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

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td>1 input</td>
</tr>
<tr>
<td>Output</td>
<td>1 output</td>
</tr>
</tbody>
</table>

#### I/O signal

- **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)

#### Format

- **HDMI** to **4K@60** / **480i** or **576i** / **720p** / **1080i** or **1080p** / **4K** (up to **4K@60** (4:4:4))

#### Color depth

- 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

#### Plug & Play

- DDC2B

#### Digital audio input/output

- Multi-channel LPCM up to 8 channels
- Sampling frequency: 32 kHz to 192 kHz (7), Sample Size: 16 to 24 bit

#### Maximum cable distance

- **Digital Input**
  - 30 ft. (9 m) (1080p@60), 38 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 (78)

#### General

- **AC Adapter**
  - Input: 100 - 240 VAC ±10%, 50 Hz/60 Hz Hz
  - Output: DC 5 V 3 A (A dedicated AC adapter is provided.)
- **Power consumption**
  - About 2 Watts
- **Dimensions**
  - 3.5 (W) x 0.9 (H) x 2.8 (D) (88 (W) x 23 (H) x 70 (D) mm)
- **Weight**
  - 0.4 lbs. (0.2 kg)
- **Temperature**
  - Operating: -32°C to 104°F (-20°C to +40°C)
  - Storage: -4°C to +176°F (-20°C to +80°C)
- **Humidity**
  - Operating/Storage: 20% to 90% (Non Condensing)

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*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 4:4:4, YCbCr 4:2:2)
- 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 distorted 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.6).

*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]

<table>
<thead>
<tr>
<th>No.</th>
<th>Pixel</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1920 x 1080</td>
<td>HDTV</td>
</tr>
<tr>
<td>1</td>
<td>1920 x 1080</td>
<td>HDTV</td>
</tr>
<tr>
<td>2</td>
<td>1920 x 1080</td>
<td>VESAHD</td>
</tr>
<tr>
<td>3</td>
<td>1920 x 1200</td>
<td>WUXGA</td>
</tr>
<tr>
<td>4</td>
<td>2048 x 1152</td>
<td>QWXGA</td>
</tr>
<tr>
<td>5</td>
<td>2560 x 1440</td>
<td>WQHD</td>
</tr>
<tr>
<td>6</td>
<td>2560 x 1600</td>
<td>WQHD</td>
</tr>
<tr>
<td>7</td>
<td>3840 x 2160</td>
<td>(3840 x 2160)</td>
</tr>
<tr>
<td>8</td>
<td>3840 x 2160</td>
<td>(3840 x 2160)</td>
</tr>
<tr>
<td>9</td>
<td>4096 x 2160</td>
<td>(4096 x 2160)</td>
</tr>
<tr>
<td>A</td>
<td>4096 x 2160</td>
<td>(4096 x 2160)</td>
</tr>
<tr>
<td>B</td>
<td>4096 x 2160</td>
<td>(4096 x 2160)</td>
</tr>
<tr>
<td>C</td>
<td>4096 x 2160</td>
<td>(4096 x 2160)</td>
</tr>
<tr>
<td>D</td>
<td>RESERVE</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>RESERVE</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>EXTERNAL</td>
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#### [GROUP 2]

<table>
<thead>
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<th>No.</th>
<th>Pixel</th>
<th>Resolution</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>1024 x 768</td>
<td>XGA</td>
</tr>
<tr>
<td>1</td>
<td>1280 x 720</td>
<td>HDTV</td>
</tr>
<tr>
<td>2</td>
<td>1280 x 720</td>
<td>VESAHD</td>
</tr>
<tr>
<td>3</td>
<td>1280 x 768</td>
<td>WUXGA</td>
</tr>
<tr>
<td>4</td>
<td>1280 x 800</td>
<td>WUXGA</td>
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<tr>
<td>5</td>
<td>1280 x 800</td>
<td>Quad-VGA</td>
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<tr>
<td>6</td>
<td>1280 x 1024</td>
<td>SXGA</td>
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<tr>
<td>7</td>
<td>1360 x 768</td>
<td>WUXGA</td>
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<tr>
<td>8</td>
<td>1366 x 768</td>
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<tr>
<td>9</td>
<td>1400 x 1050</td>
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<tr>
<td>A</td>
<td>1540 x 900</td>
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<tr>
<td>B</td>
<td>1600 x 900</td>
<td>WUXGA++</td>
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<tr>
<td>C</td>
<td>1600 x 1200</td>
<td>UBXGA</td>
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<tr>
<td>D</td>
<td>1680 x 1050</td>
<td>WUXGA+</td>
</tr>
<tr>
<td>E</td>
<td>RESERVE</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>READ DATA</td>
<td>~</td>
</tr>
</tbody>
</table>

* For VESAHD / WUXGA / QWXGA / WQHD / WUXGA, only Reduced Blanking is supported.
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IDK Corporation
**Diagram**

- **DDC-03UHD-A**
  - **Input**: Digital video/audio HDMI/DVI
  - **Output**: Digital video/audio HDMI/DVI
  - **Up to 98 ft. (30 m)**
  - **Up to 66 ft. (20 m)**

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**

- **PC**
  - HDMI/DVI Up to 98 ft. (30 m)

- **DDC-03UHD-A**
  - EDID emulator
  - CDR (Clock data recovery)

- **4K monitor**
  - HDMI/DVI Up to 66 ft. (20 m)

*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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