

R2TECK

Zero Delay HD Digital FPV System NEXG1

USER MANUAL



Wuxi R2TECK Co.,Ltd.

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1. Easy way to start the device

1.1 Operating steps and instructions

1.1.1 Transmitter

- Install the antenna.
In order to guarantee the wireless signal omnidirectional coverage, it is recommended to install the antenna in front and behind. Please refer to section 1.2 for details.
- Install the camera. Note that one side of the camera cable with label connect to the transmitter and the other side connect to the camera.
- Connect transmitter to the power.
There should be below instructions:
 - a) After 15 seconds of power on, the WORK light will display the breathing effect, and the WORK light will loop from on to off on display.
 - b) CAM light turn-on.
 - c) LINK light turn-on if the transmitter connect to receiver.

Note: Pls fix both sides of the camera cable connector with glue after well installed, It'll prevent poor contact caused by strong shaking.

It suggests to solder the power cable on the transmitter, pls refer to Fig 4.1.4.2 for soldering point.

1.1.2 Receiver

- Install the antenna.
- Install the monitor by HDMI cable. (optional)
- Connect the power supply according to the power input requirement.
There should be below instructions:
 - a) WORK light flash regularly
 - b) HDMI light turn-on (if installed the HDMI monitor).
 - c) LINK light turn-on if the receiver connect to transmitter.
 - d) HDMI monitor displays (if installed the HDMI monitor).
 - e) The monitor shows logo " NEXG1" after receiver connect to the power.
After that, the monitor shows progress bar: Start-up/Selfcheck/Free channel scanning/Link.
 - f) Monitor real-time display the camera video when the transmitter connect to the receiver.

Note: While you start fly test with your drone, please connect the VTX module to power battery directly.

If you connect it to fly controller's BEC, it will cause problem!

The VTX is wide voltage input design, support 3s-6s.

1.1.3 Mobile

Please install APP on your phone first. In App store, search "NEXG1" and download on iOS device.

Android APP: Refer to <http://www.gor2teck.com/download/> ->NEXG1 android mobile client.

- The mobile connects to the Wi-Fi network which name is the same as the device number, **Wi-Fi password is "12345688"**.
- Run the APP "NEXG1".
- the MOBILE light on the receiver turn-on.

Currently only allow working one mobile, if want to change the mobile, please follow below process:

- a) Disconnect the mobile with receiver Wi-Fi network.
- b) Wait receiver MOBILE light turn off.
- c) Repeat the above 3 steps.

Note:

iOS client: If you need to download on the iPad, please choose " iPhone Only". In addition, it is recommended to use models above iPhone7 and systems above iOS 9.0.

Android client: Android5.0 and above, CPU: 8-core 1.8GHz and above. Memory: 3G and above, try to choose the mobile phone released after 2017.

Fix the receiver to the ground in use. Cannot use this device as portable ones.

You can run 2 sets of NEXG1 system at the same time in 720p mode in the same frequency channel, and at least 3 sets at the same time in 480p mode in the same frequency channel.

1.2 Antenna installation

1.2.1 Transmitter

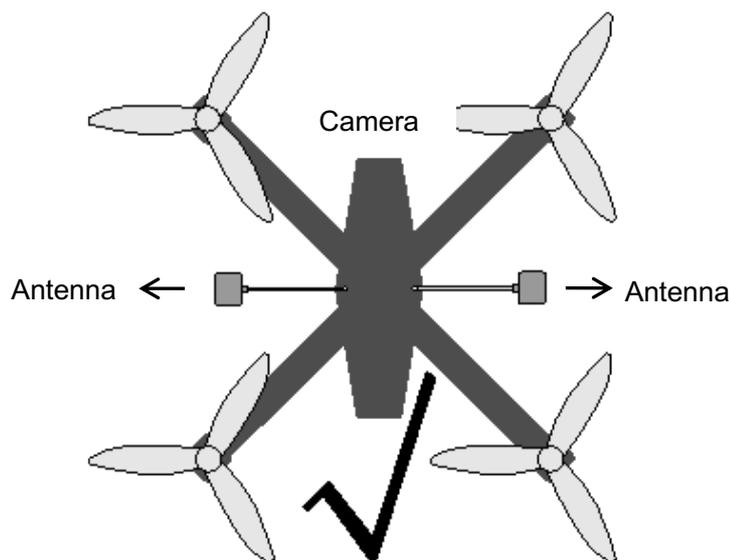
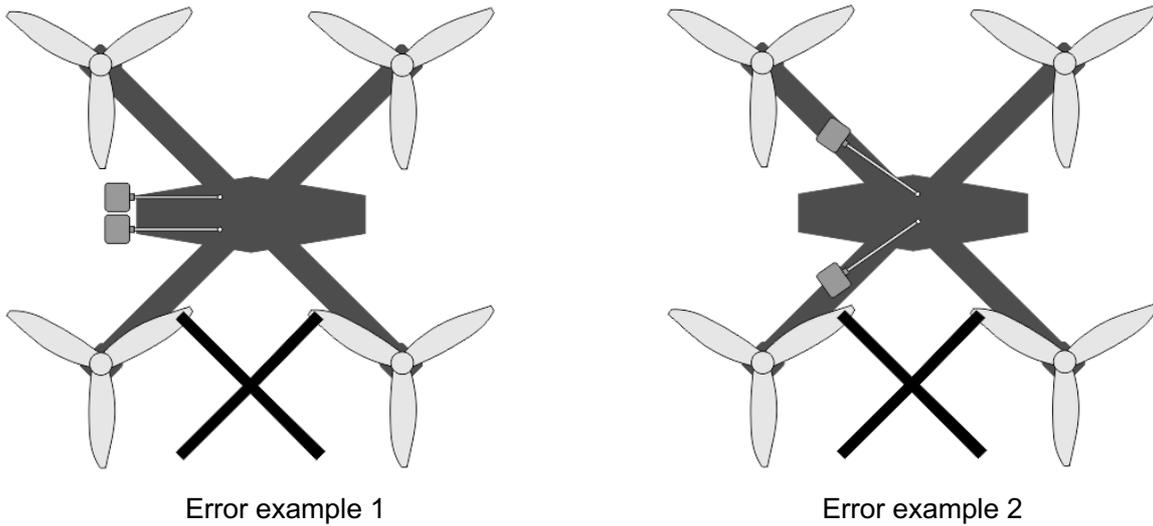


Fig.1.2.1.1 Transmitter antenna recommended installation

- In order to obtain the best transmission effect, it is recommended to install the transmitter antenna as shown in Fig.1.2.1.1
- Transmitter antenna shall be installed one in front and the other in rear to ensure 360-degree omnidirectional coverage of the transmitting signal.
- Transmitter antenna need to be fixed to avoid radiation angle changes caused by antenna shaking.

Note: The following is not recommended for antenna installation.



1.2.2 Receiver

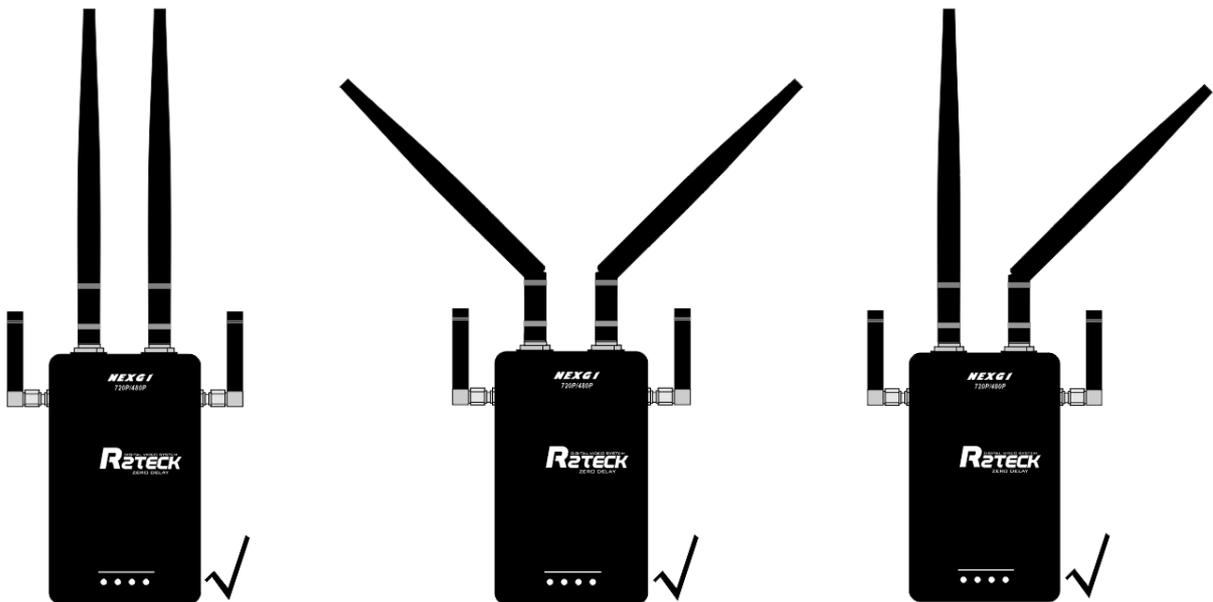


Fig.1.2.2.1 Installation of receiver antenna

If the drone flies high or the air route crosses the top of the receiver, please refer to the second one to install the antenna.

1.2.3 Relative position description

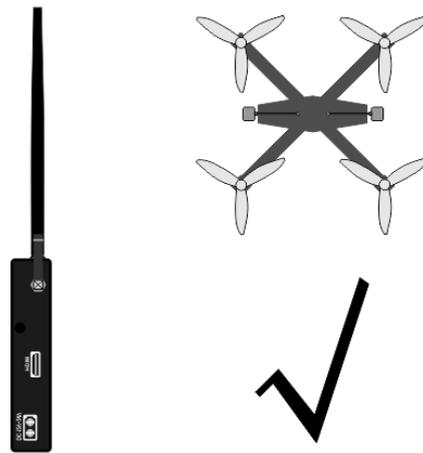


Fig.1.2.3.1 correct antenna orientation of the receiver

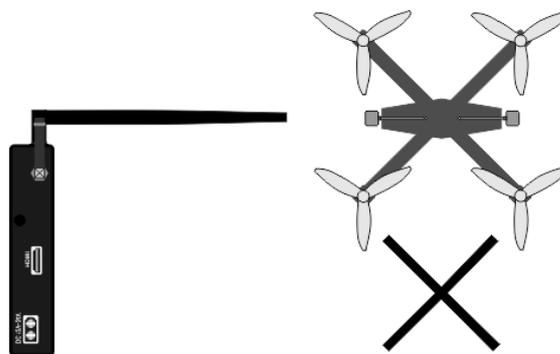


Fig.1.2.4.1 wrong antenna orientation of receiver

The receiving mast face is the best signal receiving direction, and the mast face should be towards the transmitter in use.

2. Specification

Here list the detailed specification about NEXG1, as shown in Table 2.1.1.

Tab.2.1.1 List of specification

Function specification	
Video Resolution	720P/480P
Communication distance (outdoor, no obstruction)	≥1500m(480P) / 1000m(720P)
Latency	10-30ms camera to screen
Transmitting Power	200mw
Receiving sensitivity	-95dbm±2dbm
Physics specification	
Operating Temperature	-10~60°C
Storage Temperature	-20~50°C
Size (Include shell, no antenna)	Transmitter: L.60 mm×W. 36 mm×H.10 mm Receiver: L.105 mm×W. 74 mm×H.26 mm
Weight (Include shell, no antenna)	Transmitter: 16g Receiver: 174g
Hardware function support	
Transmitter working voltage	3s-6s, the current is greater than 1.5A, otherwise it will affect the system performance
Receiver working voltage	12v-21v, make sure the current is greater than 1A, otherwise it will affect the system performance
The numbers of operating devices in the same frequency channel	
720P mode	2 sets
480P mode	≥3 sets

3. Introduction

3.1 Disclaimer

Thanks for purchasing the NEXG1 from Wuxi R2TECK. Everyone needs to read and understand this disclaimer before using the NEXG1. You are supposed to be accepted the disclaimer once the product is started to use. Please comply with the installation and using process indicated in this use manual. Wuxi R2TECK will not be responsible for the consequence of the improper use, improper install, improper modify.

The product name, brand mentioned here are belong to R2TECK.

3.2 Profile

This use manual as the instruction of HD digital FPV video transmission system NEXG1, the components and functions mentioned here may not be the standard spec. please check the enclosed list with the product, please contact with the dealer if you have any question.

The right of the manual lay out, modify and release only belong to Wuxi R2TECK, Without the authorization of Wuxi R2TECK, this use manual could not be copied or modified or released.

The information in this manual is only for NEXG1 HD digital FPV video transmission system.

This manual is subject to change without prior notice.

3.3 Intended usage

NEXG1 use for HD digital FPV video transmission system.

3.4 Caution



The effectiveness of the use product is subject to if comply with operate and maintain direction in this manual.

Before starting the product, the staff must make sure the operate process and condition is correct. Specially to check the product cables are good or not, if the cable is damaged, please change it before starting the product.



NEXG1 is intended to use on racing drones or FPV fixed wing planes and other HD digital video transmission. NEXG1 may not be reached the defined function if it works in the improper temperature, improper humidity and improver air pressure.

NEXG1 should not work when it is wet. Have to make sure it is dry when you use it.



NEXG1 is the high precise product, it is forbidden to beat and clash.



Product life time is 2 years, quality warranty is 1 year.



Manufacture and dealer are responsible for the product maintenance, without the authorization, please don't fix the product and don't modify the product.

4. Port definition

4.1 Transmitter port

4.1.1 Back side port

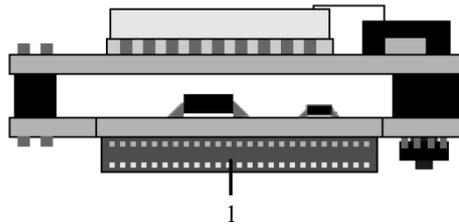


Fig.4.1.1.1 schematic diagram of back side port

[1]: Camera port: For connect the camera.

4.1.2 Side 1 port

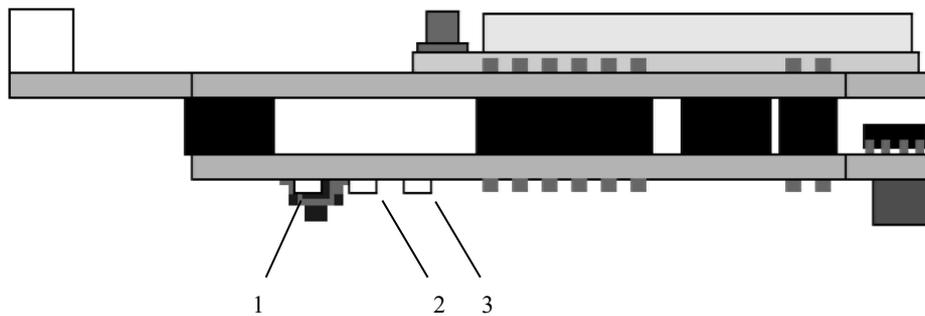


Fig.4.1.2.1 schematic diagram of side 1 port

[1]: Work light, For monitoring the transmitter operating status.

Light status	Description	Operation
Flash regularly	Transmitter works well	NA
Other status	Transmitter does not work	Connect the system to the power again, or contact with the customer service.

[2]: Link light, For monitoring the status of connect with the receiver.

Light status	Description	Operation
Turn-on	Connect with receiver well	NA
Turn-off	Does not connect with receiver	<ol style="list-style-type: none"> 1. Please wait for connecting 2. Make sure the receiver is connected the power. 3. Connect the power again 4. Bind the Transmitter and receiver again

[3]: CAM light: For monitoring the status of connect with the camera.

Light status	Description	Operation
Turn-on	Connect with camera well	NA
Turn-off	Does not connect with camera	Check whether the camera is well connected.

4.1.3 Side 2 port

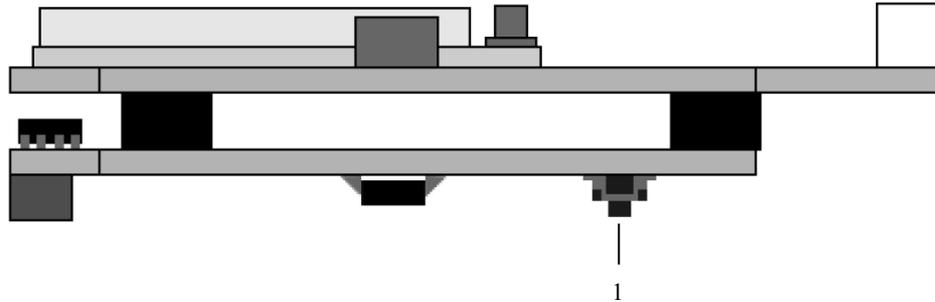


Fig.4.1.3.1 schematic diagram of side 2 port

[1]: Bind button, For bind the transmitter and receiver. (Both the transmitter and receiver are required to operate simultaneously, for details see Chapter 5).

4.1.4 Bottom side port

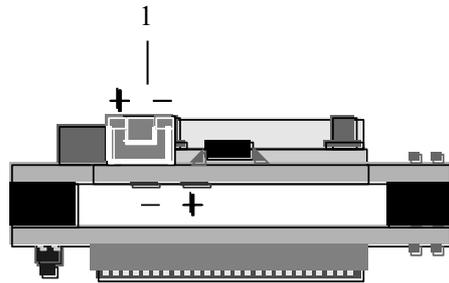


Fig.4.1.4.1 schematic diagram of bottom side 1 port

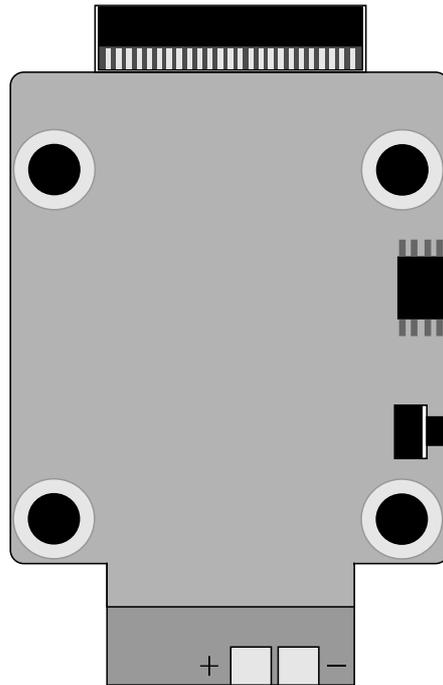


Fig.4.1.4.2 schematic diagram of bottom power soldering pad port

1. Fig.4.1.4.1 port [1] is the power socket: For power supply, the positive and negative poles are shown above, connect with 3S~6S DC power supply, and the minimum power required is 12W, namely 12V @1A.

2. Fig.4.1.4.2 shows that there is a direct power soldering pad on the back of the power base, and the power cable can be soldered according to the positive and negative signs.

Note: The power supply can use either of two, cannot use two ways together.

4.2 Receiver port

4.2.1 Bottom side port

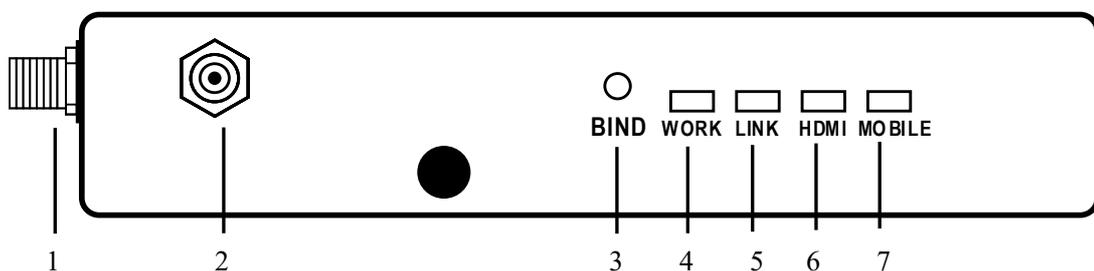


Fig.4.2.1.1 schematic diagram of bottom side port

[1]: Antenna interface, For data communication with transmitter, refer to the long antenna in the packing list.

[2]: Mobile antenna interface, refer to the small antenna with 90°angle in fitting.

[3]: BIND button, For bind transmitter and receiver, for details in Chapter 5.

[4]: WORK light, For monitor the receiver operating status.

Light status	Description	Operation
Flash regularly	Receiver works well	NA
Other status	Receiver does not work well	Connect the power again or contact with the customer service

[5]: LINK light, For monitor Transmitter and receiver connect status.

Light status	Description	Operation
Turn-on	Connect with Transmitter	NA
Turn-off	Does not connect with Transmitter	1. Please wait for connecting 2. Make sure the Transmitter is connecting the power. 3. Connect the power again 4. Bind the Transmitter and receiver again.

[6]: HDMI light, For monitor the display device status.

Light status	Description	Operation
Turn-on	Display device connect well	NA
Turn-off	Display device does not connect	Check whether the display device connect correctly.

[7]: MOBILE light, For monitor mobile(iPhone、iPad) connect status.

Light status	Description	Operation
Turn-on	Mobile connect well	NA
Turn-off	No mobile connect	Mobile connect to device Wi-Fi network.

4.2.2 Right side port

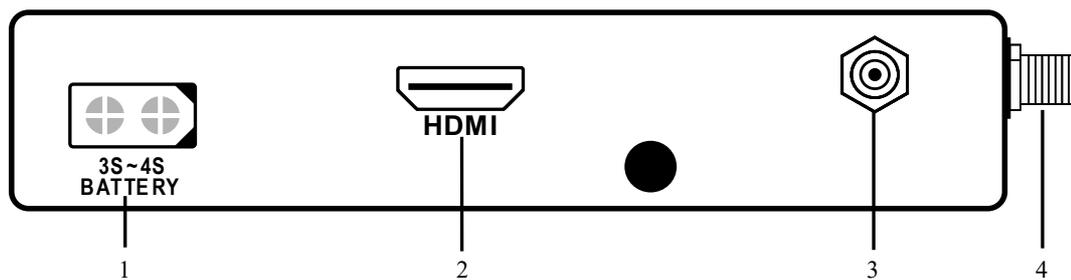


Fig.4.2.2.1 schematic diagram of right side port

[1]: 3S~4S BATTERY port, For power supply, plug in 3S~4S battery, the maximum power is 12W.

[2]: HDMI port, For connect with the monitor, TYPE-A(Standard).

[3]: Mobile antenna interface, refer to the small antenna with 90° angle in fitting.

[4]: Antenna interface, For data communication with transmitter, refer to the long antenna in the packing list.

4.2.3 Front side port

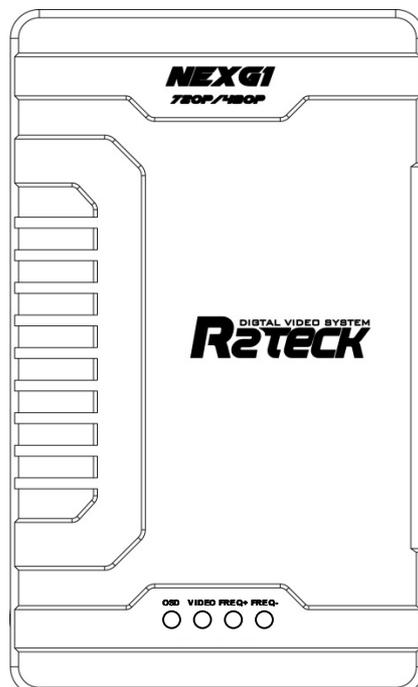


Fig.4.2.3.1 schematic diagram of front side port

1. OSD button: For monitor the OSD parameter information.
2. VIDEO button: For switch video quality, have 2 level for choose, loop switch mode, switch one level once press.
3. FREQ+: Frequency increase
4. FREQ-: Frequency decrease

5. Bind and Frequency switch

5.1 Bind

Function description: Bind one transmitter with one receiver and gives the pair the matching ID code.

Operation method: Turn on the device and wait 50 seconds, while the device LED light shows correctly, press BIND buttons on transmitter and receiver at the same time and keep more than 5 seconds, all the LED light will turn off, then release the button. All the LED light will flash one by one regularly, means the device start the bind progress. When all the LED lights of both sides shows correctly that means bind progress is finished. The full process will take 1-2 mins.

Attention:

When the Transmitter is connecting with the receiver, the video will be paused two times during the bind progress, the video will work correctly when the progress is finished.

One Transmitter only work together with the bind receiver after processed the bind function. Bind progress should be worked on the Transmitter and receiver at same time, please turn off other devices during bind progress in order to avoid mismatching errors.

All the buttons on the Transmitter and receiver will be worked after the device started 50 seconds later, the LED lights flash high speed means the buttons are not available now.

5.2 Frequency switch

Press the FREQ+/FREQ- button of the receiver more than 5 seconds, all lights are turn-off, release the key, all lights flash. The screen return to normal display after 5 seconds, that means frequency switch finished. The frequency which displays on the monitor will switch to the next one.

6. Troubles solution

Below is the device maintenances about NEXG1, to help the users whom don't have professional testing equipment and technology to solve the simply troubles.

6.1 Trouble symptoms / diagnosis / solution

Tab.6.1.1 Trouble symptoms / diagnosis / solution

Symptoms	Diagnosis		Solution
No video	Did not follow the process		Follow the process as Chapter 1
	Transmitter	CAM light turn-off	Camera HDMI cable is bad contacted, connect the HDMI cable again.
		WORK light is abnormal (not flash regularly)	Connect the power again.
		LINK light turn-off	Connect the power again. In order to make capacitance to discharge completely, pls wait 5 seconds, then connect power again.
	Receiver	HDMI light turn-off	Monitor HDMI cable is bad connected, connect the HDMI cable again.
		WORK light is abnormal (not flash regularly)	Connect the power again.
		LINK light turn-off	Connect the power again. If restart doesn't work, please operate the bind process (Action and instruction as Chapter 5). If the problem has not been solved, please contact with the local dealer.
	Video pause	HDMI cable problem	
Out of allowed distance		Back to the allowed distance.	

If the above solutions do not work, please contact with the customer service.

7. Contact info

Thanks for purchasing our device again. If you have any suggestion or need technical support, please visit our website or send us the email, also welcome to call us.

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Web: <http://www.gor2teck.com>

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This device 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.