



4K@60/HDCP 2.2 HDBaseT Extender with 2 inputs and 3/5 outputs

HDC-RH221UHD/HDC-RH421UHD

The HDC-RH221UHD and HDC-RH421UHD are two-input receivers with EDID emulator for sending HDMI, DVI, and HDBaseT input signals at up to 4K@60 over a Category cable without compression or processing.

Input video signals are converted to HDBaseT format and can be transmitted up to 100 m (328 ft.); 1080p (24 bit) video signals can be sent up to 150 m (492 ft.) in Long reach mode.

The HDC-RH221UHD/HDC-RH421UHD includes two/four HDMI outputs and one HDBaseT output. The HDMI OUT1 enables down conversion outputting 4K input video at 1080p automatically or manually depending on sink device status. The two video inputs can be controlled by the front panel or an external controller.

For video signal that is distributed to an HDMI/DVI and HDBaseT simultaneously, video/audio can be off for each output.

The HDC-RH221UHD/HDC-RH421UHD also features Daisy chain for extending and distributing video, audio, and control signals. In addition, digital audio signals can be de-embedded onto the analog output signals. It supports bidirectional RS-232C communication and LAN transmission.

Internal Web pages provide system status for troubleshooting and device monitoring using a browser.

■ Specification

Item		Description	
		HDC-RH221UHD	HDC-RH421UHD
Input	HDMI/DVI	1 input HDMI (*1)/DVI 1.0 TMDS single link, HDCP 1.4/2.2 HDR (*2), 3D (*3), x.v.Color EDID emulation, CEC (Pass-through) Connector: Female HDMI Type A (19-pin)	
	HDBaseT	1 input HDBaseT (*4) HDCP 1.4/2.2, HDR (*2), 3D (*3), x.v.Color EDID emulation, RS-232C, LAN Connector: RJ-45 (*5) Cable: CAT.5E HDC, Cat5e UTP/STP, Cat6 UTP/STP (T568A/T568B straight-through)	
Output	HDMI/DVI	1 x 2 outputs Video can be distributed to HDMI/DVI outputs and an HDBaseT output simultaneously. HDMI (*1)/DVI 1.0 TMDS single link, HDCP 1.4/2.2 HDR (*2), 3D (*3), x.v.Color, Only OUT1 supports CEC (Pass-through) Connector: Female HDMI Type A (19-pin)	1 x 4 outputs Video can be distributed to HDMI/DVI outputs and an HDBaseT output simultaneously. HDMI (*1)/DVI 1.0 TMDS single link, HDCP 1.4/2.2 HDR (*2), 3D (*3), x.v.Color, Only OUT1 supports CEC (Pass-through) Connector: Female HDMI Type A (19-pin)
	HDBaseT	1 output Video can be distributed to HDMI/DVI outputs and an HDBaseT output simultaneously. HDCP 1.4/2.2, HDR (*2), 3D (*3), x.v.Color, RS-232C, LAN Connector: RJ-45 (*5) Cable: CAT.5E HDC, Cat5e UTP/STP, Cat6 UTP/STP (T568A/T568B straight-through)	
Format	HDMI/DVI (*6)	VGA to 4K 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@60 (4:4:4))	
	HDBaseT (*7)	VGA to 4K For WQHD/WQXGA, only Reduced Blanking is supported. 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@60 (4:2:0))	
Color depth	HDMI	24 bit, 30 bit, 36 bit Deep Color (*6)	
	HDBaseT	24 bit, 30 bit, 36 bit Deep Color (*7)	
Dot clock		25 MHz to 600 MHz	
TMDS clock		25 MHz to 300 MHz	
TMDS data rate		0.75 Gbps to 18 Gbps	
Digital audio input		2 inputs Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz, Sample size: 16 bit to 24 bit, Reference level: -20 dBFS, Max. input level: 0 dBFS Connector: Female HDMI Type A (19-pin), RJ-45	
Digital audio output		1 x 3 outputs Audio can be distributed to HDMI outputs and an HDBaseT output simultaneously. Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz Sample size: 16 bit to 24 bit Reference level: -20 dBFS, Max. output level: 0 dBFS Connector: Female HDMI Type A (19-pin), 2 RJ-45s	1 x 5 outputs Audio can be distributed to HDMI outputs and an HDBaseT output simultaneously. Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz Sample size: 16 bit to 24 bit Reference level: -20 dBFS Max. output level: 0 dBFS Connector: Female HDMI Type A (19-pin), 4 RJ-45s
Analog audio output		1 output Unbalanced Stereo LR Output impedance: 50 Ω, Reference level: -10 dBu, Max. output level: +10 dBu Connector: Captive screw (3-pin)	
Maximum transmission distances	Digital input	HDMI/DVI : 98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60) (*8) HDBaseT : 328 ft. (100 m), 492 ft. (150 m) (Long reach mode is used) (*9)	
	Digital output	HDMI/DVI : 98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60) (*8) HDBaseT : 328 ft. (100 m), 492 ft. (150 m) (Long reach mode is used) (*9)	
Control	RS-232C	1 port/captive screw connector (3-pin), full duplex, up to 38.4 kbps	
	LAN	1 port/RJ-45 10Base-T/100Base-TX (Auto Negotiation), Auto MDI/MDI-X	
Functions		WEB browser control, Input channel automatic switching, Anti-snow, Connection Reset (*10), Button security lockout, OUT1 supports down conversion (4K to 1080p), Status notification, Each video output OFF, I/O signal status display, HDBaseT status display	

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[Features]

■ Video

- Up to 4K@60 (4:4:4)
- HDCP 1.4/2.2
- HDR
- 3D
- x.v.Color
- Up to 328 ft. (100 m) 4K@60 over CAT.5E HDC/Cat5e STP/Cat6 STP cable
- Transmission over Cat5e UTP cable^{*1}
- Up to 328 ft. (100 m) over Cat6 UTP cable^{*2}
- Up to 492 ft. (150 m) in Long reach mode (1080p 60 Hz 24 bit or less)^{*3}
- HDMI Transmission distances:
 - Up to 98 ft. (30 m): 1080p@60
 - Up to 39 ft. (12 m): 4K@60 (when cable supporting 18 Gbps transmission is used)
- No virtual delay (10 μs or less/328 ft. (100 m))
- OUT1 supports down conversion (4K to 1080p)
- Each video output OFF
- Daisy chain connection
- Anti-snow

■ Audio

- De-embedding

■ Control input

- Point-to-point (bidirectional) and point-to-multipoint (unidirectional) RS-232C communication
- LAN
- HDBaseT: RS-232C and LAN are supported

■ Others

- WEB browser control
- Status notification
- HDBaseT status display
- I/O signal status display
- Input channel automatic switching
- EDID emulation
- CEC (Pass-through)
- Connection Reset
- Button security lockout
- AC adapter with locking mechanism

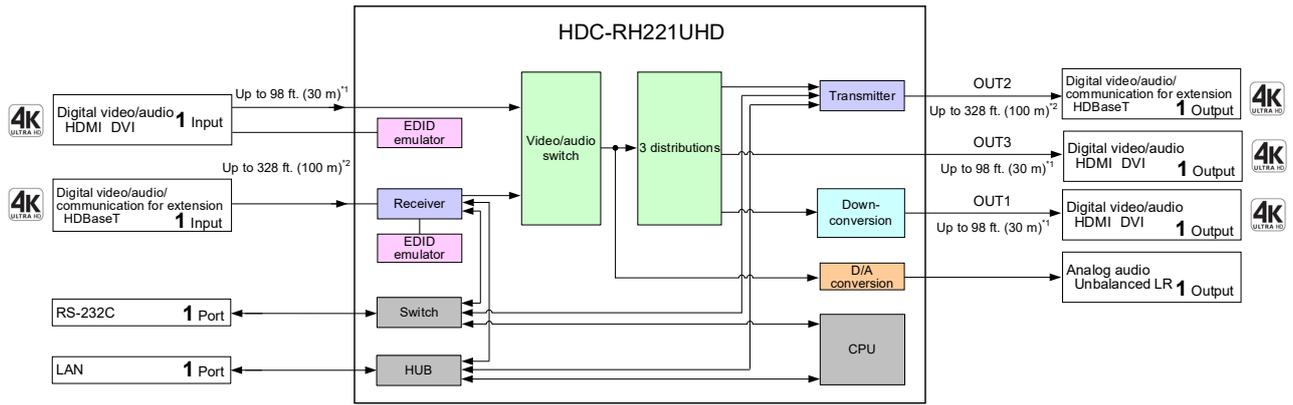
^{*1} If exceeding 164 ft. (50 m), CAT.5E HDC, Cat5e STP, and Cat6 UTP/STP cables are recommended.

^{*2} If the 4K format exceeds 230 ft. (70 m), CAT.5E HDC, Cat5e STP, and Cat6 STP cables are recommended.

^{*3} If exceeding 328 ft. (100 m) in Long reach mode, CAT.5E HDC, Cat5e STP, and Cat6 STP cables are recommended.

■ Diagram

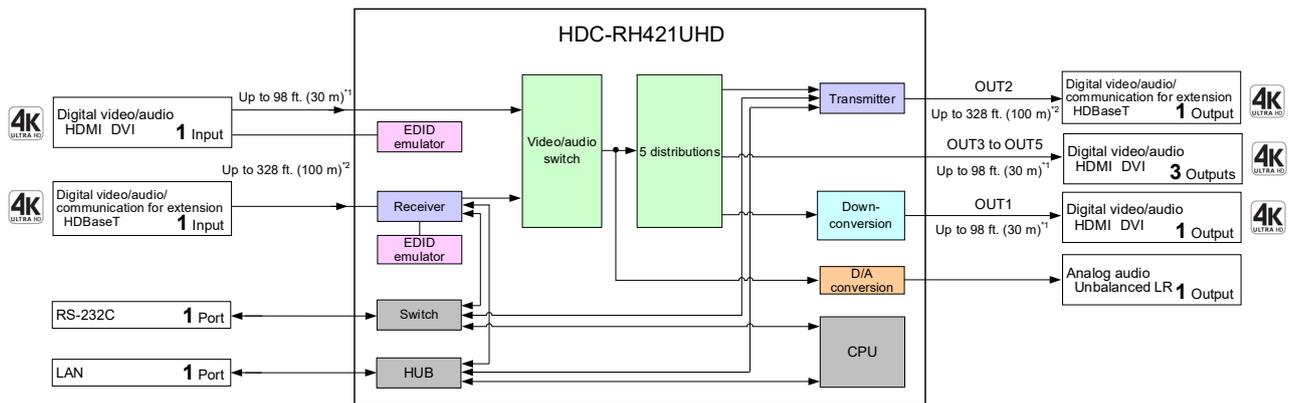
HDC-RH221UHD



¹ Maximum transmission distances
 98 ft. (30 m):1080p@60
 39 ft. (12m) : 4K@60 (when cable supporting 18 Gbps transmission is used)

² Maximum transmission distances
 328 ft. (100 m) : 4K@60 (4:2:0)
 492 ft. (150 m) : 1080p (24 bit) in Long reach mode
 For long reach mode, video signals up to 1080p (24 bit) can be transmitted to 492 ft. (150 m) at maximum if using with IDK's HDBaseT products supporting 328 ft. (100 m) transmission.

HDC-RH421UHD



¹ Maximum transmission distances
 98 ft. (30 m):1080p@60
 39 ft. (12m) : 4K@60 (when cable supporting 18 Gbps transmission is used)

² Maximum transmission distances
 328 ft. (100 m) : 4K@60 (4:2:0)
 492 ft. (150 m) : 1080p (24 bit) in Long reach mode
 For long reach mode, video signals up to 1080p (24 bit) can be transmitted to 492 ft. (150 m) at maximum if using with IDK's HDBaseT products supporting 328 ft. (100 m) transmission.

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