COL-HUD-21 Control4 Driver Guide

For Composer Pro · Driver version 1.0.0

The KanexPro COL-HUD-21 driver lets a Control4 system control the COL-HUD-21 over the network. It talks to the unit's own control port (TCP 8000): no other KanexPro software and no RS-232 cable are needed. Each control is a programming command, and each reading is a variable that follows changes made on the unit's front panel, remote or web page.

> **Before you start —** the Control4 controller must reach the COL-HUD-21 on TCP port 8000. Give the unit a fixed IP address (or a DHCP reservation).

TABLE OF CONTENTS

1. Install the driver
2. Properties
3. Programming commands
4. Variables
5. Troubleshooting

1. INSTALL THE DRIVER

1. Download **KanexPro-COL-HUD-21-C4-1.0.0.zip** from the COL-HUD-21 page on kanexpro.com (Resources) and unzip it.
2. In Composer Pro, add the driver from the file `KanexPro-COL-HUD-21-C4.c4z` (Driver > Add or Update Driver, or drag the file in).
3. Add it to the project in the room where the unit is.
4. Select it and set its properties (section 2). **Connection** shows Connected once it reaches the unit.

> **One driver per unit —** for two COL-HUD-21 units, add the driver twice and give each its own IP address.

2. PROPERTIES

DRIVER PROPERTIES	
IP Address	The COL-HUD-21's address on the control network. Empty by default.
Port	8000 (TCP), the unit's control port. Change it only if the unit's own web page was set to another port.
Poll Interval	How often, in seconds, the driver reads the unit back. Default 10; 0 reads it only after a change from Control4.
Debug Mode	On prints every command and reply to the Lua output.
Connection	Read only: Connected, Connecting, Not connected (and why), Refused (and which command), or No IP address.
Driver Version	Read only: 1.0.0.

Action: **Reconnect** connects again at once.

3. PROGRAMMING COMMANDS

28 commands. Use them in Composer's Programming view, from any event.

#	Command	Parameters	What it does
1	**Show**	Value (a list: USB-C input 1, HDMI input 2)	Sets the show. Choices: USB-C input 1; HDMI input 2.
2	**Switch to a newly plugged-in source by itself**	Output (a list: HDMI output 1); State (a list: On, Off)	Switch to a newly plugged-in source by itself: on or off on the output you pick.

3	**Picture**	Output (a list: HDMI output 1); Value (a list: On, Off, AV mute)	Sets the picture on the output you pick. Choices: On; Off; AV mute.
4	**Analog sound out (dB)**	Value (a list: -50, -49, -48, -47 ...)	Sets the analog sound out (dB). Choices: -50; -49; -48; -47; -46, and 46 more.
5	**Mute the analog sound out**	State (a list: On, Off)	Mute the analog sound out: on or off.
6	**Power**	Button (a list: On, Standby)	Presses the button you pick: On, Standby.
7	**Keyboard, mouse and camera**	Value (a list: Follow the screen's source, Choose below, The last one plugged in)	Sets the keyboard, mouse and camera. Choices: Follow the screen's source; Choose below; The last one plugged in.
8	**They go to**	Value (a list: USB-C input 1, USB host 2)	Sets the they go to. Choices: USB-C input 1; USB host 2.
9	**Line out plays**	Value (a list: HDMI output 1's sound, USB audio)	Sets the line out plays. Choices: HDMI output 1's sound; USB audio.
10	**Line in (a microphone) goes into**	Value (a list: Off, USB-C input 1, HDMI input 2)	Sets the line in (a microphone) goes into. Choices: Off; USB-C input 1; HDMI input 2.
11	**Line in to the laptop's USB audio**	State (a list: On, Off)	Line in to the laptop's USB audio: on or off.
12	**EDID**	Input (a list: USB-C input 1, HDMI input 2); Value (a list: Auto (copy the screen), 4K60 4:4:4, 2ch PCM, 4K60 4:4:4, 5.1ch, 4K60 4:4:4, 7.1ch ...)	Sets the EDID on the input you pick. Choices: Auto (copy the screen); 4K60 4:4:4, 2ch PCM; 4K60 4:4:4, 5.1ch; 4K60 4:4:4, 7.1ch; 4K30 4:4:4, 2ch PCM, and 15 more.
13	**HDCP**	Input (a list: USB-C input 1, HDMI input 2); State (a list: On, Off)	HDCP: on or off on the input you pick.
14	**HDCP (Out hdcp)**	Output (a list: HDMI output 1); Value (a list: Follow the screen, Always HDCP 1.4, Always HDCP 2.2, Signal management)	Sets the HDCP on the output you pick. Choices: Follow the screen; Always HDCP 1.4; Always HDCP 2.2; Signal management.
15	**Picture size**	Output (a list: HDMI output 1); Value (a list: Auto (fit the screen), Pass through, Always 1080p, Test pattern)	Sets the picture size on the output you pick. Choices: Auto (fit the screen); Pass through; Always 1080p; Test pattern.
16	**Welcome screen**	State (a list: On, Off)	Welcome screen: on or off.

17	**Welcome screen after 60 s with no source**	State (a list: On, Off)	Welcome screen after 60 s with no source: on or off.
18	**Notice a new source by**	Value (a list: Its picture, 5 V on the cable)	Sets the notice a new source by. Choices: Its picture; 5 V on the cable.
19	**When its source goes away, show**	Output (a list: HDMI output 1); Value (a list: Next input, Previous input, USB-C input 1, HDMI input 2)	Sets the when its source goes away, show on the output you pick. Choices: Next input; Previous input; USB-C input 1; HDMI input 2.
20	**Go to standby with no source after**	Value (a list: Never, 5 min, 10 min, 15 min ...)	Sets the go to standby with no source after. Choices: Never; 5 min; 10 min; 15 min; 30 min, and 1 more.
21	**Lock the front buttons (on = locked)**	State (a list: On, Off)	Lock the front buttons (on = locked): on or off.
22	**HDMI power saving**	State (a list: On, Off)	HDMI power saving: on or off.
23	**Turn on and off with the switch**	Output (a list: HDMI output 1); State (a list: On, Off)	Turn on and off with the switch: on or off on the output you pick.
24	**On after (s)**	Output (a list: HDMI output 1); Level (0 to 1200)	Sets the on after (s) on the output you pick, from 0 to 1200.
25	**Off after (s)**	Output (a list: HDMI output 1); Level (0 to 1200)	Sets the off after (s) on the output you pick, from 0 to 1200.
26	**How**	Output (a list: HDMI output 1); Value (a list: CEC, IR, RS-232)	Sets the how on the output you pick. Choices: CEC; IR; RS-232.
27	**USB device ports' power**	D (a list: USB device 1, USB device 2, USB device 3); Value (a list: Follow the host, Always on (5 V), Off)	Sets the USB device ports' power. Choices: Follow the host; Always on (5 V); Off.
28	**Laptops on USB-C get the network**	U (a list: USB-C input 1); State (a list: On, Off)	Laptops on USB-C get the network: on or off.

4. VARIABLES

`STATUS` is the Connection text. The others follow the unit, whoever changes it:

#	Variable	Kind	What it holds
1	`INPUT`	text	Show
2	`AUTO_SWITCH_OUT1`	on/off	HDMI output 1 Switch to a newly plugged-in source by itself
3	`GAIN`	text	Analog sound out (dB)
4	`MUTE`	on/off	Mute the analog sound out
5	`USB_MODE`	text	Keyboard, mouse and camera
6	`USB_HOST`	text	They go to

7	AUDIO_OUT_FROM	text	Line out plays
8	AUDIO_IN_TO	text	Line in (a microphone) goes into
9	AUDIO_IN_USB	on/off	Line in to the laptop's USB audio
10	WELCOME	on/off	Welcome screen
11	NO_SIGNAL_SCREEN	on/off	Welcome screen after 60 s with no source
12	AUTO_MODE	text	Notice a new source by
13	AUTO_STANDBY	text	Go to standby with no source after
14	FRONT_LOCK	on/off	Lock the front buttons (on = locked)
15	POWER_SAVING	on/off	HDMI power saving
16	POWER	on/off	Readings Power
17	SIGNAL	text	Readings Signal
18	PATTERN	text	Readings Test pattern
19	BAUD	text	Readings RS-232 speed
20	FIRMWARE	text	Readings Firmware
21	WEB_FIRMWARE	text	Readings Web page firmware
22	TEMP	text	Readings Temperature (°C)
23	UPTIME	text	Readings Running for (days:hours:min:sec)

5. TROUBLESHOOTING

Connection says Not connected.
Check the IP Address property against the unit's address (its front panel or its own web page). A unit on DHCP may have moved: give it a fixed address or a DHCP reservation. The driver tries again every 5 seconds by itself; the Reconnect action tries at once.

The address is right, but it still does not connect.
The Control4 controller and the unit must reach each other: the same network or VLAN, or a route between them. A firewall or switch ACL between them must allow TCP port 8000 to the unit. Leave the Port property at 8000 unless the unit's own web page was set to another port.

Connection says Refused, and names a command.
The unit refused that change. It may be in standby: turn it on first.

Changes made on the unit do not show in Control4.
Set Poll Interval above 0. Changes made on the unit's front panel, remote or web page then show in its variables within that many seconds.

I need to see what the driver sends.
Set Debug Mode to On: the Lua output in Composer shows every command sent and every reply.