USB-C to HDMI Converter
IFC-V21U

The IFC-V21U converts DisplayPort Alternate Mode signals of USB-C to HDMI at resolutions up to 4K@60.
The converter includes two inputs, one (1) USB-C and one (1) HDMI, and a single HDMI output. One of the inputs is output in HDMI format.
Using the IFC-V21U provides a simple way to convert USB-C to HDMI and can be paired with IDK's wide variety of HDMI products.

■ Specification

		IFC-V21U
Video/Audio input	USB-C	1 input
		DisplayPort Alternate Mode on USB Type-C[*1], DisplayPort 1.2 *HDCP is not supported.
		640x480@60 to 2560x1600@60 Reduced Blanking 480p, 576p to 3840x2160@24/25/30/50/59.94/60 (4:4:4), 4096x2160@24/25/30/50/59.94/60 (4:4:4) Color depth: 24/30/36 bits *For all supported video signals, see the table below.
		LPCM: Up to 2 channels Sampling frequency: 32/44.1/48/88.2/96/192 kHz
		USB PD (Power Delivery) DC 5 V 3 A 15 W
		Connector: USB Type-C (24-pin) Maximum distance[*2]: 7 ft. (2 m)
	HDMI	1 input
		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/x.v.Color/3D/HDR[*3]
		640x480@60 to 2560x1600@60 Reduced Blanking 480i, 576i 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: 24/30/36 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
		CEC
		Connector: HDMI Type A (19-pin) Maximum distances[*2]: 98 ft. (30 m) (1080p@60), 39 ft. (12 m) (4K@60)
Video/Audio output	HDMI	1 output
		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/x.v.Color/3D/HDR[*3]
		640x480@60 to 2560x1600@60 Reduced Blanking 480i, 576i 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: 24/30/36 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
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Functions	Control	CEC through (Connector: HDMI)
	Others	Automatic input switching, EDID emulation, Last memory, Anti-Snow, Connection Reset[*4]
General	Power	DC 12 V 1.7 A
		AC adapter: 100 - 240 VAC ±10%, 50 Hz/60 Hz ±3 Hz, DC 12 V 3 A 36.0 W
	Power consumption	21 W
	Dimensions	4.2 (W) × 1.1 (H) × 3.9 (D)" (106 (W) × 28 (H) × 100 (D) mm) (Excluding connectors and the like)
	Weight	0.9 lbs. (0.4 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] DisplayPort to USB-C cable or HDMI to USB-C cable are not supported.
Active cables that need to be powered from a sink device via VCONN 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.
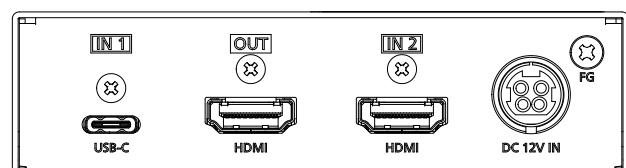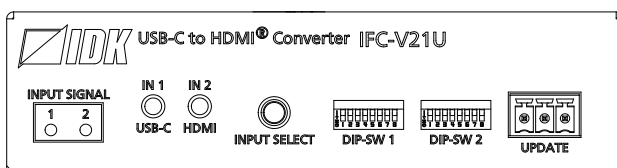The maximum cable length varies depending on the connected devices. The specifications have been qualified under following conditions:
・USB-C DisplayPort Alternate Mode (4K@60) : When USB3.2 Gen1 Type-C cable was used and signal of 3840x2160@60 24 bits was transmitted.
・HDMI (1080p@60) : When IDK's 24 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] ARC/HEC are not supported.
[*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 IFC-V's output. Connecting other devices between the IFC-V's outputs and sink devices, may interfere with the operation of this feature.

■ Front & Rear Panels

IDK Corporation

USB-C to HDMI Converter
IFC-V21U Supported video signals

Signal	Resolution	Frame Rate [Hz]	Pixel Clock [MHz]	Color Depth [bits]	INPUT		OUTPUT
					USB-C[*1]	HDMI	HDMI
640x480@60	640x480	59.94	25.18	24/30/36	O	O	O
800x600@60	800x600	60.32	40.00	24/30/36	O	O	O
1024x768@60	1024x768	60.00	65.00	24/30/36	O	O	O
1280x768@60	1280x768	59.87	79.50	24/30/36	O	O	O
1280x800@60	1280x800	59.81	83.50	24/30/36	O	O	O
1280x960@60	1280x960	60.00	108.00	24/30/36	O	O	O
1280x1024@60	1280x1024	60.02	108.00	24/30/36	O	O	O
1360x768@60	1360x768	60.02	85.50	24/30/36	O	O	O
1366x768@60	1366x768	59.79	85.50	24/30/36	O	O	O
1400x1050@60	1400x1050	59.98	121.75	24/30/36	O	O	O
1440x900@60	1440x900	59.89	106.50	24/30/36	O	O	O
1600x900@60	1600x900	59.95	118.25	24/30/36	O	O	O
1600x1200@60	1600x1200	60.00	162.00	24/30/36	O	O	O
1680x1050@60	1680x1050	59.95	146.25	24/30/36	O	O	O
1920x1080@60 RB	1920x1080	59.93	138.50	24/30/36	O	O	O
1920x1200@60 RB	1920x1200	59.95	154.00	24/30/36	O	O	O
2048x1152@60 RB	2048x1152	60.00	162.00	24/30/36	O	O	O
2560x1440@60 RB	2560x1440	59.95	241.50	24/30/36	O	O	O
2560x1600@60 RB	2560x1600	59.97	268.50	24/30/36	O	O	O
480i	720x480	59.94	27.00	24/30/36	—[*2]	O	O
480p	720x480	59.94	27.00	24/30/36	O	O	O
576i	720x576	50.00	27.00	24/30/36	—[*2]	O	O
576p	720x576	50.00	27.00	24/30/36	O	O	O
720p@50	1280x720	50.00	74.25	24/30/36	O	O	O
720p@59.94	1280x720	59.94	74.18	24/30/36	O	O	O
720p@60	1280x720	60.00	74.25	24/30/36	O	O	O
1080i@50	1920x1080	25.00	74.25	24/30/36	—[*2]	O	O
1080i@59.94	1920x1080	29.97	74.18	24/30/36	—[*2]	O	O
1080i@60	1920x1080	30.00	74.25	24/30/36	—[*2]	O	O
1080p@50	1920x1080	50.00	148.50	24/30/36	O	O	O
1080p@59.94	1920x1080	59.94	148.35	24/30/36	O	O	O
1080p@60	1920x1080	60.00	148.50	24/30/36	O	O	O
3840x2160@23.98	3840x2160	23.98	296.70	24/30/36	O	O	O
3840x2160@24	3840x2160	24.00	297.00	24/30/36	O	O	O
3840x2160@25	3840x2160	25.00	297.00	24/30/36	O	O	O
3840x2160@29.97	3840x2160	29.97	296.70	24/30/36	O	O	O
3840x2160@30	3840x2160	30.00	297.00	24/30/36	O	O	O
3840x2160@50	3840x2160	50.00	594.00	24/30/36[*3]	O	O	O
3840x2160@59.94	3840x2160	59.94	593.41	24/30/36[*3]	O	O	O
3840x2160@60	3840x2160	60.00	594.00	24/30/36[*3]	O	O	O
4096x2160@23.98	4096x2160	23.98	296.70	24/30/36	O	O	O
4096x2160@24	4096x2160	24.00	297.00	24/30/36	O	O	O
4096x2160@25	4096x2160	25.00	297.00	24/30/36	O	O	O
4096x2160@29.97	4096x2160	29.97	296.70	24/30/36	O	O	O
4096x2160@30	4096x2160	30.00	297.00	24/30/36	O	O	O
4096x2160@50	4096x2160	50.00	594.00	24/30/36[*3]	O	O	O
4096x2160@59.94	4096x2160	59.94	593.41	24/30/36[*3]	O	O	O
4096x2160@60	4096x2160	60.00	594.00	24/30/36[*3]	O	O	O

RB: Reduced Blanking
[*1]   YCbCr 4:2:0 is not supported.
[*2]   Interlaced signal is not supported.
[*3]   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.