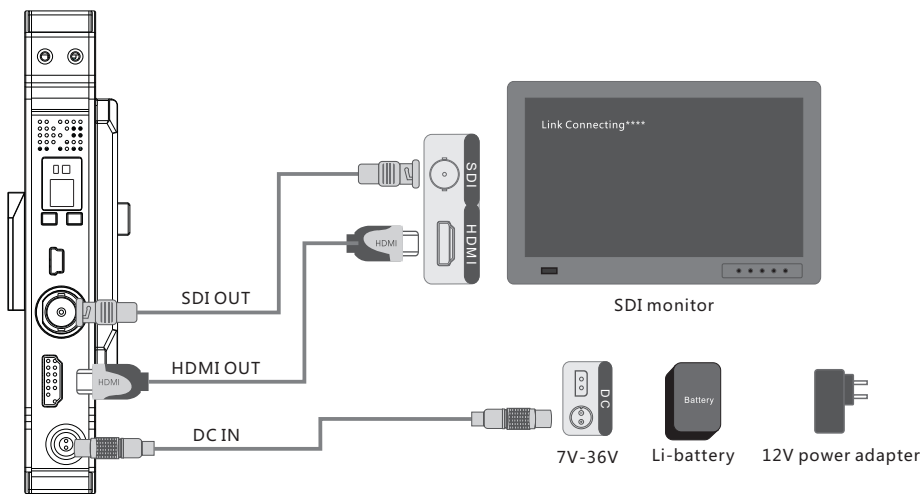
Receiver Installation Steps:

RX

1. Fix the antennas and adjust their angles as shown in the figure below.

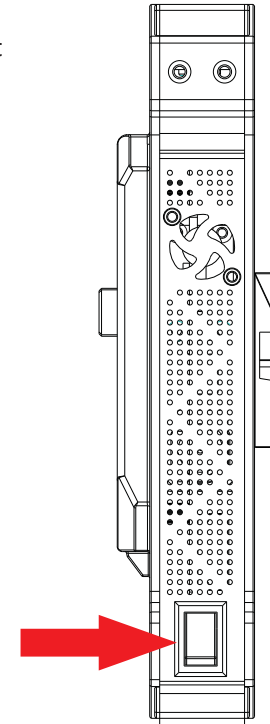


2. Connect RX with the monitor via corresponding power cable and HD video cables as shown in the figure below.

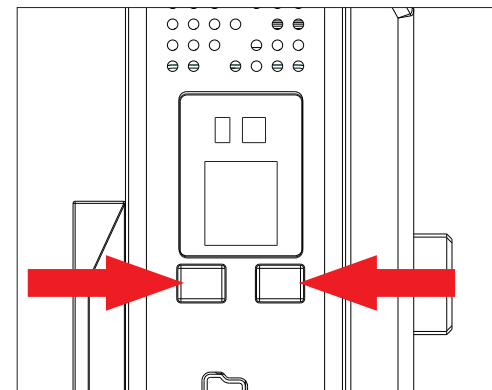


3. Turn on the power switch to start power supplying.

Power Switch: ON turn on
OFF turn off



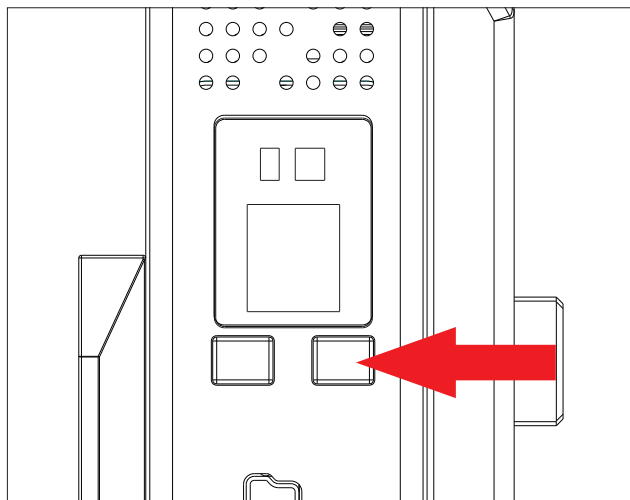
4. Press "CH" button to select the corresponding working channel of receiver and then press "OK" button for confirmation. The LED digits display will display one of the characters from 1 ~ 9, A and b when the video signal of device is normal; the monitor will display the image from camera simultaneously.



5. RX supports switching between normal mode and enhanced anti-interference mode according to transmission distance and interference level

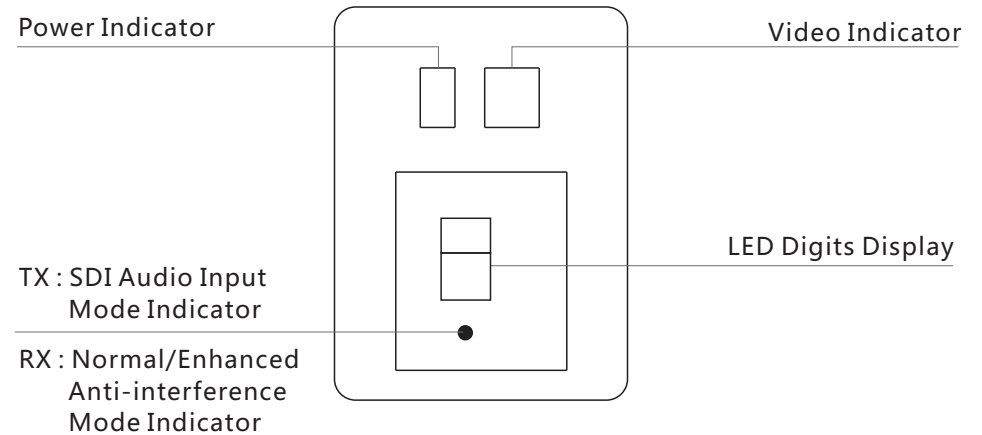
- a) Switch from normal mode to enhanced anti-interference mode: long press "OK" for longer than 3 seconds to enter enhanced anti-interference mode, and decimal point of digital tube (indicator) starts to flash slowly.
- b) Switch from enhanced anti-interference mode to normal mode: long press "OK" for longer than 3 seconds to enter normal mode, and decimal point of the digital tube(indicator) goes out
- c) Normal mode is default setting, supporting memory function, so RX will enter last mode after reboot.

(Normal mode is recommended for long-distance transmission scenario; enhanced anti-interference mode is recommended for short-distance transmission and strong interference scenario)



LED Digits Display description

LED Digits Display Status



Transmitter

LED Digits Display: Channel 1 ~ 9, A(10), b(11)

Video Indicator: Red: HDMI input; Yellow: SDI input

Power Indicator: Illuminate in working mode

SDI Audio Input Mode Indicator:

Decimal point light is off: SDI Audio Input Mode 0

Decimal point light is on: SDI Audio Input Mode 1

Receiver

LED Digits Display: Channel 1 ~ 9, A, b

Video Indicator: HDMI and SDI outputs are enabled together, there are two status of the indicator

- 1: Red and Yellow light together: RX receives the signal from TX normally, and HDMI and SDI outputs are working together
- 2: No light: No output signals via HDMI and SDI ports

Power Indicator: Flash slowly when the network is not connected. Light on normally when the network is connected.

Normal/Enhanced Anti-interference Mode Indicator :

Decimal point light is off : normal mode

Decimal point light flashes slowly: enhanced anti-interference mode

Support Full PSF resolution

Support Full PSF resolution

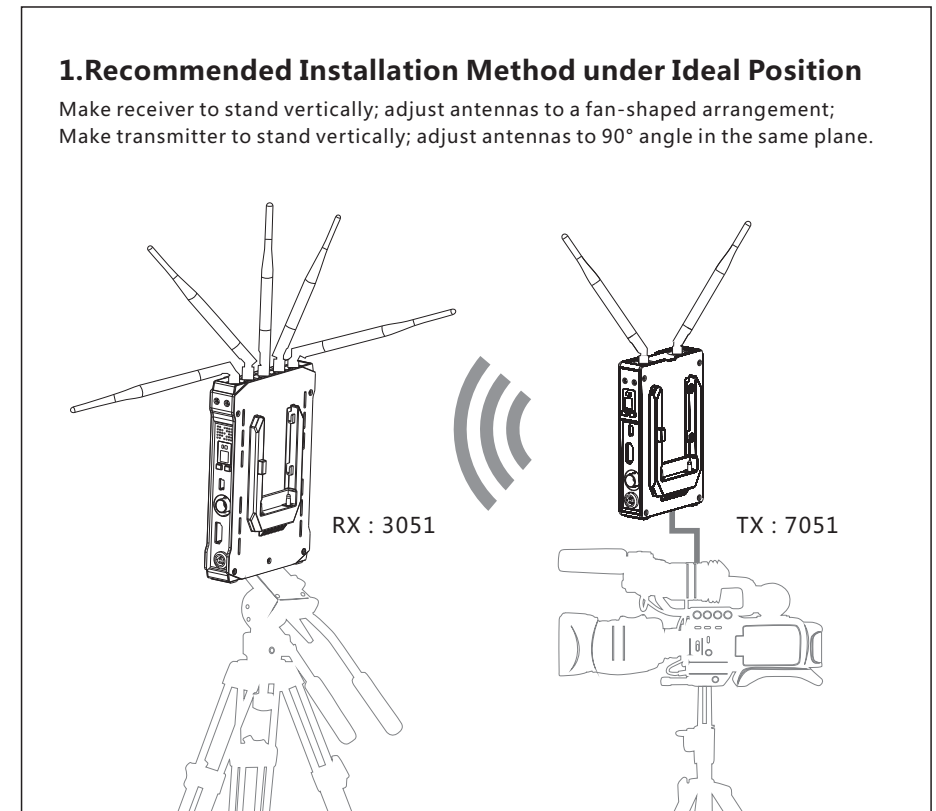
| | |
|------------------------|----------------------|
| 25PSF in = 25 PSF out | 23.98P in=23.98P out |
| 29.97PSF=29.97PSF out | 24P in=24P out |
| 30PSF in = 30PSF out | 25P in=25P out |
| | 29.97P in=29.97P out |
| | 30P in=30P out |
| 50i in = 50i out | |
| 59.94i in = 59.94i out | |
| 60i in = 60i out | |

Application Recommendations

Application Recommendations

In order to reach the best performance of wireless transmission, we recommend to meet the requirements as follows:

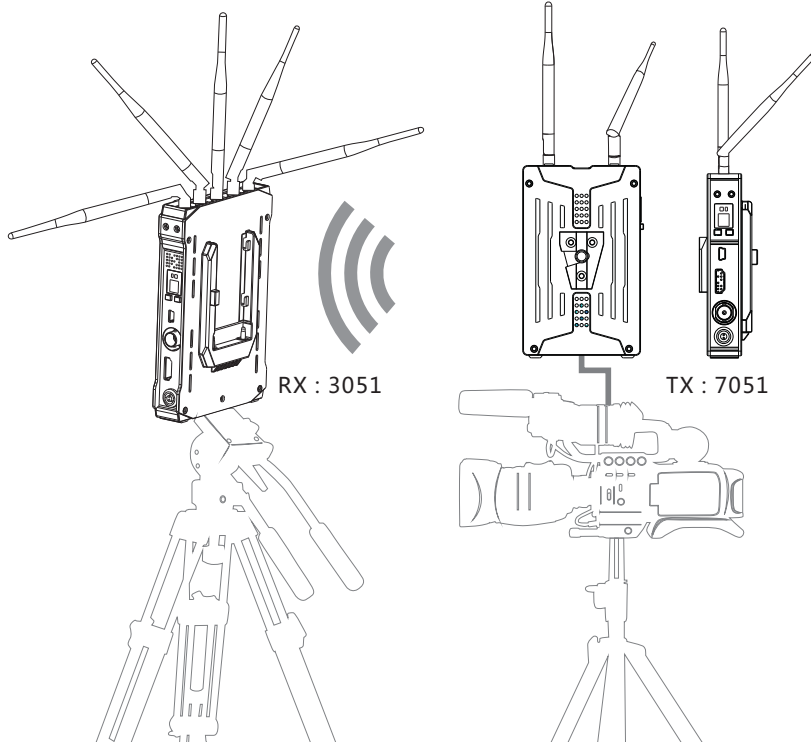
1. The vertical height of TX and RX should be same and more than 1.5m
2. TX and Rx are working under the condition of line of sight distance
3. Plane of TX antennas toward plane of RX antennas face-to-face



2. Recommended Installation Method under Non-ideal Position

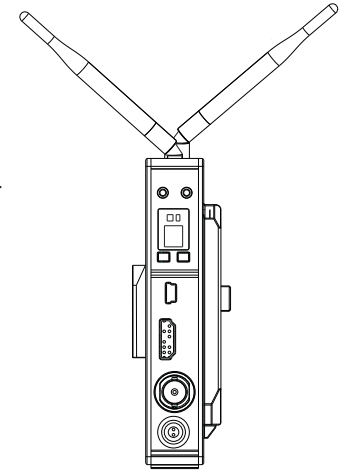
When the front side of the transmitter is not able to face to the receiver,
Please make receiver to stand vertically; adjust antennas to a fan-shaped arrangement;
Make transmitter to stand vertically; adjust the right side of the 2 transmitter
antennas towards backside by 45°.

Antenna Pattern 2:
Right side 45° angle
rotation towards backside



3. Recommended Installation Method under Non-ideal Position

When the front side of the transmitter is not able
to face to the receiver, please try to adjust the
direction of transmitter antennas to make sure
that the formative fan-shaped arrangement
can face to the receiver for best signal transmission.
As shown in the right figure:



- ★ Because TX and RX are working on ISM band, wireless transmission performance is relevant with level of interference intensity. If transmission performance declines, we recommend to switch the wireless channel of TX and RX simultaneously for improvement of transmission performance

Trouble shooting

| Troubles & Possible Reasons: | | Solutions: |
|--|--|--|
| OSD Information on TV | Display "Link Connecting" | |
| | Transmitter is not electrified. | Power on transmitter. |
| | Transmitter or receiver is not placed erectly. | Place the TX or RX onto the base and replace them erectly. |
| | The transmitter and receiver are too far away. | Move the receiver closer to the transmitter. |
| | Several solid wall partition TX and RX. | Reduce the number of solid walls between TX and RX. |
| | There are too many obstacles between TX and RX. | Move the receiver closer to the transmitter. |
| | Haven't matched the code of TX and RX. | Rematch the code of transmitter and receiver. |
| | There is other transmitter which is under working condition near the receiver. | Power off other independent transmitter, place the receiver away from the other sources of interference. |
| | No Video Signal received | |
| | Transmitter and video source are not connected. | Connect the transmitter to video source by SDI/HDMI cable. |
| | The video source is turned OFF. | Power ON the video source. |
| | Video source were NOT switched to SDI/HDMI output. | Switch the Video source to SDI/HDMI output. |
| | Bad contact of cable of transmitter | Remove and then re-plug the cable of transmitter |
| | Abnormal working of transmitter | Reboot the transmitter. |
| | Problem with cable between TX and video source | Change the SDI/HDMI cable. |
| Player NOT support the output resolution format. | Switch the output video resolution to other modes. | |
| The TV/Monitor NOT support HDCP authentication. | Replaced with HDCP-certified TV/Monitor. | |
| Image | No signal input to Receiver or TV/Monitor | |
| | Receiver is turned OFF. | Power on receiver. |
| | Receiver and TV are not connected. | Connect receiver to TV/Monitor via SDI/HDMI cable. |
| | TV/Monitor NOT switched to SDI/HDMI input. | Switch TV/Monitor to SDI/HDMI input. |
| | Bad contact of the cable of receiver or TV/monitor | Remove then re-plug the SDI/HDMI cable. |
| | TV/Monitor turn into standby mode | Switch the TV/Monitor to normal operation mode. |
| | Abnormal working of receiver. | Reboot the receiver. |
| | No image appear on TV/Monitor | |
| | Bad contact of receiver or cable. | Re-plug the cable of the receiver or TV/Monitor |
| | Abnormal working of receiver | Reboot the receiver |
| Receiver failure | Please contact your retailer | |

| Troubles & Possible Reasons: | | Solutions: |
|------------------------------|--|--|
| Image | Abnormal color on TV screen | |
| | Bad contact of cable of receiver or TV/moniter. | Unplug and then plug the HDMI cable of the receiver or TV. |
| | Bad contact of cable of transmitter or video source. | Unplug and then plug the HDMI cable of the TX and player. |
| | Abnormal working of transmitter or receiver | Reboot the transmitter and receiver. |
| Audio | Image displayed, No audio | |
| | Video source mute | Turn on the audio of video source |
| | Volume too low | Turn up the audio of video source |
| | Audio format not supported | Switch the format of video source output |
| | Something wrong with transmitter/ receiver | Restart the transmission kit |

*For more questions, please contact the distributor or us.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:-Reorient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help. To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Cautions!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment.