



SP-618 4K HDR 1:8 HDMI Splitter

Application Programming Interface

Document Revision	V1.0
Document Date	November 2020
Supported Firmware	Refer to Supported Product Firmware/Software for details.

Contents

1.	Overview	3
	1.1 Supported Product Firmware/Software	3
	1.2 Before You Begin	3
2.	Wiring and Communication Configuration	4
	2.1 RS-232 Connections	4
3.	Command Overview	4
4.	Output Settings	5
	4.1 Controlling Output Settings	5
	4.2 Controlling HDCP Output Status	5
	4.3 Audio Output Mute	6
5.	Controlling Display Power via CEC	7
6.	Matrix EDID Settings	8
7.	Troubleshooting	9
8.	Contacting Technical Support	10
9.	Document Revision History	10

1. Overview

This API (Application Programming Interface) document provides the necessary connections, configurations and commands needed in order to control the SP-618

1.1 Supported Product Firmware/Software

The following products and firmware versions are supported by this version of the API. The firmware versions listed are the minimum supported at time of publication, firmware may be higher except where otherwise noted.

Product	Status Since Last Doc Rev	Supported Product Versions
SP-618	New	v1 or higher

1.2 Before You Begin

Verify that the following items are on hand and that all documentation is reviewed before continuing.

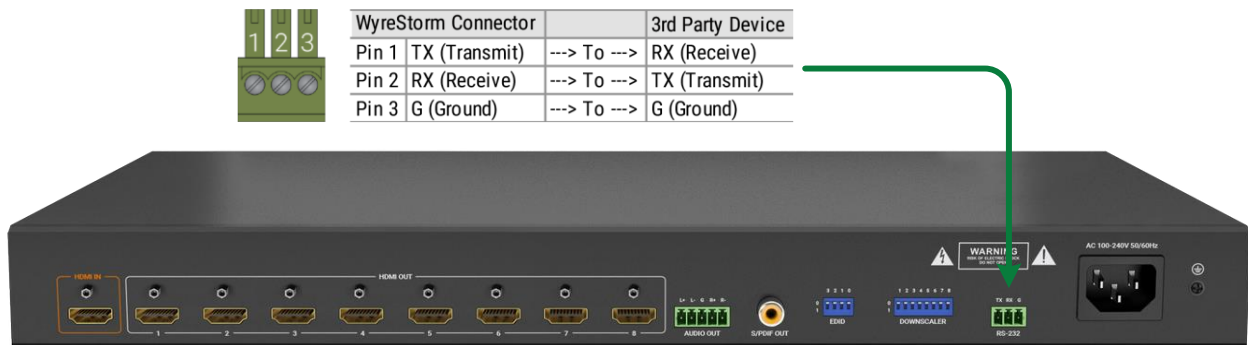
- Operational SP-618 HDMI Splitter
- Control System and Control System Documentation

2. Wiring and Communication Configuration

WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in its entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment.

2.1 RS-232 Connections

The following wiring diagrams show the pinouts for the WyreStorm device. While not shown, connect the TX (transmit) to RX (receive) pins at the control system or PC side of the cable. Most control systems and computers are configured for Digital Terminal Equipment (DTE) where pin 2 is RX and pin 3 is TX. This can vary from device to device, refer to the documentation for the connected device for pin functionality to ensure that the correct connections can be made.



RS-232 Port Settings

Baud rate:	115200 bps
Data Bits:	8bits
Parity:	None
Stop Bits:	1bit
Flow Control:	None

3. Command Overview

When sending commands using the IPv4 / Telnet API channel, or when using the RS-232 API channel, all command lines sent from the 3rd-party controller to the matrix should end with a specific character. This signifies when the command is processed by the matrix. This is usually specified in 3rd-party control software as the "command delimiter," "stop character," or "line terminator."

Accepted delimiter characters are:

Character	Shorthand	Hex Notation	Escape Notation	Decimal Notation
Carriage Return	!	21	\r	33

Please note, most 3rd-party control software will either append these characters automatically or an option to specify them will be present.

It is important that the last delimiter character is LF and not CR.

4. Output Settings

4.1 Controlling Output Settings

Enable/Disable Video Output	
Command structure: S HDMI <OUTPUT> STREAM <PRM1>	
Response Syntax: <PRM2> HDMI <OUTPUT> STREAM	<OUTPUT> = 1~8 <PRM1> = 0~1 (0: disable, 1: enable) <PRM2> = enable disable
Example Command: S HDMI 1 STREAM 1!	
Example Response: ENABLE HDMI OUTPUT 1 STREAM	

Query Output Stream Setting	
Command structure: R HDMI <OUTPUT> STREAM	
Response Syntax: <PRM> HDMI <OUTPUT> STREAM	<OUTPUT> = 1~8 <PRM> = enable disable
Example Command: R HDMI 1 STREAM!	
Example Response: ENABLE HDMI OUTPUT 1 STREAM	

4.2 Controlling HDCP Output Status

Set HDCP Output Status	
Command structure: S HDMI <OUTPUT> HDCP <PRM>	
Response Syntax: HDMI <OUTPUT> HDCP <PRM> TX	<OUTPUT> = 1~8 0=all <PRM> = 0~2 (0=off, 1=follow, 2=hdcp1.4)
Example Command: R HDMI 1 HDCP 1!	
Example Response: HDMI OUTPUT 1 HDCP FOLLOW TX	

Query HDCP Output Status

Command structure:

R HDMI <OUTPUT> HDCP

Response Syntax:

HDMI <OUTPUT> HDCP <PRM> TX

Example Command:

R HDMI 1 HDCP!

Example Response:

HDMI OUTPUT 1 HDCP FOLLOW TX

<OUTPUT> = 1~8 | 0=all

<PRM> = off, follow, hdcp1.4

Note: All outputs set to follow

4.3 Audio Output Mute

Set Audio Output Mute

Command structure:

S AUDIO MUTE <PRM>

Response Syntax:

S AUDIO MUTE <PRM>

Example Command:

S AUDIO MUTE 1!

Example Response:

S AUDIO MUTE 1

<PRM> = 0~1 (0=unmute, 1=mute)

Note 1: Both digital and analog outputs are affected.

Query Audio Output Mute

Command structure:

R AUDIO MUTE

Response Syntax:

AUDIO MUTE <PRM>

Example Command:

R AUDIO MUTE!

Example Response:

AUDIO MUTE 1

<PRM> = 0~1 (0=unmute, 1=mute)

5. Controlling Display Power via CEC

IMPORTANT! Display must be compatible with CEC and enabled in order to use function.

Send CEC Display Power

Command structure:

SET CEC_PWR <PRM>

Response Syntax:

CEC_PWR <PRM>

Example Command:

SET CEC_PWR on!

Example Response:

CEC_PWR on

<PRM> = on | off

Note: Sends the default hexadecimal commands to power on/off all outputs (40 04 and FF 36)

Custom CEC Display Power

Command structure:

SET CEC_CMD <OUTPUT> <PRM>

Response Syntax:

CEC_CMD <OUTPUT> <PRM>

Example Command:

SET CEC_CMD out1 40 04!

Example Response:

CEC_CMD out1 40 04

<OUTPUT> = out1 ~ out8

<PRM> = hexadecimal CEC command

6. Matrix EDID Settings

Query Input EDID	
Command structure: S EDID IN FROM <PRM>	<PRM> = 1~22
Response Syntax: INPUT EDID: <PRM>	1 - 1080p,Stereo Audio 2.0 2 - 1080p,Dolby/DTS 5.1 3 - 1080p,HD Audio 7.1 4 - 1080i,Stereo Audio 2.0 5 - 1080i,Dolby/DTS 5.1 6 - 1080i,HD Audio 7.1 7 - 4K2K60_420,Stereo Audio 2.0 8 - 4K2K60_420,Dolby/DTS 5.1 9 - 4K2K60_420,HD Audio 7.1 10 - 4K2K60_444,Stereo Audio 2.0 HDR 11 - 4K2K60_444,Dolby/DTS 5.1 HDR 12 - 4K2K60_444,HD Audio 7.1 HDR 13 - DVI 1280x1024@60Hz 14 - DVI 1920x1200@60Hz 15 - copy from output 1 16 - copy from output 2 17 - copy from output 3 18 - copy from output 4 19 - copy from output 5 20 - copy from output 6 21 - copy from output 7 22 - copy from output 8
Example Command: S EDID IN FROM 1!	
INPUT EDID: 1080p, Stereo Audio 2.0	
	Note1: Toggle EDID DIP switches to 1111 to enable API control of EDID information

Query Input EDID	
Command structure: R EDID IN	
Response Syntax: INPUT EDID: <PRM>	<PRM> = See above
Example Command: R EDID IN!	
Example Response: INPUT EDID: 1080p, Stereo Audio 2.0	

Query EDID Input Data	
Command structure: R EDID IN DATA!	<PRM> = HEX data
Response Syntax: EDID DATA: <PRM>	

7. Troubleshooting

Query Device Model	
Command: R TYPE!	<PRM> = Unit Model
Response Syntax: <PRM>	
Query Device Status	
Command: R STATUS!	<PRM> = Device status including: Input/output connection, input timing, output scaler status, HDCP status and EDID status
Response Syntax: <PRM>	
Restore Factory Defaults	
Command: S RESET!	<PRM> = HDP-SPB18SA-US0889 Version: Vx.xx.xx Build Time:xxx xx xxxx-xx:xx:xx
Response: <PRM>	
Query Firmware Version	
Command: R FW VERSION	<PRM> = MCU BOOT:Vx.xx MCU APP :Vx.xx.xx
Response: <PRM>	
Query Input Connection Status	
Command: R LINK IN	<PRM> = Connect Disconnect
Response: <PRM>	
Query Output Connection Status	
Command: R LINK OUT <OUTPUT>	<OUTPUT> = 1~8 0= all <PRM> = Connect Disconnect
Response: <OUTPUT><PRM>	

8. Contacting Technical Support

Should further clarification of the content in this document or assistance on troubleshooting be required, please contact WyreStorm technical support.

Phone: UK: +44 (0) 1793 230 343 | ROW: 844.280.WYRE (9973)

Contact Request: <http://wyrestorm.com/contact-tech-support>

9. Document Revision History

V1.0 – November 2020

New Splitter Model	SP-618
--------------------	--------
