The IDK MSD-701UHD is a high-performance digital multi switcher with a scan converter and up to 7 inputs and 1 output.

For video input, 7 digital and 2 analog inputs are included and the following signals are supported: HDMI, DVI, composite video, Y/C, analog RGB, and analog YPbPr signals. Input video signals are converted to HDMI and HDBaseT signals (2 outputs) simultaneously, and output at a resolution up to 4K@60.

For audio input, 7 digital and 3 analog inputs are included. Selected audio signals are output to digital audio and analog audio. Audio level of each input can be set individually. The lip sync function corrects the gap between the video and audio.

This switcher also has RS-232C and LAN ports as communication ports for control to enable you to set menus remotely. You can also control external devices that are connected to the MSD-802UHD over RS-232C, LAN, CEC, or contact closure by registering external control commands. The waiting function helps you to send external commands after cooling time passes as power supply control of projectors or the like. External control commands can be executed from front keys, RS-232C, or LAN; they can also be executed when input channel selection keys or power supply key is operated.

### Specification

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>Input</strong></td>
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</table>
| HDMI / DVI    | 2 inputs  
HDMI Deep Color (*1) / DVI 1.0  
TMDS single link, HDCP 1.4 / 2.2  
TMDS clocks: 25 MHz to 300 MHz, TMDS data rate: 0.75 Gbps to 18 Gbps  
EDID emulation  
Connector: Female HDMI Type A (19-pin) |
| Universal     | 5 inputs  
"DVI" connectors: Switch-selectable between digital and analog  
HDMI Deep Color (*1) / DVI 1.0  
TMDS single link, HDCP 1.4  
TMDS clocks: 25 MHz to 225 MHz, TMDS data rate: 0.75 Gbps to 6.75 Gbps  
EDID emulation  
Connector: 3 female HDMI Type A (19-pin), 2 female DVI-I (29-pin) |
| Analog        | 2 inputs  
Switch-selectable between digital and analog  
Composite video / Y/C / Analog RGB / Analog YPbPr (auto-recognition)  
Composite video (VBS Signal): 1.0 V[p-p] / 75 Ω  
Y/C: 1.0 V[p-p](Y) / 0.286 V[p-p](C) / 75 Ω  
Analog RGB: 0.7 V[p-p](1.0 V[p-p] Sync on Green) / 75 Ω  
HS/VS TTL level, CS TTL level, Sync on Green  
Analog YPbPr: 1.0 V[p-p](Y) / 0.7 V[p-p](Pb/Pr) / 75 Ω  
EDID emulation  
Connector: Female DVI-I (29-pin) |
| **Format**    | 2 inputs  
VGA to WQXGA (Dot clock: 25 MHz to 300 MHz)  
480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@60 (4:4:4)) (*2) |
| Universal     | 5 inputs  
VGA to WQXGA (Dot clock: 25 MHz to 165 MHz)  
* For WUXGA / QWXGA, only Reduced Blanking is supported.  
480i / 480p / 576i / 576p / 720p / 1080i / 1080p  |
| Analog        | VGA to QWXGA (Dot clock: 25 MHz to 165 MHz)  
* For WUXGA / QWXGA, only Reduced Blanking is supported.  
NTSC / PAL  
480i / 480p / 576i / 576p / 720p / 1080i / 1080p  |
| **Audio**     | 7 inputs  
Switch-selectable between analog audio  
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: 5 female HDMI Type A (19-pin), 2 female DVI-I (29-pin) |
| Analog        | 3 inputs  
Switch-selectable between digital audio  
Stereo L/R balanced / unbalanced  
Input impedance: 48 Ω Balanced / 24 kΩ Unbalanced  
Reference level: -10 dBu, Max. input level: +10 dBu  
Connector: 5-pin terminal block |
Video

### HDMI / DVI

- 1 output: Output video can be distributed to an HDMI / DVI and HDBaseT simultaneously.
- HDMI Deep Color (*1) / DVI1.0
- TMDS single link, HDCP 1.4 / 2.2
- TMDS clocks: 25.175 MHz to 297 MHz, TMDS data rate: 0.755 Gbps to 17.82 Gbps
- Connector: Female HDMI Type A (19-pin)

### HDBaseT

- 1 output: Output video can be distributed to an HDMI / DVI and HDBaseT simultaneously.
- HDCP 1.4 / 2.2 (*3)
- Connector: RJ-45 (*4)
- Cable: CAT.5e HDC, Cat5e UTP / STP, Cat6 UTP / STP (*5)

Output

### Format

- VGA / SVGA / XGA / WXGA (1280x768) / WXGA (1366x768) / WXGA (1440x900) / SXGA / SXGA+ / SXGA++ / SXGA++ / UXGA / WSXGA+ / WUXGA / WXGA / WQXGA / WQXGA
- * For VESAHD / WUXGA / WQXGA / WQXGA, only Reduced Blanking is supported.
- 480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (3840 x 2160) (*6) / 4K (4096 x 2160) (*6)

### Digital

- 1 output: Audio can be distributed to an HDMI output 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), RJ-45

Audio

### Analog

- 1 output
- Stereo L/R balanced / unbalanced
- Output impedance: 100 Ohm / balanced / 50 Ohm unbalanced
- Reference level: -10 dBu, Max. output level: +10 dBu
- Connector: 5-pin terminal block

### Maximum extension distance

- **Digital Input**
  - HDMI / DVI: up to 98 ft. (30 m) (1080p@60), up to 39 ft. (12 m) (4K@60) (*7)

- **Digital Output**
  - HDMI / DVI: up to 98 ft. (30 m) (1080p@60), up to 39 ft. (12 m) (4K@60) (*7)
  - HDBaseT: up to 328 ft. (100 m), up to 492 ft. (150 m) (Long Reach Mode) (*8)

### External Control

- **RS-232C**
  - 1 port / 3-pin terminal block

- **LAN**
  - 1 port / RJ-45 10Base-T / 100Base-TX (Auto Negotiation), Auto MDI / MDI-X

- **Contact close**
  - 3 ports / 6-pin terminal block

- **Command control**
  - 3 ports / 7-pin terminal block

- **External control**
  - RS-232C, LAN, contact closure, PJLink (class1), CEC (power control of sink device) (*12)

### Power

- 100 - 240 VAC ± 10%, 50 Hz / 60 Hz ± 3 Hz

### General

- **Power consumption**
  - About 47 Watts

- **Dimensions**
  - 16.9 (W) x 1.7 (H) x 13.8 (D) (430 (W) x 44 (H) x 350 (D) mm)
  - (EIA 1U high, full rack wide) (Excluding connectors and the like)

- **Weight**
  - 10.6 lbs. (4.8 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)

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1. 30 bit / pixel (10 bit / component) Deep Color is supported while x.v.Color, 3D, ARC and HEVC are not supported.
2. 4K format: Only CEA-861 timing is supported.
3. HDBaseT input/output: DVI signals protected by HDCP are not supported. To transmit those signals, use an IDK’s twisted pair cable extending the DVI signals.
4. RJ-45 (HDBaseT connector) is only for extending digital video and audio signals over a Cat5e / Cat6 twisted pair cable. Use it with IDK’s twisted pair cable receiver. Do not use for LAN devices.
5. T568A or T568B straight. The CAT.5e HDC cable is developed by IDK and recommended by HDBaseT alliance.
6. 4K@60: only for 18 Gbps supported cable used and signals of 4K@60 24 bit / pixel (8 bit / component) was input or output.
7. 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.
8. The maximum extension distance was obtained when IDK’s CAT.5e HDC cable was used. 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. Operations may not be stable with some LCD devices; please check the operation beforehand or contact us. The maximum extension distance is the shortest distance of connected HDBaseT product or sink device’s maximum extension distance. Up to 492 ft. (150 m): 1080p (24 bit) in Long reach mode. For Long reach mode, use IDK’s twisted pair cable products that supports 328 ft. (100 m) or longer.
9. Seamless switching with a blank frame.
10. The anti-snow feature automatically fixes snow noise that is a specific symptom of HDCP-compliant signals and mainly occurs at start-up. This feature does not work when snow noise has already occurred during startup or when it occurs due to a bad condition of the transmission line.
11. For digital systems, some problems, such as an HDCP authentication error, can often be recovered by physically disconnecting and reconnecting the digital cables. However, the Connection Reset function will fix these problems automatically without the need to physically plug and unplug the cables. It creates the same condition as if the cable were physically disconnected and reconnected. This feature only works for the MSD’s output. If other devices are connected between the MSD’s output and sink device, this feature may be invalid.
12. The sink device must support CEC. Some sink devices cannot be controlled from the MSD through CEC.
Front & Rear Panels

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Ver.1.3.0 (180920)

- All specifications and drawings are subject to change without notice.
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- Please do not use the supplied AC adapter and power supply cable for other products.
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IDK Corporation
[Features]

■ Video
  • Up to 4K@60 (4:4:4)
  • HDCP 1.4 / 2.2
  • Motion adaptive I/P conversion
  • Scan conversion
  • Aspect ratio control
  • Seamless switching*1
  • A/D conversion
  • Anti-snow
  • Up to 492 ft. (150 m) over a Cat6 cable *2

■ Audio
  • A/D, D/A conversion
  • Volume adjustment
  • Lip sync

■ Control Input
  • RS-232C
  • LAN
  • Command control

■ Control output
  • Control command output (controlling projector, etc.)
  • PJLink
  • Power control of sink device over CEC
  • Contact closure

■ Others
  • EDID emulation
  • All functions setting through browser
  • Automatic input detection and switching
  • Audio breakaway enables independent audio and video switching
  • Cross point memory
  • Preset memory
  • Last memory
  • Connection Reset
  • Security lock

*1 Seamless switching with a black frame.
*2 For Long reach mode, up to 1080p (24 bit) resolutions are supported.