



DDC-03UHD-A

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		1 input
Output		1 output
I/O signal		HDMI (*1)/DVI 1.0 TMDS single link, HDCP 1.4/2.2 (Pass through) CEC (Pass through), HDR (*2), 3D (*3), x.v.Color Built-in Digital Cable EQ, EDID emulation
I/O connector		Female HDMI Type A (19-pin)
Format		VGA to 4K 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@60 (4:4:4))
Color depth		24 bit, 30 bit, 36 bit Deep Color (*4)
Dot clock		25 MHz to 600 MHz
TMDS clock		25 MHz to 300 MHz
TMDS data rate		0.75 Gbps to 18 Gbps
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)
Digital audio input/output		Multi-channel LPCM up to 8 channels Sampling frequency: 32 kHz to 192 kHz (*5), Sample Size: 16 to 24 bit
Maximum cable distance	Digital Input	98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60) (*6)
	Digital output	66 ft. (20 m) (1080p@60), 26 ft. (8 m) (4K@60) (*6)
Functions		Audio input enabled/disabled (*7), DDC buffer, HDCP input enabled/disabled, Connection Reset pass through (*8)
General	AC Adapter	Input : 100 - 240 VAC ±10%, 50 Hz/60 Hz±3 Hz Output : DC 5 V 3 A (A dedicated AC adapter is provided.)
	Power consumption	About 2 Watts
	Dimensions	3.5 (W) × 0.9 (H) × 2.8 (D)" (88 (W) × 23 (H) × 70 (D) mm) (Excluding connectors and the like)
	Weight	0.4 lbs. (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: 20% to 90% (Non Condensing)

*1 HEC and ARC 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 transmission range acquired under the following environments:

• 1080p@60 : IDK's 24 AWG 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 cable distance depends on the connected devices. The distance may not be extended with some device combinations, cabling method, or other manufacturer's cable. Video may be disturbed or may not be output even if signals are within the range mentioned above.

*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-A and the sink device, this feature may be invalid.

■ 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]	4K@30 (3840 x 2160)
8	3840 x 2160 [60 4:2:0]	4K@60 (3840 x 2160)
9	3840 x 2160 [60 4:4:4]	4K@60 (3840 x 2160)
A	4096 x 2160 [30]	4K@30 (4096 x 2160)
B	4096 x 2160 [60 4:2:0]	4K@60 (4096 x 2160)
C	4096 x 2160 [60 4:4:4]	4K@60 (4096 x 2160)
D	RESERVE	—
E	RESERVE	—
F	EXTERNAL	—

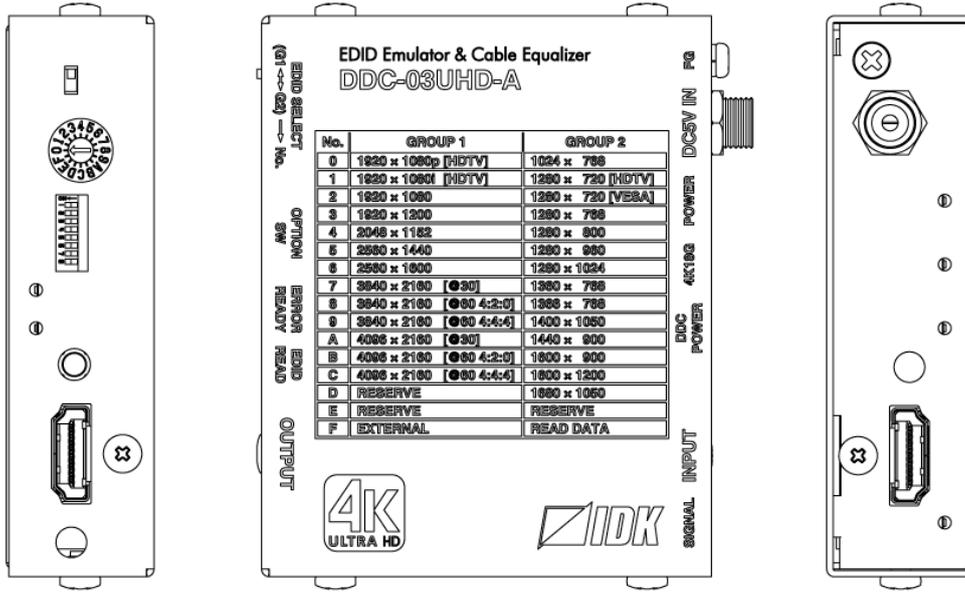
[GROUP 2]

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	1360 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	—

* For VESAHD / WUXGA / QWXGA / WQHD / WQXGA, only Reduced Blanking is supported.

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■ Panel Drawings

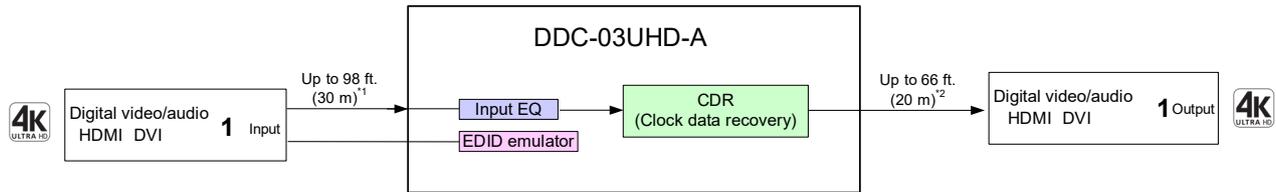


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DDC-03UHD-A

■ Diagram



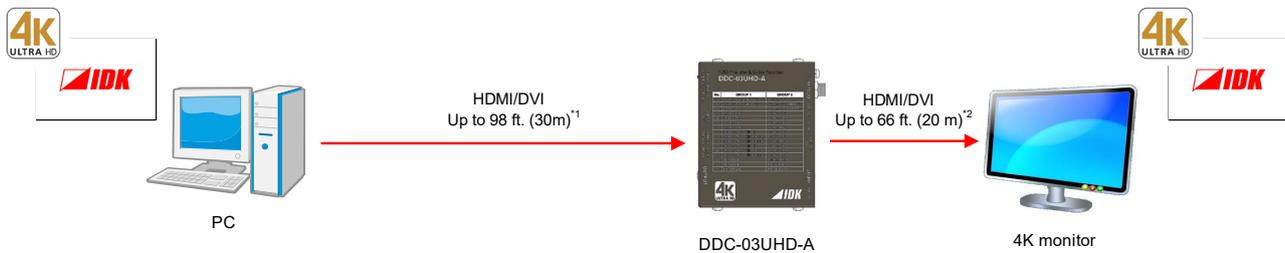
¹ The maximum transmission distances

98 ft. (30 m): 1080p@60
39 ft. (12 m): 4K@60 (When 18 Gbps high-speed transmission cable is used.)

² The maximum transmission distances

66 ft. (20 m): 1080p@60
26 ft. (8 m) : 4K@60 (When 18 Gbps high-speed transmission cable is used.)

■ Application example



¹ The maximum transmission distances

98 ft. (30 m): 1080p@60
39 ft. (12 m): 4K@60 (When 18 Gbps high-speed transmission cable is used.)

² The maximum transmission distances

66 ft. (20 m): 1080p@60
26 ft. (8 m) : 4K@60 (When 18 Gbps high-speed transmission cable is used.)

[Features]

■ Video

- Up to 4K@60 (4:4:4)
- HDCP 1.4/2.2 (Pass-through)
- HDR
- 3D
- x.v.Color
- Automatic input signal equalization
 - Input Up to 98 ft. (30 m): 1080p@60
 - Up to 39 ft. (12 m): 4K@60 (when cable supporting 18 Gbps transmission is used)

■ Audio

- Audio input enabled/disabled

■ Others

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

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