

**4K HDR 4x4**

# HDMI to HDMI Matrix Switcher

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Application Programming Interface

## Version Information

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Version	Release Date	Notes
1	02/18	Initial release

## Commands

Commands can be sent using SSHv2, RS-232, TCP/IP, or Telnet. The default port for Telnet is 23. Each command is case sensitive. Do not change capitalization, spacing, or lettering. Each command is terminated with a carriage return. If the command fails or is incorrect the feedback should be “Command FAILED:” followed by the sent command.



**IMPORTANT:** Each command must be terminated with a carriage-return (0x0d) and the feedback is terminated with a carriage-return and line-feed (0x0a). In addition, when sending multiple commands, at least 500 milliseconds should be specified between each command.

Command	Description
All#	Resets all inputs to corresponding outputs
Blink	Enable/Disable red blinking of the PWR button LED
Broadcast	Enables, disables, and displays status of broadcast mode
Clear	Erases the saved I/O route settings for the chosen preset number
CSpara	Set RS-232 parameter
EDIDMSet	Sets the EDID of an input to default, internal, or a previously saved EDID
EDIDOut	Saves the output EDID to memory
HDCPSet	Sets HDCP mode of the HDMI ports
InNameGet	Displays the name of the specified input
InNameSet	Sets the name of the specified input
IPAddUser	Add a user for TCP/IP control
IPCFG	Displays IP address configuration
IPDelUser	Delete a user from TCP/IP
IPDHCP	Turns DHCP on / off
IPLogin	Enables / Disables IPLogin mode
IPPort	Set the TCP/IP port
IPQuit	Logs out of TCP/IP
IPStatic	Sets a static IP address
IPTimeout	Determines amount of seconds of inactivity before TCP/IP disconnects
IROFF	Disables the front panel IR receiver window
IRON	Enables the front panel IR receiver window
IRSTA	Displays the current status of the front panel IR receiver window
Lock	Locks the front panel of the matrix so no buttons are active
Mreset	Sets matrix back to the default settings
OutNameGet	Displays the name of the specified output

Command	Description
OutNameSet	Sets the name of the specified output
PreNameGet	Displays the name of the specified preset
PreNameSet	Sets the name of the specified preset
PWOFF	Turns the unit off
PWON	Turns the unit on
PWSTA	Displays the power status of the matrix
Recall	Recalls saved I/O route settings for the chosen preset number
Save	Saves I/O route settings for future use, preset options 0 to 8
Status	Displays which inputs are currently connected to which outputs
System	Displays system information about the AT-HDR-H2H-44M
Telnet	Enables/Disables telnet daemon
TrigCEC	Triggers the stored CEC command to turn the display on and off
Type	Brings up the model information
Unlock	Unlocks the front panel of the matrix, enabling the buttons again
Version	Brings up the current firmware version
VOUTMute	Mutes/Unmutes audio output volume
x?All	Sets selected input to all outputs
x?\$	Changes status of output channel
x?AVx&	Switch input to output

## All#

Resets all inputs to corresponding outputs.

### Syntax

```
All#
```

### Example

```
All#
```

### Feedback

```
x1AVx1, x2AVx2, x3AVx3, x4AVx4
```

## Blink

Enables or disables blinking of the **POWER** button on the front panel. When set to on, the **POWER** button will flash, alternating between red and blue, and can be used to physically identify the unit on a network. The **POWER** button will flash until the Blink off command is executed. on = enables blinking; off = disables blinking; sta = displays the current setting. The default setting is off.

### Syntax

```
Blink X
```

Parameter	Description	Range
X	Value	on, off, sta

### Example

```
Blink on
```

### Feedback

```
Blink on
```

## Broadcast

Enables, disables, and displays status of broadcast mode.

### Syntax

```
Broadcast X
```

Parameter	Description	Range
X	Variable	on, off, sta

### Example

```
Broadcast sta
```

### Feedback

```
Broadcast on
```

## Clear

Erases the saved I/O route settings for the chosen preset number.

### Syntax

```
ClearX
```

Parameter	Description	Range
X	I/O preset number	1 to 4

### Example

```
Clear2
```

### Feedback

```
Clear2
```

## CSpara

Set RS-232 parameters

### Syntax

```
CSpara[W,X,Y,Z]
```

Parameter	Description	Range
W	Baud rate	2400, 4800, 9600, 19200, 38400, 57600, 115200
X	Data bits	7, 8
Y	Parity bit	None, Odd, Even
Z	Stop bits	1, 2

### Example

```
CSpara[115200,8,0,1]  
CSpara[sta]
```

### Feedback

```
CSpara[115200,8,0,1]  
CSpara [115200,8,0,1]
```

## EDIDMSet

Sets the EDID of an input to default, internal, or a previously saved EDID.

### Syntax

```
EDIDMSetX YZ
```

Parameter	Description	Range
X	Input	1 to 4
Y	EDID type	default, save, int
Z	Variable	save - 1 to 4 int - 1 to 14

### Example

```
EDIDMSet1 default
EDIDMSet2 save2
EDIDMSet3 int3
```

### Feedback

```
EDIDMSet1 default
EDIDMSet2 save2
EDIDMSet3 int3
```

### Internal EDIDs

1: 1080p / 2 channel  
 2: 1080p / multichannel (lossless)  
 3: 1080p 3D / Dolby Digital  
 4: 1080p 3D / 2 channel  
 5: 1080p 3D / multichannel (lossless)  
 6: 1080p 3D / Dolby Digital  
 7: 4K 60 4:2:0 / 2 channel

8: 4K 60 4:2:0 / multichannel (HD lossless)  
 9: 4K 60 4:2:0 HDR / 2 channel  
 10: 4K 60 4:2:0 HDR / multichannel (HD lossless)  
 11: 4K 60 4:4:4 8-bit / 2 channel  
 12: 4K 60 4:4:4 8-bit / multichannel (HD lossless)  
 13: 4K 60 Dolby Vision / 2 channel  
 14: 4K 60 Dolby Vision / multichannel (HD lossless)

## EDIDOut

Saves the output EDID to memory.

### Syntax

```
EDIDOut X
```

Parameter	Description	Range
X	Variable	1 to 4

### Example

```
EDIDOut 1
```

### Feedback

```
EDIDOut 1
```

### HDCPSet

Sets HDCP mode of the HDMI ports.

#### Syntax

```
HDCPSetX Y
```

Parameter	Description	Range
X	Input	1 to 4
Y	Variable	on, off, sta

#### Example

HDCPSet1 on

#### Feedback

HDCPSet1 on

### InNameGet

Displays the name of the input. Do not add a space between the command and the input parameter. Use the InNameSet command to name the input.

#### Syntax

```
InNameGetX
```

Parameter	Description	Range
X	Input	1 to 4

#### Example

InNameGet2

#### Feedback

InNameGet2 bluray\_player

### InNameSet

Sets the name of the input. Do not add a space between the command and the input parameter.

#### Syntax

```
InNameSetX Y
```

Parameter	Description	Range
X	Input	1 to 4
Y	Name	String

#### Example

InNameSet2

#### Feedback

InNameSet2 bluray\_player



## IPAddUser

Add a user for TCP/IP control.

### Syntax

```
IPAddUser X Y
```

Parameter	Description	Range
X	User name	20 characters (max)
Y	Password	20 characters (max)

### Example

```
IPAddUser ABCd Y4n
```

### Feedback

```
IPAddUser ABCd Y4n
TCP/IP user was added
```

## IPCFG

Displays IP address configuration.

### Syntax

```
IPCFG
```

### Example

```
IPCFG
```

### Feedback

```
IP Addr: 10.0.1.101
Netmask: 255.255.255.0
Gateway: 10.0.1.1
IP Port: 23
```

## IPDelUser

Deletes the specified user. Deleted users will no longer be able to access the web GUI or initiate Telnet sessions. This command performs the same function as removing a user within the web GUI. Refer to the User Manual for more information.

### Syntax

```
IPDelUser X
```

Parameter	Description	Range
X	User	User name

### Example

```
IPDelUser Minion2
```

### Feedback

```
IPDelUser Minion2
TCP/IP user was deleted
```

## IPDHCP

Turns DHCP on / off.

### Syntax

```
IPDHCP X
```

Parameter	Description	Range
X	Value	on, off, sta

### Example

IPDHCP on

### Feedback

IPDHCP on

## IPLogin

Enables or disables the use of login credentials when initiating a Telnet session on the AT-HDR-H2H-44MA. If this feature is set to on, then the AT-HDR-H2H-44MA will prompt for both the username and password. Use the same credentials as the web GUI. on = login credentials required; off = no login required. Use the sta argument to display the current setting. The default setting is on.

### Syntax

```
IPLogin X
```

Parameter	Description	Range
X	Value	on, off, sta

### Example

IPLogin off

### Feedback

IPLogin off

## IPPort

Sets the TCP/IP listening port for the AT-HDR-H2H-44MA.

### Syntax

```
IPPort X
```

Parameter	Description	Range
X	Port	0 ... 65535, sta

### Example

IPPort 230

### Feedback

IPPort 230

### IPQuit

Closes the current Telnet session.

#### Syntax

```
IPQuit
```

This command does not require any parameters

#### Example

```
IPQuit
```

#### Feedback

```
Connection lost...
```

### IPStatic

Sets a static IP address.

#### Syntax

```
IPStatic X Y Z
```

Parameter	Description	Range
X	IP address	0 to 255 (per byte)
Y	Subnet mask	0 to 255 (per byte)
Z	Gateway (router)	0 to 255 (per byte)

#### Example

```
IPStatic 192.168.1.112 255.255.255.0 192.168.1.1
```

#### Feedback

```
IPStatic 192.168.1.112 255.255.255.0 192.168.1.1
```

### IPTimeout

Specifies the time interval of inactivity before the Telnet session is terminated. The default setting is 300 seconds.

#### Syntax

```
IPTimeout X
```

Parameter	Description	Range
X	Interval (in seconds)	1 ... 60000

#### Example

```
IPTimeout 300
```

#### Feedback

```
IPTimeout 300
```

## IROFF

Disables all IR.

Syntax

```
IROFF
```

**Example**

```
IROFF
```

**Feedback**

```
IROFF
```

## IRON

Enables all IR.

Syntax

```
IRON
```

**Example**

```
IRON
```

**Feedback**

```
IRON
```

## IRSTA

Provides the current status of IR.

Syntax

```
IRSTA
```

**Example**

```
IRSTA
```

**Feedback**

```
IR on
```

## Lock

Locks the front panel of the matrix so no buttons are active. The PWR led will blink blue when locked.

Syntax

```
Lock
```

**Example**

```
Lock
```

**Feedback**

```
Lock
```

## Mreset

Sets matrix back to the default settings.

### Syntax

```
MReset
```

### Example

```
Mreset
```

### Feedback

```
Mreset
```

## OutNameGet

Displays the name of the specified output. Do not add a space between the command and the output parameter. Use the OutNameSet command to set the name of an output.

### Syntax

```
OutNameGetX
```

Parameter	Description	Range
X	Output	1 to 4

### Example

```
OutNameGet3
```

### Feedback

```
OutNameGet3 SonyXBR7
```

## OutNameSet

Sets the name of the specified output. Do not add a space between the command and the output parameter.

### Syntax

```
OutNameSetX Y
```

Parameter	Description	Range
X	Output	1 to 4
Y	Name	String

### Example

```
OutNameSet3
```

### Feedback

```
OutNameSet3 SonyXBR7
```

### PreNameGet

Displays the name of the specified preset. Do not add a space between the command and the output parameter. Use the PreNameSet command to set the name of a preset.

#### Syntax

```
PreNameGetX
```

Parameter	Description	Range
X	Preset	1 to 4

#### Example

```
PreNameGet14
```

#### Feedback

```
PreNameGet 14 HuddleRm2
```

### PreNameSet

Sets the name of the specified preset. Do not add a space between the command and the output parameter.

#### Syntax

```
PreNameSetX Y
```

Parameter	Description	Range
X	Preset	1 to 4
Y	Name	String

#### Example

```
PreNameSet4 HuddleRm2
```

#### Feedback

```
PreNameSet4 HuddleRm2
```

### PWOFF

Turns the unit off.

#### Syntax

```
PWOFF
```

#### Example

```
PWOFF
```

#### Feedback

```
PWOFF
```

## PWON

Turns the unit on.

Syntax

PWON

### Example

PWON

### Feedback

PWON

## PWSTA

Displays the power status of the matrix.

Syntax

PWSTA

### Example

PWSTA

### Feedback

PWON

## Recall

Recalls saved I/O route settings for the chosen preset number

Syntax

RecallX

Parameter	Description	Range
X	Preset	1 to 4

### Example

Recall3

### Feedback

Recall3

## Save

Saves I/O route settings for future use, preset options 1 to 4

### Syntax

```
SaveX
```

Parameter	Description	Range
X	Preset	1 to 4

### Example

```
Save1
```

### Feedback

```
Save1
```

## Status

Displays which inputs are currently connected to which outputs.

### Syntax

```
Status
```

### Example

```
Status
```

### Feedback

```
x1AVx2, x2AVx3, x3AVx2, x4AVx1
```

## System

Displays system information about the AT-HDR-H2H-44MA.

### Syntax

```
System X
```

Parameter	Description	Range
X	Status	sta

### Example

```
System sta
```

### Feedback

```
Model: AT-HDR-H2H-44MA
MAC Addr: b8-98-b0-00-10-e6
Address Type: DHCP
IP Addr: 10.0.1.161
Netmask: 255.255.255.0
Gateway: 10.0.1.1
HTTP Port: 80
Telnet Port: 23
Firmware: 1.1.28
On/Up Time <dd HH:mm:ss>: 00 00:53:31
```



## Telnet

Enables/Disables telnet daemon.

### Syntax

Telnet **X**

Parameter	Description	Range
X	Variable	on, off, sta

### Example

Telnet sta

### Feedback

Telnet off

## TrigCEC

Triggers the specified CEC commands to control the display.

### Syntax

TrigCEC**X Y**

Parameter	Description	Range
X	Output Channel	1 to 4
Y	Variable	on, off, vol+, vol-, mute

### Example

TrigCEC on

### Feedback

TrigCEC on

## Type

Brings up the model information.

### Syntax

Type

### Example

Type

### Feedback

AT-HDR-H2H-44MA

## Unlock

Unlocks the front panel of the matrix, enabling the buttons again.

### Syntax

```
Unlock
```

### Example

```
Unlock
```

### Feedback

```
Unlock
```

## Version

Brings up the current firmware version.

### Syntax

```
VersionX
```

Parameter	Description	Range
X	Value	MCU

### Example

```
VersionMCU
```

### Feedback

```
V1.0.00
```

## VOUTMute

Mutes/Unmutes audio output volume by channel.

### Syntax

```
VOUTMuteX Y
```

Parameter	Description	Range
X	Audio Output Channel	1 to 4
Y	Value	on, off, sta

### Example

```
VOUTMute3 sta
```

### Feedback

```
VOUTMute3 on
```

### x?All

Sets selected input to all outputs.

Syntax
x?All

Parameter	Description	Range
?	Input	1 to 4

#### Example

x3All

#### Feedback

x3All

### x?\$

Changes status of output channel.

Syntax
x?\$ Y

Parameter	Description	Range
X	Output	1 to 4
Y	Variable	on, off, sta

#### Example

x2\$ sta

#### Feedback

x2\$ on

### x?AVx&

Switch input to output.

Syntax
x?AVx&

Parameter	Description	Range
?	Input	1 to 4
&	Output	1 to 4

#### Example

x1AVx3

#### Feedback

x1AVx3

