



BG-8K-44MA

Control4 Driver User Manual

4x4 HDMI 2.1 (8K) Matrix Switcher with Audio De-embedding

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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 guide covers the Control4 driver for the BZBGear BG-8K-44MA 4x4 HDMI 2.1 (8K) Matrix Switcher. The driver is built on the Control4 DriverWorks SDK using the AV Switch proxy and controls the matrix over TCP/IP or RS-232.

It exposes the matrix's 4 HDMI inputs, 4 HDMI outputs and 4 de-embedded (ARC / ext-audio) outputs for routing, and adds control of per-output HDCP, video/scaling mode, HDR-to-SDR, ARC, stream enable, audio mute, ext-audio routing, matrix presets, HDMI-CEC, and front-panel settings (power, buzzer, panel lock, LCD timeout), with two-way routing and hot-plug 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).

1. In System Design, add the "BZBGear BG-8K-44MA" driver to your project (BZBGear manufacturer, AV Switch category).
2. This driver has NO IP Address property - the matrix IP is set on the Connections page. Open the Connections view, select the Network tab, then IP Network.

3. Double-click the BG-8K-44MA entry in the IP Network Connections list to open the Identify dialog, type the matrix IP address (for example 192.168.30.56) in the address field, and click Next. The Status changes to Online and the Connected To Network property reads true.

4. On the Connections page (Control/AV tab), bind the HDMI inputs, HDMI outputs and ARC audio outputs to your sources and displays.

To control the matrix over RS-232 instead, bind the RS-232 connection at the serial settings below rather than addressing the network connection.

Connection reference:

Setting	Value
Connection Type	Network (TCP) or RS-232 - the matrix IP is set on the Connections page, not on a Properties field.
IP Address	Set on the Network connection (Connections -> Network -> IP Network -> Identify).
TCP Port	8000 (factory default)

To use the RS-232 connection instead, bind the RS-232 connection and use the following serial settings:

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

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
Log Level	Editable	Driver logging verbosity.
Log Mode	Editable	Where driver logs are sent (Print / Log).
Command Delay Milliseconds	Editable	Delay inserted between commands sent to the matrix.
Power On Delay Seconds	Editable	Delay after a power-on command.
Power Off Delay Seconds	Editable	Delay after a power-off command.
Connected To Network	Editable	Shows whether the driver is connected to the matrix over the network.
HDMI Input 1 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.
HDMI Input 2 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.
HDMI Input 3 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.
HDMI Input 4 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.
HDMI Output 1 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.
HDMI Output 2 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.
HDMI Output 3 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.
HDMI Output 4 Connect Status	Read-only	Live HDMI hot-plug (connection) status of this port.

Actions

The following actions are available on the Composer Actions tab.

Action	Description
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Print Device Current Status	Query the matrix and print its current status to the log.
Set Device Reboot	Reboot the matrix.
Set Device Power On or Off	Power the matrix on or off.
Set Device Beep Mode	Enable or disable the front-panel buzzer.
Set Device Pannel Lock On or Off	Lock or unlock the front-panel buttons.

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
GetSystemStatus	-	get system status
SetDeviceReboot	-	reboot the connected device
SetPowerMode	mode	set the device power on or off
SetBeepMode	mode	set the device beep on or off
SetPannelMode	mode	set the pannel lock or unlock
SetLcdOnTime	mode	set Lcd On time
SetOutputHDCP	outputPort, HDCP	set output HDCP
SetOutputStreamMode	outputPort, mode	set output stream enable/disable
SetOutputVideoMode	outputPort, mode	Set output port video mode
SetOutputHdrMode	outputPort, mode	Set output port HDR to SDR mode
SetOutputArcMode	outputPort, mode	Set output ARC on/off
SetOutputAudioMuteMode	outputPort, mode	Set output mute on/off
SetVideoSwitch	inputPort, outputPort	Route input source to output
SetOutputExaEnableOrDisable	mode, outputPort	Set output ext-audio enable/disable
SetOutputExaMode	mode	Set output ext-audio mode
SetExaSource	inputPort, ExaOutput	Route input source audio to output ext-audio
SetPresetFunction	Preset, Mode	Set preset related functions
SetCECCommand	CECCommand, port	Set CEC Command To Device

Events & Variables

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

Variables (available for programming and conditionals):

Variable	Type	Description
Connected To Network	Bool	True while the driver is connected to the matrix over the network.
HDMI Input 1 - 4 Connect Status	String	Live hot-plug status of each HDMI input.
HDMI Output 1 - 4 Connect Status	String	Live hot-plug status of each HDMI output.

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
Input 1 - 4	Video Input	Connect sources (players, PCs, cable boxes) to the matrix inputs.
Output 1 - 4	Video Output	Connect displays to the matrix outputs.
Output ARC 1 - 4	Audio Output	De-embedded / ARC audio, one per output; bind to receivers/amplifiers.
RS-232 / Network	Serial / Network	Bind one to control the matrix over serial or IP.

ASCII Command Reference

The matrix is controlled with ASCII strings terminated by "!". Network: TCP port 8000. Serial: 115200 8N1. Routing feedback is reported as outputN->inputM. The following is a summary of key commands; see the matrix command list for the full set.

System

Command	Description
r status! / r type!	Get device status / model
power 1! / power 0!	Power on / off
s beep 1! / s lock 1!	Buzzer / panel lock on (0 = off)
s lcd on time 0-4!	LCD timeout: 0 off, 1 always, 2 15s, 3 30s, 4 60s
s reboot!	Reboot the matrix

Routing

Command	Description
s output Y in source X!	Route input X to output Y (Y=0 for all)
r output 0 in source!	Read all video routes (returns outputN->inputM)
s output Y hdcp X!	Output HDCP mode (1-5)
s output Y video mode X!	Output video/scaling mode (e.g. 8K->4K, 8K/4K->1080p)
s output Y hdr X! / s output Y arc X! / s output Y stream X!	HDR / ARC / stream

Ext-Audio / Preset / CEC

Command	Description
s output exa mode X!	Ext-audio mode (follow input / output / matrix)
s output Y exa in source X!	Route an audio source to ext-audio output Y
Preset (save / recall / clear)	Matrix presets via the Set Preset command
CEC	HDMI-CEC to a source or display via the Set CEC 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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