The IDK MSD-6206 is a high-performance digital multi switcher with a scan converter and up to 8 inputs and 6 outputs.

For video input, 8 digital and 2 analog inputs are included and the following signals are supported: HDMI, DVI, HDBaseT, composite video, Y/C, analog RGB, and analog YPbPr signals. HDBaseT input supports Power over HDBaseT (PoH) that can power the connected devices. Input video signals are converted to HDMI/DVI or HDBaseT signals and output at a resolution up to 4K@30.

For audio input, 8 digital and 2 analog inputs are included. Selected audio signals are output to digital audio, and 1 of 8 digital audio outputs can be selected to be output as analog audio. 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-6206 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.

Dante output is available as an optional extra.

With the network audio, 64-channel at 48 kHz-sample frequency audio can be delivered over a LAN cable.

### Specification

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HDMI/DVI</strong></td>
<td>1 input</td>
</tr>
<tr>
<td></td>
<td>HDMI Deep Color (*1)*DVI 1.0</td>
</tr>
<tr>
<td></td>
<td>TMDS single link, HDCP 1.4</td>
</tr>
<tr>
<td></td>
<td>TMDS clocks: 25 MHz to 300 MHz, TMDS data rate: 0.75 Gbps</td>
</tr>
<tr>
<td></td>
<td>Built-in cable EQ, EDID emulation, CEC</td>
</tr>
<tr>
<td></td>
<td>Connector: Female HDMI Type A (19-pin)</td>
</tr>
<tr>
<td></td>
<td>5 inputs</td>
</tr>
<tr>
<td></td>
<td>DVI connectors: Switch-selectable between digital and analog</td>
</tr>
<tr>
<td></td>
<td>HDMI Deep Color (*1)*DVI 1.0</td>
</tr>
<tr>
<td></td>
<td>TMDS single link, HDCP 1.4</td>
</tr>
<tr>
<td></td>
<td>TMDS clocks: 25 MHz to 225 MHz, TMDS data rate: 0.75 Gbps to 6.75 Gbps</td>
</tr>
<tr>
<td></td>
<td>Built-in cable EQ, EDID emulation, CEC (HDMI connector only)</td>
</tr>
<tr>
<td></td>
<td>Connector: 3 female HDMI Type A (19-pin), 2 female DVI-I (29-pin)</td>
</tr>
<tr>
<td><strong>HDBaseT</strong></td>
<td>2 inputs</td>
</tr>
<tr>
<td></td>
<td>HDBaseT (*1)</td>
</tr>
<tr>
<td></td>
<td>HDCP 1.4 (*2)</td>
</tr>
<tr>
<td></td>
<td>EDID emulation, RS-232C, LAN, CEC, PoH power supply (IEEE 802.3af) (*3)</td>
</tr>
<tr>
<td></td>
<td>Connector: RJ-45 (*4)</td>
</tr>
<tr>
<td></td>
<td>Cable: Cat.5e HDC, Cat5e UTP/STP, Cat6 UTP/STP (*5)</td>
</tr>
<tr>
<td><strong>Universal Analog</strong></td>
<td>2 inputs</td>
</tr>
<tr>
<td></td>
<td>Switch-selectable between digital and analog</td>
</tr>
<tr>
<td></td>
<td>Composite video/Y/C/Analog RGB/Analog YPbPr (auto-recognition)</td>
</tr>
<tr>
<td></td>
<td>Composite video (VBS Signal): 1.0 Vp-p/75 Ω</td>
</tr>
<tr>
<td></td>
<td>Y/C: 1.0 Vp-p/Y)/0.286 Vp-p/C)/75 Ω</td>
</tr>
<tr>
<td></td>
<td>Analog RGB: 0.7 Vp-p)/1.0 Vp-p/Sync on Green)/75 Ω</td>
</tr>
<tr>
<td></td>
<td>HS/VS/TTL level, CS TTL level, Sync on Green</td>
</tr>
<tr>
<td></td>
<td>Analog YPbPr: 1.0 Vp-p)/Y)/0.7 Vp-p)/PoPr)/75 Ω</td>
</tr>
<tr>
<td></td>
<td>EDID emulation</td>
</tr>
<tr>
<td></td>
<td>Connector: Female DVI-I (29-pin)</td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>1 input</td>
</tr>
<tr>
<td></td>
<td>VGA to 4K (Dot clock: 25 MHz to 300 MHz)</td>
</tr>
<tr>
<td></td>
<td>480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@30)</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>5 inputs</td>
</tr>
<tr>
<td></td>
<td>VGA to QWXGA (Dot clock: 25 MHz to 165 MHz)</td>
</tr>
<tr>
<td></td>
<td>For WUXGA/QWXGA, only Reduced Blanking is supported.</td>
</tr>
<tr>
<td></td>
<td>480i / 480p / 576i / 576p / 720p / 1080i / 1080p</td>
</tr>
<tr>
<td><strong>HDBaseT</strong></td>
<td>VGA to 4K (Dot clock: 25 MHz to 300 MHz)</td>
</tr>
<tr>
<td></td>
<td>480i / 480p / 576i / 576p / 720p / 1080i / 1080p / 4K (up to 4K@30)</td>
</tr>
<tr>
<td><strong>Universal Analog</strong></td>
<td>VGA to QWXGA (Dot clock: 25 MHz to 165 MHz)</td>
</tr>
<tr>
<td></td>
<td>For WUXGA/QWXGA, only Reduced Blanking is supported.</td>
</tr>
<tr>
<td></td>
<td>NTSC/PAL</td>
</tr>
<tr>
<td></td>
<td>480i / 480p / 576i / 576p / 720p / 1080i / 1080p</td>
</tr>
<tr>
<td><strong>Digital</strong></td>
<td>8 inputs</td>
</tr>
<tr>
<td></td>
<td>Switch-selectable between analog audio</td>
</tr>
<tr>
<td></td>
<td>Multi-channel LPCM up to 8 channels</td>
</tr>
<tr>
<td></td>
<td>Sampling frequency: 32 kHz to 192 kHz, Sample size: 16 bit to 24 bit</td>
</tr>
<tr>
<td></td>
<td>Reference level: -20 dBFS, Max. input level: 0 dBFS</td>
</tr>
<tr>
<td></td>
<td>Connector: 4 female HDMI Type A (19-pin), 2 RJ-45 (*4), 2 female DVI-I (29-pin)</td>
</tr>
<tr>
<td><strong>Analog</strong></td>
<td>2 inputs</td>
</tr>
<tr>
<td></td>
<td>Switch-selectable between digital audio</td>
</tr>
<tr>
<td></td>
<td>Balanced/Unbalanced Stereo LR</td>
</tr>
<tr>
<td></td>
<td>Input impedance: 48k Ω balanced/24 kΩ unbalanced</td>
</tr>
<tr>
<td></td>
<td>Reference level: -10 dBu, Max. input level: +10 dBu</td>
</tr>
<tr>
<td></td>
<td>Connector: Terminal block (5-pin)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Video</strong></td>
<td></td>
</tr>
<tr>
<td>HDMI/DVI</td>
<td>6 outputs: The output video is switch-selectable between HDMI output and HDBaseT output. HDMI Deep Color (1.4) is supported (4K format is not supported). Deep Color is supported with an 8-bit component. Connectors: Female HDMI Type A (19-pin)</td>
</tr>
<tr>
<td>HDBaseT</td>
<td>6 outputs: The output video is switch-selectable between HDMI output and HDBaseT output. HDBaseT (1.1) Connectors: Female HDBaseT (1.1) (19-pin)</td>
</tr>
<tr>
<td><strong>Format</strong></td>
<td>VGA / WXGA / WUXGA / QWXGA / 1920x1080 / 1920x1200 / 1280x720 / 1280x800 / Quad-VGA / SXGA / WXGA / WUXGA / QWXGA (1280x768) / WXGA (1366x768) / SXGA+/ WXGA+/QWXGA+/VESAHD/ WUXGA / QWXGA For VESAHD/WUXGA/QWXGA, only Reduced Blank is supported. 720p / 1080i / 1080p / 4K (3840 x 2160) (24 bit) / 4K (4096 x 2160) (60 bit) Reference level: -20 dBFS, Max. output level: 0 dBFS Connectors: 6 female HDBaseT Type A (19-pin), 6 RJ-45 (4x4)</td>
</tr>
<tr>
<td><strong>Digital</strong></td>
<td>6 outputs: The output audio is switch-selectable between HDMI output and HDBaseT output. Multi-channel LPCM up to 8 channels Sampling frequency: 96 kHz / 192 kHz, Sample size: 16 bit to 24 bit Reference level: -10 dBu, Max. output level: +10 dBu Connectors: Terminal block (5-pin)</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td>1 output: 1 of 6 digital audio outputs can be selected to be output as analog audio. Balanced/Unbalanced Stereo LR Output impedance: 100 Ω balanced/50 Ω unbalanced Reference level: -10 dBu, Max. output level: +10 dBu Connectors: Terminal block (5-pin)</td>
</tr>
<tr>
<td><strong>Network audio</strong></td>
<td>1 output Format: Dante protocol Sampling frequency: 48 kHz, Sample size: 24 bit The number of outputs: 64 channels Connectors: 2 RJ-45 (Primary/Secondary)</td>
</tr>
<tr>
<td><strong>Maximum transmission distance</strong></td>
<td>328 ft. (100 m), up to 492 ft. (150 m) (Long reach mode is used) (9) 328 ft. (100 m), up to 492 ft. (150 m) (Long reach mode is used) (9)</td>
</tr>
<tr>
<td><strong>HDMI/DVI</strong></td>
<td>98 ft. (30 m) (1080p60), 66 ft. (20 m) (4K30) (8) 328 ft. (100 m), up to 492 ft. (150 m) (Long reach mode is used) (9)</td>
</tr>
<tr>
<td><strong>HDBaseT</strong></td>
<td>328 ft. (100 m), up to 492 ft. (150 m) (Long reach mode is used) (9)</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>100 - 240 VAC ± 10%, 50 Hz/60 Hz ± 3 Hz</td>
</tr>
<tr>
<td><strong>Power consumption</strong></td>
<td>About 147 Watts About 154 Watts with Dante (optional)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>16.9 (W) × 3.5 (H) × 15.7 (D) (430 W × 88 H × 400 D) mm (2U high) (Excluding connectors and the like)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>15.3 lbs. (7.2 kg) 16.5 lbs. (7.5 kg) with Dante (optional)</td>
</tr>
<tr>
<td><strong>Temperature</strong></td>
<td>Operating: 32°F to 104°F (0°C to +40°C) Storage: -4°F to 176°F (-20°C to +80°C)</td>
</tr>
<tr>
<td><strong>Humidity</strong></td>
<td>Operating/Storage: 20% to 90% (Non Condensing)</td>
</tr>
</tbody>
</table>

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1. 30 bit/pixel (10 bit/component) Deep Color is supported while x.v.Color, 3D, ARC and HEC are not supported. 2. WQHD, WXGA and 4K format: 24 bit/pixel (8 bit component) is supported. 3. For PoH power feeding, please use an HDBaseT transmitter supporting IEEE 802.3af. 4. RJ-45 (HDBaseT connector) is only for extending digital video and audio signals over a Cat5e/Cat6 cable. Use it with IDK's HDBaseT Products. Do not use for LAN devices. 5. For PoH power feeding, please use an HDBaseT transmitter supporting IEEE 802.3af. 6. If multiple sink devices are connected, the actual number of outputs becomes three: OUT1 and OUT2 (as one group), OUT3 and OUT4 (as another group), and OUT5 to OUT6 (as the other group). 7. The terms Anti-snow and Noise has already occurred during startup or when it occurs due to a bad condition of the transmission line. 8. The terms Anti-snow and Noise has already occurred during startup or when it occurs due to a bad condition of the transmission line. 9. IDK Corporation
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.

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

Front & Rear Panels

Dante output is optional.
## MSD-6206 Diagram and Features

### Diagram

![Diagram of MSD-6206 Multi Switcher](image-url)

### Features

**Video Matrix Switch**
- Inputs: IN1 to IN7, IN8 (CH1 to CH4)
- Outputs: 6

**Audio Matrix Switch**
- Inputs: IN1 to IN2, IN7 to IN8
- Outputs: 6

**Input EQ**
- IN1 to IN2
- IN7 to IN8

**EDID Emulator**
- IN1 to IN2
- IN7 to IN8

**A/D Conversion**
- IN1 to IN2
- IN7 to IN8

**Digital to Analog Conversion**
- IN1 to IN2
- IN7 to IN8

**Dante**
- Input: IN1 to IN2, IN7 to IN8
- Outputs: Optional

**HDBaseT**
- Inputs: IN5 to IN6
- Outputs: 6

**LAN**
- Primary/Secondary: 1 Port

### Specifications

- **Up to 98 ft. (30 m)**:*1
- **Up to 98 ft. (30 m)**: 1080p@60
- **Up to 66 ft. (20 m)**: 4K@30 (IN1 only)
- **Up to 131 ft. (40 m)**:*2
- **Up to 131 ft. (40 m)**: 1080p@60
- **Up to 98 ft. (30 m)**: 4K@30
- **Up to 328 ft. (100 m)**:*3
- **Up to 328 ft. (100 m)**: 4K@30
- **Up to 492 ft. (150 m)**: 1080p (24 bit) in Long reach mode

*1 Maximum transmission distances
*2 Maximum transmission distances
*3 Maximum transmission distances
*4 Dante output is optional.

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IDK Corporation

MSD-6206
Application Example

<Regular mode: Full HD Video>

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<4K mode: 4K Video>

A

4K@30
Blu-ray player

4K@30
Blu-ray player

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

B

Full HD
Blu-ray player

Full HD
Blu-ray player

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

C

4K@30
4K monitor

4K@30
4K monitor

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

C

4K@30
4K monitor

4K@30
4K monitor

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

4K monitor

4K monitor

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

Out1
Out2
Out3
Out4
Out5
Out6

HDMI/DVI
Category cable
Network audio*

HDC-TH100WP
HDC-TH100WP

HDMI/DVI

HDMI/DVI

HDMI/DVI

4K@30
4K@30
4K@30
4K@30

Network audio

4K@30
4K@30
4K@30
4K@30

*The terms "Dante" and "Dante output is optional."
[Features]

■ Video
  • Up to 4K@30
  • Automatic input signal equalization
    - Input: Up to 98 ft. (30 m): 1080p@60, Up to 66 ft. (20 m): 4K@30
    - Output: Up to 131 ft. (40 m): 1080p@60, Up to 98 ft. (30 m): 4K@30
  • Motion adaptive interlaced/progressive conversion
  • Scan conversion
  • Aspect ratio control
  • Horizontal flip*$^1$
  • Seamless switching with one black frame
  • Analog/Digital conversion
  • Anti-snow
  • Up to 492 ft. (150 m) over a Cat6 cable in Long reach mode$^2$

■ Audio
  • Embedding/De-embedding
  • Volume adjustment (Input/Output)
  • Lip Sync
  • Audio Downmix
  • Dante output (Optional)

■ Video combination$^1$
  • Simultaneous display of up to 4 input images on a screen
  • Window display priority setting
  • Window displaying/hiding

■ Control Input
  • RS-232C
  • LAN

■ Control output
  • Control command output (e.g. controlling projectors)
  • PJLink
  • CEC (Control sink device power)
  • Contact closure

■ Others
  • PoH (HDBaseT input)
  • EDID emulation
  • WEB browser control
  • Input channel automatic switching
  • Audio breakaway for independent audio and video switching
  • Crosspoint memory
  • Preset memory
  • Last memory
  • Connection Reset
  • Button security lockout
  • HDBaseT: RS-232C, LAN and CEC are supported
  • Standby switch

*$^1$ 4K format is not supported.
$^2$ For long reach mode, video signals up to 1080p (24 bit) can be transmitted to 492 ft. (150 m) at maximum if using with IDK's HDBaseT products supporting 328 ft. (100 m) transmission.