The IDK MSD-701 is a high-performance digital multi switcher with a scan converter and up to 7 inputs and 1 output. Video signals HDMI, DVI, Composite Video, S-Video, Analog RGB, and Analog YPbPr can be input and converted up to QWXGA or 1080p. An HDMI output and an HDBaseT output that can output simultaneously. The MSD-701 also has 5 digital and 7 analog audio inputs. Audio signals of IN1 to IN5 are switch-selectable between digital audio (HDMI) and analog audio (RCA), and audio output is simultaneous output both digital and analog output. Sound level input and output can be set respectively. Gaps between video and audio can be compensated by Lip Sync. Front Panel VFD Menu is a useful for checking input and output signal status on the switcher and set or changes the settings of the switcher to support AV systems in a field. The MSD-701 also has other features such as built-in scan converter, Seamless Switching, and Aspect Ratio Control for complete AV switching and distribution.

### Specification

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td><strong>HDMI/DVI</strong></td>
</tr>
<tr>
<td></td>
<td>5 inputs *DVI connectors: Switch-selectable between digital and analog HDMI Deep Color (*1)DVI 1.0 TMDSD single link, HDCP 1.4, TMDSD clock: 25 MHz to 225 MHz Built-in cable EQ, EDID emulation, CEC Connector: 4 female HDMI Type A (19-pin), female DVI-I (29-pin)</td>
</tr>
<tr>
<td></td>
<td><strong>Universal Analog</strong></td>
</tr>
<tr>
<td></td>
<td>3 inputs *Switch-selectable between digital and analog Composite video/YUV/Analog RGB/Analog YPbPr (auto-recognition) Composite video (VBS Signal): 1.0 V[p-p]/75 Ω Y/C: 1.0 V[p-p]/75 Ω 1.07 V[p-p]/75 Ω Ancor 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]/(R)/0.7 V[p-p]/75 Ω EDID emulation Connector: Female DVI-I (29-pin), 2 female high-density D-sub (15-pin)</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td><strong>Analog NTSC/PAL</strong></td>
</tr>
<tr>
<td></td>
<td>Analog/HDMI/DVI: VGA to QWXGA (Dot clock: 25 MHz to 165 MHz) Analog/HDMI/DVI: 480i / 480p / 576i / 576p / 720p / 1080p / 1080p</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td><strong>Digital</strong></td>
</tr>
<tr>
<td></td>
<td>5 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: 4 female HDMI Type A (19-pin), female DVI-I (29-pin)</td>
</tr>
<tr>
<td></td>
<td><strong>Analog</strong></td>
</tr>
<tr>
<td></td>
<td>7 inputs *IN1 to IN5 are switch-selectable between digital audio Stereo LR unbalanced Input impedance: 24 kΩ, Reference level: -20 dBFS, Max. input level: +10 dBu Connector: RCA pin jack</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td><strong>HDMI/DVI</strong></td>
</tr>
<tr>
<td></td>
<td>1 output *Output video can be distributed to an HDMI/DVI and HDBaseT simultaneously. HDMI Deep Color (*1)DVI 1.0 TMDSD single link, HDCP 1.4 Built-in cable EQ, EDID Connector: Female HDMI Type A (19-pin)</td>
</tr>
<tr>
<td></td>
<td><strong>HDBaseT</strong></td>
</tr>
<tr>
<td></td>
<td>1 output *Output video can be distributed to an HDMI/DVI and HDBaseT simultaneously. HDBaseT (*2) RS-232C: LAN, CEC Connector: RJ-45 (*3) Cable: CAT 5e HDBaseT, Cat6 UTP/STP, Cat6 UTP/STP (4)</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td><strong>Audio</strong></td>
</tr>
<tr>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td><strong>Lip Sync</strong></td>
</tr>
<tr>
<td></td>
<td>1 output Stereo LR unbalanced Output impedance: 75 Ω, Sample size: -10 dBu, Max. output level: +10 dBu Connector: RCA pin jack</td>
</tr>
<tr>
<td><strong>Maximum transmission distances</strong></td>
<td>Digital Input: 96 ft. (30 m) (*5) Digital output: HDMI/DVI: 164 ft. (50 m) (*5), HDBaseT: 328 ft. (100 m) (*6)</td>
</tr>
</tbody>
</table>

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*All specifications and drawings are subject to change without notice. ●Please do not use the supplied AC adapter and power supply cable for other products. ●HDBaseT™ and the HDBaseT Alliance Logo are trademarks of the HDBaseT Alliance. ●The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries. ●PJLink is a trademark in Japan, the United States, and other countries/regions. ●The terms Anti-snow and Connection Reset are registered trademarks of IDK Corporation in Japan. ●All other company and product names mentioned in this document are either registered trademarks or trademarks of their respective owners. In this document, the “” or “™” marks may not be specified. IDK Corporation
The sink device must support CEC. Some sink devices cannot be controlled from the MSD through CEC.

HDBaseT output: DVI signals protected by HDCP are not supported. To transmit those signals, use an IDK's HDC-RD100 as a receiver supporting DVI signals.

RJ-45 (HDBaseT output connector) is only for extending digital video and audio signals over a Cat5e/Cat6 cable. Use it with IDK's category cable receiver. Do not use it for LAN devices.

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The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.

The terms PJLink is a trademark in Japan, the United States, and other countries/regions. IDK Link is a trademark in Japan, the United States, and other countries/regions.

*1 30 bit/pixel (10 bit/component) Deep Color is supported while x.v.Color, 3D, ARC and HEC are not supported.

*2 HDBaseT output: DVI signals protected by HDCP are not supported. To transmit those signals, use an IDK's HDC-RD100 as a receiver supporting DVI signals.

*3 RJ-45 (HDBaseT output connector) is only for extending digital video and audio signals over a Cat5e/Cat6 cable. Use it with IDK's category cable receiver. Do not use it for LAN devices.

*4 T568A or T568B straight. The CAT.5E HDC cable is developed by IDK and recommended by HDBaseT alliance.

*5 Seamless switching with a black frame.

*6 The maximum transmission 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.

*7 Seamless switching with one black frame.

*8 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.

*9 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 feature 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.

*10 The sink device must support CEC. Some sink devices cannot be controlled from the MSD through CEC.

**Front & Rear Panels**

- **DIGITAL MULTI SWITCHER**
- **DISPLAY**
- **POWER**
- **IN 1**
- **IN 2**
- **IN 3**
- **IN 4**
- **IN 5**
- **IN 6**
- **IN 7**
- **HDBaseT OUT**
Diagram

[Features]

- **Video**
  - Up to 1080p/QWXGA (Reduced Blanking)
  - Automatic input signal equalization
    - Input: Up to 98 ft. (30 m)
    - Output: Up to 164 ft. (50 m)
  - Up to 328 ft. (100 m) over Cat6 cable
  - Motion adaptive interlaced/progressive conversion
  - Scan conversion
  - Aspect ratio control
  - Seamless switching with one black frame
  - Analog/Digital conversion
  - Anti-snow

- **Audio**
  - Embedding/De-embedding
  - Volume adjustment (Input/Output)
  - Lip Sync
  - Audio Downmix

- **Control Input**
  - RS-232C
  - LAN

- **Control Output**
  - Control command output (e.g. controlling projectors)
  - PJLink
  - CEC (Control sink device power)

- **Others**
  - EDID emulation
  - Audio breakaway for independent audio and video switching
  - Input channel automatic switching
  - Front panel HDMI input connector
  - Crosspoint memory
  - Preset memory
  - Last memory
  - Connection Reset
  - Front key function lock
  - HDBaseT: RS-232C, LAN and CEC are supported

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IDK Corporation