ALTA 4K

AWJ Protocol Programmer’s Guide

For firmware version v1.0.08 or higher

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1. Presentation

1.1. Description

The AWJ protocol for Alta 4K is a powerful way for you to automate your interaction with the Alta 4K seamless switchers. The AWJ protocol for Alta 4K is based on TCP/IP communication (port 10606) and uses JSON Patch commands to interact with the device. Up to 5 concurrent TCP clients can be connected to the same device. Before connecting to this port, please check that it has not been disabled by security on the Web RCS and that a firewall is not blocking it.

An Alta 4K device should be considered as a state machine whose values are stored and organized inside a large JSON object. Changing a value in this JSON object immediately changes the state of the machine. The current state of the machine is always available by reading the JSON object properties. It is possible to use an AWJ command to read or modify one or more properties of the device.

The objective of this document is not to describe the entire Alta 4K device JSON object model nor to list all the possible commands allowing to read or modify the corresponding values. The objective is however to list the most frequently used commands such preset recall, transition, layer source change, etc. This document refers to Alta 4K firmware v1.0 or higher.

1.2. Syntax

JavaScript Object Notation (JSON) is a common format for the exchange and storage of structured data. JSON Patch is a format for expressing a sequence of operations to apply to a target JSON document.

AWJ protocol read or write commands must be surrounded by { } and must be terminated by the ASCII 0x04 character.

The commands MUST have exactly one "op" member, whose value indicates the operation to perform. Its value MUST be one of "get" (read command) or "replace" (write command).

Additionally, the commands MUST have exactly one "path" member, whose value MUST be a string containing a JSON path value that references the location within the device Alta 4K JSON object to perform the operation.

The AWJ write commands MUST also have exactly one “value” member, whose value corresponds to the new value to be applied to the property or object defined by the "path'" member. For example:

```
{"op": "replace", "path": "/a/b/c", "value": "foo"}\0x04
```

Once an AWJ read command has been received and processed by the device, it will return a JSON string containing the value of the requested property or object. This string is surrounded by { } and is terminated by the ASCII 0x04 character as for the read or write commands.

This answer has exactly one "path" member, whose value is a string containing a JSON path value that references the location within the device JSON object for which the value was requested.

This answer has also exactly one "value" member, whose value corresponds to the value defined by the "path'" member. For example:

```
{"path": "/a/b/c", "value": "foo"}\0x04
```

1.3. Error messages

If the AWJ command you have sent cannot be processed, the device will return a message describing the reason, for example

```
{"error":{"code":"E12","message":"Unexpected path \\"DeviceObject/system/@props
/div\\""}}\0x04
```

The message contains an error code as well as message describing the error. The most common error codes are:

Code	Description
E09	Unexpected command JSON token
E10	Unexpected keywords. Keywords supported are “op”, “path” and “value”
E11	Unexpected operator. Operators supported are “get” and “replace”
E12	Unexpected path
E13	Unexpected value

1.4. Subscribing to machine state change notifications

By default, when the current state of the machine changes, the corresponding values are not forwarded to the connected TCP clients. But it is possible to subscribe to some of the machine state change notifications to be automatically notified when the value of one or more machine properties changes (new preset label, new layer source, etc..).

The TCP client's subscription list is empty by default, meaning that this TCP connection won’t receive any value/changes from the device. If the TCP client needs to receive some notifications/values from the device, the client must subscribe to the corresponding JSON path.

Reading subscription filters

```
{"op":"get","path":"Subscriptions"}\0x04
```

The machine returns:

```
{ "path":"Subscriptions","value":[]}\0x04
```

Subscription filters modification

```
{ "op":"replace","path":"Subscriptions", "value":["DeviceObject/$screen/@items/1/control/@props"
,"DeviceObject/$screen/@items/2"]}\0x04
```

The machine returns:

```
{"path":"Subscriptions","value":["DeviceObject/$screen/@items/2",
"DeviceObject/$screen/@items/1/control/@props"]}\0x04
```

As soon as a PATH starts with one of the subscriptions, it will be sent to the client. If the PATH does not check any subscriptions, it will be filtered.

Example:

As soon as a Screen Label is modified for Screen 1 with the Web RCS, the "DeviceObject/$screen/@items/1/control/@props/label" will be transmitted.

And the machine returns:

```
{"path":"DeviceObject/$screen/@items/1/control/@props/label",
"value":"My_new_Label"}\0x04
```

Other modifications on Screen 1 will be filtered as not part of the requested subscription.

Important: A GET made directly on a property is never filtered.

2. System commands

2.1. Reading the device type

Poll for the type of the device

```
{"op":"get","path":"DeviceObject/system/@props/dev"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/system/@props/dev","value":"ZEN200"}\0x04
```

Possible returned values are:

ZEN100 for the Zenith 100
ZEN200 for the Zenith 200

2.2. Reading the device serial number

Poll for the serial number of the device (ZZ9999 for example for the simulator)

```
{"op":"get","path":"DeviceObject/system/serial/@props/serialNumber"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/system/serial/@props/serialNumber","value":"ZZ9999"}\0x04
```

2.3. Reading the device firmware version

Poll for the firmware version of the device (1.0.10 for example)

```
{"op":"get","path":"DeviceObject/system/version/@props/updater"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/system/version/@props/updater","value":"1.0.10"}\0x04
```

2.4. Restarting the device

Perform a soft reboot of the unit

```
{"op":"replace","path":"DeviceObject/system/shutdown/@props/xReboot", "value":true}\0x04
```

The device will not return a string

2.5. Shutting down the device (standby mode)

Power the unit down to standby mode

```
{"op":"replace","path":"DeviceObject/system/shutdown/standby/control/@props/xRequest",
"value":"STANDBY"}\0x04
```

The device will not return a string

2.6. Shutting down the device (switch off)

Power the unit down (must be restarted manually)

```
{"op":"replace","path":"DeviceObject/system/shutdown/standby/control/@props/xRequest",
"value":"SWITCH_OFF"}\0x04
```

The device will not return a string

2.7. Resuming the device from standby mode

Resume the unit from standby mode

```
{"op":"replace","path":"DeviceObject/system/shutdown/standby/control/@props/xRequest",
"value":"WAKE_UP"}\0x04
```

The device will not return a string

3. Screen/Aux commands

3.1. Reading a Screen information

Poll for the Screen 1 activation status

```
{"op":"get","path":"DeviceObject/preconfig/control/$screen/@items/1/@props/enable"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/preconfig/control/$screen/@items/1/@props/enable","value":true}\0x04
```

Poll for the Screen 1 label, which is labeled "Sc1"

```
{"op":"get","path":"DeviceObject/$screen/@items/1/control/@props/label"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/$screen/@items/1/control/@props/label","value":"Sc1"}\0x04
```

The value is empty if no specific label was registered.

Poll for the Screen 1 layer mode

```
{"op":"get","path":"DeviceObject/preconfig/status/$state/@items/CURRENT/$screen/@items/1/
$liveLayer/@items/1/@props/mode"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/preconfig/status/$state/@items/CURRENT/$screen/@items/1/$liveLayer/
@items/1/@props/mode","value":"SEAMLESS"}\0x04
```

Layer mode	Layer mode values
Mixer Layers	SEAMLESS
Split Layers	SPLIT

3.2. TAKE: Transitioning a preview content to the program

Take Screen 1

```
{"op":"replace","path":"DeviceObject/transition/$screen/@items/1/control/@props/xTake",
"value":true}\0x04
```

The device will not return a string

Take Auxiliary 1

```
{"op":"replace","path":"DeviceObject/transition/$auxiliaryScreen/@items/1/control/@props/xTake",
"value":true}\0x04
```

The device will not return a string

3.3. Recalling a Screen Preset

Recall preset 33 on the preview of Screen 1

```
{"op":"replace","path":"DeviceObject/preset/bank/control/load/$slot/@items/33/$screen/@items/1
/$preset/@items/PREVIEW/@props/xRequest", "value":true}\0x04
```

The device will not return a string

Recall preset 13 on the program of Screen 2

```
{"op":"replace","path":"DeviceObject/preset/bank/control/load/$slot/@items/13/$screen/@items/2
/$preset/@items/PROGRAM/@props/xRequest", "value":true}\0x04
```

The device will not return a string

3.4. Recalling an Auxiliary Preset

Recall Screen preset 25 on the preview of Auxiliary 1

```
{"op":"replace","path":"DeviceObject/preset/auxBank/control/load/$slot/@items/25/
$auxillaryScreen/@items/1/$preset/@items/PREVIEW/@props/xRequest", "value":true}\0x04
```

The device will not return a string

Recall Auxiliary preset 13 on the program of Auxiliary 1

```
{"op":"replace","path":"DeviceObject/preset/auxBank/control/load/$slot/@items/13/
$auxillaryScreen/@items/1/$preset/@items/PROGRAM/@props/xRequest", "value":true}\0x04
```

The device will not return a string

3.5. Recalling a Master Preset

Recall master preset 15 to preview

```
{"op":"replace","path":"DeviceObject/preset/masterBank/control/load/$slot/@items/15/$preset/
@items/PREVIEW/@props/xRequest", "value":true}\0x04
```

The device will not return a string

Recall master preset 3 to program

```
{"op":"replace","path":"DeviceObject/preset/masterBank/control/load/$slot/@items/3/$preset/
@items/PROGRAM/@props/xRequest", "value":true}\0x04
```

The device will not return a string

3.6. Reading a Preset information

Poll for the name of Master Preset 3, which is labeled “Preset3”

```
{“op”:”get”,"path":"DeviceObject/preset/masterBank/$slot/@items/3/control/@props/label”}\0x04
```

The device returns:

```
{"path":"DeviceObject/preset/masterBank/$slot/@items/3/control/@props/label",
"value":"Preset3"}\0x04
```

Poll for the name of Screen Preset 12, which is labeled “ScreenPre12”

```
{“op”:”get”,"path":"DeviceObject/preset/bank/$slot/@items/12/control/@props/label”}\0x04
```

The device returns:

```
{"path":"DeviceObject/preset/bank/$slot/@items/12/control/@props/label",
"value":"ScreenPre12"}\0x04
```

Poll for the name of Auxiliary Preset 4, which is labeled “Aux4”

```
{"op":"get","path":"DeviceObject/preset/auxBank/$slot/@items/4/control/@props/label"}\0x04
```

The device returns:

```
{"path":"DeviceObject/preset/auxBank/$slot/@items/4/control/@props/label","value":"Aux4"}\0x04
```

3.7. Reading a layer source

Poll for the live layer 2 status on Screen 1 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/$liveLayer/@items/2/
status/@props/state"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/$liveLayer/@items/2/status/
@props/state","value":"OFF"}\0x04
```

The different values could be: OFF, OPEN, CLOSE, CROSS, FLYING or FLYING_DEPTH.

Poll for the live layer 2 source on Screen 1 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/$liveLayer/@items/2/
source/@props/input"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/$liveLayer/@items/2/source/
@props/input","value":"INPUT_9"}\0x04
```

“NONE” is returned if no layer source is set.

3.8. Changing a source in a layer

The change of layer parameters is a bit more complex as the corresponding command set is indexed by preset **A/B**.

Preset A corresponds to the parameter set when the virtual TBAR is at the bottom (Down) and preset B corresponds to the parameter set when the virtual TBAR is at the top (Up).

It is therefore necessary to determine where the TBAR (Up or Down) is located before changing any layer parameter(s). For Screen 1, the following command must be sent to the device:

```
{"op":"get","path":"DeviceObject/transition/$screen/@items/1/status/@props/transition"}\0x04
```

If the device returns:

```
{"path":"DeviceObject/transition/$screen/@items/1/status/@props/transition",
"value":"AT_DOWN"}\0x04
```

This means that the TBAR of screen 1 is at the bottom. If you want to modify any layer parameters on the Program, you must therefore change DOWN parameters (or UP to change layer parameters on the Preview)

If the device returns:

```
{"path":"DeviceObject/transition/$screen/@items/1/status/@props/transition",
"value":"AT_UP"}\0x04
```

This means that the TBAR of screen 1 is at the top.

If you want to modify any layer parameters on the Program, you must therefore change UP parameters (or DOWN to change layer parameters on the Preview):

Transition status	To work on PGM	To work on PRW
AT DOWN	DOWN	UP
AT UP	UP	DOWN

Load Live 3 source on layer 2 of the Screen 1 program (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/$liveLayer/@items
/2/source/@props/input", "value":"INPUT_3"}\0x04
```

The device will not return a string

Load Live 5 source on layer 1 of the Screen 2 preview (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$screen/@items/2/$preset/@items/UP/$liveLayer/@items
/1/source/@props/input", "value":"INPUT_5"}\0x04
```

The device will not return a string

Important: A global update is required to consider all the changes on the layers, mainly on Foreground Layer

```
{"op":"replace","path":"DeviceObject/preset/control/@props/xUpdate", "value":true}\0x04
```

The device will not return a string

3.9. Reading a Background layer status

Poll for the Background layer status on Screen 1 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/1/presetList/@items/DOWN/background/status/
@props/state"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/background/status/@props/
state","value":"OFF"}\0x04
```

The different values could be: OFF, OPEN or CLOSE.

Poll for the Background layer source on Screen 1 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/background/source/
@props/set"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/background/source/@props/set",
"value":"3"}\0x04
```

“NONE” is returned if no background is set.

3.10. Changing a Screen Background source

Important: Preview and Program are indexed to the TBAR, such that the current position of the TBAR will need to be known to correctly route to Preview or Program. See “Changing the source in a layer” for more details.

Load Background Set 2 to Screen 1 program (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/background/
source/@props/set", "value":"2"}\0x04
```

The device will not return a string

Load Background Set 3 to Screen 2 preview (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$screen/@items/2/$preset/@items/UP/background/
source/@props/set", "value":"3"}\0x04
```

The device will not return a string

Important: A global update is also required to consider all the changes

```
{"op":"replace","path":"DeviceObject/preset/control/@props/xUpdate", "value":true}\0x04
```

The device will not return a string

3.11. Reading a Foreground layer status

Poll for the Foreground layer status on Screen 1 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/top/status/@props/
state"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/top/status/@props/state",
"value":"OFF"}\0x04
```

The different values could be: OFF, OPEN or CLOSE.

Poll for the Foreground layer source on Screen 1 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/top/source/
@props/frame"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/top/source/@props/frame",
"value":"2"}\0x04
```

“NONE” is returned if no foreground is set.

3.12. Changing a Foreground layer source

Important: Preview and program are indexed to the TBAR, such that the current position of the TBAR will need to be known to correctly route to preview or program. See “Changing the source in a layer” for more details.

Load Top Source 3 to Screen 1 program (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/top/source/
@props/frame", "value":"3"}\0x04
```

The device will not return a string

Important: A global update is required to consider all the changes, please refer to 3.10.

3.13. Reading an Auxiliary screen information

Poll for the Auxiliary screen 1 state

```
{"op":"get","path":"DeviceObject/preconfig/control/$auxiliaryScreen/@items/1/@props/
enable"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/preconfig/control/$auxiliaryScreen/@items/1/@props/enable",
"value":true}\0x04
```

Poll for the Auxiliary screen 1 label, which is labeled “AUX1”

```
{"op":"get","path":"DeviceObject/$auxiliaryScreen/@items/1/control/@props/label"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/$auxiliaryScreen/@items/1/control/@props/label","value":"AUX1"}\0x04
```

The value is empty if no specific label was registered.

3.14. Reading the source of an Auxiliary screen

Poll for the Auxiliary screen 1 program source (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/background/
source/@props/content"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/background/source/
@props/content","value":"PROGRAM_2"}\0x04
```

Auxiliary screen source Types	Auxiliary screen source Names
None	NONE
Input	INPUT_1 to INPUT_13 (Zenith 100) or INPUT_16 (Zenith 200)
Screen	PROGRAM_1 to PROGRAM_3 (Zenith 100) or PROGRAM_4 (Zenith 200)

3.15. Changing an Auxiliary output source

Important: Preview and Program are indexed to the TBAR, such that the current position of the TBAR will need to be known to correctly route to Preview or Program. See "Changing the source in a layer" for more details.

Load Live source 2 to Auxiliary 1 Background layer on program (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/
background/source/@props/content", "value":"INPUT_2"}\0x04
```

The device will not return a string

3.16. Reading the last loaded Preset

Important: Preview and Program are indexed to the TBAR, such that the current position of the TBAR will need to be known to correctly read the Preview or Program status. See "Changing the source in a layer" for more details.

Poll for the last recalled Preset to program on Screen 1 (last recalled was preset 3, with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/status/@props/
memoryId"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/status/@props/memoryId",
"value":3}\0x04
```

Poll for the last recalled Preset to preview on Auxiliary 1 (last recalled was preset 2, with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/UP/status/@props/
memoryId"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/UP/status/@props/
memoryId",”value”:2}\0x04
```

3.17. Reading the last loaded Master preset

Poll for the last recalled Master preset to program (last recalled was master preset 3)

```
{"op":"get","path":"DeviceObject/preset/masterBank/status/lastUsed/$presetMode/@items/
PROGRAM/@props/memoryId"}\0x04
```

The device returns:

```
{"path":"DeviceObject/preset/masterBank/status/lastUsed/$presetMode/@items/PROGRAM/
@props/memoryId","value":3}\0x04
```

Poll for the last recalled Master preset to preview (last recalled was master preset 2)

```
{"op":"get","path":"DeviceObject/preset/masterBank/status/lastUsed/$presetMode/@items/
PREVIEW/@props/memoryId"}\0x04
```

The device returns:

```
{"path":"DeviceObject/preset/masterBank/status/lastUsed/$presetMode/@items/PREVIEW/
@props/memoryId","value":2}\0x04
```

3.18. Enabling the Quick Preset function

Enable the Quick Preset function once already configured

```
{"op":"replace","path":"DeviceObject/quickPreset/control/@props/enable", "value":true}\0x04
```

The device will not return a string

3.19. Freeze a Screen

Freeze the Screen 1

```
{"op":"replace","path":"DeviceObject/$screen/@items/1/control/@props/freeze",
"value":true}\0x04
```

The device will not return a string

3.20. Freeze a Layer

Freeze the Layer 2 of Screen 1

```
{"op":"replace","path":"DeviceObject/$screen/@items/1/$liveLayer/@items/2/control/@props/
freeze", "value":true}\0x04
```

The device will not return a string

4. Multiviewer commands

4.1. Reading the Multiviewer output information

Poll for the Multiviewer source validity state

```
{"op":"get","path":"DeviceObject/multiviewer/status/@props/sourceValidity"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/multiviewer/status/@props/sourceValidity","value":["NONE","INPUT_1",
"INPUT_2","INPUT_3","INPUT_4","INPUT_5","INPUT_6","INPUT_7","INPUT_8","INPUT_9",
"INPUT_10","INPUT_11","INPUT_12","INPUT_13","INPUT_14","INPUT_15","INPUT_16",
"SCREEN_PRGM_1","SCREEN_PRGM_2","SCREEN_PRGM_3","SCREEN_PRW_1","SCREEN_PRW_2",
"SCREEN_PRW_3","TIMER_1","TIMER_2","TIMER_3"]}\0x04
```

Poll for the Multiviewer label, which is labeled “MVW”

```
{"op":"get","path":"DeviceObject/$output/@items/MTVW/control/@props/label"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/$output/@items/MTVW/control/@props/label","value":"MVW"}\0x04
```

The value is empty if no specific label was registered.

Poll for preset number 5 label of the Multiviewer, which is labeled “Preset 5”

```
{"op":"get","path":"DeviceObject/multiviewer/$bank/@items/5/control/@props/label"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/multiviewer/$bank/@items/5/control/@props/label","value":"Preset 5"}\0x04
```

The value is empty if no specific label was registered.

4.2. Recalling a Multiviewer Preset

Recall Multiviewer Preset 15

```
{"op":"replace","path":"DeviceObject/multiviewer/$bank/control/load/$slot/@items/15/@props/
xRequest", "value":true}\0x04
```

The device will not return a string

4.3. Reading the source of a Multiviewer output widget

Poll for the source of widget number 12 on Multiviewer output, which is “TIMER_3”

```
{"op":"get","path":"DeviceObject/multiviewer/$widget/@items/12/control/@props/source"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/multiviewer/$widget/@items/12/control/@props/source",
"value":"TIMER_3"}\0x04
```

4.4. Reading the status of a Multiviewer output widget

Poll for the status of widget number 13 on Multiviewer output

```
{"op":"get","path":"DeviceObject/multiviewer/$widget/@items/13/status/@props/isEnabled"}\0x04
```

The machine returns:

```
{"path":"DeviceObject/multiviewer/$widget/@items/13/status/@props/isEnabled",
"value":true}\0x04
```

4.5. Changing a Multiviewer widget source

Load live source **3** to multiviewer widget **5**

```
{"op":"replace","path":"DeviceObject/multiviewer/$widget/@items/5/control/@props/source",
"value":"INPUT_3"}\0x04
```

The device will not return a string

5. Audio commands

5.1. Output / Screen / Auxiliary screen

5.1.1. Reading the Output audio mode

Poll for the Output 1 audio mode, which is "NONE"

```
{"op":"get","path":"DeviceObject/$output/@items/1/audio/control/@props/mode"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$output/@items/1/audio/control/@props/mode","value":"NONE"}\0x04
```

The Output audio source list includes Nones, Direct routing and Auto (Screen or Auxiliary audio source). See the table below for a complete list.

Output audio source Types	**Output audio source Names**
None	NONE
Direct routing	DIRECT_ROUTING
Auto	AUTO

5.1.2. Reading the Screen audio mode

Poll for the Screen 1 audio mode

```
{"op":"get","path":"DeviceObject/$screen/@items/1/audio/control/@props/mode"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/audio/control/@props/mode",
"value":"DIRECT_ROUTING"}\0x04
```

The Screen audio source list includes Direct routing, Follow live layer content and Follow audio layer. See the table below for a complete list.

Screen audio source Types	**Screen audio source Names**
Direct routing	DIRECT_ROUTING
Follow live layer content	FOLLOW_LIVE_LAYER_CONTENT
Follow audio layer	FOLLOW AUDIO LAYER

Important: Only Follow live layer content and Follow audio layer could be registered into a preset.

5.1.3. Reading the Auxiliary screen audio mode

Poll the Auxiliary screen 1 audio mode

```
{"op":"get","path":"DeviceObject/$auxiliaryScreen/@items/1/audio/control/@props/mode"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$auxiliaryScreen/@items/1/audio/control/@props/mode",
"value":"DIRECT_ROUTING"}\0x04
```

The Auxiliary screen audio source list includes Direct routing, Follow video content and Follow audio layer. See the table below for a complete list.

Auxiliary screen source Types	Auxiliary screen source Names
Direct routing	DIRECT_ROUTING
Follow video content	FOLLOW_CONTENT
Follow audio layer	FOLLOW AUDIO LAYER

Important: Only Follow live layer content and Follow audio layer could be registered into a preset.

5.1.4. Changing an Output audio source

5.1.4.1. None

Disable the Output 1 audio source

```
{“op”:”replace”,”path”:”DeviceObject/$output/@items/1/audio/control/@props/mode”,
”value”:”NONE”}\0x04
```

The device will not return a string

5.1.4.2. Direct routing

The Output audio source list in Direct routing mode includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table below for a complete list.

Channel Types	Channel Names
No source	NONE
Live inputs	IN1 to IN13 (Zenith 100) or IN16 (Zenith 200)
Dante input blocks (Optional)	IN_DANTE_CH1_8, IN_DANTE_CH9_16, IN_DANTE_CH17_24, IN_DANTE_CH25_32
Analog (Optional)	IN_ANALOG_1, IN_ANALOG_2
Custom	CUSTOM_1 to CUSTOM_10

Route audio from live Input 4 to Output 2 in Direct routing mode

```
{"op":"replace","path":"DeviceObject/$output/@items/2/audio/control/@props/mode",
"value":"DIRECT_ROUTING"}\0x04
{"op":"replace","path":"DeviceObject/$output/@items/2/audio/control/directRouting/@props/
source", "value":"IN4"}\0x04
```

The device will not return a string

5.1.5. Changing a Screen audio source

Important: A Screen audio source could be created and configured not as HDMI output but as Dante or line out output.

5.1.5.1. Direct routing

The Screen audio source in Direct routing mode list includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route audio from live Input 5 to Screen 1 to Output 3 in Direct routing mode

```
{"op":"replace","path":"DeviceObject/$output/@items/3/audio/control/@props/mode",
“value”:”AUTO”}\0x04
{“op”:”replace”,”path”:”DeviceObject/$screen/@items/1/audio/control/@props/mode”,
"value":"DIRECT_ROUTING"}\0x04
{"op":"replace","path":"DeviceObject/$screen/@items/1/audio/control/directRouting/@props/
source", "value":"IN5"}\0x04
```

The device will not return a string

5.1.5.2. live layer content

The Screen audio source in Follow live layer content mode depends on the layers included into the screen.

Channel Type	Channel Names
Layers	1 to 4

Route audio from Screen 1 layer 2 to Output 3 in Follow live layer content mode

```
{"op":"replace","path":"DeviceObject/$output/@items/3/audio/control/@props/mode",
"value":"AUTO"}\0x04
{"op":"replace","path":"DeviceObject/$screen/@items/1/audio/control/@props/mode",
"value":"FOLLOW_LIVE_LAYER_CONTENT"}\0x04
{"op":"replace","path":"DeviceObject/$screen/@items/1/audio/control/followLiveLayer/@props/
layer", "value":"2"}\0x04
```

The device will not return a string

5.1.5.3. Follow audio layer

The Screen audio source in Follow audio layer mode list includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route audio from live Input 5 to Screen 1 program to Output 3 in Follow audio layer mode (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$output/@items/3/audio/control/@props/mode",
"value":"AUTO"}\0x04
{"op":"replace","path":"DeviceObject/$screen/@items/1/audio/control/@props/mode",
"value":"FOLLOW_AUDIO_LAYER"}\0x04
{"op":"replace","path":"DeviceObject/$screen/@items/1/$preset/@items/DOWN/audio/control/
@props/source", "value":"IN5"}\0x04
```

The device will not return a string

5.1.6. Changing an Auxiliary Screen audio source

Important: An Auxiliary screen audio source could be created and configured not as HDMI output but as Dante or line out output.

5.1.6.1. Direct routing

The Auxiliary screen audio source in Direct routing list includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route the audio from live Input 5 to Auxiliary screen 1 to Output 3 in Direct routing mode

```
{"op":"replace","path":"DeviceObject/$output/@items/3/audio/control/@props/mode",
“value”:”AUTO”}\0x04
{“op”:”replace”,”path”:”DeviceObject/$auxiliaryScreen/@items/1/audio/control/@props/mode”,
"value":"DIRECT_ROUTING"}\0x04
{"op":"replace","path":"DeviceObject/$auxiliaryScreen/@items/1/audio/control/directRouting/
@props/source", "value":"IN5"}\0x04
```

The device will not return a string

5.1.6.2. Follow video content

Route audio from the Auxiliary screen 1 to Output 3 in Follow video content mode

```
{"op":"replace","path":"DeviceObject/$output/@items/3/audio/control/@props/mode",
"value":"AUTO"}\0x04
{"op":"replace","path":"DeviceObject/$auxiliaryScreen/@items/1/audio/control/@props/mode",
"value":"FOLLOW_CONTENT"}\0x04
```

The device will not return a string

5.1.6.3. Follow audio layer

The Auxiliary Screen audio source in Follow audio layer mode list includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route audio from live Input 5 to Auxiliary screen 1 program to Output 3 in Follow audio layer mode (with TBAR at DOWN)

```
{"op":"replace","path":"DeviceObject/$output/@items/3/audio/control/@props/mode",
"value":"AUTO"}\0x04
{"op":"replace","path":"DeviceObject/$auxiliaryScreen/@items/1/audio/control/@props/mode",
"value":"FOLLOW_AUDIO_LAYER"}\0x04
{"op":"replace","path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/audio/
control/@props/source", "value":"IN5"}\0x04
```

The device will not return a string

5.1.7. Reading the Output audio source

Poll for the Output 1 audio source

```
{"op":"get","path":"DeviceObject/audio/$output/@items/VIDEO_OUT_1/status/@props/
source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/$output/@items/VIDEO_OUT_1/status/@props/source",
"value":"IN2"}\0x04
```

Returned values are described in 5.1.4.2 section.

5.1.8. Reading the Screen audio source

Poll for the audio source on the Screen 3 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/3/$preset/@items/DOWN/audio/status/
@props/source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/3/$preset/@items/DOWN/audio/status/@props/source",
"value":"IN2"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Screen 3 in Direct routing mode

```
{"op":"get","path":"DeviceObject/$screen/@items/3/audio/control/directRouting/@props/
source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/3/audio/control/directRouting/@props/source",
"value":"IN4"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source layer on Screen 3 in Follow live layer content mode

```
{"op":"get","path":"DeviceObject/$screen/@items/3/audio/control/followLiveLayer/@props/
layer”}\0x04
```

The device returns:

```
{“path”:”DeviceObject/$screen/@items/3/audio/control/followLiveLayer/@props/layer”,
"value":"1"}\0x04
```

Returned values are described in 0 section.

Poll for the audio source Screen 3 program in Follow audio layer mode (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/3/$preset/@items/DOWN/audio/control/
@props/source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/3/$preset/@items/DOWN/audio/control/@props/source",
"value":"IN5"}\0x04
```

Returned values are described in 5.1.4.2 section.

5.1.9. Reading the Auxiliary screen audio source

Poll for the audio source on Auxiliary screen 1 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/audio/
status/@props/source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/audio/status/@props/
source","value":"IN2"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Auxiliary screen 1 in Direct routing mode

```
{"op":"get","path":"DeviceObject/$auxiliaryScreen/@items/1/audio/control/directRouting/@props/
source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$auxiliaryScreen/@items/1/audio/control/directRouting/@props/source",
"value":"IN5"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Auxiliary screen 1 program in Follow audio layer mode (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/audio/
control/@props/source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$auxiliaryScreen/@items/1/$preset/@items/DOWN/audio/control/@props/
source","value":"IN2"}\0x04
```

Returned values are described in 5.1.4.2 section.

5.1.10. Mute an Output

Mute the Output 2

```
{"op":"replace","path":"DeviceObject/audio/$output/@items/VIDEO_OUT_2/control/@props/
mute", "value":true}\0x04
```

The device will not return a string

5.1.11. Mute a Screen

Mute the Screen 1

```
{"op":"replace","path":"DeviceObject/audio/$screen/@items/1/control/@props/mute",
"value":true}\0x04
```

The device will not return a string

5.1.12. Mute an Auxiliary

Mute the Auxiliary 1

```
{"op":"replace","path":"DeviceObject/audio/$auxiliaryScreen/@items/1/control/@props/mute",
"value":true}\0x04
```

The device will not return a string

5.1.13. Mute a Input channel

Mute the channel 3 of the Input 9 (Displayport)

```
{"op":"replace","path":"DeviceObject/audio/$input/@items/IN9_DP_EMBEDDED/$channel/@items/
3/control/@props/mute", "value":true}\0x04
```

The device will not return a string

5.2. Multiviewer

5.2.1. Reading the Multiviewer output audio mode

Poll for the Multiviewer output audio mode

```
{"op":"get","path":"DeviceObject/multiviewer/audio/control/@props/mode"}\0x04
```

The device returns:

```
{"path":"DeviceObject/multiviewer/audio/control/@props/mode","value":"FOLLOW_WIDGET"}\0x04
```

The Multiviewer output audio source list includes Nones, Direct routing and Auto. See the table below for a complete list.

Multiviewer audio source Types	Multiviewer audio source Names
None	NONE
Direct routing	DIRECT_ROUTING
Auto	AUTO

5.2.2. Reading the Multiviewer screen audio mode

Poll for the Multiviewer screen audio mode

```
{“op”:”get”,”path”:”DeviceObject/multiviewer/audio/control/@props/mode”}\0x04
```

The device returns:

```
{"path":" DeviceObject/multiviewer/audio/control/@props/mode","value":"FOLLOW_WIDGET"}\0x04
```

The Multiviewer screen audio source in auto mode list includes Direct routing and Follow widget. See the table below for a complete list.

Multiviewer in auto mode source Types	Multiviewer in auto mode source Names
Direct routing	DIRECT_ROUTING
Follow widget	FOLLOW_WIDGET

5.2.3. Changing a Multiviewer output audio source

5.2.3.1. None

Disable the Multiviewer output audio source

```
{"op":"replace","path":"DeviceObject/$output/@items/MTVW/audio/control/@props/mode",
"value":"NONE"}\0x04
```

The device will not return a string

5.2.3.2. Direct routing

The Multiviewer output audio source in Direct routing mode list includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route audio from live Input 5 to Multiviewer output in Direct routing mode

```
{“op”:”replace”,”path”:”DeviceObject/$output/@items/MTVW/audio/control/@props/mode”,
"value":"DIRECT_ROUTING"}\0x04
{"op":"replace","path":"DeviceObject/$output/@items/MTVW/audio/control/directRouting/@props/
source", "value":"IN5"}\0x04
```

The device will not return a string

5.2.4. Changing a Multiviewer screen audio source

Important: A Multiviewer screen audio source could be created and configured not as HDMI output but as Dante or line out output.

5.2.4.1. Direct routing

The Multiviewer screen audio source in Direct routing mode list includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route audio from live Input 5 to Multiviewer screen to Multiviewer output in direct routing mode

```
{"op":"replace","path":"DeviceObject/$output/@items/MTVW/audio/control/@props/mode",
“value”:”AUTO”}\0x04
{“op”:”replace”,”path”:”DeviceObject/multiviewer/audio/control/@props/mode”,
"value":"DIRECT_ROUTING"}\0x04
{"op":"replace","path":"DeviceObject/multiviewer/audio/control/directRouting/@props/source",
"value":"IN5"}\0x04
```

The device will not return a string

5.2.4.2. Follow widget

The Multiviewer screen audio source in Follow widget depends on the widgets included into the Multiviewer screen.

Channel Type	Channel Names
Widgets	1 to 27

Route audio from widget 6 to Multiviewer screen to Multiviewer output in Follow widget mode

```
{"op":"replace","path":"DeviceObject/$output/@items/MTVW/audio/control/@props/mode",
“value”:”AUTO”}\0x04
{“op”:”replace”,”path”:”DeviceObject/multiviewer/audio/control/@props/mode”,
"value":"FOLLOW WIDGET"}\0x04
{"op":"replace","path":"DeviceObject/multiviewer/audio/control/followWidget/@props/widget",
"value":"6"}\0x04
```

The device will not return a string

5.2.5. Reading the Multiviewer output audio source

Poll for the Multiviewer output audio source

```
{"op":"get","path":"DeviceObject/audio/$output/@items/VIDEO_MULTIVIER/status/@props/
source"}\0x04
```

The device returns:

```
{"path":" DeviceObject/audio/$output/@items/VIDEO_MULTIVIER/status/@props/source",
"value":"IN13"}\0x04
```

Returned values are described in 5.1.4.2 section.

5.2.6. Reading the Multiviewer screen audio source

Poll for the Multiviewer screen audio source

```
{"op":"get","path":"DeviceObject/multiviewer/audio/status/@props/source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/multiviewer/audio/status/@props/source","value":"IN13"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Multiviewer screen in Direct routing mode

```
{"op":"get","path":"DeviceObject/multiviewer/audio/control/directRouting/@props/source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/multiviewer/audio/control/directRouting/@props/source","value":"IN7"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Multiviewer screen in Follow Widget mode

```
{"op":"get","path":"DeviceObject/multiviewer/audio/control/followWidget/@props/widget"}\0x04
```

The device returns:

```
{"path":"DeviceObject/multiviewer/audio/control/followWidget/@props/widget","value":"11"}\0x04
```

Returned values are described in 5.2.4.2 section.

5.2.7. Changing the active VU meter widget

Activation of the VU meter on the widget 7

```
{"op":"replace","path":"DeviceObject/multiviewer/audio/control/vuMeters/@props/widget",
"value":"7"}\0x04
```

The device will not return a string

5.3. Dante (Optional)

5.3.1. Reading a Dante output audio mode

Dante audio output names are stated in table below.

Dante audio output Types	Dante audio output Names
Channels 1 to 8	1
Channels 9 to 16	2
Channels 17 to 24	3
Channels 25 to 32	4

Poll for audio mode on Dante out channels 9 to 16

```
{"op":"get","path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/@props/
mode"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/@props/mode",
"value":"FOLLOW_SCREEN"}\0x04
```

The Dante audio source list includes Direct routing and Follow screen. See the table below for a complete list.

Dante audio source Types	Dante audio source Names
Direct routing	DIRECT_ROUTING
Follow screen	FOLLOW_SCREEN

5.3.2. Changing a Dante output audio source

5.3.2.1. Direct routing

The Dante audio source list includes Live inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route audio from live Input 5 to Dante output 1 to 8 in Direct routing mode

```
{"op":"replace","path":"DeviceObject/audio/dante/$outputGroup/@items/1/control/@props/mode",
"value":"DIRECT_ROUTING"}\0x04
{"op":"replace","path":"DeviceObject/audio/dante/$outputGroup/@items/1/control/directRouting/
@props/source", "value":"IN5"}\0x04
```

The device will not return a string

5.3.2.2. Follow screen

The Dante audio source in Follow screen mode depends on the available screens.

Channel Type	Channel Names
Screens	1 to 3 (Zenith 100) or 4 (Zenith 200)

Route audio from Screen 3 to Dante output 9 to 16 in Follow screen mode

```
{"op":"replace","path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/@props/mode",
"value":"FOLLOW_SCREEN"}\0x04
{"op":"replace","path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/followScreen/
@props/source", "value":"3"}\0x04
```

The device will not return a string

5.3.3. Reading a Dante output audio source

Poll for audio source on Dante out channels 9 to 16

```
{"op":"get","path":"DeviceObject/audio/$output/@items/DANTE_CH9_16/status/@props/
source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/$output/@items/DANTE_CH9_16/status/@props/source",
"value":"IN5"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Dante out channels 9 to 16 in Direct routing mode

```
{"op":"get","path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/directRouting/
@props/source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/directRouting/@props/source",
"value":"IN7"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source Dante out channels 9 to 16 in Follow screen mode

```
{"op":"get","path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/followScreen/
@props/screen"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/dante/$outputGroup/@items/2/control/followScreen/@props/screen",
"value":"3"}\0x04
```

Returned values are described in 5.3.2.2 section.

5.4. Line out (Optional)

5.4.1. Reading a Line out output audio mode

Poll for the Line out 2 audio mode

```
{"op":"get","path":"DeviceObject/audio/$lineOut/@items/2/control/@props/mode"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/$lineOut/@items/2/control/@props/mode",
"value":"DIRECT_ROUTING"}\0x04
```

The Line out audio source list includes Direct routing and Follow screen. See the table below for a complete list.

Line out audio source Types	Line out audio source Names
Direct routing	DIRECT_ROUTING
Follow screen	FOLLOW_SCREEN

5.4.2. Changing a Line out output audio source

Please note the source channels that need to be selected

Line out source channels Choices	Line out source channels Names
Channels 1 and 2	CHANNEL_1_2
Channels 3 and 4	CHANNEL_3_4
Channels 5 and 6	CHANNEL_5_6
Channels 7 and 8	CHANNEL_7_8

Selection of channels 3 and 4 of the selected source to Line out output 1

```
{"op":"replace","path":"DeviceObject/audio/$lineOut/@items/1/control/@props/selectedAudioPair",
"value":"CHANNEL_3_4"}\0x04
```

5.4.2.1. Direct routing

The Line out audio source in Direct routing mode list includesLive inputs, Dante input blocks, Analog inputs, and Custom sources. See the table on 5.1.4.2 section for a complete list.

Route audio from live Input 5 to Line out 1 in Direct routing mode

```
{"op":"replace","path":"DeviceObject/audio/$lineOut/@items/1/control/@props/mode",
"value":"DIRECT_ROUTING"}\0x04
{"op":"replace","path":"DeviceObject/audio/$lineOut/@items/1/control/directRouting/
@props/source", "value":"IN5"}\0x04
```

The device will not return a string

5.4.2.2. Follow screen

The Line out audio source in Follow screen mode depends on the available screens.

Channel Type	Channel Names
Screens	1 to 3 (Zenith 100) or 4 (Zenith 200)

Route audio from Screen 3 to Dante output 9 to 16 in Follow screen mode

```
{"op":"replace","path":"DeviceObject/audio/dante/$lineOut/@items/2/control/@props/mode",
"value":"FOLLOW_SCREEN"}\0x04
{"op":"replace","path":"DeviceObject/audio/dante/$lineOut/@items/2/control/followScreen/
@props/source", "value":"3"}\0x04
```

The device will not return a string

5.4.3. Reading a Line out output audio source

Poll for the Line out 2 audio source

```
{"op":"get","path":"DeviceObject/audio/$output/@items/ANALOG_2/status/@props/
source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/$output/@items/ANALOG_2/status/@props/source",
"value":"IN5"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Line out 2 in Direct routing mode

```
{"op":"get","path":"DeviceObject/audio/$lineOut/@items/2/control/directRouting/@props/
source"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/$lineOut/@items/2/control/directRouting/@props/source",
"value":"IN_DANTE_CH9_16"}\0x04
```

Returned values are described in 5.1.4.2 section.

Poll for the audio source on Line out 2 in Follow screen mode

```
{"op":"get","path":"DeviceObject/audio/$lineOut/@items/2/control/followScreen/@props/
screen"}\0x04
```

The device returns:

```
{"path":"DeviceObject/audio/$lineOut/@items/2/control/followScreen/@props/screen",
"value":"3"}\0x04
```

Returned values are described in 5.4.2.2 section.

6. Source commands

6.1. Reading an Input information

Poll for the Input 2 plug 1 (HDMI) availability

```
{"op":"get","path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/status/@props/
isAvailable"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/status/@props/isAvailable",
"value":true}\0x04
```

For Input 1 and 2, there is 2 plugs: in 1 HMDI and in 2 SDI, for the rest, only plug 1 is available.

Poll for the Input 2 plug 1 (hdmi) label

```
{"op":"get","path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/control/@props/
label"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/control/@props/label",
"value":"XXX"}\0x04
```

The value is empty if no specific label was registered.

Poll for the Input 2 plug 1 type information

```
{"op":"get","path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/status/@props/
type"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/status/@props/type",
"value":"HDMI"}\0x04
```

Poll for the Input 2 plug 1 (HDMI) validity information

```
{"op":"get","path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/status/signal/@props/
isValid"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$input/@items/INPUT_2/$plug/@items/1/status/signal/@props/isValid",
"value":true}\0x04
```

6.2. Reading a Foreground image information

Poll for the image library number on Screen 3 Foreground image 2

```
{"op":"get","path":"DeviceObject/$screen/@items/3/$topFrame/@items/2/control/@props/
librarySlot"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/3/$topFrame/@items/2/control/@props/librarySlot",
"value":"15"}\0x04
```

The value is set as “NONE” if the foreground is empty.

Poll for the validity of Screen 3 Foreground image 2

```
{"op":"get","path":"DeviceObject/$screen/@items/3/$topFrame/@items/2/status/@props/
isValid"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/3/$topFrame/@items/2/status/@props/isValid",
"value":true}\0x04
```

Poll for the Screen 3 Foreground image 2 label

```
{"op":"get","path":"DeviceObject/$screen/@items/3/$topFrame/@items/2/control/@props/
label"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/3/$topFrame/@items/2/control/@props/label",
"value":"XXX"}\0x04
```

The value is empty if no specific label was registered.

Poll for Foreground image enabled in the Screen 3 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/3/$preset/@items/DOWN/top/source/@props/
frame"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/3/$preset/@items/DOWN/top/source/@props/frame",
"value":"2"}\0x04
```

The value is set as “NONE” if the foreground is empty.

6.3. Changing a Foreground image on a screen Foreground set

Load Image Library 5 to Screen 1 Background Image 4

```
{"op":"replace","path":"DeviceObject/$screen/@items/1/$backFrame/@items/4/control/
@props/librarySlot", "value":"5"}\0x04
```

The device will not return a string

6.4. Reading a Background image information

Poll for the library image number on Screen 2 Background image 3

```
{"op":"get","path":"DeviceObject/$screen/@items/2/$backFrame/@items/3/control/@props/
librarySlot"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/2/$backFrame/@items/3/control/@props/librarySlot",
"value":"10"}\0x04
```

The value is set as “NONE” if the background is empty.

Poll for the validity on Screen 2 Background image 3

```
{"op":"get","path":"DeviceObject/$screen/@items/2/$backFrame/@items/3/status/@props/
isValid"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/2/$backFrame/@items/3/status/@props/isValid",
"value":true}\0x04
```

Poll for the Screen 2 Background image 3 label

```
{"op":"get","path":"DeviceObject/$screen/@items/2/$backFrame/@items/3/control/@props/
label"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/2/$backFrame/@items/3/control/@props/label",
"value":"XXX"}\0x04
```

The value is empty if no specific label was registered.

Poll for the Background image enabled in screen 2 program (with TBAR at DOWN)

```
{"op":"get","path":"DeviceObject/$screen/@items/2/$preset/@items/DOWN/background/source/
@props/set"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/2/$preset/@items/DOWN/background/source/@props/set",
"value":"2"}\0x04
```

The value is set as “NONE” if the background is empty.

6.5. Changing a Background image on a screen Foreground set

Load Image Library 5 to Screen 1 Foreground Image 4

```
{"op":"replace","path":"DeviceObject/$screen/@items/1/$topFrame/@items/4/control/
@props/librarySlot", "value":"5"}\0x04
```

The device will not return a string

6.6. Reading a Background set information

Poll for the Screen 1 Background image 6

```
{"op":"get","path":"DeviceObject/$screen/@items/1/$backgroundSet/@items/6/control/@props/
singleContent"}\0x04
```

The device returns:

```
{"path":"DeviceObject/$screen/@items/1/$backgroundSet/@items/6/control/@props/
singleContent","value":"PRESET_FRAME_2"}\0x04
```

The value is set as “NONE” if the background is empty.

6.7. Freeze an Input

Freeze Input 3

```
{"op":"replace","path":"DeviceObject/$input/@items/INPUT_3/control/@props/freeze",
"value":true}\0x04
```

The device will not return a string

7. Using thumbnails

7.1. Introduction

Thumbnails of live Inputs, still images, Outputs and Multiviewer outputs are available. These thumbnails are regularly refreshed (except still images thumbnails which are refreshed only on change).

Snapshot request rate must not be more than 1 per second.

Picture size is 256 pixels (width) by up to 256 pixels (height). Black borders are automatically added, depending on aspect ratio. Picture type is PNG.

7.2. Live inputs thumbnails URL

http://<ipadress>/api/device/snapshots/inputs/1

up to

http://<ipadress>/api/device/snapshots/inputs/16

7.3. Outputs thumbnails URL

http://< ipadress>/api/device/snapshots/outputs/1

up to

http://<ipadress>/api/device/snapshots/outputs/6

7.4. Foreground Images thumbnails URL (per Screen)

http://< ipadress>/api/device/snapshots/screens/{screenId}/top/1

up to

http://<ipadress>/api/device/snapshots/screens/{screenId}/top/4

7.5. Background Images thumbnails URL (per Screen)

http://< ipadress>/api/device/snapshots/screens/{screenId}/back/1

up to

http://<ipadress>/api/device/snapshots/screens/{screenId}/back/4

7.6. Multiviewer thumbnails URL

http://< ipadress>/api/device/snapshots/multiviewer

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