Multi-Window Video Processor

ICP-V41U

The ICP-V41U is a multi-window processor that simultaneously displays up to four windows on a single screen with customizable window layouts.
With four (4) HDMI video inputs, and a single HDMI scaled output, the ICP-V can support video resolutions, in and out, up to 4K@60 (4:4:4).
Audio signals can be distributed simultaneously as well as embedded/de-embedded for breakaway audio routing. The ICP-V support both HDMI digital audio and analog audio in and out.
The ICP-V can be configured and controlled remotely using RS-232C or LAN.
External devices can be controlled via RS-232C, LAN, CEC, or contact closure by registering control commands.

■ Specification

		ICP-V41U
Video/Audio input	HDMI	4 inputs
		HDMI/DVI 1.0 TMDS single link, HDCP 1.4/2.2 TMDS clock: Up to 300 MHz, TMDS data rate: Up to 18 Gbps Deep Color[*1]
		640x480@60 to 2560x1600@60 Reduced Blanking 480p, 576p to 3840x2160@24/25/30/50/59.94/60 (4:4:4), 3840x2160@50/59.94/60 (4:2:0), 4096x2160@24/25/30/50/59.94/60 (4:4:4), 4096x2160@50/59.94/60 (4:2:0) Color depth: 24/30 bits *For all supported video signals, see the table below.
		LPCM: Up to 8 channels Sampling frequency: 32/44.1/48/88.2/96/176.4/192 kHz Reference level: -20 dBFS, Max. input level: 0 dBFS
		CEC
		Connector: HDMI Type A (19-pin) Maximum distances[*2]: 98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60)
	Analog audio	1 input
		Stereo LR Input impedance: 24 kΩ unbalanced Reference level: -10 dBu, Max. input level: +10 dBu
		Connector: Captive screw (3-pin)
Video/Audio output	HDMI	1 output
		HDMI/DVI 1.0 TMDS single link, HDCP 1.4/2.2 TMDS clock: Up to 297 MHz, TMDS data rate: Up to 17.82 Gbps Deep Color[*1]
		1024x768@60 to 2560x1600@60 Reduced Blanking 480p, 576p to 3840x2160@24/25/30/50/59.94/60 (4:4:4), 3840x2160@50/59.94/60 (4:2:0), 4096x2160@24/25/30/50/59.94/60 (4:4:4), 4096x2160@50/59.94/60 (4:2:0) Color depth: 24/30 bits *For all supported video signals, see the table below.
		LPCM: Up to 8 channels Sampling frequency: 32/44.1/48/88.2/96/192 kHz Reference level: -20 dBFS, Max. output level: 0 dBFS
		CEC
		Connector: HDMI Type A (19-pin) Maximum distances[*2]: 98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60)
	Analog audio	1 output
		Stereo L/R Output impedance: 50 Ω unbalanced Reference level: -10 dBu, Max. output level: +10 dBu
		Connector: Captive screw (3-pin)
Control I/F	RS-232C	1 port/Connector: Captive screw (3-pin)
	LAN	1 port 10Base-T/100Base-TX (Auto Negotiation), Auto MDI/MDI-X, Connector: RJ-45
	Contact closure	3 ports/Dry-contact closure input up to DC 24 V 1 A, Connector: Captive screw (6-pin)
Functions	Video	Resolution conversion, Frame rate conversion, Seamless switching with one black frame, Picture adjustment, Image quality adjustment, Four video combinations, Text overlay Window border configuration, User provided bitmap image display, Each video output OFF, Built-in library of test patterns
	Audio	Volume level adjustment (Input/Output), Embedding, De-embedding, Audio Downmix, Lip Sync, Test tone
	Control	WEB browser, External command execution (64 individual commands), PJLink controller (Class1), CEC (Power control of sink device)[*3], CEC through (Connector: HDMI), Unsolicited notification
	Others	Audio breakaway for independent audio and video switching, Automatic input switching, EDID emulation, Audio input enable/disable, HDCP input enabling/disabling, Status display, System check, Crosspoint memory (16 settings), Preset memory (9 settings), Pattern memory (32 settings), Last memory, Anti-Snow, Connection Reset[*4], Button security lockout, Standby switch
General	Power	DC 12 V 2.0 A
		AC adapter: 100 - 240 VAC ±10%, 50 Hz/60 Hz ±3 Hz, DC 12 V 5 A 60.0 W
	Power consumption	31 W
	Dimensions	8.3 (W) × 1.7 (H) × 9.8 (D)" (210 (W) × 42 (H) × 250 (D) mm) (Excluding connectors and the like)
	Weight	3.7 lbs. (1.7 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	20% to 90% (Non Condensing)

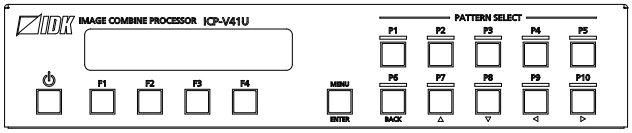
[*1] x.v.Color/3D/HDR/ARC/HEC are not supported.

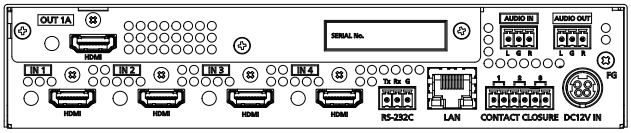
[*2] The maximum specified distances may not be achievable with some device combinations, cabling method, or other manufacturer's cable. For the same reasons, video signal disturbances or interruptions may occur, even if signals are within the specified distance (cable length) parameters.
The maximum cable length varies depending on the connected devices. The specifications have been qualified under following conditions:
- HDMI (1080p@60) : When IDK's 24 AWG cable was used and signal of 1080p@60 24 bits was transmitted.
- HDMI (4K@60) : When IDK's 18 Gbps supported cable was used and signal of 3840x2160@60 24 bits was transmitted.

[*3] Sink device needs to support CEC. Some sink devices cannot be controlled from the ICP-V through CEC.

[*4] 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 correct 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 ICP-V's output. Connecting other devices between the ICP-V's outputs and sink devices, may interfere with the operation of this feature.

■ **Front & Rear Panels**





Multi-Window Video Processor

ICP-V41U Supported video signals

Signal	Resolution	Frame Rate [Hz]	Pixel Clock [MHz]	Color Depth [bits]	INPUT	OUTPUT
					HDMI	HDMI
640x480@60	640x480	59.94	25.18	24/30	○	–
800x600@60	800x600	60.32	40.00	24/30	○	–
1024x768@60	1024x768	60.00	65.00	24/30	○	○
1280x768@60	1280x768	59.87	79.50	24/30	○	○
1280x800@60	1280x800	59.81	83.50	24/30	○	○
1280x960@60	1280x960	60.00	108.00	24/30	○	○
1280x1024@60	1280x1024	60.02	108.00	24/30	○	○
1360x768@60	1360x768	60.02	85.50	24/30	○	○
1366x768@60	1366x768	59.79	85.50	24/30	○	○
1400x1050@60	1400x1050	59.98	121.75	24/30	○	○
1440x900@60	1440x900	59.89	106.50	24/30	○	○
1600x900@60	1600x900	59.95	118.25	24/30	○	○
1600x1200@60	1600x1200	60.00	162.00	24/30	○	○
1680x1050@60	1680x1050	59.95	146.25	24/30	○	○
1920x1080@60 RB	1920x1080	59.93	138.50	24/30	○	○
1920x1200@60 RB	1920x1200	59.95	154.00	24/30	○	○
2048x1152@60 RB	2048x1152	60.00	162.00	24/30	○	○
2560x1440@60 RB	2560x1440	59.95	241.50	24/30	○	○
2560x1600@60 RB	2560x1600	59.97	268.50	24/30	○	○
480p	720x480	59.94	27.00	24/30	○	○
576p	720x576	50.00	27.00	24/30	○	○
720p@50	1280x720	50.00	74.25	24/30	○	○
720p@59.94	1280x720	59.94	74.18	24/30	○	○
720p@60	1280x720	60.00	74.25	24/30	○	○
1080i@50	1920x1080	25.00	74.25	24/30	○	○
1080i@59.94	1920x1080	29.97	74.18	24/30	○	○
1080i@60	1920x1080	30.00	74.25	24/30	○	○
1080p@50	1920x1080	50.00	148.50	24/30	○	○
1080p@59.94	1920x1080	59.94	148.35	24/30	○	○
1080p@60	1920x1080	60.00	148.50	24/30	○	○
3840x2160@23.98	3840x2160	23.98	296.70	24/30	○	○
3840x2160@24	3840x2160	24.00	297.00	24/30	○	○
3840x2160@25	3840x2160	25.00	297.00	24/30	○	○
3840x2160@29.97	3840x2160	29.97	296.70	24/30	○	○
3840x2160@30	3840x2160	30.00	297.00	24/30	○	○
3840x2160@50	3840x2160	50.00	594.00	24/30*	○	○
3840x2160@59.94	3840x2160	59.94	593.41	24/30*	○	○
3840x2160@60	3840x2160	60.00	594.00	24/30*	○	○
4096x2160@23.98	4096x2160	23.98	296.70	24/30	○	○
4096x2160@24	4096x2160	24.00	297.00	24/30	○	○
4096x2160@25	4096x2160	25.00	297.00	24/30	○	○
4096x2160@29.97	4096x2160	29.97	296.70	24/30	○	○
4096x2160@30	4096x2160	30.00	297.00	24/30	○	○
4096x2160@50	4096x2160	50.00	594.00	24/30*	○	○
4096x2160@59.94	4096x2160	59.94	593.41	24/30*	○	○
4096x2160@60	4096x2160	60.00	594.00	24/30*	○	○

RB: Reduced Blanking
*For RGB/YCbCr 4:4:4, only 24 bit is supported.

For best results, please confirm that the source device(s) video output can be configured to match the listed formats above. For questions regarding other input video signals, please contact your IDK representative.