Digital Multi Switcher
MSD-S51

The MSD-S51 is a digital presentation switcher with five inputs and one output.
For video, five digital and one analog inputs accept a wide variety of video formats including HDMI, DVI, Composite video, Y/C, RGB, and YPbPr. Input video signals are output to HDBaseT and HDMI signals simultaneously at up to QWXGA or 1080p. Two selected input video signals can be displayed on a single screen in picture-in-picture or side-by-side layout. The overlay bitmap function is also supported.

The MSD-S51 includes five digital and three analog audio inputs and outputs audio to both of digital and analog connectors. Audio level of each input/output can be set individually. The Lip Sync function adjusts the gap between video and audio.

The MSD-S51 can be configured remotely from RS-232C and LAN while external devices can be controlled via RS-232C, LAN, CEC, or contact closure by registering 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 buttons, RS-232C, or LAN; they can also be executed when input channel selection buttons or power supply button is operated.
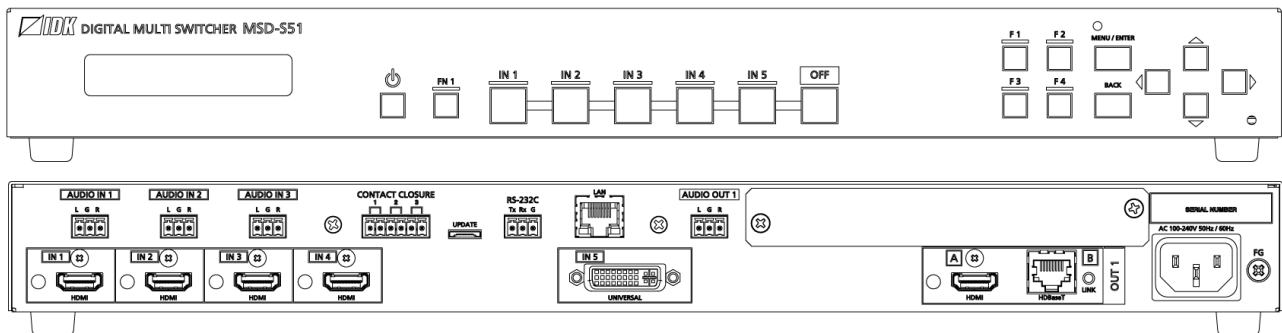
■ **Specification**

Item				Description
Input	Video	HDMI/DVI		5 inputs DVI connector: Switch-selectable between digital and analog HDMI/DVI 1.0 TMDS single link, HDCP 1.4 TMDS clock: 25 MHz to 225 MHz, TMDS data rate: 0.75 Gbps to 6.75 Gbps 30 bit Deep Color/CEC (HDMI connector only) x.v.Color/3D/ARC/HEC/HDR are not supported. Built-in cable EQ, EDID emulation Connector: 4 female HDMI Type A (19-pin), 1 female DVI-I (29-pin)
		Universal Analog		1 input Switch-selectable between digital and analog Composite video/Y/C/Analog RGB/Analog YPbPr (Auto-recognition) Composite video : 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: 1 female DVI-I (29-pin)
		Format	HDMI/DVI	VGA to QWXGA (Dot clock: 25 MHz to 165 MHz) For WUXGA/QWXGA, only Reduced Blanking is supported. 480i / 480p / 576i / 576p / 720p / 1080i / 1080p
			Universal 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	Digital		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), 1 female DVI-I (29-pin)
		Analog		3 inputs Switch-selectable between digital audio Unbalanced Stereo LR Input impedance: 24 kΩ Reference level: -10 dBu, Max. input level: +10 dBu Connector: 3 captive screw (3-pin)
Output	Video	HDMI/DVI		1 output Video can be distributed to an HDMI/DVI output and an HDBaseT output simultaneously. HDMI/DVI 1.0 TMDS single link, HDCP 1.4 TMDS clock: 25.175 MHz to 202.5 MHz, TMDS data rate: 0.755 Gbps to 6.075 Gbps 30 bit Deep Color/CEC x.v.Color/3D/ARC/HEC/HDR are not supported. Built-in cable EQ Connector: 1 female HDMI Type A (19-pin)
		HDBaseT		1 output Video can be distributed to an HDMI/DVI output and an HDBaseT output simultaneously. HDBaseT HDCP 1.4 30 bit Deep Color/CEC x.v.Color/3D/ARC/HEC/HDR are not supported. RS-232C/LAN Connector: 1 RJ-45 (*1) Cable: CAT.5E HDC, Cat5e UTP/STP, Cat6 UTP/STP (T568A/T568B straight-through)
		Format		VGA / XGA / WXGA (1280x768) / WXGA (1280x800) / Quad-VGA / SXGA / WXGA (1360x768) / WXGA (1366x768) / SXGA+ / WXGA+ / WXGA++ / UXGA / WSXGA+ / VESAHD / WUXGA / QWXGA For VESAHD/WUXGA/QWXGA, only Reduced Blanking is supported. 480p / 576p / 720p / 1080i / 1080p
	Audio	Digital		1 x 2 outputs Audio can be distributed to an HDMI/DVI 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: 1 female HDMI Type A (19-pin), 1 RJ-45
		Analog		1 output Unbalanced Stereo LR Output impedance: 50 Ω Reference level: -10 dBu, Max. output level: +10 dBu Connector: 1 captive screw (3-pin)

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Item		Description
Maximum transmission distances	Digital input	HDMI/DVI : 98 ft. (30 m) (*2)
	Digital output	HDMI/DVI : 164 ft. (50 m) (*2) HDBaseT : 328 ft. (100 m), 492 ft. (150 m) (Long reach mode is used) (*3)
Control	RS-232C	1 port/captive screw (3-pin)
	LAN	1 port/RJ-45 10Base-T/100Base-TX (Auto Negotiation), Auto MDI/MDI-X
	Contact closure	3 ports/captive screw (6-pin) Non-voltage contact input up to DC 24 V 1 A
	External control	RS-232C, LAN, HDBaseT, Contact closure, PJLink (class1), CEC (Power control of sink device) (*4)
Functions	Video	Motion adaptive interlaced/progressive conversion, Aspect ratio control, Picture adjustment (brightness, contrast, image position, image size, etc.), Seamless Switching, Two video combinations: PinP and side-by-side, Pattern memory (5 settings), Each video output OFF, Bitmap display
	Audio	Input level offset control, Output level control, Lip Sync (Max. 70 ms.), Audio Downmix
	Others	WEB browser control, Input channel automatic switching, Audio breakaway for independent audio and video switching, Crosspoint memory (9 settings), Preset memory (8 settings), Last memory, Anti-Snow, Connection Reset (*5), External control commands (32 commands), Button security lockout, System check, HDBaseT status display, Standby switch
General	Power	100 - 240 VAC ±10%, 50 Hz/60 Hz ±3 Hz
	Power consumption	About 30 Watts
	Dimensions	16.9 (W) × 1.7 (H) × 11.8 (D)" (430 (W) × 44 (H) × 300 (D) mm) (1U high) (Excluding connectors and the like)
	Weight	9 lbs. (4.1 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 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.
*2 The maximum cable distance varies depending on the connected devices and was measured under following conditions:
  ・1080p@60: When IDK's 24 AWG cable was used and signals of 1080p/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.
*3 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.
  The maximum transmission distance is the shorter distance of connected HDBaseT product or sink device's maximum transmission distance.
*4 Some sink devices cannot be controlled from the MSD-S through CEC.
*5 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's output. If other devices are connected between the MSD-S's output and sink device, this feature may be invalid.

■ **Front & Rear Panels**

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