Airpul

Professional Wireless HD

Airpul LLC

Phone:1.603.766.1940 Fax:1.603.766.0401

Add: 8 Millstream Drive, Exeter, NH 03833

E-mail:sales@airpul.com

Web:www.airpul.com

Airpul

Professional Wireless HD

Precautions for Use

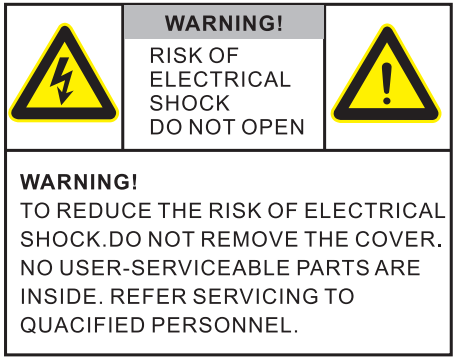
Before using this product, it is important that you read this user manual to get important information and instructions regarding the transmitter and receiver.

Thank you for purchasing this quality product. Any defects in components or faulty workmanship occurring within one year will be rectified or repaired free of charge, but this warranty does not apply to the following cases:

Abuse, improper use: negligence, accident, modification, failure of the end-user to follow the operating procedures outlined in the user's manual, attempted repair by non-qualified personnel; operation of the Product outside of the published environmental and electrical parameters, or if such Product's original identification (trademark, serial number) markings have been defaced, altered, or removed.

Safety Warning

Safety Precautions



Danger: Electricity Hazard

- Power must be switched off when not in use, and power to all connected devices should be disconnected.
- Power outlet: to prevent electrical shock, please check that the AC power cord used on the receiver and transmitter corresponded to the power outlet.
- AC Power Cord: stepping on or placing heavy items on the power cord is prohibited.
- Power overloading: do not overload the power outlets, otherwise electric shock or fire could happen. If the power is overly loaded, please extend the power cord.
- Lightning stroke: disconnect the power adaptor when the product is not used for a long period of time, or during a lightning storm.
- Switch off the power when product is not in use to prevent electric shock or fire.

WARNING

- Keep the product away from objects with liquids.Splashing or dripping on this product is strictly prohibited.
- Operate the product in a well-ventilated space.
- Do not expose the product to rain or moisture.

Declaration of Conformity

This product complies with Part 15E of FCC Rules.

Part 15: Subpart E---Unlicensed National Information Infrastructure Devices.

This device complies with relative criteria of CE Certification.

EN 60950-1:2006

Information Technology
Equipment --- Safety---
Part 1: General Requirements

EN 300440-01 (V1. 6. 1)

Electromagnetic Compatibility and Radio Spectrum Matters (ERM)
Short Range Devices.
Radio equipment to be used in the 1GHz TO 40 GHz frequency range.
Part 1: Technical Characteristics and Test Methods

EN 301489-03 (V1. 4. 1)

Electromagnetic Compatibility and Radio Spectrum Matters (ERM)
Part 3: Specific conditions for Short-Range Device(SRD)
Operating on frequency between 9 kHz and 40 GHz

EN 301489-17 (V2. 1. 1)

Electromagnetic Compatibility (EMC)
Standard for Radio Equipment and Services;
Part 17: Specific conditions for Broadband Data Transmission Systems

EN 301893 (V1. 5. 1)

Broadband Radio Access Network (BRAN)
5 GHz high performance RLAN
Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

Special Notes

Do not use this product near aircraft or medical facilities to prevent interference. Please handle this device carefully, otherwise radio frequencies may cause abnormal video and audio (noise blocked image...etc,)

Keep it away from refrigerator, washing machine or other metal furniture.

Do not place it in a dusty, humid environment, and also do not place it where the temperature is beyong the stated operational temperature range.

It is better to use our standard power adapter to avoid possible damage to the product.Do not cover it or place other heavy objects on top of the unit that may block the thermo vent. Good air circulation around the product is needed.

To save electricity consumption, turn off the power switch or unplug the power adapter from the power outlet when the units are not in use.

If the product does not work properly, please restart it; If it still does not work properly, turn off the power, and send it to professional technical personnel for repair or disposal. Please do not open and repair it by yourself.

- This product has been manufactured and tested to comply with each country's safety regulations. However, it doesn't guarantee that interference would never happen in some specific environment. If interference does occur, please shorten the distance between the transmitter and receiver.

- This product may experience interference from other wireless devices operating within the 5GHz frequency range, such as a LAN router or wireless telephone. If you have an 802.11n LAN router, configure it for use in the 2.4GHz range rather than 5GHz.

Cleaning

Unplug the power adaptor before performing any cleaning. To clean the device, wipe with a soft and dry cloth or with a cloth moistened with alcohol.

To avoid the risk of electrical shock, do not dismount the device when connected to a power outlet.

Maintenance should be conducted only by an authorized technician.

Dripping or splashing of liquids onto the device is strictly prohibited.

Keep the device away from fire or any source of heat.

Don't let kids play with this device.

Product Overview

Product specifications

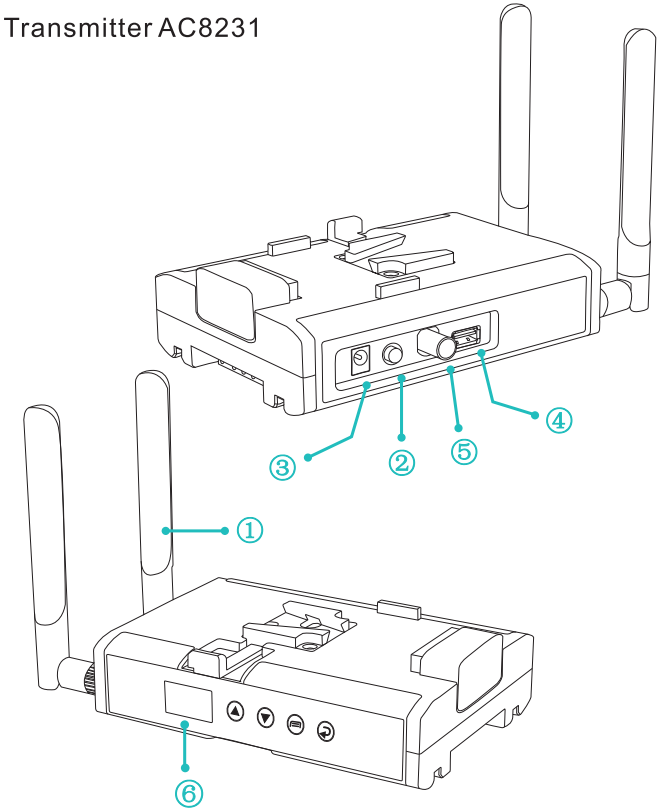
The AC8231 transmitter can be connected with the devices with SDI interfaces. The audio & video data is transmitted to the receiver by the AC8231 transmitter, which then shows the A/V data content on the display screen. The AC8231 transmitter can be mounted to the camera using the V-Mount attachment, and powered by the V-Mount battery of the camera.

Product Features

- Supports HDCP 2.0 Encryption Techniques
- HD video transmissions with virtually no delay (Less than 1ms)
- SD/HD/3G SDI auto-detecting signal input, fully compatible with today's professional cameras. 2*SDI and 1*HDMI output in the receiver, maximally support 1080P HD video, fully plug-and-play compatible with various display devices.
- Operates in the 5.15~5.25GHz and 5.725-5.825GHz range. User adjustable frequency.
- Includes a V-Mount battery interface, can be quickly attached to the camera
- Power supplied by V-Mount camera battery, or DC power adapter.
- This product works only indoor

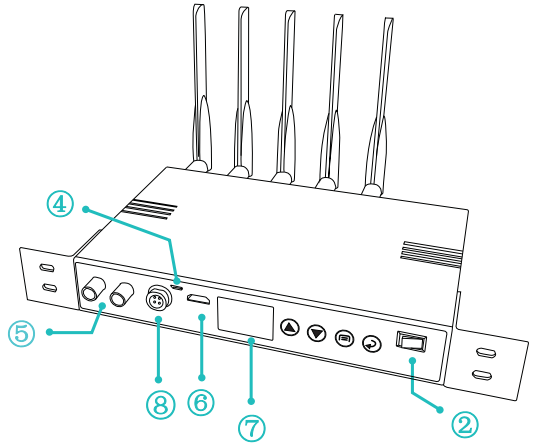
Hardware Introduction

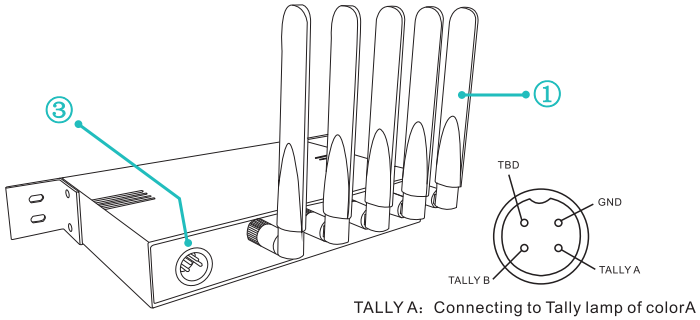
Transmitter AC8231



NO.	Name	Illustration
①	Transmitter Antenna	Transmitter Antenna
②	Power Switch	Power Switch
③	Power Port	Connection for power adapter
④	USB Port	Firmware upgrade
⑤	SDI interface	SDI interface
⑥	Display Screen	Shows current working status and setup options

Receiver**AC8262**



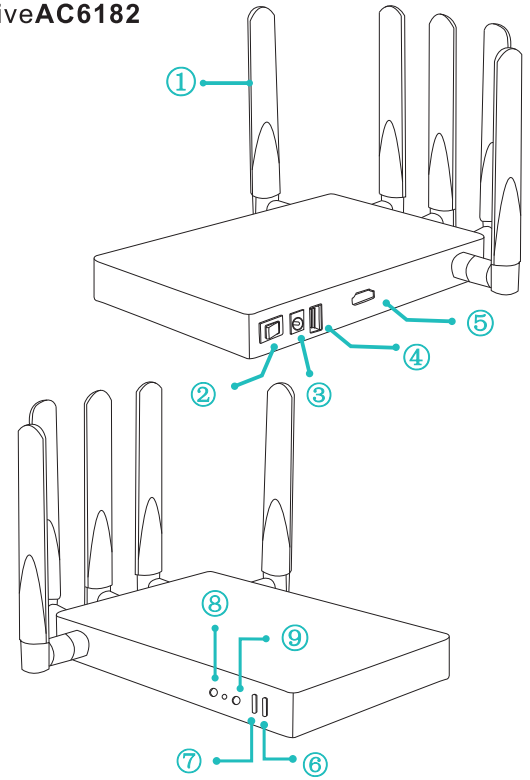


TALLY A: Connecting to Tally lamp of colorA

TALLY B: Connecting to Tally lamp of colorB

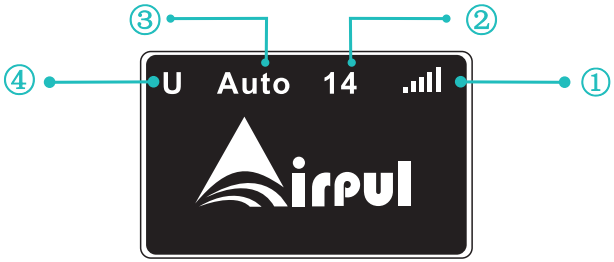
NO.	Name	Illustration
①	Receiver Antenna	Receiver Antennas
②	Power Switch	On/off button
③	Power Port	For connection to included power adaptor
④	USB Port	For firmware upgrades
⑤	SDI BNC Connector	Outputs SDI A/V signal
⑥	HDMI Port	Outputs HDMI A/V signals
⑦	Display Screen	Shows current status and setup options
⑧	TALLY	Connect to TALLY connector of Video Switcher

Receive**AC6182**

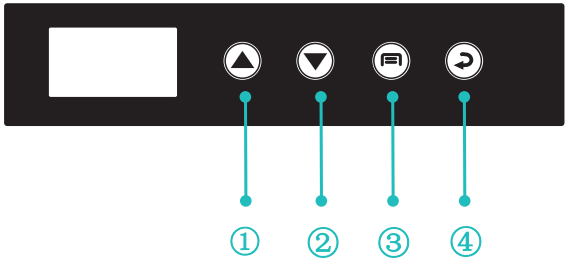


NO.	Name	Illustration
①	Receiver Antenna	Receiver Antennas
②	Power Switch	On/off button
③	Power Port	For connection to included power adaptor
④	USB Port	For firmware upgrades
⑤	HDMI Port	Outputs HDMI A/V signals
⑥	Operating Frequency Selection Button	Operating frequency selection button
⑦	Pair Button	Used to pair Transmitter with Receiver
⑧	System Indicator Lamp	System Indicator Lamp
⑨	Power Indicator Light	Power indicator light

Keypad& OLED Display Introduction



NO.	Name	Description
①	Signal Intensity	Shows the signal intensity of the receiver. When the connection between the transmitter and receiver fails, this turns into this image
②	Output capacity	Shows the output capacity of transmitter, unit = dBm
③	Operating frequency	Operating frequency
④	Connecting mode	Connecting mode



NO.	Name	Description
①	Up Key	Control function menu of display screen
②	Down Key	Control function menu of display screen
③	"⏎"Key	Enter function menu and confirmation
④	Return Key	Controls display screen function menu, return to previous interface, or cancel modification.

Indicator Light Introduction

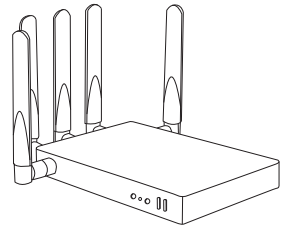
AC 6182 Indicator Lights

Power Indicator Light

- Power off
- Power on

System Status Light

- No connection to transmitter
- Good Connection

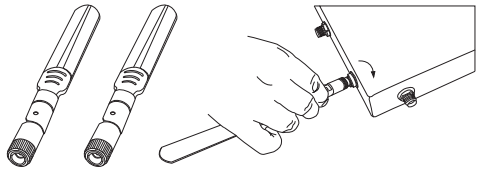


Product Specification

	Transmitter	Receiver	Receiver
Model	AC8231	AC8262	AC6182
Dimension	6.69*4.25*1.97 in	8.27*5.51*1.18 in	6.81*4.96*0.90 in
Working Environment	Indoor/Outdoor		
Working Temperature	14°F - 122°F		
Relative Humidity	10%-85%		
Working Frequency	5.15~5.25GHz and 5.725~5.825GHz		
Frequency Selection	Select Frequency as per instructions		
Antennas	External Antenna x 2; can be positioned at 90 degrees	External Antenna x 5; can be positioned at 90 degrees	External Antenna x 5; can be positioned at 90 degrees
Power Supply	DC12V, 2.5A or V-Mount Battery (11V-22V)	DC12V2.5A	DC12V2.5A
Display Screen	White Light PMOLED, 0.96 Inch, 128*64 Pixel	White Light PMOLED, 0.96 Inch, 128*64 Pixel	NO
Indicator Light	NO	NO	Power Indicator Light; System Status Light
Supported Video Resolutions	1080p/60Hz、1080p/50Hz、1080p/30Hz、1080p/25Hz、1080p/24Hz、1080i/60Hz、1080i/50Hz、720p/60Hz、720p/50Hz、576p/60Hz、576p/50Hz、576i/50Hz、480p/60Hz、480p/50Hz、480i/60Hz		
Supported Audio Formats	5.1 DTS, 5.1 Dolby、5.1 PCM 7.1 DTS, 7.1 Dolby、7.1 PCM 16/20/24bit, 48KHz Sampling rate audio formats		

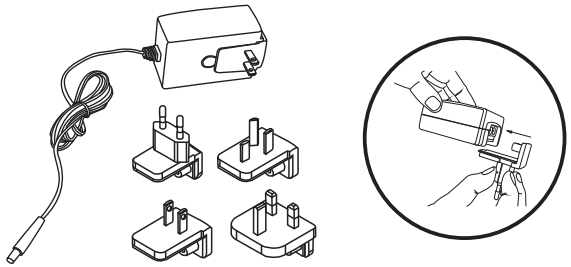
Mounting of Antennas

When used for the first time, install the antennas onto the product as per below instructions.



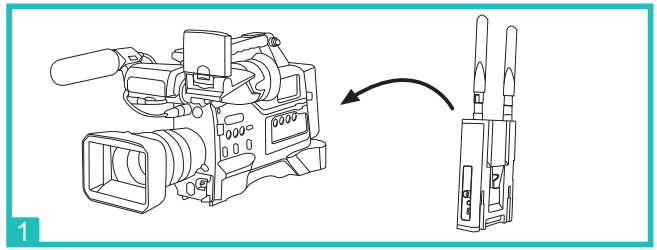
Power Adaptor

An interchangeable head power adaptor is included, so that you can use this unit with the American, European, UK and Australian Standard power outlets.

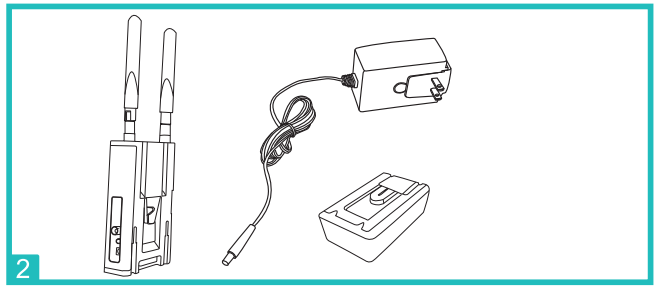


AC8231 Transmitter Installation

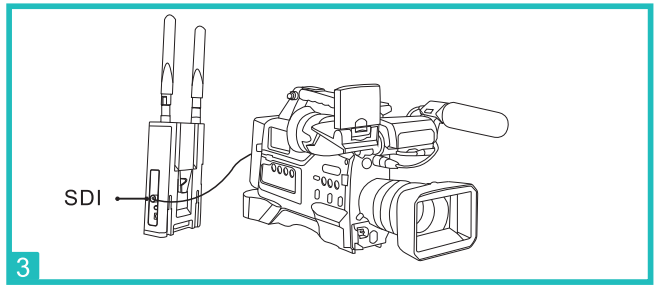
nstall Transmitter onto the camera's V-mount



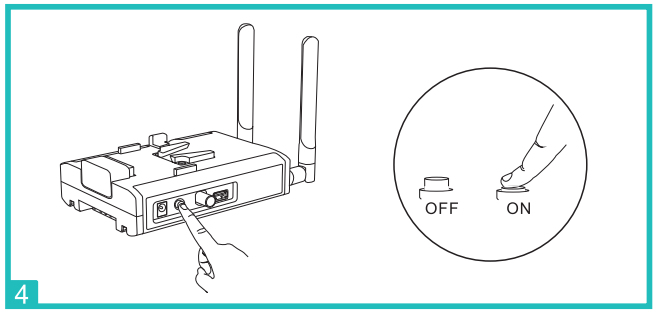
Install V-Mount battery of camera into battery mount of transmitter or use the external power adaptor instead of the battery



Connect Transmitter to the camera using an SDI cable

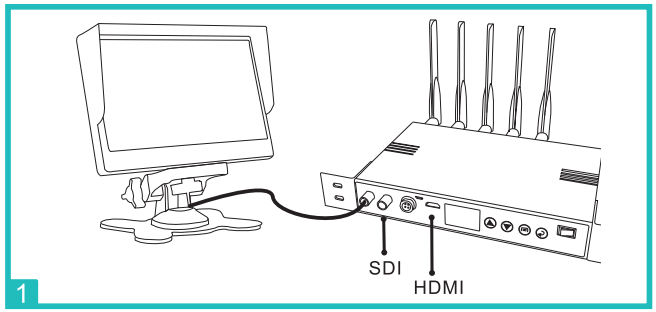


Switch on the Power

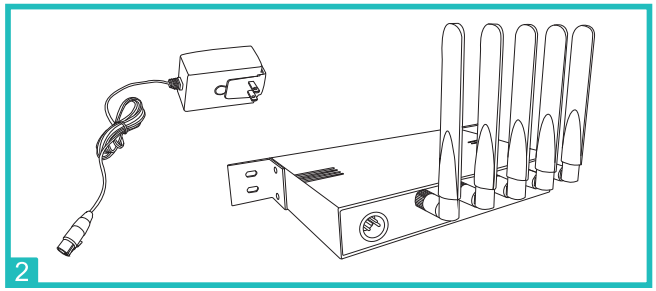


AC8262 Receiver Installation

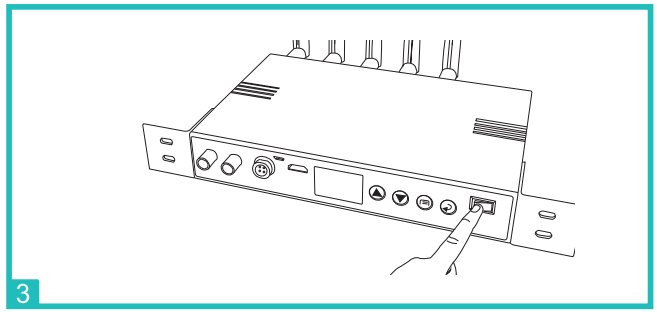
Connect the receiver to the monitor using an HDMI or SDI cable



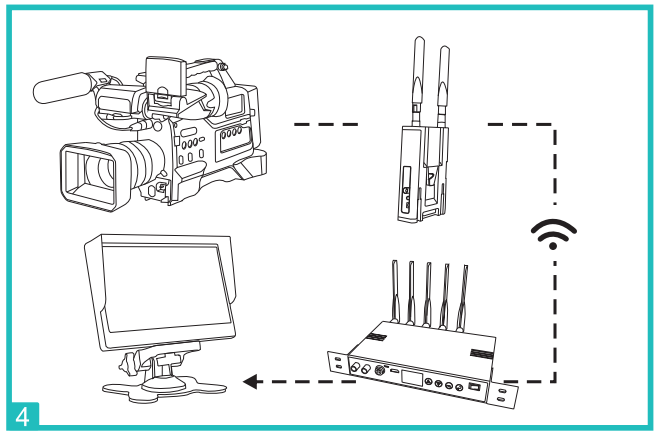
Connect Power Adaptor



Switch on the Power

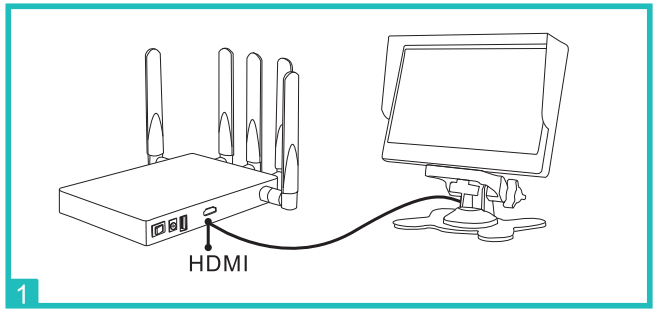


Make sure the camera and monitor are turned on, the system will then connect automatically

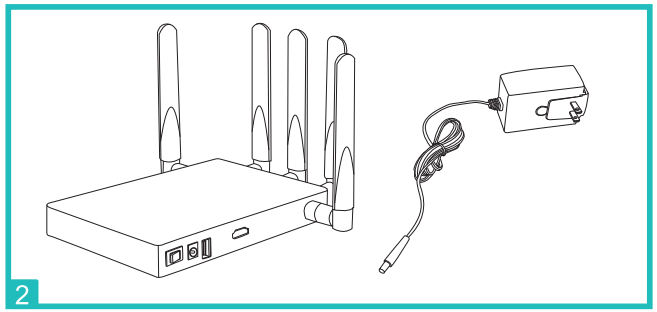


AC6182 Receiver Installation

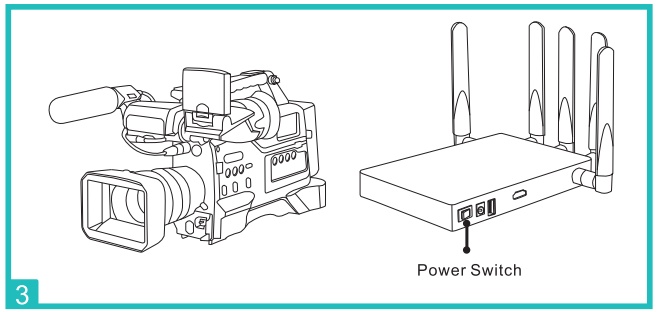
Connect the Receiver to the monitor using an HDMI Cable



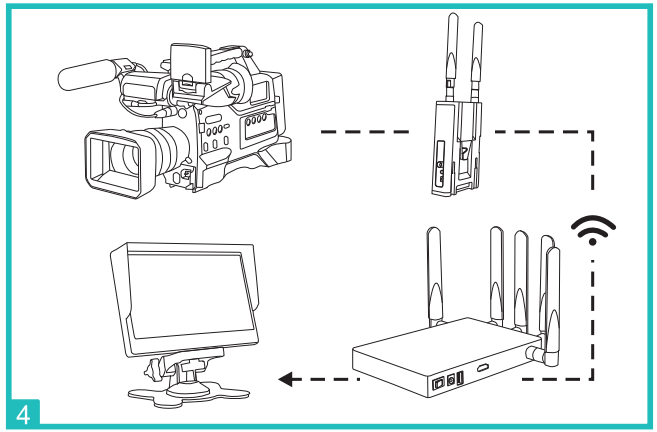
Connect Power Adaptor



Turn on the camera and monitor's power.



Make sure the camera and monitor are turned on, the system will then connect automatically

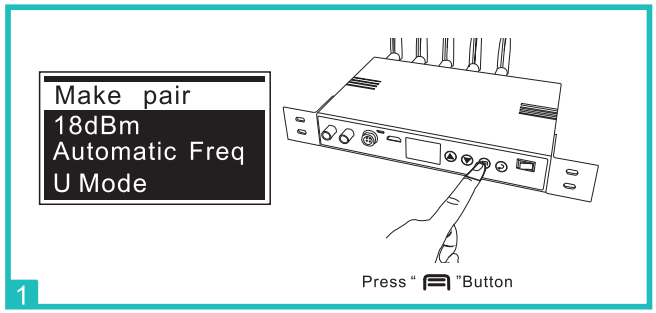


Make Pair Instruction

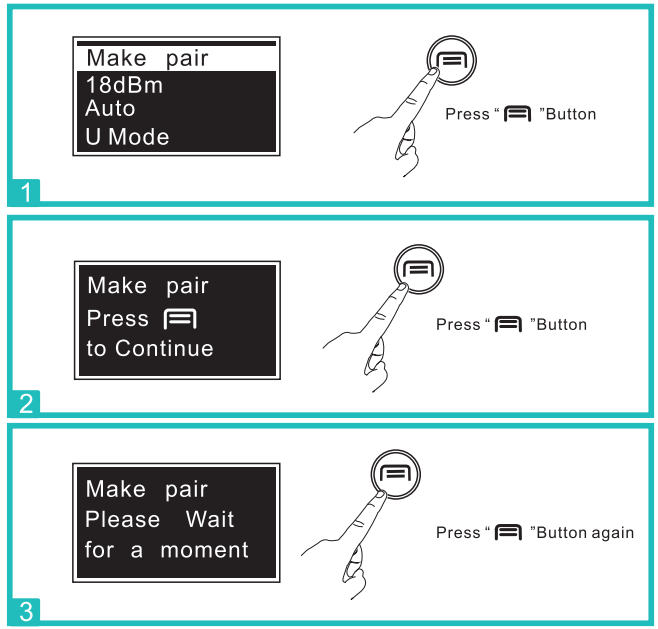
The products are paired (TX to RX) at the factory. If the connection fails during usage, please try to pair the transmitter with the receiver again as per the instructions below.

Pairing the TX AC8231 with the RX AC8262

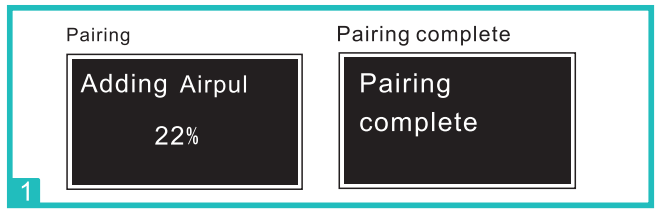
Step 1: Please press the "⊟"button of the AC8262 receiver, and select "Make a pair" using the up / down buttons. Pressthe "⊟" button two times.



Step 2: Press the "⊟" button on the transmitter, select "Make a pair" , and press the same button again two times. The transmitter and receiver will begin to pair.



Step 3:The OLED display screen of the receiver will show the message below. After a few moments, the message "Pairing complete" will appear, completing the pairing process.

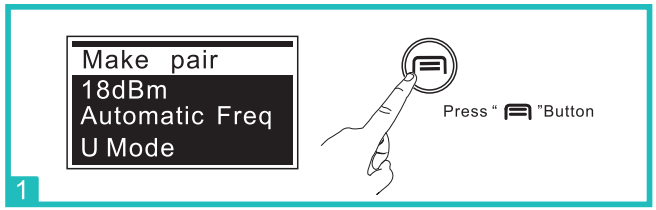


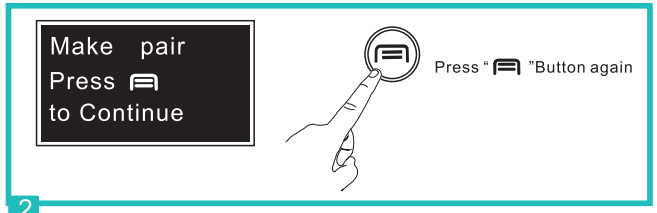
Pairing the TX 8231 with the RX AC6182

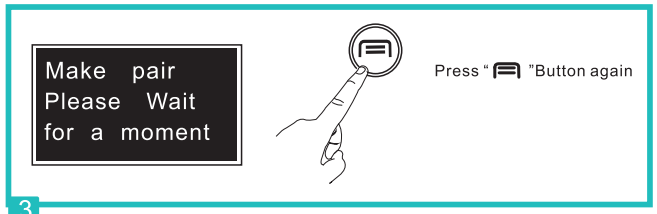
Step 1:Press the pair button of the receiver.
The message shown below will be displayed on the screen (TV or monitor screen)

Step 2:Press the " pair" button again. The system will instruct you to press the "⏏" key of the transmitter to continue.

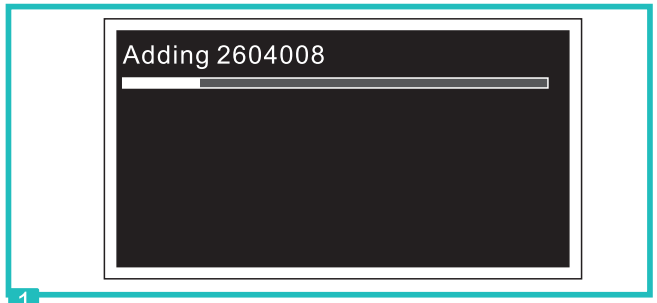
Step 3:Press the "⏏" key on the transmitter, select "Make a pair" Press the "⏏"key two times to start pairing.







Step 3:The message below will be shown on the monitor screen. After a moment, the video and audio from the transmitter will be shown on the monitor, completing the pairing process.



Choosing the connecting mode

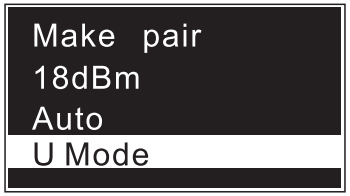
This product supports two connecting modes: U Mode and B Mode. This only applies in the combination of the AC8231 transmitter and the AC8262 receiver; please make sure the mode selected on the transmitter and receiver is the same.

U Mode: In this mode, one transmitter can only be paired with one receiver, and can transmit a TALLY signal to the transmitter through the TALLY port.

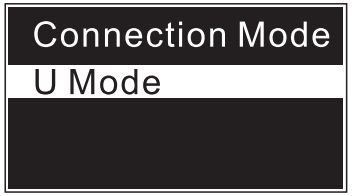
B Mode: One transmitter can be connected to several receivers. In this mode, users can not use the TALLY function.

How to select the connection mode of the AC8231 transmitter

Step 1:Press the "▭" button to enter the connection mode adjustment interface.



Step 2: Press the down "▲" and "▼", switching between U Mode and B Mode.

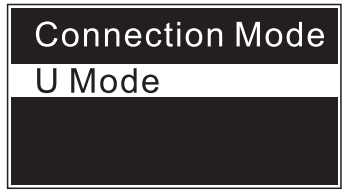


Step 3:Press the "▭" button for confirmation,or press the "↩" button to cancel adjustment. After returning to the home page, the current connection mode is displayed.

How to select the connection mode of the AC8262 receiver

Step 1:Press the "▭" button to enter the connection mode adjustment menu.

Step 2:Press the "▲" and "▼", switching between U Mode and B Mode



Step 3: Press the “ ” button for confirmation, or press the “ ” button to cancel the adjustment. After returning to the main menu, the e the current connection mode is displayed .

Selecting the operating frequency

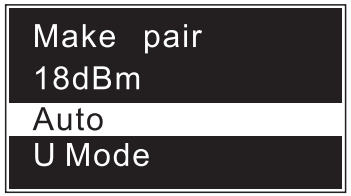
In the default situation, the device will automatically choose a frequency with good signal performance to operate. In some special circumstances, if the user needs to choose a particular operational frequency, the steps below can be used.

After frequency selection, if the system does not work normally, please restore the unit to the factory settings and it will return to the auto frequency select status.

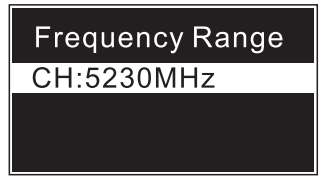
Note: The frequency selected on the transmitter should be the same as that of the paired receiver or the system will not work properly.

Selecting the operational frequency of the AC8231 transmitter

Step 1: Press the “ ” key to enter the operational frequency adjustment screen



Step 2: Press the “ ” button and the “ ” button, the screen will switch between the operational frequency and automatic frequency.

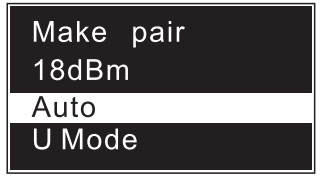


Step 3:After choosing the required frequency, wait for a moment, the system will store the selected frequency. Now, the home screen page will show the current operational frequency.Press the “ ” button to complete the frequency selection.

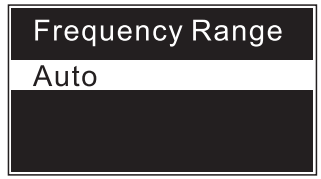
Selecting the operational frequency of the AC8262 receiver

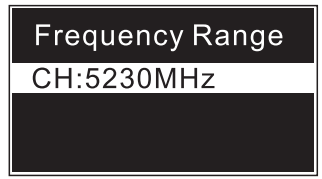
When you choose the AC8262 as the receiver, please operate it as below:Ensure the receiver is well connected with the display screen

Step 1: Press the “ ” key on the receiver to enter into the operational frequency adjustment screen .



Step 2: Press the “ ” button and the “ ” button, the screen will switch between operational frequency and automatic frequency.



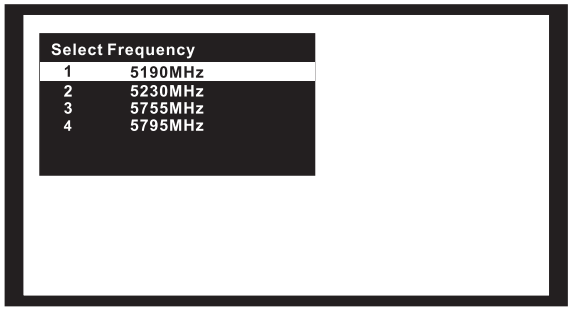


Step 3:After choosing the required frequency, wait for a moment, the system will store the selected frequency. Now, the home screen page will show the current operational frequency.Press the “ ” button to complete the frequency selection.

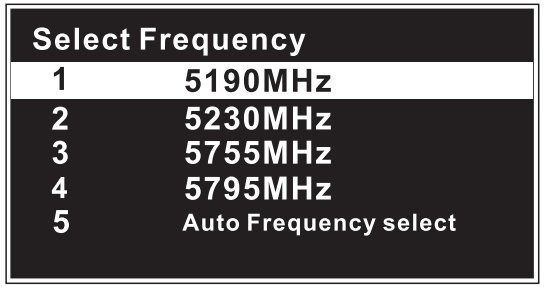
Selecting the operational frequency of the AC6182 receiver

When you choose the Ac6182 as the receiver, please operate it as below:Ensure the receiver is well connected with the display screen.

Step 1: Press the operational frequency adjusting key of the receiver and the message below will be shown in the display screen.



Step 2: Press the frequency adjusting button again to choose the desired frequency range. After 3 seconds, the system will save the selected frequency automatically.

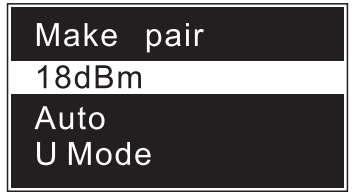


Adjusting output power

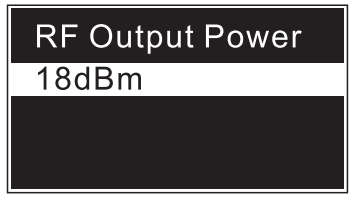
In the default condition, the device is automatically set to the maximum output power. When the user needs to decrease the output power, operate as per the below instructions.

If the output power is too low to work normally after adjustment, the user can increase the power accordingly .

Step 1: Press the “ ” button of the transmitter, and enter the power adjustment screen



Step 2: Press the “ ” button and the “ ” button to adjust output power.

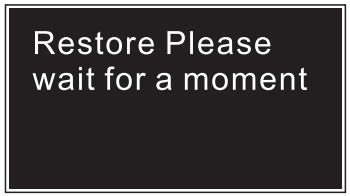


Step 3: After choosing the required power level, after a moment the system will save the selection . The main menu will the display the current power level.

Restoring factory settings

If the frequency and power level have been selected improperly causing the system to operate unreliably or not at all, factory settings can be restored as per the below instruction.

Press the "⏎" button for about 3 seconds. When the message below appears on the screen, factory setting are restored after a few moments.



Troubleshooting

If the frequency and power level have been selected improperly causing the system to operate unreliably or not at all, factory settings can be restored as per the below instruction.

Q1: OLED light off (AC8231)

A1:
- Check if that the battery of the AC8231 is not exhausted.
- Ensure the power adaptor works normally, and it is correctly plugged in.
- Please check if the power adaptor is turned on.

Q2: OLED light off (AC8262)

A2:
- Ensure the power adaptor works normally, and it is correctly plugged in.
- Please check if the power adaptor is turned on.

Q3: Power indicator light off (AC6182)

A3:
- Ensure the power adaptor works normally, and it is correctly plugged in.
- Please check if the power adaptor is turned on.

Q4: Connection failure

A4:
- Please check if the transmitter and receiver are powered on, which means the LCD screen of the AC8231/AC8262, or the power indicator light of AC6182, is illuminated.
- Please check that the external antennas are mounted correctly.
- Check if there are any obstacles between the transmitter and receiver. If there are, please move the units to an open area and reconnect them.
- If the receiver is AC8262,Check that the connection mode of the transmitter and the receiver are the same.
- If the receiver is AC6182, please check if the connection mode of the transmitter is in U Mode.

- Check if the transmitter and receiver have the same operational frequency. If not , set them to be the same, or set them to the auto-frequency mode, or just reset to factory setting.
- Check if the output power is too low. If so, increase the output power.
- Check if the distance between the transmitter and receiver is too far away, if it is, shorten the distance between the transmitter and the receiver.

Q5: The display device that is connected with the receiver has no video or audio.

A5:
- Verify external antennas are correctly mounted.
- Verify there is a signal indication on the LCD screen of the transmitter and receiver. If there is no signal indication ( on the screen), the transmitter is not properly connected to the receiver. Shorten the distance between units, and there is still no signal indication, restart the transmitter and receiver.
- Check for obstacles between the transmitter and the receiver If obstacles are present, move the units to an open area and re-connect them.
- If properly connected, but there is no video and audio present, check if the wires and connections of the transmitter and the receiver are correct.
- If connected properly, and the wires are of good quality, please check that the video origin (i.e camera) outputs video/audio normally.

Q6: Bad Picture (Video)

A6:
- Check that the video origin (i.e camera) outputs video/audio normally.
- Check that the external antennas are correctly mounted .
- Check that the wires and connections of the transmitter and the receiver are properly connected to their respective
- Check if the signal strength of the transmitter and receiver is too weak If it is, shorten the distance between units or increase the output power.
- Check if there are any obstacles between the transmitter and the receiver. If there are , move the unit to an open area and re-connect it.
- If there is signal interference present, this problem will also occur. Turn off the interfering device, or move it to another location.or use it in another time.

Q7: Pairing failure

A7:
- Ensure the external antennas are correctly mounted.
- Check for obstacles between the transmitter and the receiver, and if present , move the unit to an open area and re-connect them.
- Check that the connection mode of the transmitter and the receiver is in U Mode.
- Check that the transmitter and receiver have the same operational frequency. If not , adjust them to be the same or set it to the auto-frequency mode, or reset to the factory setting.
- Check if the output power of the transmitter is too low, if necessary, increase the output power,
- Check if the distance between the transmitter and receiver is too far away, if it is, please shorten the distance or restore factory settings.

FCC ID Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference
- this device must accept any interference received, including interference that may cause undesired operation.

The user manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

For a Class B digital device or peripheral, the instructions furnished to the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

For a Class B digital device or peripheral, the instructions furnished to the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

FCC Caution: Any changes or modifications not expressly approved by the party Responsible for compliance could void the user’s authority to operate this equipment.

RF exposure warning

This equipment must be installed and operated in accordance with provide instructions and the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operation in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating

Conditions for satisfying RF exposure compliance.

NOTE: 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 antennas.
- Increase the separation distance 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.