

<i>infobit
iSwitch 2000

JPEG 20004K AV over IP 1GbE with Video Wall Processing



Datasheet

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VER 1.0

1. Introduction

This product is based on JPEG2000 technology. Encoder input supports up to 4K60, audio embedding or audio out. Decoder output supports up to 4K30, audio extracting or audio in transmitted to Encoder audio out. The product supports USB2.0/KVM, 1G Ethernet, bidirectional RS-232, two-way IR control and POE function. Guest mode control of RS-232, IR, CEC supported. Built-in secondary H.265 stream which supports plenty API commands to achieve flexible configurations is useful for 3rd party control Apps to preview video content. As the H.265 stream can be accessed in a different domain from JPEG2000 main stream via tagged its LAN ID, this makes it possible to isolate the network systems of main stream which works in Video LAN and secondary stream which works in Control LAN. The system is based on Linux for software development, provides flexible control methods, that are based on the intelligent networking of 1G Ethernet Switch.

2. Features

- ☆ HDMI 2.0b, HDCP 2.2 compliant
- ☆ Support 18Gbps video bandwidth
- ☆ Input supports up to 4K60 4:4:4, output supports 4K30 4:4:4
- ☆ Transmit video, audio, IR , RS-232, CEC and USB signals over Ethernet
- ☆ Support unicast and multicast functions
- ☆ Support point-to-point, video matrix and video wall functions (video wall supports up to 9x9)
- ☆ Intelligent video wall class management makes it achievable of wall-in-wall or novel layout of wall configurations
- ☆ JPEG2000 Main Stream and standard H.265 codec Secondary Stream (SS)
- ☆ Support Secondary Stream VLAN tagging and parameters configuration
- ☆ Support 1G Ethernet Switch, router and hub device transmission
- ☆ Support POE function
- ☆ Flexible control through Web GUI/TCP/RS-232/IR and third-party controller
- ☆ HDMI audio formats: LPCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-96/24, DTS-EX DSD, DTS High Res, DTS-HD Master, DTS:X
- ☆ Smart networking design for easy and flexible installation.

3. Package Contents

Qty	Item
1	4K over IP 1GbE Encoder
1	IR Receiver cable (1.5 meters)
1	IR Blaster cable (1.5 meters)
3	3-pin 3.81mm Phoenix connectors
1	12V/1A Locking Power adapter
2	Mounting ears
4	Machine screws (KM3*4)
1	User Manual

OR

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1	4K over IP 1GbE Decoder
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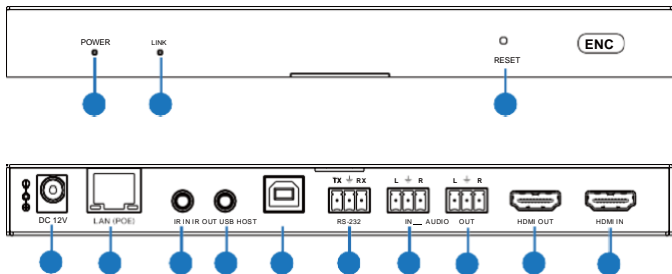
4. Specifications

Technical	
HDMI Compliant	HDMI 2.0b
HDCP Compliant	HDCP 2.2
Video Bandwidth	18Gbps
Video Compression Standard	JPEG2000
Video Network Bandwidth	1G
Video Resolution	480i ~1080p@50/60Hz, 4K@24/30Hz, support 4K@50/60Hz input
Color Depth	8/10/12-bit
Color Space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
HDMI Audio Formats	LPCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-96/24, DTS-EX DSD, DTS High Res, DTS-HD Master, DTS:X
Transmission Distance	100M CAT5E/6/6A/7
IR Level	12Vp-p
IR Frequency	Wideband 20K - 60KHZ
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)

Connection			
Encoder	Input: 1xHDMI Type A [19-pin male] 1x L/R Audio IN [3.81mm Phoenix connector] 1x IR IN [3.5mm Audio Jack] Output: 1xHDMI Type A [19-pin male] 1x L/R Audio OUT [3.81mm Phoenix connector] 1x IR OUT [3.5mm Audio Jack] Control: 1x RS-232 [3.81mm Phoenix connector] 1xLAN [RJ45 jack] 1xUSB [USB TypeB]		
Decoder	Input: 1x IR IN [3.5mm Audio Jack] 1x L/R Audio IN [3.81mm Phoenix connector] Output: 1xHDMI Type A [19-pin male] 1x IR OUT [3.5mm Audio Jack] 1x L/R Audio OUT [3.81mm Phoenix connector] Control: 1xLAN [RJ45 jack] 2xUSB1.1 [USB-A male] 2xUSB2.0 [USB-A male] 1x RS-232 [3.81mm Phoenix connector]		
Mechanical			
Housing	Metal enclosure		
Color	Black		
Dimensions	204mm [W] x 100mm [D] x 21.5mm [H]		
Weight	TX:509g, RX:496g		
Power Supply	Input: AC100 - 240V 50/60Hz, Output: DC 12V/1A (US/EU standards, CE/FCC/UL certified)		
Power Consumption	Encoder: < 8W, Decoder: < 4W		
Operating Temperature	32 - 104°F / 0 - 40°C		
Storage Temperature	-4 - 140°F / -20 - 60°C		
Relative Humidity	20 - 90% RH (no condensing)		
Resolution / Cable Length	4K60 - Feet / Meters	4K30 - Feet / Meters	1080P60 - Feet / Meters
HDMI IN / OUT	16ft / 5M	32ft / 10M	50ft / 15M
The use of "Premium High Speed HDMI" cable is highly recommended.			

5. Operation Controls and Functions

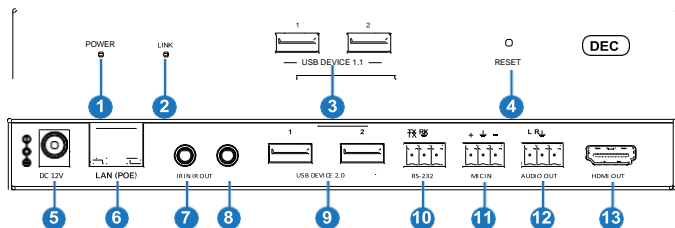
5.1 Encoder Panel



No.	Name	Function Description
1	POWER LED	When the power is connected normally, Red LED flashes: the system is booting Red LED illuminates: booting successfully
2	LINK LED	When the system starts up normally, Green LED flashes: no signal Green LED illuminates: signal input
3	RESET button	After powering on the device, press and hold the RESET button until the POWER LED and LINK LED flash simultaneously, release the button to reset the device to factory settings.
4	DC 12V	DC 12V power input interface.
5	LAN (POE)	1G LAN port, which can be connected to a third-party network Switch to form a distributed system. <i>Note: When network switch delivers POE power supply, DC 12V adapter doesn't need to apply on the unit.</i>
6	IR IN	12V IR signal input interface.
7	IR OUT	IR signal output interface.
8	USB HOST	USB-B connector for connecting a PC as KVM function.
9	RS-232	Bidirectional serial signal interface.
10	AUDIO IN	Analog audio input interface, which can be embedded into the HDMI stream for pass-through over to HDMI output and Audio out on Decoder, or be loopout by the AUDIO OUT port on Encoder.

11	AUDIO OUT	Analog audio output interface. It can output the audio extracted from the HDMI IN port or the audio from the local AUDIO IN port of the Encoder. Also it can output the audio transmitted from the AUDIO IN port of the Decoder in unicast mode.
12	HDMI OUT	HDMI loop out for display.
13	HDMI IN	HDMI signal input interface.

5.2 Decoder Panel



No.	Name	Function Description
1	POWER LED	When the power is connected normally, Red LED flashes: the system is booting Red LED illuminates: booting successfully
2	LINK LED	When the system starts up normally, Green LED flashes: no signal Green LED illuminates: signal input
3	USB DEVICE 1.1	Two USB1.1 device interface.
4	RESET button	After powering on the device, press and hold the RESET button until the POWER LED and LINK LED flash simultaneously, release the button to reset the device to factory settings.
5	DC 12V	DC 12V power input interface.
6	LAN (POE)	1G LAN port, which can be connected to a third-party network Switch to form a distributed system. <i>Note: When network switch delivers POE power supply, DC 12V adapter doesn't need to apply on the unit.</i>
7	IR IN	12V IR signal input interface.
8	IR OUT	IR signal output interface.

9	USB DEVICE 2.0	Two USB2.0 device interface.
10	RS-232	Bidirectional serial signal interface.
11	MIC IN	Microphone interface.
12	AUDIO OUT	Analog audio output interface. It outputs the same audio of it on HDMI OUT in case audio format is LPCM.
13	HDMI OUT	HDMI signal output interface.