

# **4K/UHD** **Five-Input Universal Switcher** **with Wireless Presentation Link**

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Application Programming Interface

## Version Information

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| Version | Release Date | Notes           |
|---------|--------------|-----------------|
| 1       | 1/18         | Initial release |

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# Introduction

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The AT-UHD-SW-510W supports three different methods for accessing the API: Telnet, REST, and JSON-RPC over WebSockets. Commands can also be sent over Telnet for RS-232 control.

## 1. Telnet

Command Line Interface (CLI) API and uses a specified set of arguments, as shown below. When using Telnet, the parameters must be provided in the specified order.

```
group:subgroup:command [value_1] [value_2] [value_n]
```

## 2. REST interface

HTTP-based commands are executed with the GET command, and responses are returned as JSON results in JSON-RPC format:

```
http://<ip>/API?method=[method]&[key_1]=[value_1]&[key_2]=[value_2] ... &[key_n]=[value_n]
```

## 3. JSON-RPC over WebSockets

This method allows the streaming of commands and events in both directions.

## Examples

### Telnet session

```
Audio:Volume:Increase 2
{"result":{"volume":-1,"success":true}}
#
```

### REST

```
http://192.168.11.39/API?method=Audio:Volume:Increase&increment=2
{
  "result": {
    "volume": -1,
    "success": true
  },
  "jsonrpc": "2.0"
}
```

Note that in both cases, the command syntax is the same. Parameter syntax will vary between the two protocols.

## Commands

### Audio

| Command               | Description  |
|-----------------------|--|
| Audio:Mute:Get        | Displays the muting state of the audio output            |
| Audio:Mute:Set        | Sets the muting state for HDMI or analog audio output    |
| Audio:Volume:Decrease | Decreases the audio output level by the specified amount |
| Audio:Volume:Get      | Displays the current audio output level                  |
| Audio:Volume:Increase | Increases the audio output level by the specified amount |
| Audio:Volume:Set      | Sets the overall audio output level                      |

### Display

| Command                      | Description  |
|------------------------------|--|
| Display:BYOD:Kick            | Removes ("kicks") the BYOD user from the AT-UHD-SW-510W. |
| Display:Get                  | Gets the state of the output display                     |
| Display:Input:Get            | Displays the active input                                |
| Display:Input:Set            | Sets the active input                                    |
| Display:Input:Status:All:Get | Displays the connection state of all inputs              |
| Display:Input:Status:Get     | Displays the connection state of the specified input     |
| Display:Set                  | Turns the connected display on or off                    |

### Instruments

| Command                     | Description   |
|-----------------------------|---|
| Instruments:Temperature:Get | Displays the internal temperature of the AT-UHD-SW-510W |

### Misc

| Command           | Description   |
|-------------------|---|
| Misc:Model:Get    | Displays the model of AT-UHD-SW-510W                  |
| Misc:Version:Get  | Displays the firmware version of the specified system |
| Misc:Versions:Get | Displays the firmware version of all systems          |

### Platform

| Command           | Description   |
|-------------------|---|
| Platform:Reset    | Resets the AT-UHD-SW-510W to factory-default settings |
| Platform:Restart  | Reboots the AT-UHD-SW-510W                            |
| Platform:Shutdown | Shuts down (powers-off) the AT-UHD-SW-510W            |

### Audio:Mute:Get

Displays the muting status.

#### Syntax

```
Audio:Mute:Get
```

**This command does not require any parameters**

#### Example

```
http://<ip>/API?method=Audio:Mute:Get
```

#### Returns

```
{
  "result": {
    "muteanalog": true,
    "mutehdmi": true
  },
  "jsonrpc": "2.0"
}
```

### Audio:Mute:Set

Sets the muting for the HDMI or analog audio.

#### Syntax

```
Audio:Mute:Set
```

| Parameter | Description         | Range       |
|-----------|---------------------|-------------|
| hdmi      | HDMI audio muting   | true, false |
| analog    | Analog audio muting | true, false |

#### Example

```
http://<ip>/API?method=Audio:Mute:Set&hdmi=true
```

#### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```

### Audio:Volume:Decrease

Decreases the output volume by a specified amount. Values are measured in decibels. The overall maximum and minimum audio output levels are 0 and -80, respectively.

#### Syntax

Audio:Volume:Decrease

| Parameter | Description                      | Range     |
|-----------|----------------------------------|-----------|
| increment | Amount to decrease audio (in dB) | -80 ... 0 |

#### Example

`http://<ip>/API?method=Audio:Volume:Decrease&increment=5`

#### Returns

```
{
  "result": {
    "volume": -3,
    "success": true
  },
  "jsonrpc": "2.0"
}
```

### Audio:Volume:Get

Displays the current audio output level in decibels.

#### Syntax

Audio:Volume:Get

**This command does not require any parameters**

#### Example

`http://<ip>/API?method=Audio:Volume:Get`

#### Returns

```
{
  "result": {
    "volume": -3
  },
  "jsonrpc": "2.0"
}
```

### Audio:Volume:Increase

Increases the output volume by a specified amount. Values are measured in decibels. The overall maximum and minimum audio output levels are 0 and -80, respectively.

#### Syntax

Audio:Volume:Increase

| Parameter | Description                      | Range     |
|-----------|----------------------------------|-----------|
| increment | Amount to increase audio (in dB) | -80 ... 0 |

#### Example

`http://<ip>/API?method=Audio:Volume:Increase&increment=2`

#### Returns

```
{
  "result": {
    "volume": -1,
    "success": true
  },
  "jsonrpc": "2.0"
}
```

### Audio:Volume:Set

Sets the overall audio output level, in decibels.

#### Syntax

Audio:Volume:Set

| Parameter | Description          | Range     |
|-----------|----------------------|-----------|
| volume    | Output level (in dB) | -80 ... 0 |

#### Example

`http://<ip>/API?method=Audio:Volume:Set&volume=-10`

#### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```



### Display:BYOD:Kick

Removes (“kicks”) the existing BYOD connection from the AT-UHD-SW-510.

#### Syntax

```
Display:BYOD:Kick
```

**This command does not require any parameters**

#### Example

```
http://<ip>/API?method=Display:BYOD:Kick
```

#### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```

### Display:Get

Gets the state of the output display.

#### Syntax

```
Display:Get
```

**This command does not require any parameters**

#### Example

```
http://<ip>/API?method=Display:Get
```

#### Returns

```
{
  "result": {
    "state": true
  },
  "jsonrpc": "2.0"
}
```

## Display:Input:Get

Displays the active input.

### Syntax

```
Display:Input:Get
```

**This command does not require any parameters**

### Example

```
http://<ip>/API?method=Display:Input:Get
```

### Returns

```
{
  "result": {
    "input": 4,
    "type": "airplay"
  },
  "jsonrpc": "2.0"
}
```

## Display:Input:Set

Sets the active input.

### Syntax

```
Display:Input:Set
```

| Parameter | Description         | Range   |
|-----------|---------------------|---------|
| input     | The specified input | 0 ... 4 |

### Example

```
http://<ip>/API?method=Display:Input:Set&input=2
```

### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```

## Display:Input:Status:All:Get

Displays the connection state for all inputs. The name of each JSON object, that is returned, is a string representation of the input number. Each objects contains a boolean field, indicating whether or not an input is connected to that input. If a connection is detected, then the value will be true. Input 4 represents the BYOD interface and includes two extra fields: "type" and "status", which represent any active BYOD streaming device that is active.

### Syntax

```
Display:Input:Status:All:Get
```

**This command does not require any parameters**

### Example

```
http://<ip>/API?method=Display:Input:Status:All:Get
```

### Returns

```
{
  "result": {
    "0": {
      "status": false
    },
    "1": {
      "status": false
    },
    "2": {
      "status": false
    },
    "3": {
      "status": false
    },
    "4": {
      "type": "airplay",
      "status": true
    }
  },
  "jsonrpc": "2.0"
}
```

### Display:Input:Status:Get

Displays the connection state for the specified input. The name of the JSON object, that is returned, is a string representation of the input number. Each objects contains a boolean field, indicating whether or not an input is connected to that input. If a connection is detected, then the value will be true. Input 4 represents the BYOD interface and will include two extra fields: "type" and "subtype", which represent any active BYOD streaming device that is active. If "type" is unknown, then there is no current active BYOD stream.

#### Syntax

Display:Input:Status:Get

| Parameter | Description         | Range   |
|-----------|---------------------|---------|
| input     | The specified input | 0 ... 4 |

#### Example

`http://<ip>/API?method=Display:Input:Status:Get&input=4`

#### Returns

```
{
  "result": {
    "input": 4,
    "subtype": "infrastructure",
    "type": "miracast",
    "status": true
  },
  "jsonrpc": "2.0"
}
```

## Display:Set

Turns the connected display on or off.

### Syntax

Display:Set

| Parameter | Description              | Range   |
|-----------|--------------------------|---------|
| value     | The state of the display | on, off |

### Example

http://<ip>/API?method=Display:Set&value=on

### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```

## Instruments:Temperature:Get

Displays the internal temperature of the AT-UHD-SW-510W. If the scale parameter is not specified, then the temperature will be displayed in Celsius.

### Syntax

Instruments:Temperature:Get

| Parameter | Description                         | Range                        |
|-----------|-------------------------------------|------------------------------|
| scale     | The unit of temperature measurement | celsius, fahrenheit, kelvins |

### Example

http://<ip>/API?method=Instruments:Temperature:Get&scale=fahrenheit

### Returns

```
{
  "result": {
    "temperature": {
      "scale": "fahrenheit",
      "value": 145
    }
  },
  "jsonrpc": "2.0"
}
```

### Misc:Model:Get

Displays the model of the AT-UHD-SW-510W.

#### Syntax

```
Misc:Model:Get
```

**This command does not require any parameters**

#### Example

```
http://<ip>/API?method=Misc:Model:Get
```

#### Returns

```
{
  "result": {
    "model": "AT-UHD-SW-510W"
  },
  "jsonrpc": "2.0"
}
```

### Misc:Version:Get

Displays the hardware version of the AT-UHD-SW-510W.

#### Syntax

```
Misc:Version:Get
```

| Parameter | Description                 | Range  |
|-----------|-----------------------------|--------|
| key1      | The master firmware version | master |
| key2      | The MCU firmware version    | mcu    |

#### Example

```
http://<ip>/API?method=Misc:Version:Get
```

#### Returns

```
{
  "result": {
    "version": "0.1.21-14"
  },
  "jsonrpc": "2.0"
}
```

### Misc:Versions:Get

Displays the firmware versions of all systems in the AT-UHD-SW-510W.

#### Syntax

```
Misc:Versions:Get
```

**This command does not require any parameters**

#### Example

```
http://<ip>/API?method=Misc:Versions:Get
```

#### Returns

```
{
  "result": {
    "mcu": "V0.5.00",
    "master": "0.1.24-1"
  },
  "jsonrpc": "2.0"
}
```

### Platform:Reset

Resets the AT-UHD-SW-510W to factory-default settings. Network settings are preserved, unless otherwise specified by the second parameter. This parameter is optional.

#### Syntax

```
Platform:Reset
```

| Parameter | Description                       | Range   |
|-----------|-----------------------------------|---------|
| subsystem | Resets all systems                | all     |
| key2      | Only resets the network subsystem | network |

#### Example

```
http://<ip>/API?method=Platform:Reset&subsystem=all
```

#### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```

## Platform:Restart

Reboots the AT-UHD-SW-510W.

### Syntax

Platform:Restart

**This command does not require any parameters**

### Example

`http://<ip>/API?method=Platform:Restart`

### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```

## Platform:Shutdown

Shuts down the power to the AT-UHD-SW-510W. This command should be performed before disconnecting the power from the unit.

### Syntax

Platform:Shutdown

**This command does not require any parameters**

### Example

`http://<ip>/API?method=Platform:Shutdown`

### Returns

```
{
  "result": {
    "success": true
  },
  "jsonrpc": "2.0"
}
```



