



The IDK DDC-03UHD is a 4K@60 and HDCP 2.2 supported EDID emulator. It includes the built-in EDID to offer plug-and-play between a PC and monitor. The cable equalization for input and CDR (Clock Data Recovery which repairs input signal deteriorated by the transmission line) enable long-haul video transmission.

■Specification

Item			Description	
Input	Video	HDMI / DVI	Number / Signal	1 input / HDMI (*1) / DVI 1.0 - HDR (*2) - 3D (*3) - x.v.Color - HDCP1.4 / 2.2 (Pass through) - TMDS single link - TMDS clock: 25 MHz to 300 MHz - TMDS data rate: 0.75 Gbps to 18 Gbps
			Connector	19-pin HDMI Type A, female
		Others	Built-in Digital Cable EQ, EDID emulation, CEC (Pass through)	
		Format	Dot clock: 25 MHz to 600 MHz 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@60 (4:4:4)) VGA to 4K	
	Color Depth	24 bit, 30 bit, 36 bit Deep Color (*4)		
	Audio	Digital	Number / Signal	Multi-channel linear PCM: Up to 8 Sampling frequency: 32 kHz to 192 kHz (*5), Sample Size: 16 to 24 bit
			Connector	19-pin HDMI Type A, female
Output	Video	HDMI / DVI	Number / Signal	1 output / HDMI Deep Color (*1) / DVI 1.0 (HDCP 1.4 / 2.2) - HDR (*2) - 3D supported (*3) - x.v.color supported - TMDS single link - TMDS clocks: 25 MHz to 300 MHz - TMDS data rate: 0.75 Gbps to 18 Gbps
			Connector	19-pin HDMI Type A, female
		Others	CEC (Pass through)	
		Format	Dot clock: 25 MHz to 600 MHz 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@60 (4:4:4)) VGA to 4K	
	Color Depth	24 bit, 30 bit, 36 bit Deep Color (*4)		
	Audio	Digital	Number / Signal	Multi-channel linear PCM: Up to 8 - Sampling frequency: 32 kHz to 192 kHz (*5), Sample Size: 16 to 24 bit
			Connector	19-pin HDMI Type A, female
Maximum cable distance			Digital Input 1080p@60: 65.6 ft. to 98.4 ft. (20 m to 30 m) 4K@60: 16.4 ft. to 39.4 ft. (5 m to 12 m) (*6) Digital output 1080p@60: 65.6 ft. (20 m) 4K@60: 26.2 ft. (8 m) (*6)	
Plug & Play			DDC2B (can be selected from Built-in EDID, Copied EDID, and EDID of connected monitor) Note: Built-in EDID: the maximum resolution can be selected (See the tables below)	
Functions			Audio input enabled / disabled (*7) DDC buffer HDCP input enabled / disabled Connection Reset pass through (*8)	
Others	Power		Input: AC ~ 100 V - 240 V ± 10%, 50 Hz / 60 Hz ± 3 Hz Output: DC 5 V 3 A (power supply unit is provided)	
	Power consumption		About 2 Watts	
	Dimensions		3.46" (W) x 0.9" (H) x 2.75" (D) (88 mm x 23 mm x 70 mm) (projections are not included)	
	Weight		0.44 lb. (0.2 kg)	
	Temperature		Operating: 32 °F to 104 °F (0 °C to +40 °C) Storage: -4 °F to +176 °F (-20 °C to +80 °C)	
	Humidity		Operating / Storage humidity: 20% to 90% (Non Condensing)	

*1 ARC and HEC are not supported.

*2 HDR is supported if external EDID is selected while an HDR-supported sink device is connected for EDID setting or if copied EDID of an HDR-supported sink device is selected for EDID setting.

*3 3D is supported if external EDID is selected while a 3D-supported sink device is connected for EDID setting or if copied EDID of 3D-supported sink device is selected for EDID setting.

*4 4K format: the following color depths are supported.
- 24 Hz / 25 Hz / 30 Hz: 24 bit, 30 bit, 36 bit (RGB, YCbCr 4:4:4, YCbCr 4:2:2)
- 50 Hz / 59.94 Hz / 60 Hz: 24 bit, 30 bit, 36 bit (YCbCr 4:2:2, YCbCr 4:2:0)
: 24 bit (RGB, YCbCr 4:4:4)

*5 Sampling frequency for when built-in EDID is selected is 32 kHz to 48 kHz.

*6 The distance mentioned above is the maximum extension range acquired under the following environments:
- 1080p@60: IDK's AWG24 cable was used and signals of 1080p@60 24 bit / pixel (8 bit / component) was input or output.
- 4K@60: 18 Gbps hi-speed transmission cable was used and signals of 4K@60 24 bit / pixel (8 bit / component) was input or output.
The maximum distance depends on connected devices. If IDK's cable is not used, video may be interrupted or may not be output even within the mentioned range.

*7 Only supported for GROUP1's EDID (No.0 to No.6) and GROUP 2's EDID (No.0 to No.D)

*8 For digital systems, some problems, such as an HDCP authentication error, can often be recovered by physically disconnecting and reconnecting the digital cables. The Connection Reset feature will fix these problems automatically without the need to physically plug and unplug the cables. The DDC-03UHD passes through the Connection Reset function. If other devices are connected between the DDC-3UHD and the sink device, this feature may be invalid.

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■ Built-in EDID
【GROUP 1】

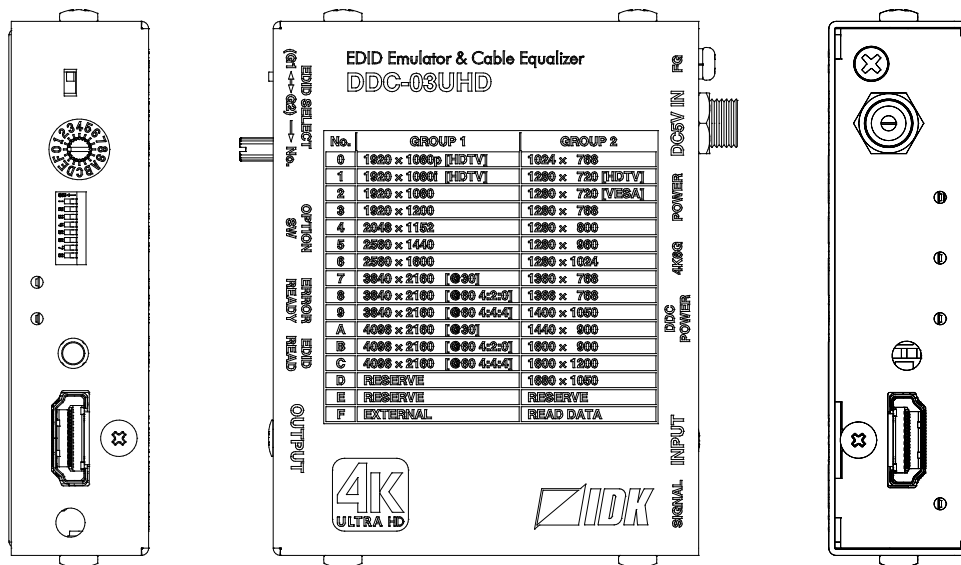
No.	Pixel	Resolution
0	1920 x 1080p [HDTV]	1080p
1	1920 x 1080i [HDTV]	1080i
2	1920 x 1080	VESAHD
3	1920 x 1200	WUXGA
4	2048 x 1152	QWXGA
5	2560 x 1440	WQHD
6	2560 x 1600	WQXGA
7	3840 x 2160 [③0]	4K③0 (3840 x 2160)
8	3840 x 2160 [③0 4:2:0]	4K③0 (3840 x 2160)
9	3840 x 2160 [③0 4:4:4]	4K③0 (3840 x 2160)
A	4096 x 2160 [③0]	4K③0 (4096 x 2160)
B	4096 x 2160 [③0 4:2:0]	4K③0 (4096 x 2160)
C	4096 x 2160 [③0 4:4:4]	4K③0 (4096 x 2160)
D	RESERVE	—
E	RESERVE	—
F	EXTERNAL	—

【GROUP 2】

No.	Pixel	Resolution
0	1024 x 768	XGA
1	1280 x 720 [HDTV]	720p
2	1280 x 720 [VESA]	VESA720
3	1280 x 768	WXGA
4	1280 x 800	WXGA
5	1280 x 960	Quad-VGA
6	1280 x 1024	SXGA
7	1366 x 768	WXGA
8	1366 x 768	WXGA
9	1400 x 1050	SXGA+
A	1440 x 900	WXGA+
B	1600 x 900	WXGA++
C	1600 x 1200	UXGA
D	1680 x 1050	WSXGA+
E	RESERVE	—
F	READ DATA	—

*VESAHD / WUXGA / QWXGA / WQHD / WQXGA: Reduced Blanking

■ Panel Drawings

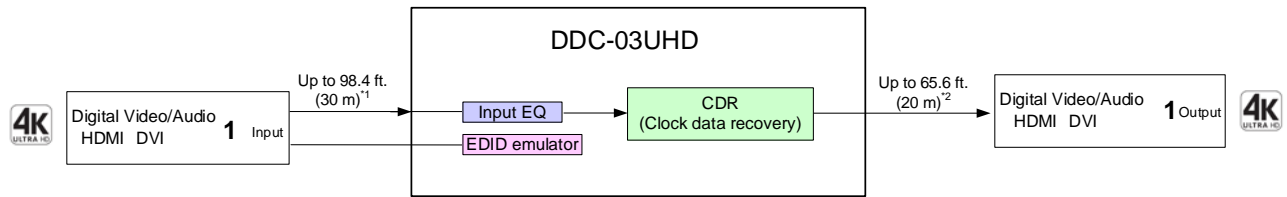


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DDC-03UHD Diagram and Features

■ Diagram



*1 The maximum distance
 1080p@60: 65.6 to 98.4 ft. (20 to 30 m)
 4K@60: (5 to 12 m) when 18 Gbps high-speed transmission cable is used.

*2 The maximum distance
 1080p@60: 65.6 ft. (20 m)
 4K@60: 26.2 ft. (8 m) when 18 Gbps high-speed transmission cable is used.

■ Application example



*1 The maximum distance
 1080p@60: 65.6 to 98.4 ft. (20 to 30 m)
 4K@60: (5 to 12 m) when 18 Gbps high-speed transmission cable is used.

*2 The maximum distance
 1080p@60: 65.6 ft. (20 m)
 4K@60: 26.2 ft. (8 m) when 18 Gbps high-speed transmission cable is used.

■ Features

Video

- Maximum resolution: 4K@60 (4:4:4)
- HDCP 1.4 / 2.2 (Pass through)
- HDR
- 3D
- x.v.Color
- Digital cable equalization
 Input: up to 65.6 to 98.4 ft. (20 m to 30 m)

Audio

- Audio input enabled / disabled

Others

- EDID emulation
- CEC (Pass through)
- DDC buffer
- Clock Data Recovery
- HDCP input enabled / disabled
- Connection Reset pass through
- AC adapter with lock mechanism