



BG-4K-VP44

Control4 Driver User Manual

4x4 Seamless Presentation Switcher / Multiviewer / Video Wall Processor

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Statement

Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

Safety Precaution

- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Do not expose the product to rain or moisture.
- To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- Do not use the product beyond the specified temperature, humidity, or power supply specifications.
- This product does not contain parts that can be maintained or repaired by users. Damage caused by dismantling the product without authorization from BZBGear is not covered under the warranty policy.
- Installation and use of this product must strictly comply with local electrical safety standards.

Introduction

This driver has been designed to provide control of the BZBGear BG-4K-VP44 4x4 seamless presentation switcher within a Control4 system via TCP/IP or RS-232.

Built on the Control4 DriverWorks SDK using the AV Switch proxy, the driver exposes the switcher's 4 HDMI inputs and 4 HDMI outputs for matrix routing, and adds control of scenes and preset modes, per-output resolution scaling, image on/off and +5V, test patterns, color space, picture adjustment (brightness, contrast, saturation, hue), PIP/multiview, HDMI and de-embedded audio, audio delay, and EDID copy. The switcher confirms every command, which the driver uses for two-way routing feedback.

Installation

Copy the driver (.c4z) into your Control4 driver folder, then in Composer Pro use Driver -> Add or Update Driver... and add it to your project. On the Connections page, bind the sources and displays as described under Connections (Bindings).

To control the device over the network, set the following on the Properties page:

Setting	Value
Connection Type	Network (TCP)
IP Address	The IP address of the BG-4K-VP44. Auto-filled by SSDP discovery when available.
TCP Port	5000 (factory default)

To use the RS-232 connection instead, set Connection Type to RS-232 and use the following serial settings:

- 115200 baud, 8 data bits, no parity, 1 stop bit

If the device supports SDDP, it is discovered automatically and the IP Address is filled in for you.

Properties

The driver exposes the following properties on the Composer Properties page. Read-only properties reflect live status reported by the device.

Property	Access	Description
Connection Type	Editable	How the driver reaches the switcher. Network uses the IP and port below; RS-232 uses the serial binding at 115200 8N1.
IP Address	Editable	IP address or hostname of the BG-4K-VP44. Auto-filled by SDDP discovery when available.
TCP Port	Editable	TCP control port of the switcher. Factory default is 5000.
Connection Status	Read-only	Current state of the control connection.
Last Route	Read-only	The most recent routing change reported by the device.
Poll Interval	Editable	Seconds between keep-alive checks. The switcher has no status-query command, so the driver tracks state from command confirmations; leave at 0 unless you want periodic reconnect checks.
Discovered By	Read-only	How the switcher was located: SDDP discovery or manual configuration.
SDDP Auto-Configure IP	Editable	When Yes, the driver follows the IP reported by SDDP discovery.
Debug Mode	Editable	Diagnostic output. Auto-reverts to Off after one hour.
Driver Version	Read-only	Driver version.

Actions

The following actions are available on the Composer Actions tab.

Action	Description
Reconnect	Tear down and re-establish the connection to the device.
Query Status	Refresh all state from the device.
Print Routing Table	Print the current routing to the Lua output window.
Factory Reset (Administrator)	Reset the switcher to factory defaults at the administrator level.

Programming Commands

The following device-specific commands are available in the Composer Programming tab. Parameters are chosen from drop-down lists unless noted.

Command	Parameters	Description
Route Video	Output, Input	Route HDMI input PARAM2 to output PARAM1
Recall Scene	Scene	Recall saved scene PARAM1
Save Scene	Scene	Save the current state to scene PARAM1
Clear Scene	Scene	Clear scene PARAM1 to factory settings
Recall Mode	Mode	Recall preset mode PARAM1
Set Output Resolution	Output, Resolution	Set output PARAM1 resolution to PARAM2
Set Output Image	Output, State	Turn output PARAM1 image PARAM2

Set Output 5V	Output, State	Turn output PARAM1 +5V PARAM2
Set Output Test Pattern	Output, Pattern	Set output PARAM1 test pattern to PARAM2 (0 = off)
Set Color Space	Output, Color	Set output PARAM1 color space to PARAM2
Set Brightness	Output, Level	Set output PARAM1 brightness to PARAM2 (0-100, 50 = standard)
Set Contrast	Output, Level	Set output PARAM1 contrast to PARAM2 (0-100, 50 = standard)
Set Saturation	Output, Level	Set output PARAM1 saturation to PARAM2 (0-100, 50 = standard)
Set Hue	Output, Level	Set output PARAM1 hue to PARAM2 (0-100, 50 = standard)
Set PIP	Output, State	Turn PIP/multiview on output PARAM1 PARAM2
Set HDMI Audio	Output, State	Turn output PARAM1 HDMI audio PARAM2
Set HDMI Audio Source	Output, Source	Set output PARAM1 HDMI audio source to PARAM2
Set De-embed Audio	Output, State	Turn output PARAM1 de-embedded (digital/analog) audio PARAM2
Set Audio Delay	Input, Delay	Set input PARAM1 audio delay to PARAM2 ms (51 = auto)
Copy EDID	Input, EDID	Copy EDID PARAM2 to input PARAM1
Query Status	-	Print the driver's tracked routing state
Send Raw Command	Command	Send a raw '#' command to the device (leading # added if missing)

Events & Variables

Events (available as "when" triggers in Programming):

- Switcher Online
- Switcher Offline
- Route Changed

Variables (available for programming and conditionals):

Variable	Type	Description
CONNECTED	Bool	True while the driver is connected to the switcher.
OUTPUT_1_INPUT ... OUTPUT_4_INPUT	Number	The input currently routed to each output (as last reported by the switcher).

Connections (Bindings)

On the Composer Connections page, bind the following. Unused bindings are hidden automatically on Control4 OS 3.3.0 and later.

Binding	Type	Description
HDMI In 1 - 4	Video Input	Connect sources to the switcher inputs.
HDMI Out 1 - 4	Video Output	Connect displays to the switcher outputs.
RS-232	Serial	Optional serial control in place of the network connection.

ASCII Command Reference

The switcher is controlled with '#'-prefixed ASCII commands terminated with CR/LF, over TCP (port 5000, single connection) or RS-232 (115200 8N1). Ports are 0-based in the protocol (out0 = Output 1). Every command is confirmed, e.g. [Output 1-video_tx_source] <Data=1 : Input 2>. The following is a summary; see the command list for the full set.

Routing

Command	Description
#video_d out{o} matrix={i}	Route input i to output o (0-based; out255 = all)
#preset scene{n} exe=2 / 1 / 0	Recall / save / clear scene n (0-7)
#preset mode{n} exe=2	Recall preset mode n (0-25)

Output / Video

Command	Description
#video_d out{o} resolution={r}	Set output resolution (17 auto-sink, 18 auto-source, 12-15 follow input)
#video_d out{o} onoff={0/1}	Output image off / on
#video_d out{o} power={0/1}	Output +5V off / on
#video_d out{o} pattern={0-15}	Output test pattern
#video_d out{o} color={0-3}	0 RGB, 1 YCbCr444, 2 YCbCr422, 3 YCbCr420
#video_d out{o} brightness/contrast/saturation/hue={0-100}	Picture adjustment (50 = standard)
#video_d out{o} pip_en={0/1}	PIP / multiview off / on

Audio / EDID

Command	Description
#audio_d out{o} hdmi_onoff={0/1}	HDMI output audio off / on
#audio_d out{o} hdmi_source={n}	HDMI audio source (0-3 HDMI, 4-7 analog, 8 auto)
#audio_d out{o} dec_onoff={0/1}	De-embedded (digital/analog) audio off / on
#audio_d in{i} delay_value={ms}	Input audio delay (0-51 ms, 51 = auto)
#edid_d in{i} source={s}	Copy EDID (0-3 default, 4-7 user, 8-11 output)

System

Command	Description
#cmd	Print command help (no dedicated status query)
#factory lv={0/1}	Factory reset (0 temporary user, 1 administrator)
#network / #name / #lcd / #power / #theme / #uart	Config commands (via Send Raw Command)

Tech Support

For technical support, please contact BZBGear:

- Email: support@bzbgear.com
- Phone: +1(888)499-9906

- Address: 830 National Drive #140, Sacramento, CA 95834, USA

Warranty

BZBGear products are backed by a limited product warranty. For full warranty details, please visit www.bzbgear.com or contact BZBGear support.

Mission Statement

BZBGear is dedicated to providing high-quality, professional-grade AV equipment that delivers exceptional performance and reliability for both commercial and residential applications.

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