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HDMI0 I02SCATV3

4K 18Gbps 1x2 HDMI splitter with auto-scaling and PoC

User Guide



Important Safety Notice

Thank you for purchasing this Antiference HDMI distribution product. Please read the following instructions carefully, retain for future reference and read the following safety considerations:

- 1. Do not place any items on the device
- 2. Ensure no liquids are on or near the device as splashes may damage the unit
- 3. For cleaning, use a damp cloth only without solvents
- 4. Do not attempt to open the case as there is a danger of electric shock
- 5. Repairs should be carried out by a qualified technician
- 6. Place the unit in a well ventilated area to prevent overheating
- 7. Carry out the installation before connecting the device to a source of power
- 8. Use only the supplied power supply as 3rd party products may damage the product

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1. Introduction

This 18Gbps HDMI splitter/extender splits a single 4K/HD source to 2 remote displays and a local HDMI display. It sends up to 3840x2160p@60 (4:4:4) resolution signals up to 70m over a single CAT6 cable with HDCP 2.2 support. It also supports bi-directional IR control, advanced EDID management, audio output selector on receiver, RS232 signal pass-through & PoC. In addition it features an auto-scaling function enabling a 1080p/HD display to receive the content from a 4K source.

2. Features

- 18Gbps video bandwidth
- 1 HDMI input, 2 CAT6 outputs + local HDMI loop through
- Supports resolutions up to 2160p@60 4:4:4 with HDCP2.2
- Extend UHD@60 or 1080p@60 to 70m over a single CAT6 cable
- Auto-scaling function
- Supports bi-directional IR control
- Advanced EDID management system
- One way PoC system (power sent from splitter unit to receiver only)
- Supports up to 5.1CH Dolby Digital audio pass-through
- HDMI or S/PDIF audio output selector on receiver

3. Package contents



HDMI splitter extender
TX x1pcs



HDMI splitter extender
RX x2pcs



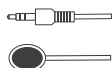
User manual
x1pcs



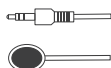
DC12V/3A
x1pcs



Screw x16pcs



IR blaster extension
cable x1pcs



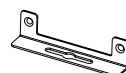
IR Receiver extension
cable x2pcs



Terminal block
(RS-232) x1pcs



Mounting brackets
x4pcs



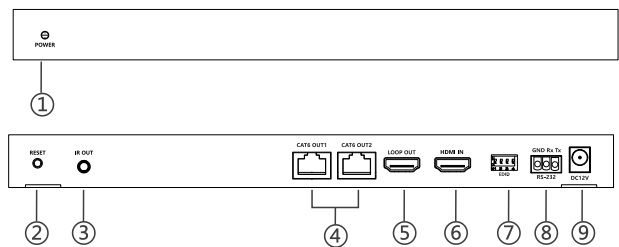
Mounting brackets
x2pcs

4. Operation Controls and Functions

4.1. Installation Requirements

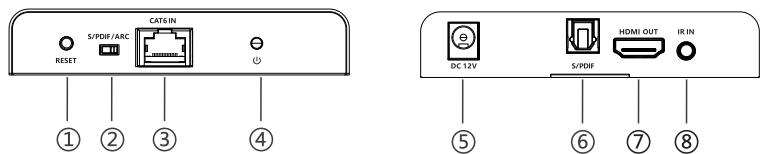
- 1. HDMI source such as SKYQ/HD, Blu Ray or games console etc
- 2. HDMI external display device such as HDTV or monitor
- 3. UTP/STP CAT6/CAT6A/CAT7 following standard IEE-568B. High quality cables recommended only.

4.2.Transmitter (TX) Panel Description



①	Power indicator	The indicator will turn blue when the power is turned on
②	Reset button	Restart the device
③	IR out	Connect with IR blaster extension cable
④	RJ45 output port	Connect with Cat6/6A/7 network cables
⑤	HDMI output port	Connect with local HDMI display device with HDMI cable
⑥	HDMI input port	Connect with HDMI source device with HDMI cable
⑦	EDID DIP switch	Set output resolution through EDID DIP switch
⑧	RS-232 Port	Connect with the external device to control the transmitter
⑨	Power	Connect with DC 12V/3A power adapter

4.3. Receiver (RX) Panel Description



①	Reset button	Restart the device
②	Audio switch	Choose the audio source (output from the S/PDIF port) S/PDIF: from the source device ARC: from the TV (receiver end)
③	RJ45 signal input	Connect with Cat6/6A/7 network cables
④	Power/Signal indicator	When there is power and no HDMI signal, the indicator will flash, when there is HDMI signal, the indicator will light solid blue
⑤	Power	Connect with DC12V/2A power adapter
⑥	S/PDIF output	Connect with speaker or amplifier
⑦	HDMI output	Connect with HDMI display device
⑧	IR in	Connect with IR receiver extension cable

5. Installation Procedure

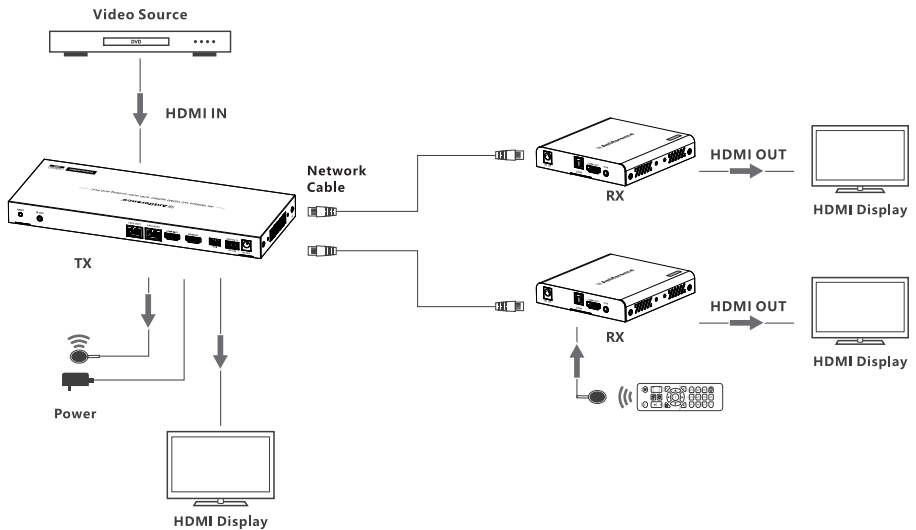
5.1. Network Cable

- Configure the CAT6 cable RJ45 terminations to IEEE-568B

- | | | |
|------------------|----------------|-----------------|
| 1 - Orange/white | 2 - Orange | 3 - Green/white |
| 4 - Blue | 5 - Blue/white | 6 - Green |
| 7 - Brown/white | 8 - Brown | |



5.2. Connection Instructions



1. Connect the HDMI source to the HDMI input port on the transmitter
2. Connect CAT6 output ports of the transmitter to the CAT6 input on each receiver
3. Connect up the external displays from the receivers via the HDMI port
4. If required, connect a local display to the HDMI OUT port on the transmitter
5. Connect RS232 if used
6. Power up transmitter with supplied power adaptor

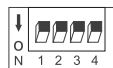
5.3. IR Set Up

1. IR blaster sensor should be connected to the IR OUT port on the transmitter
2. Position the sensor in the correct location in front of the source to enable signal
3. Connect the IR receiver at the remote locations to the IR IN port and place in view.
4. Point remote control at IR receiver to enable control of the source remotely.

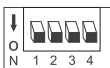
6. EDID Settings

There are 16 built-in EIDID modes in the product which can be switched via the dip switches on the front panel. The switch in the upward position indicates ‘1’ and the pressed downward indicates ‘0’.

The table below outlines the configuration of the switches for the various EDID modes:



Switch up for “1”



Switch down for “0”

Switch Status				EDID Information
1	2	3	4	
0	0	0	0	4K@60Hz 2CH
1	0	0	0	4K@60Hz 5.1CH
0	1	0	0	4K@60Hz 7.1CH
0	0	1	0	4K@60Hz HDR 7.1CH
0	0	0	1	4K@30Hz 2CH
1	1	0	0	4K@30Hz 5.1CH
1	0	1	0	4K@30Hz 7.1CH
1	0	0	1	4K@30Hz HDR 7.1CH
0	1	1	0	1080p@60Hz 2CH
0	1	0	1	1080p@60Hz 5.1CH
0	0	1	1	1080p@60Hz 7.1CH
1	1	1	0	1080i@60Hz 2CH
1	1	0	1	1080i@60Hz 5.1CH
1	0	1	1	1080i@60Hz 7.1CH
0	1	1	1	1080p@60Hz HDR 7.1CH
1	1	1	1	Auto

Auto output at a resolution compatible with all displays.

7. RS232 Settings

The product also supports command control via RS232. To configure this functionality, connect the RS232 port on the product to a PC with a 3 pin phoenix connection cable. Then, open a Serial Command tool/program on your PC to send commands to control the product.

The default configuration is:

Baud rate - 9800

Data bits - 8

Stop bits - 1

Parity - 0

The command list follows in the table below:

Control Commands	Function Descriptions	
ES XX On 【Enter】	Turn on the network signal output port(s), choose from “01” to “02” (the network ports from left to right are: 01, 02,.); “All” means all four ports	
ES XX Off 【Enter】	Turn off the network signal output port(s), choose from “01” to “02” (the network ports from left to right are: 01, 02,); “All” means all four ports	
Reset 【Enter】	Restart the device	
Recover 【Enter】	Restore device factory settings	
Baud XX 【Enter】	Set the baud rate value: 9600 (default), 19200, 38400, 57600, 115200	
Examples of control commands are shown below:		
Control Command	ES 02 On 【Enter】	
Function Description	Trun on network signal output port 02	
Return Values	Received successfully	ES 02 On OK
	Receive failed	ES 02 On FAIL
Control Command	ES All Off 【Enter】	
Function Description	Turn off all the network signal output ports	
Return Values	Received successfully	ES All Off OK
	Receive failed	ES All Off FAIL

Control Command	Reset 【Enter】	
Function Description	Restart the device	
Return Values	Received successfully	Reset OK
	Receive failed	Reset FAIL
Control Command	Baud 19200 【Enter】	
Function Description	Set the baud rate value: 19200	
Return Values	Received successfully	Baud 19200 OK
	Receive failed	Baud 19200 FAIL

8. Auto-scaling Function

This Antiference HDMI splitter supports an auto-scaling function allowing a 1080p display to receive content from a 4K source. The system simply identifies the maximum resolution of the displays connected via the EDID of the display and automatically downscales to 1080p if required.

This function **does not** support any other resolutions such as 720p so if there is no video on a connected display then it most likely does not support 1080p or 4K.

9. FAQ

Q: Why is there no image on the external display in the remote location?

A: 1. Check the power supply is connected and the system is running. Check the LED lights on the transmitter and receiver.

2. Check the source input. Is there a signal coming through?

3. If using RS232 controls, make sure the corresponding network port is not turned off

Q: The output image is unstable. Why could this be?

A: 1. Check that the cable length is within the 70m range when using CAT6

2. Press the rest button on the receiver(s) and transmitter to reconnect the system.

Q: The picture is snowy, fuzzy or sparkly

A: 1. Change the HDMI cable for a shorter one or a new one.

2. The recommended HDMI cable lengths are: transmitter - 3m, receiver - 5m

10. Technical Specifications

Item	Specification
Transmission protocol	ipcolor
Distribution mode	1 IN 2 OUT
Transmission distance	CAT6/6A/7≤70m
HDMI signal	HDMI 2.0, HDCP 2.2
HDMI Resolution	480i@60Hz, 480p@60Hz, 576i@50Hz, 576p@50Hz, 720p@50/60Hz, 1080i@50/60Hz, 1080p@50/60Hz, 1280x960, 1280x800, 1280x768, 1680x1050, 1360x768, 1366x768, 1600x900, 1024x768, 800x600, 3840x2160@24/25/30/50/60Hz, 4096x2160@24/25Hz
Audio formats	LPCM/DTS-HD/DTS-Audio/Dolby Digital 5.1
IR	Support IR passback function (20KHz~60KHz)
RS-232	3 pin: TxD-RxD-GND, follows RS-232 levels
Working temperature	-20~60℃
Storage temperature	-30~70℃
Humidity (no condensation)	0~90% RH
Protection	ESD protection 1a Contact discharge level 2 1b Air discharge level 3 Implementation of the standard: IEC61000-4-2
	Lightning protection
	Surge protection
Power supply	TX: DC12V/3A
Power consumption	TX<13W RX < 4W
Material	Iron
Color	Black
Weight	TX: 650g RX: 243g
Dimension	TX: 265.0(L) x 104.0(W) x 23.0(H)mm RX: 105.5(L) x 102.5(W) x 20.0(H)mm

Declaration of Conformity

We, ANTIFERENCE LIMITED herewith declare that the HDMI extender kit complies with all essential requirements and any other applicable conditions set forth on directive 2014/30/EU.

According to the WEEE (Waste Electrical and Electronic Equipment) EU Directive, do not dispose of this product as household waste or commercial waste. Waste Electrical and Electronic Equipment should be appropriately collected and recycled as required by practices established for your country. For information on recycling of this product, please contact your local authorities, your household waste disposal service or the shop where you purchased the product.

A full declaration document can be found on our website www.antiference.co.uk





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