SP-618 4K HDR 1:8 HDMI Splitter

Application Programming Interface

<table>
<thead>
<tr>
<th>Document Revision</th>
<th>V1.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Date</td>
<td>November 2020</td>
</tr>
<tr>
<td>Supported Firmware</td>
<td>Refer to Supported Product Firmware/Software for details.</td>
</tr>
</tbody>
</table>
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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.

<table>
<thead>
<tr>
<th>Product</th>
<th>Status Since Last Doc Rev</th>
<th>Supported Product Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP-618</td>
<td>New</td>
<td>v1 or higher</td>
</tr>
</tbody>
</table>

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 this 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 connect connections can be made.

RS-232 Port Settings
<table>
<thead>
<tr>
<th>Setting</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud rate</td>
<td>115200 bps</td>
</tr>
<tr>
<td>Data Bits</td>
<td>8bits</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop Bits</td>
<td>1bit</td>
</tr>
<tr>
<td>Flow Control</td>
<td>None</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Character</th>
<th>Shorthand</th>
<th>Hex Notation</th>
<th>Escape Notation</th>
<th>Decimal Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carriage Return</td>
<td>!</td>
<td>21</td>
<td>\r</td>
<td>33</td>
</tr>
</tbody>
</table>

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

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

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

Example Command:
R HDMI 1 HDCP 1!

Example Response:
HDMI OUTPUT 1 HDCP FOLLOW TX
### Query HDCP Output Status

<table>
<thead>
<tr>
<th>Command structure:</th>
<th>Response Syntax:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R HDMI &lt;OUTPUT&gt; HDCP</strong></td>
<td><strong>HDMI &lt;OUTPUT&gt; HDCP &lt;PRM&gt; TX</strong></td>
</tr>
</tbody>
</table>

Example Command: **R HDMI 1 HDCP!**

Example Response: **HDMI OUTPUT 1 HDCP FOLLOW TX**

**Note:** All outputs set to follow

### 4.3 Audio Output Mute

#### Set Audio Output Mute

<table>
<thead>
<tr>
<th>Command structure:</th>
<th>Response Syntax:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S AUDIO MUTE &lt;PRM&gt;</strong></td>
<td><strong>S AUDIO MUTE &lt;PRM&gt;</strong></td>
</tr>
</tbody>
</table>

Example Command: **S AUDIO MUTE 1!**

Example Response: **S AUDIO MUTE 1**

**Note 1:** Both digital and analog outputs are affected.

#### Query Audio Output Mute

<table>
<thead>
<tr>
<th>Command structure:</th>
<th>Response Syntax:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>R AUDIO MUTE</strong></td>
<td><strong>AUDIO MUTE &lt;PRM&gt;</strong></td>
</tr>
</tbody>
</table>

Example Command: **R AUDIO MUTE!**

Example Response: **AUDIO MUTE 1**
5. Controlling Display Power via CEC

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

### Send CEC Display Power

<table>
<thead>
<tr>
<th>Command structure:</th>
<th>SET CEC_PWR &lt;PRM&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Syntax:</td>
<td>CEC_PWR &lt;PRM&gt;</td>
</tr>
<tr>
<td>Example Command:</td>
<td>SET CEC_PWR on!</td>
</tr>
<tr>
<td>Example Response:</td>
<td>CEC_PWR on</td>
</tr>
</tbody>
</table>

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

### Custom CEC Display Power

<table>
<thead>
<tr>
<th>Command structure:</th>
<th>SET CEC_CMD &lt;OUTPUT&gt; &lt;PRM&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Syntax:</td>
<td>CEC_CMD &lt;OUTPUT&gt; &lt;PRM&gt;</td>
</tr>
<tr>
<td>Example Command:</td>
<td>SET CEC_CMD out1 40 04!</td>
</tr>
<tr>
<td>Example Response:</td>
<td>CEC_CMD out1 40 04</td>
</tr>
</tbody>
</table>
6. Matrix EDID Settings

**Query Input EDID**

Command structure:

```
S EDID IN FROM <PRM>
```

<PRM> = 1~22

Response Syntax:

```
INPUT EDID: <PRM>
```

Example Command:

```
S EDID IN FROM 1;
```

```
INPUT EDID: 1080p, Stereo Audio 2.0
```

Note 1: 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>
```

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

<table>
<thead>
<tr>
<th>Command:</th>
<th>R TYPE!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Syntax:</td>
<td>&lt;PRM&gt; = Unit Model</td>
</tr>
</tbody>
</table>

### Query Device Status

<table>
<thead>
<tr>
<th>Command:</th>
<th>R STATUS!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response Syntax:</td>
<td>&lt;PRM&gt; = Device status including: Input/output connection, input timing, output scaler status, HDCP status and EDID status</td>
</tr>
</tbody>
</table>

### Restore Factory Defaults

<table>
<thead>
<tr>
<th>Command:</th>
<th>S RESET!</th>
</tr>
</thead>
</table>

### Query Firmware Version

<table>
<thead>
<tr>
<th>Command:</th>
<th>R FW VERSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response:</td>
<td>&lt;PRM&gt; = MCU BOOT:Vx.xx MCU APP :Vx.xx.xx</td>
</tr>
</tbody>
</table>

### Query Input Connection Status

<table>
<thead>
<tr>
<th>Command:</th>
<th>R LINK IN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response:</td>
<td>&lt;PRM&gt; = Connect</td>
</tr>
</tbody>
</table>

### Query Output Connection Status

<table>
<thead>
<tr>
<th>Command:</th>
<th>R LINK OUT &lt;OUTPUT&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response:</td>
<td>&lt;OUTPUT&gt; = 1~8</td>
</tr>
</tbody>
</table>
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

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<tr>
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New Splitter Model SP-618