User Manual

WOXCON

SUH27E KIT

4K 2x7 HDBaseT Splitter Kit

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Preface

Read this user manual carefully before using the product. Pictures shown in this manual is for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction only. In the constant effort to improve our product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

FCC Statement

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. It 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 commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

SAFETY PRECAUTIONS

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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1. Introduction

1.1 Brief Introduction

This product is a 4K 2x7 HDBaseT Splitter Kit designed to provide HDMI video switching, video distribution and extension, system control and audio de-embedding in a convenient kit. It includes 1 HDBaseT Splitter, 6 HDBaseT Receivers and 1 Wallplate Control Keypad.

One of two HDMI sources can be selected and distributed to 6 HDBaseT and one mirrored HDMI outputs. The video extension distance from HDBaseT Splitter to HDBaseT Receivers can up to 70m at 1080p or 40m at 4K@60Hz 4:2:0.

The kit also supports IR control, the IR signals can be sent to far-end IR output on HDBaseT Receivers to control far-end displays. Additionally, it support audio de-embedding via COAX and balanced analog audio outputs.

1.2 Features

- Features 2 HDMI inputs, 6 HDBaseT outputs, 1 mirrored HDMI output, 1 COAX output and 1 balanced analog audio output.
- The highest video resolution supports 4Kx2K@60Hz 4:2:0.
- HDMI1.4&HDCP2.2 compliant, and is backwards compatible with previous version of HDCP and HDMI.
- Transmits 4Kx2K up to 131ft (40m) or 1080p up to 230ft (70m) via HDBaseT port.
- Supports PoC, the HDBaseT Receivers can be powered by HDBaseT Splitter via HDBaseT ports.
- Supports IR passthough to control far-end displays from local.
- Supports external Wallplate Control Keypad to switch HDMI input and turn on/off displays.
- Real-time display of working status via LED indicators.
- Support advanced EDID management.

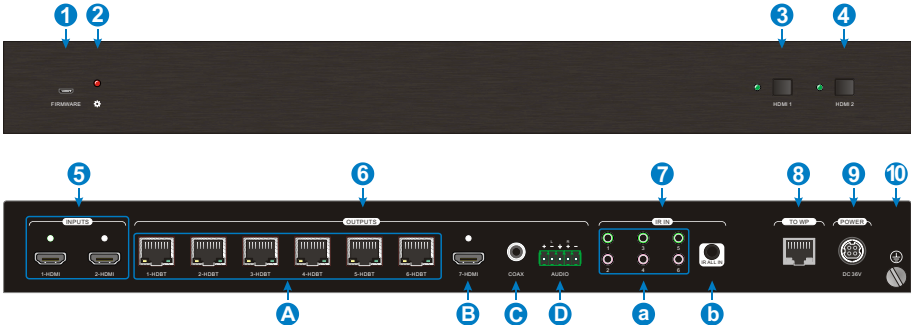
1.3 Package List

HDBaseT Splitter	● 1 x 4K 2x7 HDBaseT Splitter ● 2 x Mounting Ears with 4 Screws ● 1 x Power Adapter (36VDC 2.66A) ● 4 x Plastic Cushions ● 7 x IR Receivers (5V) ● 6 x IR Emitter (5V)
HDBaseT Receivers	● 6 x HDBaseT Receivers ● 12 x Mounting Ears with 12 Screws ● 24 x Plastic Cushions
Wallplate Control Keypad	● 1 x Wallplate Control Keypad ● 2 x Mounting Screws ● 1 x Connection Cable
	● 1 x User Manual

Note：Please contact your distributor immediately if you found any damage or defect in the components.

2. Panel Description

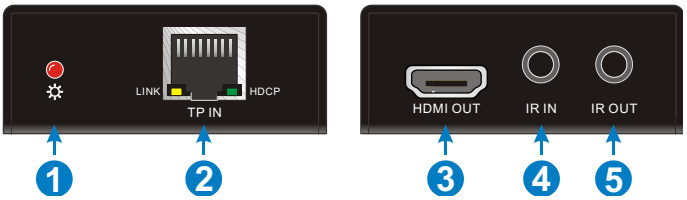
2.1 4K 2x7 HDBaseT Splitter



No.	Name	Description
①	FIRMWARE	USB port, used for firmware update.
②	Power indicator	Red once powered on.
③	HDMI 1	1-HDMI input selector and activity LED.
④	HDMI 2	2-HDMI input selector and activity LED.
⑤	INPUTS	2 HDMI input ports, connect with HDMI source device.
⑥	OUTPUTS	**A.** 6 HDBaseT outputs, connect with HDBaseT Receivers via Cat5e/6/7 cable. **B.** HDMI output, connects with display. **C.** COAX digital audio output, connects with audio broadcast device. **D.** Balanced analog audio output, connects with audio broadcast device.
⑦	IR IN	a. 6 IR input ports, used together with the IR output on the corresponding HDBaseT Receiver to build one-to-one mode. The IR signal can be transmitted to the corresponding IR output to control the display. b. 1 IR ALL IN port, used together with all IR outputs on far-end HDBaseT Receivers to bulid one-to-all mode. The IR signals can be transmitted to IR outputs to control all displays.

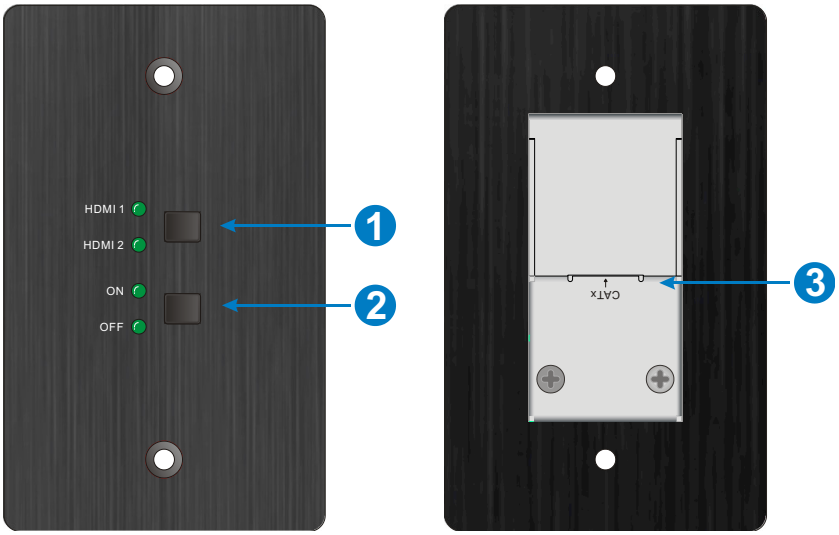
⑧	TO WP	RJ 45 connector, connects with Wallplate Control Keypad.
⑨	POWER	PoC technology. Connects with 36V DC power adaptor.
⑩	GND connector	Used for system grounding.

2.2 HDBaseT Receiver



No.	Name	Description
①	Power indicator	Red once powered on.
②	TP IN	Connects with 4K 2x7 HDBaseT Splitter via Cat5e/6/7 cable.
③	HDMI OUT	Connects with HDMI display.
④	IR IN	Conencts with the IR Receiver. This port is not used in this system.
⑤	IR OUT	Conencts with the IR Emitter to send the IR signal from the 4K 2x7 HDBaseT Splitter to control the display which is connected to the HDMI output on HDBaseT Receiver.

2.3 Wallplate Control Keypad



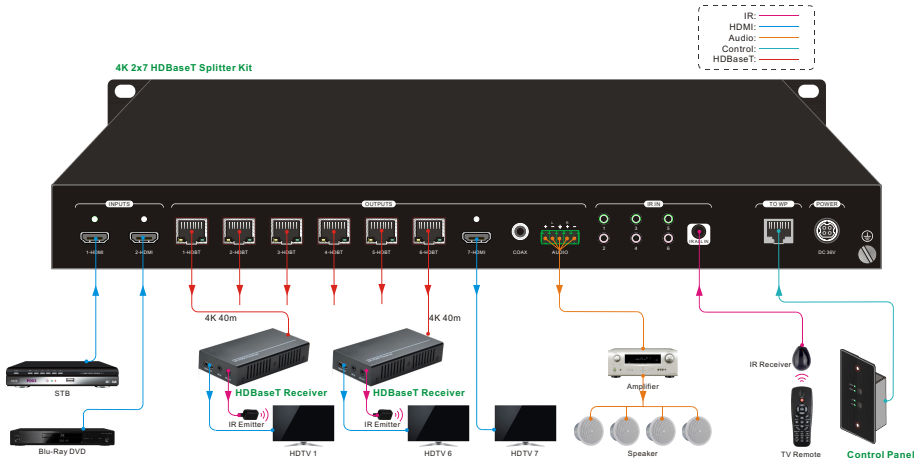
No.	Name	Description
①	Source Selector	Press it to select video input between 1-HDMI and 2-HDMI, and the corresponding activity LED will turns green.
②	Display Control	Press it to turn on/off display, and the corresponding activity LED will turns green.
③	CATx	RJ45 connector, connect with the 4K 2x7 HDBaseT Splitter.

3. System Connection

3.1 Usage Precautions

- System should be installed in a clean environment and has a prop temperature and humidity.
- All of the power switches, plugs, sockets and power cords should be insulated and safe.
- All devices should be connected before power on.

3.2 System Diagram



3.3 Connection Procedure

Step1. Connect HDMI source devices (e.g. Blue-ray DVDs) to HDMI input ports of 4K 2x7 HDBaseT Splitter with HDMI cables.

Step2. Connect HDBaseT Receivers to HDBaseT output ports of 4K 2x7 HDBaseT Splitter with Cat5e/6/7 cables.

Step3. Connect HDMI displays (HDTVs) to HDMI output ports of HDBaseT Receivers with HDMI cables.

Step4. Connect HDMI display (HDTV) to HDMI output port of 4K 2x7 HDBaseT Splitter with HDMI cable.

Step5. Connect audio broadcast device (Amplifier) to the COAX or balanced analog audio output port with audio cable.

Step6. Connect Wallplate Control Keypad to the TO WP port of 4K 2x7 HDBaseT Splitter with the included connect cable.

Step7. IR Connection:

- **One-to-one:** Connect 6 IR Receivers to 6 IR input ports of 4K 2x7 HDBaseT Splitter, and then connect 6 IR Emitters to IR OUT ports of HDBaseT Receives. The IR signal can be transmitted from IR Receiver to the corresponding IR Emitter to control the display connected with corresponding HDBaseT Receiver.
- **One-to-all:** Connect one IR Receiver to IR ALL IN port of 4K 2x7 HDBaseT Splitter, and then connect 6 IR Emitters to IR OUT ports of HDBaseT Receives. The IR signal can be transmitted from the IR Receiver to all IR Emitters to control the displays connected with HDBaseT Receivers.

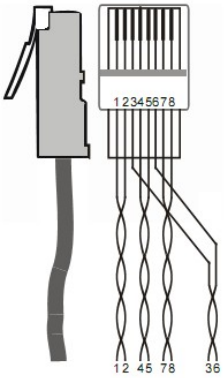
For more details, please refer to the ***4.2 Control far-end display***.

Step8. Connect a 36VDC power adapter to the power port of 4K 2x7 HDBaseT Splitter.

3.4 Twisted Pair Cable Connection

The twisted pair MUST be a straight-through cable. The connectors can be T568A or T568B, but both sides must be the same.

TIA/EIA T568A			TIA/EIA T568B	
Pin	Cable color		Pin	Cable color
1	green white		1	orange white
2	green		2	orange
3	orange white		3	green white
4	blue		4	blue
5	blue white		5	blue white
6	orange		6	green
7	brown white		7	brown white
8	brown		8	brown



Note: Every pin in pure color groups with its half white pin.

4. System Operation

4.1 Video Switching

There are two ways can be chosen to switch one HDMI video input between 1-HDMI and 2-HDMI.

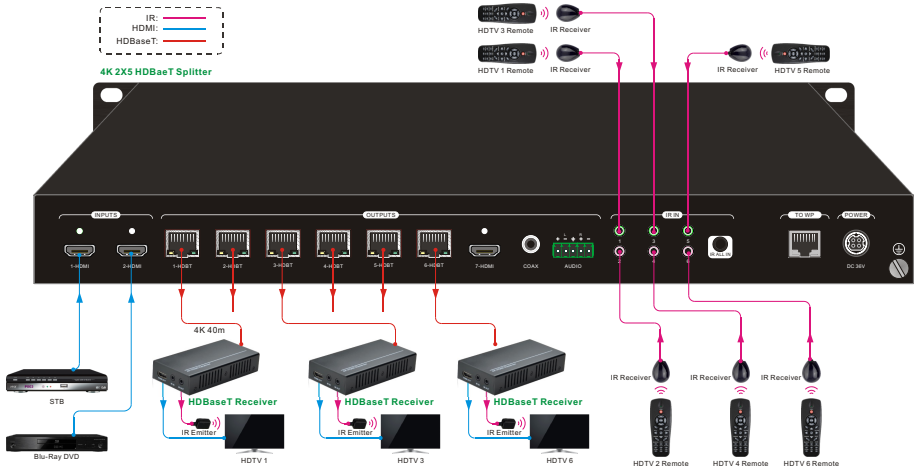
- Press **HDMI 1** or **HDMI 2** on front panel of 4K 2x7 HDBaseT Splitter to select HDMI video input, and then the corresponding activity LED will turns green.
- Press the source selector on Wallplate Control Keypad to select HDMI video input, and then the corresponding activity LED will turns green.

4.2 Control far-end display

① IR passthough control

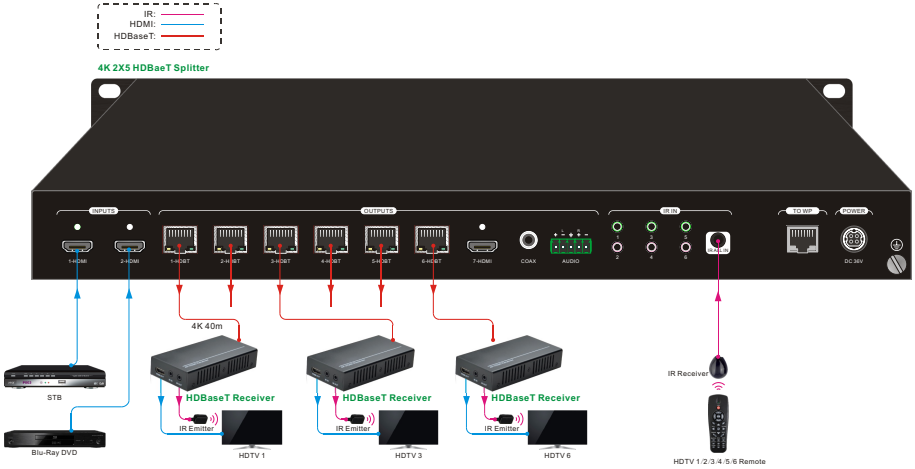
- **One-to-one mode**

Connect 6 IR Receivers to 6 IR input ports of 4K 2x7 HDBaseT Splitter, and then connect 6 IR Emitters to IR OUT ports of HDBaseT Receives. The IR signal can be transmitted from IR Receiver to the corresponding IR Emitter to control the display connected with corresponding HDBaseT Receiver.



- **One-to-all mode**

Connect one IR Receiver to IR ALL IN port of 4K 2x7 HDBaseT Splitter, and then connect 6 IR Emitters to IR OUT ports of HDBaseT Receives. The IR signal can be transmitted from the IR Receiver to all IR Emitters to control the displays connected with HDBaseT Receivers.



- **Turn on/off displays via Wallplate Control Keypad**

Press the display control button on Wallplate Control Keypad to turn on/off HDMI display device, and then the corresponding activity LED ON/OFF will turns green.

4.3 EDID Management

The EDID setting for the 4K 2x7 HDBaseT Splitter is defined by the first detected display (detecting from 1-HDBT~7-HDMI).

For example: when output 1-HDBT connects with a 4K display, 4K 2x7 HDBaseT Splitter will select 4K as output resolution and distribute 4K video signal to all displays. If a display does not support the 4K video content, there are will no video output on the display.

5. Specification

5.1 4K 2x7 HDBaseT Splitter

Input & Output	
Input	(2) HDMI
Input Connector	(2) Type A Female HDMI
Output	(6) HDBaseT; (1) HDMI; (1) COAX; (1) AUDIO
Output Connector	(6) Female RJ45(with LED indicators); (1) Type A Female HDMI; (1) SPDIF; (1) 5-Pin phoenix connector
Control	(6) IR IN; (1) IR ALL IN; (1) TO WP
Control Connector	(6) 3.5mm mini jacks; (1) RJ45
General	
Maximum Resolution	4Kx2K@60Hz 4:2:0
Bandwidth	10.2Gbps
HDCP	Compliant with HDCP2.2,and is backward compatible to HDCP1.4
EDID	In-built EDID management
Power Supply	Input:100V~240V AC; Output: 36VDC 2.66A
Power Consumption	55W (max)
Temperature	-10℃ ~ 55℃
Humidity	10% ~ 90%
Dimension (W*H*D)	436mm x 44mm x 237mm
Net Weight (g)	1036g

5.2 HDBaseT Receiver

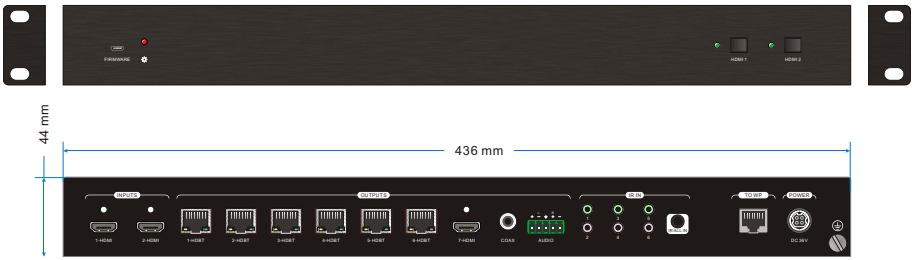
Input & Output	
Input	(1) HDBaseT;
Input Connector	(1) Female RJ45(with LED indicators);
Output	(1) HDMI
Output Connector	(1) Type A Female HDMI
Control	(1) IR IN; (1) IR OUT
Control Connector	(2) 3.5mm mini jacks
General	
Resolution Range	Up to 4K×2K@60Hz
Transmission Mode	HDBaseT
Transmission Distance	1080P@60Hz ≤70m; 4Kx2K@60Hz ≤40m
Bandwidth	10.2Gbps
HDMI Standard	Support HDMI1.4 & HDCP1.4
Temperature	0 ~ +50℃
Humidity	10% ~ 90%
Power Supply	Powered by 4K 2x7 HDBaseT Splitter
Dimension (W*H*D)	61mm x 24mm x 120mm
Net Weight (g)	280g

5.1 Wallplate Control Keypad

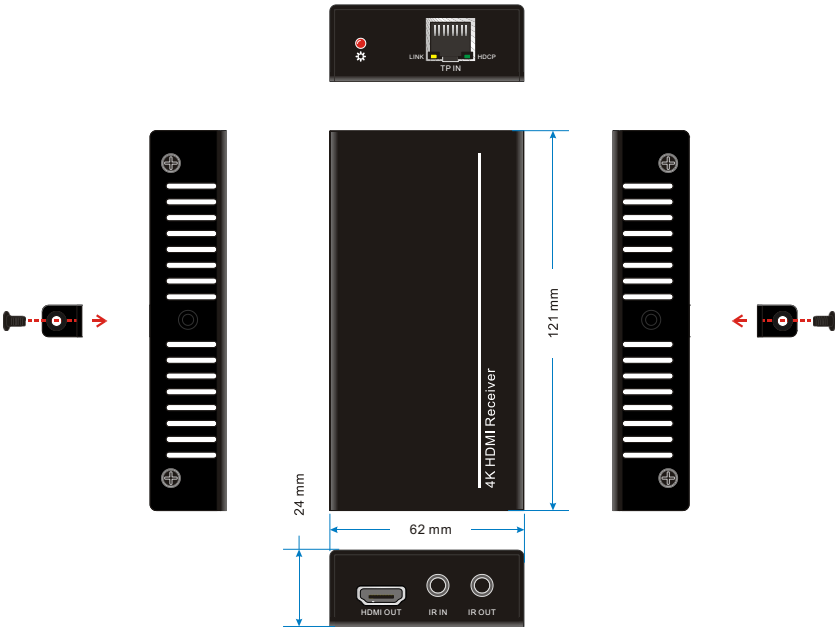
Connection Port	(1) CATx (RJ45)
Control Button	(1) HDMI input Selector (9mmx7.8mm); (1) Displays control button (9mmx7.8mm)
General	
Temperature	0 ~ +50℃
Humidity	10% ~ 90%
Power Supply	Powered by 4K 2x7 HDBaseT Splitter
Dimension (W*H*D)	70mm x 114mm x 38mm
Net Weight (g)	116g

6. Panel Drawing

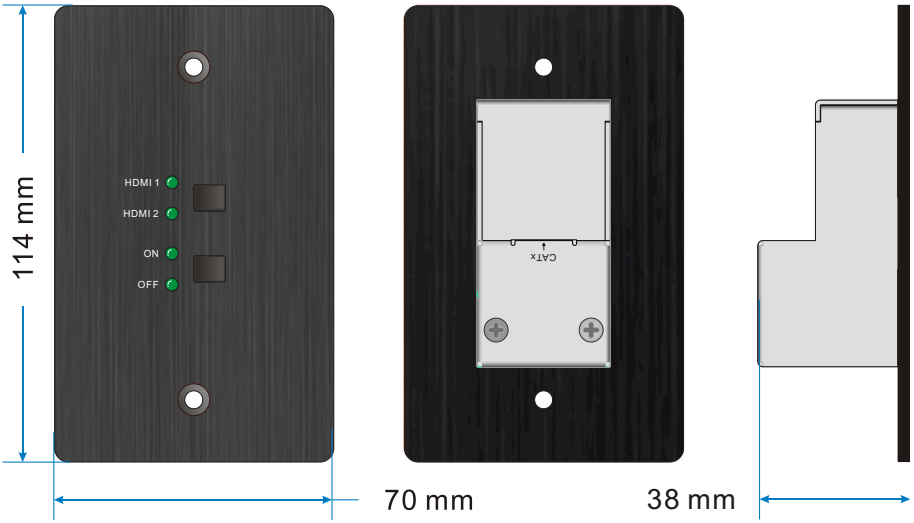
6.1 4K 2x7 HDBaseT Splitter



6.2 HDBaseT Receiver



6.3 Wallplate Control Keypad



7. Troubleshooting & Maintenance

Problems	Causes	Solutions
Color losing or no video signal output in HDMI display	The connecting cables may not be connected correctly or it may be broken.	Check whether the cables are connected correctly and in working condition.
No HDMI signal output while local HDMI input is in normal working state		
Static becomes stronger when connecting the video connectors	Bad grounding	Check the grounding and make sure it is connected well.

If your problem persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.

8. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

① Warranty

The limited warranty period of the product is fixed 3 (three) years.

② Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

③ Warranty Exclusions:

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
  - ✓ Normal wear and tear.
  - ✓ Use of supplies or parts not meeting our specifications.
  - ✓ No certificate or invoice as the proof of warranty.
  - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
  - ✓ Damage caused by force majeure.
  - ✓ Servicing not authorized by distributor.
  - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

④ Documentation:

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

Remarks: For further assistance or solutions, please contact your local distributor.