GHOST EYE™

600M WIRELESS HDMI/SDI VIDEO TRANSMISSION SYSTEM

MANUAL BOOK

Contents

Cautions

⚠ Warning

Please read this user introduction manual to become familiar with the features of the Ghost-Eye series products before operation. Failure to operate the product correctly can result in damage to the product, or interference with other devices. This is a sophisticated product which must be operated with caution and common sense. Failure to operate this product properly might result in disturbing other film equipment on set. This product is not intended for use bychildren without direct adult supervision. Do not use with incompatible components, or alter this product in any way outside of the documents provided by Ghost-Eye. These safety guidelines contain instructions for installation, operation, and maintenance. It is essential to read and follow all of the instruction in the manual, and all the notices and warnings regarding Ghost-Eye series products prior to assembly, setup, or use to prevent any damage or interference.

1. Do not use this product in extreme heat, cold, dusty, or humid environments.

2. Prevent friction against hard objects.

3. Prevent jarring, such as from falling from high places, or from improper packaging during transportation.

4. These products are not waterproof; prevent moisture from getting in, on, or around the unit(s).

5. Do not dismantle, assemble, or otherwise alter the product(s) arbitrarily.

⚠ Electrical Considerations

1. When this device is sharing a power supply or battery with other equipment, please make sure all signal and power cables are well connected before turning on the Ghost-Eye unit power.

2. When this device is sharing a power supply or battery with other equipment, please make cables from the Ghost-Eye unit.

3. When this device is sharing a power supply or battery with other equipment, please check the polarity of the power connectors of all equipment to ensure the inside conductor is positive. If the polarity of the power connector is unknown, please check the user manual to make sure the outer conductor of the SDI or HDMI connector is connected to the negative of the power supply. Otherwise, the equipment will not be able to share the same power supply withthe Ghost-Eye unit.

Ghost Eye Wireless Video Transmission Systems

Here at Cine Gears Inc., we supply some of the best wireless HD video transmitters and receivers available. During the development of Ghost-Eye units, we subjected our prototypes to rigorous testing on set with professional film crews, and took customer feedback and suggestions into serious consideration. After careful consideration, Ghost-Eye products have integrated all the in-demand wireless video transmission features recommended by you, the user. The fruit of our efforts are catalogued below in the form of our unique Ghost-Eye Wireless Video Transmission kits, across the affordable price range spectrum.

Ghost Eye wireless video transmission kits each fit a different set of wireless HD video transmission needs. The most powerful video transmitters and receivers will satisfy even the most high end profesional film crew, and our lightweight models fit a more versatile brand of film set. Ghost-Eye transmission kits transmit and receive 10 bit, 4:4:4 video, support both HD and SD, and can broadcast with less than 1ms latency.

Specifications

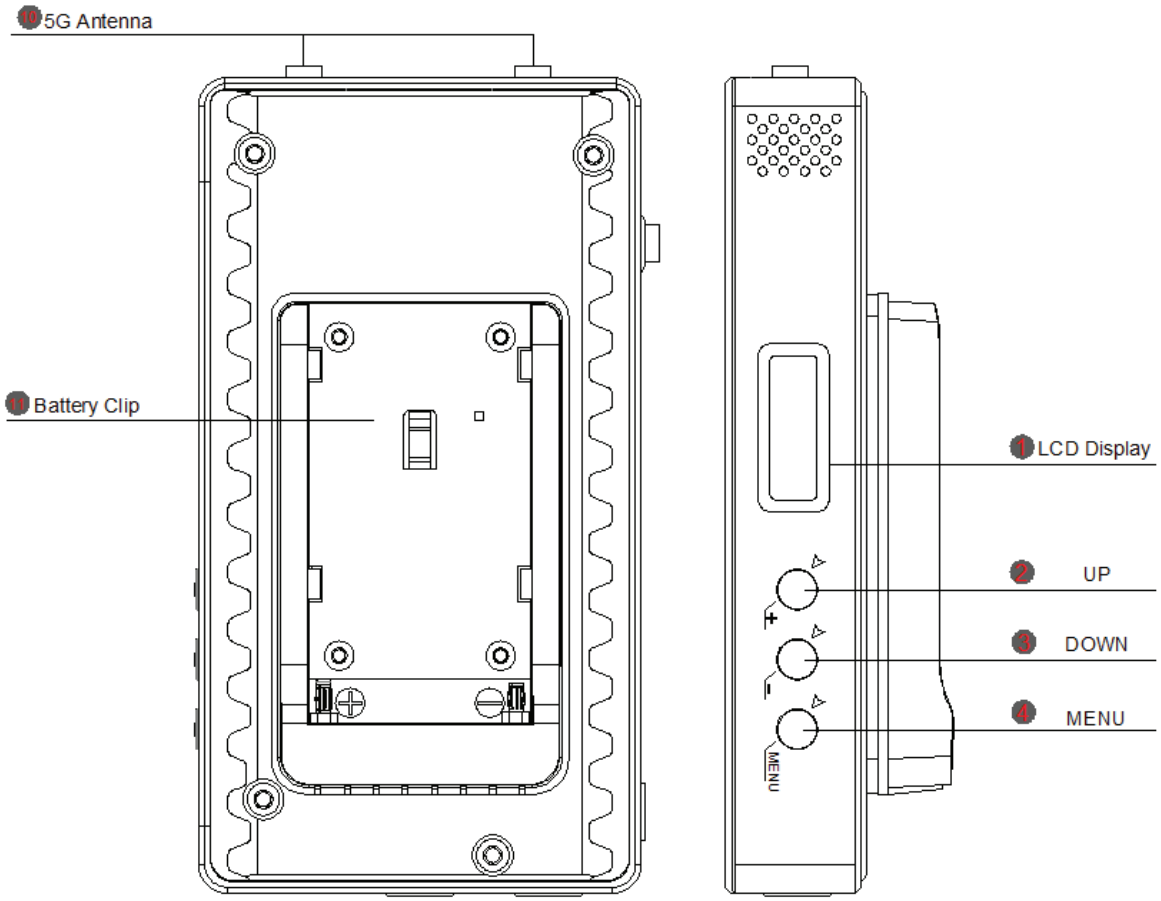
ITEM	SPECIFICATION
Frequency	5.1-5.9(GHz)*Subject to different RF regulations in different regions.
Bandwidth	40MHz
Video Formats Supported	1080p 23.98/24/25/30/50/60 1080psf 23.98/24/25 1080i 50/59.94/60 720p 50/59.94/60 576p 576i 480p 480i
Audio Formats Supported	PCM, DTS-HD, Dolby TrueHD
Transmission Range	2000ft(Line of sight)
Transmitter	
Antenna	External Antenna × 2pcs
Transmission Power	18dBm
Functional Interface	HDMI Input; SDI Input; SDI Loop Output; Mini USB; LEMO Power IN; Antenna RPSMA Socket; Power ON/OFF
Mounting Structure	1/4″ Hot-shoe connection
OLED Display	Wireless Channel Info; video status; Battery info.
Working Voltage	9-18V by DC input, F970 battery
Power Consumption	7-8W
Net Weight(with antenna)	400g
Dimensions	142.5×76×24.3mm
Temperature	-10-50 (Operating); -40-80 (Storage)
Receiver	

Specifications

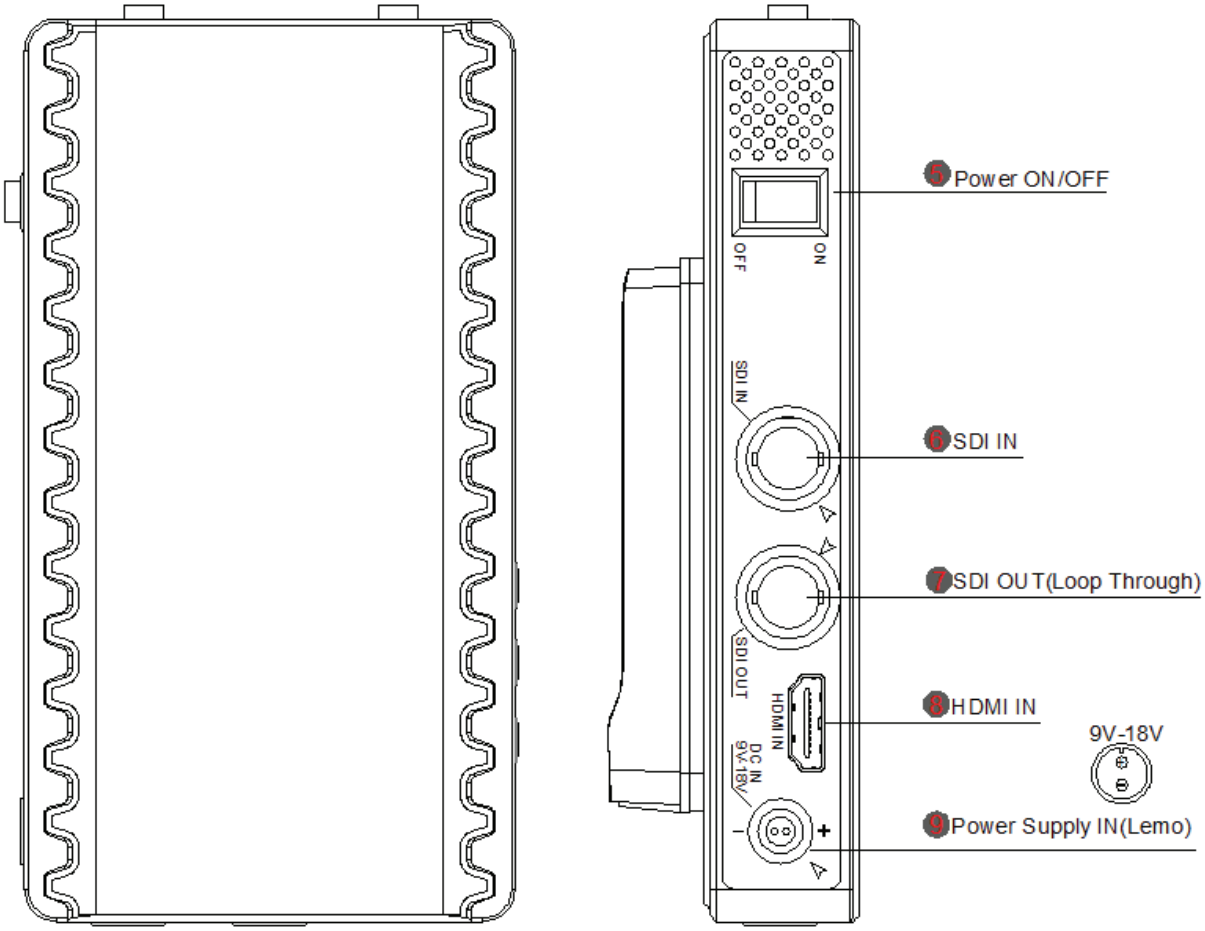
Antenna	External Antenna × 5pcs
Receiving Sensitivity	-70dBm
Functional Interface	SDI Dual Output; HDMI Output; Mini USB; LEMO Power IN; Antenna RPSMA Socket; Power ON/OFF
Locating Structure	1/4″ Hot-shoe connection
OLED Display	Wireless Channel Info; SDI/HDMI Input Info; Signal Status; Power Info
Working Voltage	9-18V by DC input, SONY V-mount battery
Power Consumption	7-8W
Net Weight(with antenna)	800g
Dimensions	169.5×122×25.2mm
Temperature	-10-50 (Operating); -40-80 (Storage)

*All the performance, design and specifications of our products are subject to minor change without prior notice.

Transmitter

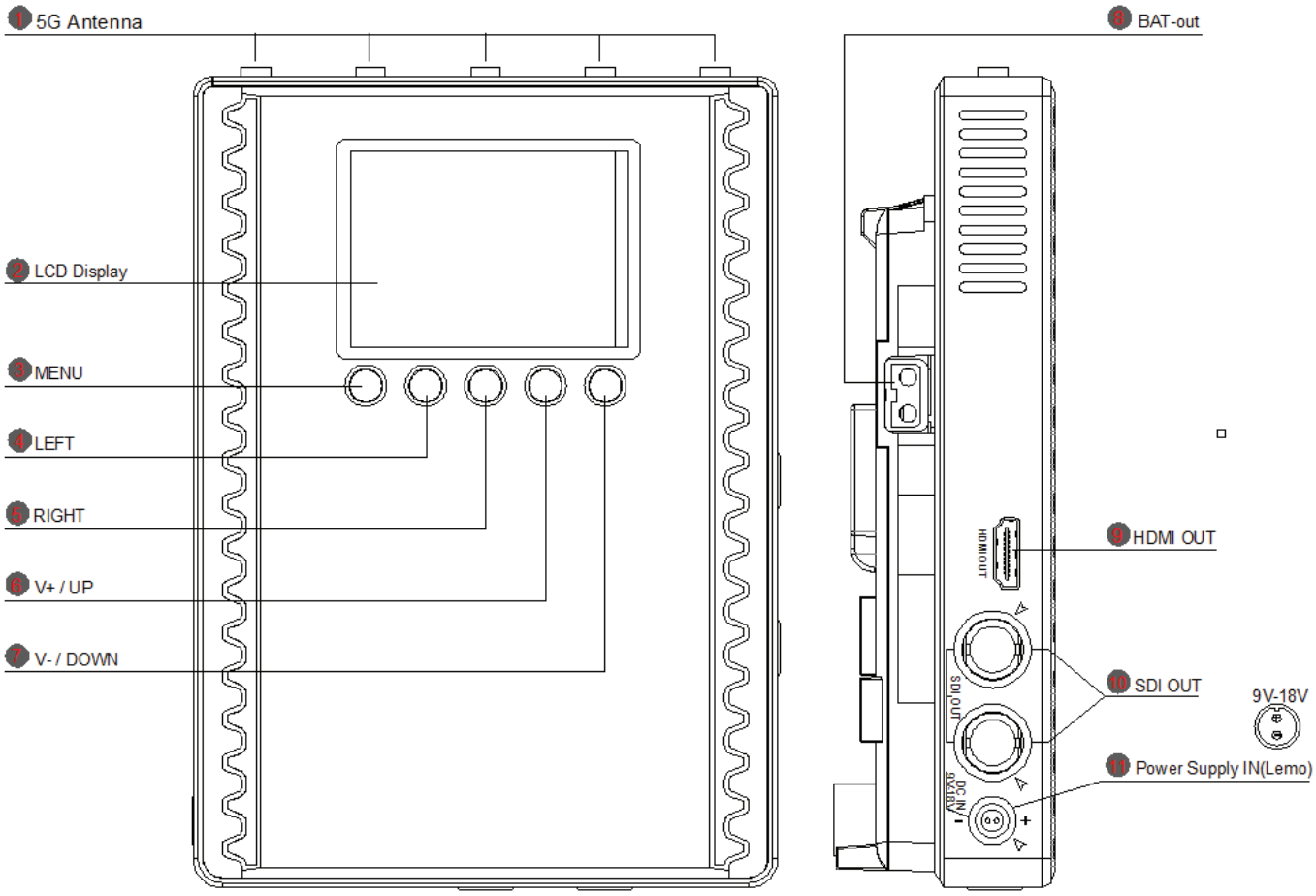


Transmitter

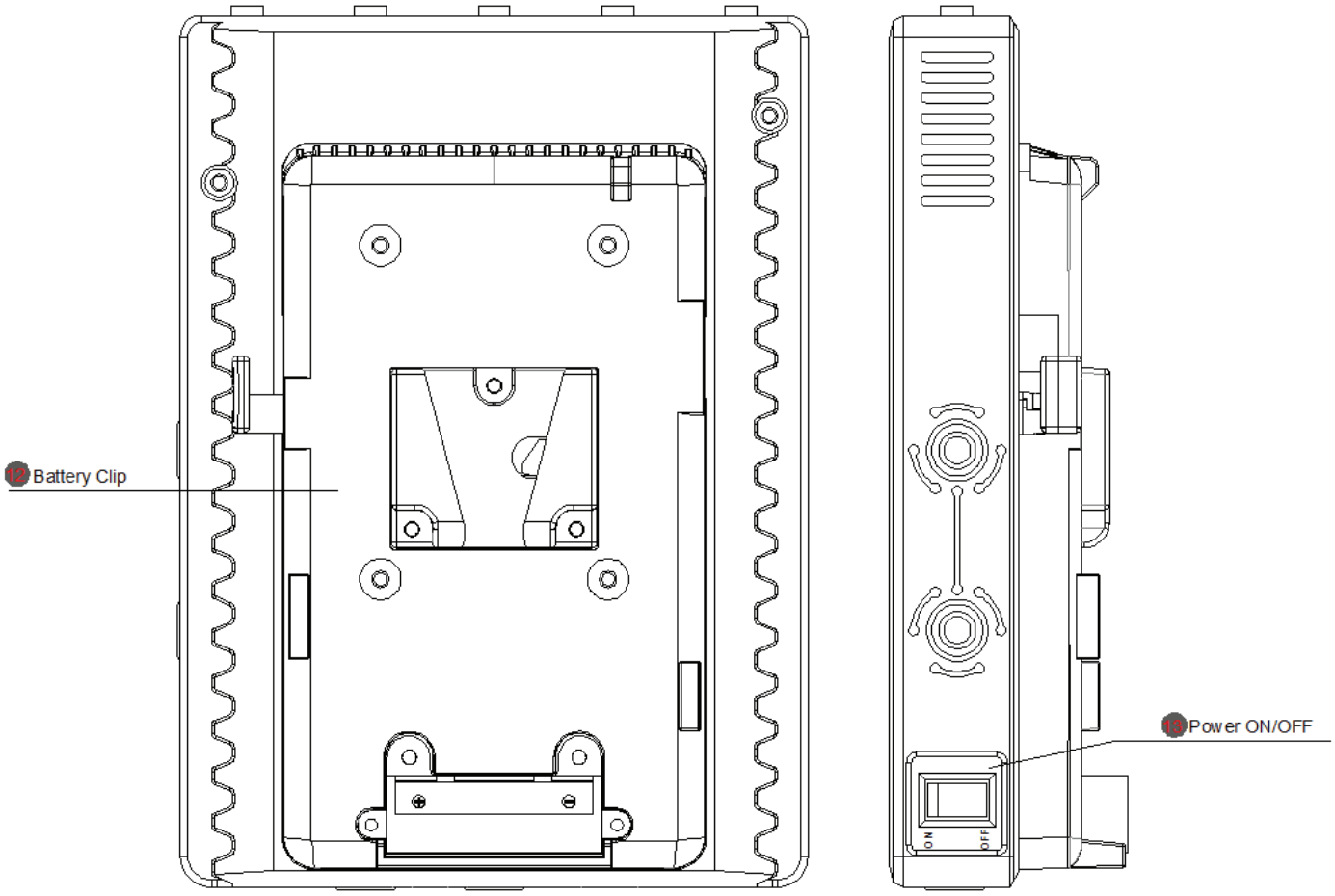


STRUCTURE	
1	OLED Display
	Displays information of channel, Video status and battery capacity.
2	UP Button
	Channel +
3	DOWN Button
	Channel -
4	MENU Button
	Unlock the channel and Confirm the Selection
5	Power ON/OFF
	Turn ON or OFF the transmitter
6	SDI IN
	Connect to SDI Video Source
7	SDI OUT(Loop Through)
	Connect to the your monitor or other
8	HDMI IN
	Connect to HDMI Video source
9	DC IN(Lemo)
	Support 9-18V
10	Antenna Connector x2
	Fix antennas
11	Battery Clip
	Battery compartment, for F550/F970 battery

Receiver



Receiver



STRUCTURE	
1	Antenna Connector x5
	RPSMA connectors for antennas
2	OLED Display
	Displays information of channel, signal strength and battery capacity.
3	MENU Button
	Unlock and Confirm the Selection
4	LEFT Button
	Channel -
5	RIGHT/DOWN Button
	Channel +
6	V+/UP Button
	Volume +, not use on this version
7	V-/DOWN Button
	Volume -, not use on this version
8	BAT-OUT
	Provide DC power supply from the battery for external equipment
9	HDMI OUT
	Connect to your HDMI monitor or other
10	SDI OUTx2

	Connect to your SDI monitor or other
11	DC IN(Lemo) *Support 9-18V
	Support 9-18V
12	Battery Clip
	Support V-Mount battery
13	Power ON/OFF
	Power on or OFF the receiver

Product Features

- **Uncompressed 3G/HD/SD-SDI and HDMI Transmission**
  Up to 1080p 50/60 uncompressed HDMI and SDI.

- **Less than 1 millisecond latency**
  There is no discernible video delay and can be used for real time on-location monitoring.

- **1500ft transmission distance**
  The transmission distance may alter depending on surroundings, radio wave conditions, etc.

- **Multicast support**
  Support one transmitter to multiple receiver. Users can set the channel to pair the transmitter and receivers.

- **License free operation frequency**
  The wireless frequency is 5.2-5.9GHz and 2.4G ISM band, license free operated.

- **Built-in fan**
  TX side built-in high efficiency ventilation fan that runs quietly.

- **AES 128 Encryption**

- **All-metal shell**
  Both the transmitter and the receiver are made of durable, solid metal.

- **Simple connection**
  The wirelesss system is plug-and-play designed, without any software confguration required.

1. Fix the three antennas to the transmitter and arrange them to be a right angle as below figure to get better performance.

2. On transmitter side, when both SDI and HDMI source are inputted, the transmitter will automatically select the SDI source for transmission

3. Fix the five antennas to receiver and arrange them to a right angle as figure to get better performance.

4. Setting the receiver higher will enhance the transmission distance.

Transmitter

- Adjust the antennas.
- Connect the SDI or HDMI video source to the “SDI IN”/”HDMI IN” of transmitter (when both SDI and HDMI video are inputted, it will auto select the SDI video for transmission).
- If needed, you can connect the SDI out (loop through) to other equipment as well.
- Connect the DC power to the transmitter or use a F970 battery on the battery plate.
- Power on the transmitter.
- Set the Channel (must set both transmitter and receiver to the same channel)

Receiver

- Adjust the antennas.
- Connect the “SDI OUT”/”HDMI OUT” port of the receiver to the monitor or other device.
- Connect DC power via power cable or use V-lock battery on the battery plate.
- Power on the receiver.
- Set the Channel (must set both transmitter and receiver to the same channel).
- After 5-10s, the video transmission will be shown on the monitor.

Turning Fan On or Off

- Hold the “+” and “-” buttons down on the transmitter.
- Select “+” to toggle between fan motor speed and fan on/off controls.
- Press “MENU” to select fan on/off controls.
- Use “+” or “-” to turn fan on or off.
- Press ”MENU” to confirm.

Changing Fan Motor Speed

- Hold the “+” and “-” buttons down on the transmitter.
- Select “+” to toggle between fan motor speed and fan on/off controls.
- Press “MENU” to select fan motor speed controls.
- Use “+” or “-” to control motor speed.
- Press ”MENU” to confirm.

Channel Settings

Both Transmitter and Receiver are set to the same channel by default. If you want to change to a new channel, please follow the instructions below.

Note: Both transmitter and receiver must be set to the same channel to work.

Changing Channel on Transmitter

- Power on the Transmitter
- Press the “MENU” button until display unlock icon appears
- Press “UP” or “DOWN” to choose channel, then press “MENU” to confirm.
- Transmitter channel setting accomplished.

Changing the Channel on Receiver

- Power on the Receiver.
- Press and hold “MENU” button until display unlock icon appears
- Click “LEFT” or “RIGHT” buttons to choose channel, then click “MENU” to confirm.
- Receiver channel setting accomplished.

Troubleshooting

If the Receiver fails to output video correctly, follow the chart below to find possible causes and solutions.

	ISSUE	SOLUTION
OSD Information on TV	**Displaying "Waiting for Connection..." for a Prolonged Period**	
	Transmitter is not powered up.	Turn on the transmitter.
	Transmitter or receiver is not placed correctly.	Place the TX or RX correctly.
	The transmitter and receiver are too far away.	Move the receiver closer to the transmitter.
	Several solid wall partition on TX and RX.	Reduce the number of obstructions between the TX and RX.
	There are too many obstacles between TX and RX.	Move the receiver closer to the transmitter.
	Other transmitter is working on the same or adjacent channel	Turn off other transmitter, or change channel.
	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	Turn on the video source.
	Bad connection of transmitter cable	Disconnect and re-connect the transmitter.
	Transmitter is working abnormally	Restart the transmitter.
	Problem with the cable between TX and video source	Change the SDI/HDMI cable.
	Player does not support the output resolution format	Switch the output video resolution to other modes.
	The TV/Monitor does not support HDCP authentication	Replace TV/Monitor with HDCP-Certified TV/Monitor.

Image	**No Signal Input to Receiver or TV/Monitor**	
	Receiver is turned off.	Turn on the receiver.
	Receiver and TV are not connected.	Connect receiver and TV/Monitor via SDI/HDMI input.
	TV/Monitor not switched to SDI/HDMI input	Switch TV/Monitor to SDI/HDMI input.
	Bad cable connection of receiver or TV/Monitor.	Disconnect and re-connect the SDI/HDMI cable.
	TV/Monitor turned to standby mode.	Switch the TV/Monitor to normal operation mode.
	Receiver is working abnormally.	Restart the receiver.
	No Image Appears on the TV/Monitor	
	Bad connection from receiver or cable.	Reconnect the cable of the receiver or TV/Monitor.
	Receiver is working abnormally.	Restart the receiver.
	Receiver failure.	Please contact your retailer.
	Abnormal Color on TV Screen	
	Bad connection from receiver cable or TV/Monitor.	Disconnect and re-connect the HDMI cable of the receiver or TV.
	Bad connection from transmitter cable or video source.	Disconnect and re-connect the HDMI cable of the transmitter and player.
	Transmitter or receiver working abnormally.	Restart transmitter and receiver.

Disclaimers

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.
(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.

Disclaimers

Terms and Conditions

Congratulations on purchasing your new CINEGEARS product. Please read this manual carefully before using the product. By using this product, you hereby agree to this disclaimer and signify that you have read it in full. You agree that you are responsible for your own conduct and any content created while using CINEGEARS products, and for any consequence thereof. You agree to use this product only for purposes that are proper and in accordance with local regulations, terms and any applicable polices and guidelines.

By reading this disclaimer, you also agree:

1. Any part of this disclaimer is subject to change without prior notice. Refer to WWW.CINEGEARS.COM for the latest version.

2. CINEGEARS reserves the right of final interpretation of this disclaimer.

About Cinegears

Cine Gears Inc. is an industry leading company that designs and manufactures digital wireless follow focus systems, lens control systems, camera motion control systems and accessories for film and broadcast industry. As a big believer in the power of creativity and ideas, we designed the Pegasus cablecam, the wireless motor drive that integrated a built in wireless transmitter, and the wireless finger wheel controller. The Cine Gears Inc. wireless lens control system has the international CE certification on all its equipment. Cine Gears lens control system can achieve the finest minutia of focus pulling, with extreme accuracy and control. This very same technology is what drives the Pegasus for ultra-smooth, highly controlled, programmed movement.

We have been working from Vancouver, B.C. for five years and our equipment has been used on hundreds of movies. Filmmakers of all experience levels will benefit greatly from a simple, professional, and well rounded follow focus system. The Single Axis and Multi Axis models provide greater ease, with less crew, and less wires. You can achieve professional film quality scenes on a shoestring budget. Camera operators, assistant camera operators, and jib operators can use the wireless follow focus to attain that perfect shot.

Customer Support

If you encounter any issues with any of our products please contact us directly on the via the details provided below.DO NOT CONTACT THE RETAIL STORE.

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