



EXP-MX-0402-H2 Express Matrix Switcher

Application Programming Interface

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Supported Firmware	N/A

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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 EXP-MX-0402-H2.

1.1 Before You Begin

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

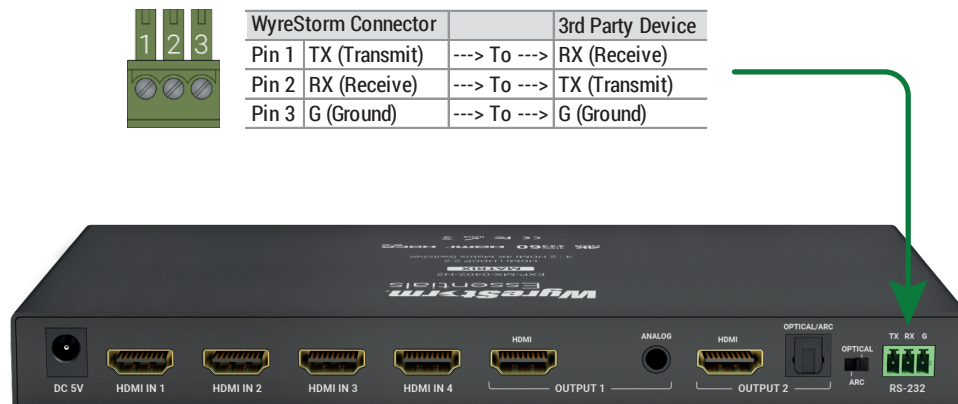
- Operational EXP-MX-0402-H2 Matrix.....
- Control System and Control System Documentation

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 CON-232-422, 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
Data Bits:	8bits
Parity:	None
Stop Bits:	1bit
Flow Control:	None

3. Command Overview

Command Type:	ASCII
Key Words:	Case Sensitive
SET	Sets a value for the command target
GET	Queries the settings for the command target
[Prm]	optional parameters
[Input]	in#
[Output]	out#
Command termination:	<CR><LF>

3.1 Standard Syntax

Each command follows a basic syntax that is used for every command. Not all parts listed are in all commands and each command within this document defines which section of the syntax is used for that specific command.

[Command] [Input] [Output] [Prm]

4. Controlling Inputs and Outputs

4.1 Controlling Video

Selecting Video Inputs

Command Syntax:	SET SW [Input] [Output]<CR><LF>	
Response Syntax:	SW [Input] [Output]<CR><LF>	[Input]=in1~in4 [Output]=out1~out2 all
Example Command:	SET SW in4 out1<CR><LF>	
Example Response:	SW in4 out1<CR><LF>	

Query Video Input Mapping

Command Syntax:	GET MP [Output]<CR><LF>	
Response Syntax:	MP GET [Input] [Output]<CR><LF>	[Input]=in1~in4 [Output]=out1~out2 all
Example Command:	GET MP out1<CR><LF>	
Example Response:	MP in4 out1<CR><LF>	

4.2 Controlling Audio

Mute Audio Outputs

Command Syntax:	SET MUTE [Output] [Prm]<CR><LF>	
Response Syntax:	MUTE [Output] [Prm]<CR><LF>	[Output]=hdmaudioout1~hdmaudioout2 audioout1~audioout2 spdifaudioout1~spdifaudioout2
Example Command:	SET MUTE audioout2 on<CR><LF>	[Prm]=on (mute) off (unmute)
Example Response:	MUTE audioout2 on<CR><LF>	

Query Audio Output Mute Status

Command Syntax:	GET MUTE [Output]<CR><LF>	
Response Syntax:	MUTE [Output] [Prm]<CR><LF>	[Output]=hdmaudioout1~hdmaudioout2 audioout1~audioout2 spdifaudioout1~spdifaudioout2
Example Command:	GET MUTE audioout2<CR><LF>	[Prm]=on (mute) off (unmute)
Example Response:	MUTE audioout2 on<CR><LF>	

4.3 Controlling Display Power via CEC

IMPORTANT! Command Requirements

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

Command Syntax:	SET CEC_PWR [Output] [Prm]<CR><LF>	
Response Syntax:	CEC_PWR [Output] [Prm]<CR><LF>	[Output]= out1~out2
Example Command:	SET CEC_PWR out2 on<CR><LF>	[Prm]=on off
Example Response:	CEC_PWR out2 on<CR><LF>	

Set CEC Auto Power

Command Syntax:	SET AUTOCEC_FN [Output] [Prm]<CR><LF>	
Response Syntax:	AUTOCEC_FN [Output] [Prm]<CR><LF>	[Output]=out1~out2
Example Command:	AUTOCEC_FN out1 on<CR><LF>	[Prm]=on off
Example Response:	AUTOCEC_FN out1 on<CR><LF>	

Query CEC Auto Power Status

Command Syntax:	GET AUTOCEC_FN [Output]<CR><LF>	
Response Syntax:	AUTOCEC_FN [Output] [Prm]<CR><LF>	[Output]=out1~out4 [Prm]=on off
Example Command:	GET AUTOCEC_FN out1<CR><LF>	
Example Response:	AUTOCEC_FN out1 on<CR><LF>	

Set CEC Power Time Delay (Power Off from No Active Signal)

Command Syntax:	SET AUTOCEC_D [Output] [Prm]<CR><LF>	
Response Syntax:	AUTOCEC_D [Output] [Prm]<CR><LF>	[Output]=out1~out2 [Prm]=1~30 (Units in minutes; default is set to 2 minutes)
Example Command:	SET AUTOCEC_D out2 2<CR><LF>	
Example Response:	AUTOCEC_D out2 2<CR><LF>	

Query CEC Power Time Delay

Command Syntax:	GET AUTOCEC_D [Output]<CR><LF>	
Response Syntax:	AUTOCEC_D [Output] [Prm]<CR><LF>	[Output]=out1~out2 [Prm]= 1~30 (Units in minutes; default is set to 2 minutes)
Example Command:	SET AUTOCEC_D out2 <CR><LF>	
Example Response:	AUTOCEC_D out2 2<CR><LF>	

5. Troubleshooting

Set Input EDID

Command Syntax:	SET EDID [Input] [Prm]<CR><LF>	[Input]= in1~in4 [Prm]={1~11}
Response Syntax:	EDID [Input] [Prm]<CR><LF>	1) Restore Defaults; 2) Copy EDID from HDMI out1 3) Copy EDID from HDMI out2
Example Command:	SET EDID in2 4<CR><LF>	4) 4K@60Hz 4:4:4, 2.0ch, with HDR 5) 4K@60Hz 4:4:4, 5.1ch, with HDR 6) 4K@60Hz 4:4:4, 7.1ch, with HDR 7) 4K@30Hz 4:4:4, 2.0ch, with HDR and 4:2:0 8) 4K@30Hz 4:4:4, 7.1ch, with HDR and 4:2:0 9) 1080P@60Hz, 2.0ch 10) 1080P@60Hz, 5.1ch 11) 1080P@60Hz, 7.1ch
Example Response:	EDID in2 4<CR><LF>	

Get Input EDID Status

Command Syntax:	GET EDID [Input]<CR><LF>	[Input]= in1~in4 [Prm]={1-11}
Response Syntax:	EDID [Input] [Prm]<CR><LF>	1) Restore Defaults; 2) Copy EDID from HDMI out1 3) Copy EDID from HDMI out2
Example Command:	GET EDID in2<CR><LF>	4) 4K@60Hz 4:4:4, 2.0ch, with HDR 5) 4K@60Hz 4:4:4, 5.1ch, with HDR 6) 4K@60Hz 4:4:4, 7.1ch, with HDR 7) 4K@30Hz 4:4:4, 2.0ch, with HDR and 4:2:0 8) 4K@30Hz 4:4:4, 7.1ch, with HDR and 4:2:0 9) 1080P@60Hz, 2.0ch 10) 1080P@60Hz, 5.1ch 11) 1080P@60Hz, 7.1ch
Example Response:	EDID in2 4<CR><LF>	

Reboot Device

Command Syntax:	REBOOT<CR><LF>
Response Syntax:	REBOOT SET<CR><LF>
Example Command:	REBOOT<CR><LF>
Example Response:	REBOOT<CR><LF>

Restore Factory Defaults

Command Syntax:	RESET<CR><LF>
Response Syntax:	RESET SET<CR><LF>
Example Command:	RESET<CR><LF>

Example
Response: RESET<CR><LF>

Set IR System Code

Command
Syntax: Set IR_SC<CR><LF>

Response
Syntax: IR_SC [Prm]<CR><LF>

[Prm]= {all, mode1, mode2}
mode1=0x00
mode2=0x4e

Example
Command: Set IR_SC<CR><LF>

Example
Response: IR_SC mode1<CR><LF>

Get IR System Code

Command
Syntax: Get IR_SC<CR><LF>

Response
Syntax: IR_SC [Prm]<CR><LF>

[Prm]= {all, mode1, mode2}
mode1=0x00
mode2=0x4e

Example
Command: Get IR_SC<CR><LF>

Example
Response: IR_SC mode1<CR><LF>

Show Current Firmware

Command
Syntax: GET VER<CR><LF>

Response
Syntax: VER [Prm]<CR><LF>

[Prm]= {...} // according to actual firmware version

Example
Command: GET VER<CR><LF>

Example
Response: VER 1.0<CR><LF>

6. 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>

7. Document Revision History

V1.0– November 2019

All	Initial release of document
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Publication Disclaimer

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