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Introduction

For Pro Convert, we have rich APIs for developers to interact with products such as obtaining basic information about the device (device name, firmware version and etc.), modifying device configuration and upgrading firmware. These APIs are based on the HTTP protocol and are lightweight, connectionless interfaces that respond to data in JSON format. This document gives you a detailed understanding of each API's functions and request method.

APIs in this document apply to these products:

- Pro Convert HDMI 4K Plus
- Pro Convert HDMI Plus
- Pro Convert HDMI TX
- Pro Convert SDI 4K Plus
- Pro Convert SDI Plus
- Pro Convert SDI TX

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API Agreement

Overview

- Request protocol: HTTP
- Request mode: by default, GET is used to request data and commit, and POST is used to upload a file.
- Request URL: `http://IP/mwapi?method=xxx¶m1=value1¶m2=value2...`
- Return data format: when the status code is 200, it returns JSON data, otherwise it returns HTTP status codes.
- Login authentication: carry `sid=xxxxxxxx` in cookies

Example Response

The JSON formatted data is as follows, the attribute of status refers to [API Status Codes](#). The status 0 indicates successful requests, otherwise the request is failed.

```
{
  status: 0,
  enable: true,
  enable-web-control: true
  ...
}
```

API Status Codes

```
{
0: MW_STATUS_SUCCESS,
1: MW_STATUS_PENDING,
2: MW_STATUS_TIMEOUT,
3: MW_STATUS_INTERRUPTED,
4: MW_STATUS_TRY_AGAIN,
5: MW_STATUS_NOT_IMPLEMENTED,
6: MW_STATUS_UNKNOWN_ERROR,
7: MW_STATUS_INVALID_ARG,
8: MW_STATUS_NO_MEMORY,
9: MW_STATUS_UNSUPPORTED,
10: MW_STATUS_FILE_BUSY,
11: MW_STATUS_DEVICE_BUSY,
12: MW_STATUS_DEVICE_LOST,
13: MW_STATUS_IO_FAILED,
14: MW_STATUS_READ_FAILED,
15: MW_STATUS_WRITE_FAILED,
16: MW_STATUS_NOT_EXIST,
17: MW_STATUS_TOO_MANY,
18: MW_STATUS_TOO_LARGE,
19: MW_STATUS_OVERFLOW,
20: MW_STATUS_UNDERFLOW,
21: MW_STATUS_FORMAT_ERROR,
22: MW_STATUS_FILE_EXISTS,
23: MW_STATUS_FILE_TYPE_ERROR,
24: MW_STATUS_DEVICE_TYPE_ERROR,
25: MW_STATUS_IS_DIRECTORY,
26: MW_STATUS_READ_ONLY,
27: MW_STATUS_RANGE_ERROR,
28: MW_STATUS_BROKEN_PIPE,
29: MW_STATUS_NO_SPACE,
30: MW_STATUS_NOT_DIRECTORY,
31: MW_STATUS_NOT_PERMITTED,
32: MW_STATUS_BAD_ADDRESS,
33: MW_STATUS_SEEK_ERROR,
34: MW_STATUS_CROSS_DEVICE_LINK,
35: MW_STATUS_NOT_INITIALIZED,
36: MW_STATUS_AUTH_FAILED,
37: MW_STATUS_NOT_LOGGED_IN,
38: MW_STATUS_WRONG_STATE,
39: MW_STATUS_MISMATCH,
40: MW_STATUS_VERIFY_FAILED,
41: MW_STATUS_CONSTRAINT_VIOLATION
}
```

DEMO: Command Line Tool

To call Pro Convert Encoder API, wget and curl are supported in Linux, Windows, and Mac OS.

The location of cookie files varies according to the OS. Adjust the file path for your situation. The following examples are for Linux.

wget

1 Save your login information on cookies

```
wget --save-cookies=/var/tmp/sid.txt --keep-session-cookies "http://192.168.66.1/mwapi"
```

2 List all users

```
wget --load-cookies=/var/tmp/sid.txt --keep-session-cookies "http://192.168.66.1/mwapi"
```

3 Add a new user

```
wget --load-cookies=/var/tmp/sid.txt --keep-session-cookies "http://192.168.66.1/mwapi"
```

curl

1 Save your login information on cookies

```
curl --cookie-jar /var/tmp/sid.txt "http://192.168.66.1/mwapi?method=login&id=Admin&pa"
```

2 List all users

```
curl --cookie /var/tmp/sid.txt "http://192.168.66.1/mwapi?method=get-users"
```

3 Add a new user

```
curl --cookie /var/tmp/sid.txt "http://192.168.66.1/mwapi?method=add-user&id=test&pass"
```

DEMO: Node.js

This chapter introduces how to call the Pro Convert API in Node.js.

Download DEMO: [pro-convert-api-demo-nodejs.zip](#)

DEMO Structure

```
pro-convert-api-demo-nodejs
|
|-- httpUtils.js // based on HTTP get and upload in Node.js
|-- DEMO_EDID.bin // the default upload file when upload.js calls upload-edid, replac
|-- get.js // request data using GET
|-- upload.js // upload file using POST
```

Requirements

- Operating System: Linux, OS X or Windows.
- Node.js Runtime: 8.x or newer; it is recommended that you use LTS Releases.

Running Mode

1.Run the DEMO in the terminal

```
cd pro-convert-api-demo-nodejs
```

2.Run get.js

```
node get
```

3.Run upload.js

```
node upload
```


DEMO: C

Requirements

Operating System: Linux, OS X or Windows.

Compilation

- Prepare the cURL for transferring data with URLs, reference to the [curl tutorial](#).
- Download DEMO: [pro-convert-api-demo-c.zip](#)
- Compile "pro_convert_curl.c", and link to "libcurl"
- Build the pro_convert_curl.exe file

Example

- Navigate into the bin directory and run the pro_convert_curl.exe

```
cd pro-convert-api-demo-c/bin/linux
./pro_convert_curl <hostip:port>
```

- Sample response

```
***** 1. login *****
login response data:
{
  "status": 0
}

***** 2. get caps *****
get caps response data:
{
  "status": 0,
  "max-input-width": 4096,
  "max-input-height": 2160,
  "max-output-width": 4096,
  .
  .
  .
  "has-ptz": true
}

***** 3. upload EDID *****
upload EDID response data:
{
  "status": 0,
  "data": "AP////////wA09wEAAQAAAAE..."
}
```

ping

To detect whether the device is accessible without login.

This function is used to ensure that the device has restarted completely after
firmware update , reset all settings Or change IP address .

HTTP Request

```
GET http://ip/mwapi?method=ping
```

Parameter	Description
method	ping

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0: the device is ready. Refer to API Status Codes to find specific description for other values.

sync-time

Use the interface to synchronize clock with UTC with administrative right.

To ensure that the system time is accurate, it is recommended to sync after administrative login.

HTTP Request

```
GET http://ip/mwapi?method=sync-time&date=xxx&time=xxx
```

Parameter	Description
method	sync-time
date	UTC date format: dd/MM/yyyy
time	UTC time format: HH:mm:ss

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

Example

```
http://192.168.66.1/mwapi?method=sync-time&date=03%2F19%2F2019&time=07:02:26
```

get-caps

The specifications vary considerably among different Pro Convert products, such as the maximum resolution between HDMI 4K Plus and HDMI Plus. Use the interface to get the specifications of the connected product.

HTTP Request

```
GET http://ip/mwapi?method=get-caps
```

Parameter	Description
method	get-caps

Response Body

```
{
  "status": 0,
  "max-input-width": 4096,
  "max-input-height": 2160,
  "max-output-width": 4096,
  "max-output-height": 2160,
  "has-input": true,
  "has-output": true,
  "has-loop-through": true,
  "has-fan": true,
  "has-input-edid": true,
  "has-output-edid": true,
  "has-sdcard": true,
  "has-ptz": true
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
max-input-width	Indicates the max number of horizontal pixels of the input signal.
max-input-height	Indicates the max number of vertical pixels of the input signal.
max-output-width	Indicates the max number of horizontal pixels of the output signal.
max-output-height	Indicates the max number of vertical pixels of the output signal.
has-input	Indicates whether there is an input interface.
has-output	Indicates whether there is an output interface.
has-loop-through	Indicates whether there is a loopthrough interface.
has-fan	Indicates whether there is a fan in the device.
has-sdcard	Indicates whether to support SD card.
has-ptz	Indicates whether to support PTZ function.
has-input-edid	Indicates whether to support input port EDID.
has-output-edid	Indicates whether to support output port EDID.

reboot

Reboot the Pro Convert as administrator and log in again after rebooting.

The reboot process may take a few minutes. You can use [ping](#) to determine whether the restart is finished.

HTTP Request

```
http://ip/mwapi?method=reboot
```

Parameter	Description
method	reboot

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully, and the device will restart. Refer to API Status Codes to find specific description for other values.

get-reset-all-permission

Use the interface to determine whether to provide the reset all settings function to users.

Only available when the converter is connected to Ethernet over USB. The reset all settings interface refers to [reset-all-settings](#)

HTTP Request

```
GET http://ip/mwapi?method=get-reset-all-permission
```

Parameter	Description
method	get-reset-all-permission

Response Body

```
{  
  "status": 0,  
  "reset-all-enabled": true  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
reset-all-enabled	Indicates whether to offer the reset function. If yes, it shows true; otherwise, it is false.

reset-all-settings

Use the interface to reset all settings back to default.

Only available when the converter connect to Ethernet over USB.

The reset process may take a few minutes, and all configuration data will be lost. After resetting, the device will restart, you can use the [ping](#) interface to check the device state.

HTTP Request

```
GET http://ip/mwapi?method=reset-all-settings
```

Parameter	Description
method	reset-all-settings

Response Body

```
{
  status: 0,
  ip-addr: "192.168.66.1",
  estimated-duration: 120
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
ip-addr	Indicates the USB RNDIS IP address, which may be changed after resetting if user has changed the IP address.
estimated-duration	Indicates the estimated wait time for resetting in seconds.

login

Use the interface to log in. The cookie will carry the Session ID after you log in successfully. For example, Cookie: sid=e0f6b33dd2b575eff40733b3778beaab.

HTTP Request

```
GET http://ip/mwapi?method=login&id=xxx&pass=xxx
```

Parameter	Description
method	login
id	Indicates user ID.
pass	Indicates MD5 encrypted password.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. 36 indicates that the user name or password is incorrect. Refer to API Status Codes to find specific description for other values.

Example

```
http://192.168.66.1/mwapi?method=login&id=Admin&pass=e3afed0047b08059d0fada10f400c1e5
```

logout

Use the interface to log out and return to the "SIGN IN" page.

HTTP Request

```
GET http://ip/mwapi?mwapi?method=logout
```

Parameter	Description
method	logout

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

get-summary-info

Use the interface to obtain status and parameters of the Pro Convert device, including device information, Ethernet status, USB RNDIS status, and NDI status.

HTTP Request

```
GET http://ip/mwapi?method=get-summary-info
```

Parameter	Description
method	get-summary-info

Response Body

JSON structure is as follows:

```
{
  "status": 0,
  "device": {...},
  "ethernet": {...},
  "rndis": {...},
  "ndi": {...}
}
```

1. Request Body

```
"status": 0
```

Name	Description
status	0 indicates a successful data acquisition. Refer to API Status Codes to find specific description for other values.

2. Basic Information (device {...})

```
"device": {
  "name": "Pro Convert",
  "model": "HDMI 4K Plus",
  "serial-no": "B401180706020",
  "hw-revision": "B",
  "fw-version": "1.1.72",
  "up-to-date": true,
  "input-state": "no-signal",
  "output-state": "unconnected",
  "ptz-proto": "none",
  "ptz-state": "disconnected",
  "cpu-usage": 5.00,
  "memory-usage": 58.33,
  "core-temp": 46.76,
  "board-id": 0,
  "up-time": 8006,
  "sd-size": 0,
  "fan-rpm": 0
}
```

Name	Description
name	Shows the name of the Pro Convert unit.
model	Shows the model name of the Pro Convert unit, including HDMI 4K Plus, HDMI Plus, SDI Plus, ...)
serial-no	Shows the serial number of the Pro unit.
hw-revision	Shows the hardware version of the Pro unit, the value ranges from A to Z.
fw-version	Shows the current firmware version that's installed in the Pro unit.
up-to-date	Shows whether the firmware is up to date. If yes, shows true; otherwise, it shows false.
input-state	Shows the status of the current input signal, including no-signal, locking, unsupported, actual value(such as 1920x1080p60)
output-state	Shows whether a loop-through device is connected to the Pro Convert device, including unconnected, unsupported, active
ptz-proto	Shows the current protocol configured for the converter to communicate with a PTZ camera, including none, visca.
ptz-state	Shows the PTZ state, including unknown, connected, disconnected.
cpu-usage	Shows the current CPU usage (the load on the processor, shown as a percentage) of the Pro Convert device.
memory-usage	Shows the current memory usage.
core-temp	Shows the current temperature(°C) of the unit's processor.
board-id	Shows the rotary switch number, from 0 to F.
up-time	Shows the elapsed time since the Pro device's last boot-up, in seconds.
sd-size	Shows the SD memory in MB.
fan-rpm	Shows the fan speed.

3. Ethernet Status (ethernet {...})

```

"ethernet": {
  "state": "disconnected",
  "mac-addr": "70:B3:D5:75:D2:41",
  "ip-addr": "0.0.0.0",
  "ip-mask": "0.0.0.0",
  "gw-addr": "0.0.0.0",
  "dns-addr": "0.0.0.0",
  "tx-speed-kbps": 0,
  "rx-speed-kbps": 0
}

```

Name	Description
state	Shows Ethernet connection status, including down, disconnected, 10m, 100m, 1000m, 2500m, 5000m, 10000m.
mac-addr	Shows the MAC address.
ip-addr	Shows the IP address.
ip-mask	Shows the subnet mask address.
gw-addr	Shows the gateway address.
dns-addr	Shows the DNS server address.
tx-speed-kbps	Shows the Ethernet send speed in Kbps.
rx-speed-kbps	Shows the Ethernet receive speed in Kbps.

4. USB RNDIS Status (rndis {...})

```
"rndis": {
  "state": "high-speed",
  "ip-addr": "192.168.66.1",
  "tx-speed-kbps": 0,
  "rx-speed-kbps": 0
}
```

Name	Description
state	Shows Ethernet over USB connection status, including disconnected, full-speed, high-speed, super-speed-5g, super-speed-10g.
ip-addr	Shows Ethernet over USB IP Address.
tx-speed-kbps	Shows current Ethernet over USB send speed, in Kbps.
rx-speed-kbps	Shows current Ethernet over USB receive speed, in Kbps.

5. NDI[®] Status (ndi {...})

```
"ndi": {  
  "name": "#00 (B401180706020)",  
  "enabled": true,  
  "num-clients": 0,  
  "tally-preview": false,  
  "tally-program": false,  
  "audio-drop-frames": 0,  
  "video-drop-frames": 0,  
  "video-bit-rate": 0,  
  "audio-bit-rate": 0,  
  "video-width": 0,  
  "video-height": 0,  
  "video-scan": "progressive",  
  "video-field-rate": 0.00,  
  "audio-num-channels": 0,  
  "audio-sample-rate": 0,  
  "audio-bit-count": 16  
}
```

Name	Description
name	Shows NDI source name.
enabled	Shows whether NDI is enabled. If true, NDI is enabled; otherwise, NDI is disabled.
num-clients	Shows the total number of NDI clients receiving the streams sent by the Pro converter.
tally-preview	Shows whether the NDI stream has been selected to the Preview bus by any client. If yes, it shows true; otherwise, it shows false.
tally-program	Shows whether the NDI stream has been selected to the Program bus by any client. If yes, it shows true, otherwise, it shows false.
audio-drop-frames	Shows dropped audio frames in the previous second.
audio-bit-rate	Shows the audio bitrate for the previous second in Kbps.
audio-num-channels	Shows the total number of NDI audio output channels.
audio-sample-rate	Shows the sampling rate of the audio output, such as 32000, 44100, ...
audio-bit-count	Shows the sampling bit depth of the audio output, including 16, 20, 24, ...
video-drop-frames	Shows dropped video frames in the previous second.
video-bit-rate	Shows the video bitrate for the previous second in kbps.
video-width	Shows the total number of pixels, horizontally.
video-height	Shows the total number of pixels, vertically.
video-scan	Shows the video scan format, including progressive, interlaced, psf
video-field-rate	Shows the video frame, including 24, 25, 29.97, 30, 48, 50, 59.94, 60.

get-signal-info

Use the interface to obtain the input signal information.

HTTP Request

```
GET http://ip/mwapi?method=get-signal-info
```

Parameter	Description
method	get-signal-info

Response Body

JSON structure is as follows:

```
{
  "status": 0,
  "signal-info-types": ["video-info", "audio-info", "hdmi-info", "sdi-info", "info-frame"],
  "video-info": {...},
  "audio-info": {...},
  "hdmi-info": {...},
  "sdi-info": {...},
  "info-frames": {...}
}
```

Status

```
"status": 0
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

Signal type

```
"signal-info-types": [
  "video-info", // video status
  "audio-info", // audio status
  "hdmi-info", // HDMI status
  "sdi-info", // SDI status
  "info-frames" // InfoFrame
]
```

VIDEO STATUS (video-info: {...})

```

"video-info": {
  "codec": "uncompressed",
  "width": 1920,
  "height": 1080,
  "scan": "progressive",
  "field-rate": 60.00,
  "color-depth": 8,
  "color-format": "rgb",
  "aspect-ratio": "16:9",
  "sampling": "4:4:4",
  "quant-range": "full",
  "sat-range": "full",
  "frame-struct": "2d"
}

```

Name	Description
codec	Indicates the video compression methods, including uncompressed, dsc, mpeg2, ...
width	Indicates the total number of pixels, horizontally.
height	Indicates the total number of pixels, vertically.
scan	Indicates the refresh rate, , including progressive, interlaced, pzf
field-rate	Indicates the frame rate, including 24, 25, 29.97, 30, 48, 50, 59.94, 60.
color-depth	Indicates the color depth, including 8, 10, 12.
color-format	Indicates the color space, including rgb, bt.601, bt.709, bt.2020.
aspect-ratio	Indicates the aspect ratio, including 16:9, 4:3, ...
sampling	Indicates the sampling rate, including 4:2:0, 4:2:2, 4:4:4, 4:4:4:4.
quant-range	Indicates the quantization range, including limited, full.
sat-range	Indicates the saturation range, including limited, extended, full.
frame-struct	Indicates the input video frame type, 2d, 3d-left-right, 3d-top-bottom, 3d-left-right-half, 3d-top-bottom-half.

AUDIO STATUS (audio-info: {...})

```

"audio-info": {
  "codec": "lpcm",
  "num-channels": 2,
  "sample-rate": 48000,
  "bit-count": 16
}

```

Name	Description
codec	Indicates the encoding type, including lpcm, ac3, aac, ...
num-channels	Indicates the number of channels, including 1, 2, .. 16
sample-rate	Indicates the sampling rate, including 32000, 44100, ...
bit-count	Indicates the bit rate, including 16, 20, 24, ...

HDMI STATUS (hdmi-info: {...})

```
"hdmi-info": {
  "mode": "dvi",
  "vic": 0,
  "scramble": false,
  "clock-ratio": 1,
  "hdcp": "none",
  "repeat-count": 0,
  "it-content": false,
  "timing-mode-line": "148.50 1920 2008 2052 2200 1080 1084 1089 1125 +hsync +vsync"
}
```

Name	Description
mode	Indicates the signal type, including hdmi, dvi.
vic	Indicates the Video Identification Code, which is defined for CEA formats.
scramble	Indicates whether to scramble to prevent signal parsing problems. If yes, it shows true; otherwise, it is false.
clock-ratio	Indicates the clock ratio, including 1, 4.
hdcp	Indicates HDCP encrypted type, including none, hdcp-1.x, hdcp-2.2.
repeat-count	Indicates the signal repeat times, 0, 1, 2, 4, ...
it-content	Indicates whether the transmission package is content. If yes, it shows true; otherwise, it is false.
timing-mode-line	Indicates the modeline. Syntax: pclk hdisp hsyncstart hsyncend htotal vdisp vsyncstart vsyncend vtotal [flags] flags: +hsync, -hsync, +vsync, -vsync, interlace, double-scan, sog, +csync, -csync For example: 23.86 640 656 720 800 480 481 484 497 -hsync +vsync The unit of pclk is MHz, and that of the other parameters are in pixels.

SDI STATUS (sdi-info: {...})

```

"sdi-info": {
  "link-type": "",
  "link-speed": "",
  "stream-type": "",
  "level-b": true,
  "interlaced": true,
  "assignment": 0,
  "st352-payload-id": 3423424,
  "h-total": 2250,
  "v-total": 1125,
  "h-active": 1920,
  "v-active": 1080
}

```

Name	Description
link-type	Indicates link type of input SDI signal, including unknown, single-link, dual-link, quad-link.
link-speed	Indicates the current data speed, including unknown, sd, hd, 3g, 6g, 12g.
stream-type	Indicates the number of streams that is contained in the data source, including single-stream, dual-stream, 3d.
level-b	Indicates whether the input signal is level B format. If yes, it shows true; otherwise, it is false.
interlaced	Indicates whether the input signal is interlaced. If yes, it shows true; otherwise, it is false.
assignment	Indicates the link number, especially when be fed into a source of multi-link interfaces.
st352-payload-id	Indicates the SMPTE ST 352 video payload identification code for SDI. which is an unsigned 32-bit integer and be displayed in HEX.
h-total	Indicates the total number of pixels, horizontally
v-total	Indicates the total number of pixels, vertically.
h-active	Indicates the number of active pixels, horizontally.
v-active	Indicates the number of active pixels, vertically.

InfoFrame (info-frames: {...})

```

"info-frames": [
  {
    "id": "AVI",
    "type": 130,
    "version": 2,
    "checksum": 96,
    "data": "ACgAIgAAADkEAACBBw=="
  },
  {
    "id": "Audio",
    "type": 132,
    "version": 1,
    "checksum": 112,
    "data": "AQAAAAAAAAAAAAA=="
  }
]

```

Name	Description
id	Indicates the infoFrame type, including AVI, Audio, ...
type	Indicates the packet type.
version	Indicates the packet version.
checksum	Indicates the packet checksum.
data	Indicates the InfoFrame payload, which is encoded in base64 and displayed in hex.

get-video-config

Use the interface to obtain the video settings.

HTTP Request

```
GET http://ip/mwapi?method=get-video-config
```

Parameter	Description
method	get-video-config

Response Body

```
{
  "status": 0,
  "show-adv-ui": false,
  "in-auto-aspect": true,
  "in-aspect-x": 16,
  "in-aspect-y": 9,
  "in-auto-color-fmt": true,
  "in-color-fmt": "rgb",
  "in-auto-quant-range": true,
  "in-quant-range": "full",
  "brightness": 0,
  "contrast": 100,
  "hue": 0,
  "saturation": 100,
  "in-crop-enabled": false,
  "in-crop-left-percent": 0.00,
  "in-crop-top-percent": 0.00,
  "in-crop-right-percent": 0.00,
  "in-crop-bottom-percent": 0.00,
  "deinterlace": "none",
  "ar-conversion": "ignore",
  "out-flip": false,
  "out-mirror": false,
  "out-cx": 1920,
  "out-cy": 1080,
  "out-raw-resolution": true,
  "out-aspect-x": 16,
  "out-aspect-y": 9,
  "out-auto-aspect": true,
  "out-fr-conversion": "raw",
  "out-auto-color-fmt": true,
  "out-color-fmt": "bt.709",
  "out-auto-sat-range": true,
  "out-sat-range": "limited",
  "out-auto-quant-range": true,
  "out-quant-range": "limited",
  "bit-rate-ratio": 100
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
show-adv-ui	Indicates whether to show the advanced settings. If yes, it shows true; otherwise, it is false.
in-auto-aspect	Indicates whether to obtain the aspect ratio of input signal automatically. If yes, it shows true; otherwise, it is false.
in-aspect-x	Indicates the width of the input aspect ratio.
in-aspect-y	Indicates the height of the input aspect ratio.
in-auto-color-fmt	Indicates whether to obtain the color space of input signal automatically. If yes, it shows true; otherwise, it is false.
in-color-fmt	Indicates the color space of input signal, including rgb, bt.601, bt.709, bt.2020.
in-auto-quant-range	Indicates whether to obtain the quantization range of input signal automatically. If yes, it shows true; otherwise, it is false.
in-quant-range	Indicates the quantization range of input signal, including full, limited.
brightness	Indicates the brightness of input signal. The value ranges from -100 to +100.
contrast	Indicates the contrast of input signal. The value ranges from 50 to 200.
hue	Indicates the hue of input signal. The value ranges from -90 to 90.
saturation	Indicates the saturation range of input signal. The value ranges from 0 to 200.
in-crop-enabled	Reserved.
in-crop-left-percent	Reserved.
in-crop-top-percent	Reserved.
in-crop-top-percent	Reserved.
in-crop-bottom-percent	Reserved.
deinterlace	Indicates deinterlace options of the input signal, including none, top-field, bottom-field.
ar-conversion	Indicates the aspect ratio Conversion, including ignore, cropping, padding. Only shown when the "show-adv-ui" is true.

Name	Description
out-flip	Indicates whether to vertical flip the output signal. If yes, it shows true; otherwise, it is false.
out-mirror	Indicates whether to horizontal flip the output signal. If yes, it shows true; otherwise, it is false.
out-cx	Indicates the width of output resolution.
out-cy	Indicates the height of output resolution.
out-raw-resolution	Indicates whether the resolution of output follows that of input. If yes, it shows true; otherwise, it is false.
out-auto-aspect	Indicates whether to obtain the aspect ratio of output signal automatically. If yes, it shows true; otherwise, it is false.
out-aspect-x	Indicates the width of the output aspect ratio.
out-aspect-y	Indicates the height of the output aspect ratio.
out-fr-conversion	Indicates the output frame rate, including raw, half, one-third, quarter.
out-auto-color-fmt	Indicates whether to obtain the color space of output signal automatically. If yes, it shows true; otherwise, it is false.
out-color-fmt	Indicates the color space of output signal, including bt.601, bt.709, bt.2020.
out-auto-sat-range	Indicates whether to obtain the saturation range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-sat-range	Indicates the saturation range of output signal, including full, limited, extended.
out-auto-quant-range	Indicates whether to obtain the quantizations range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-quant-range	Indicates the quantizations range of output signal, including full, limited.
bit-rate-ratio	Indicates the bitrate ratio. The value ranges from 50 to 200.

get-def-video-config

Use the interface to obtain the default configurations.

HTTP Request

```
GET http://ip/mwapi?method=get-def-video-config
```

Parameter	Description
method	get-def-video-config

Response Body

```
{
  "status": 0,
  "in-auto-aspect": true,
  "in-aspect-x": 16,
  "in-aspect-y": 9,
  "in-auto-color-fmt": true,
  "in-color-fmt": "bt.709",
  "in-auto-quant-range": true,
  "in-quant-range": "limited",
  "brightness": 0,
  "contrast": 100,
  "hue": 0,
  "saturation": 100,
  "in-crop-enabled": false,
  "in-crop-left-percent": 0.00,
  "in-crop-top-percent": 0.00,
  "in-crop-right-percent": 0.00,
  "in-crop-bottom-percent": 0.00,
  "deinterlace": "none",
  "ar-conversion": "ignore",
  "out-flip": false,
  "out-mirror": false,
  "out-cx": 1920,
  "out-cy": 1080,
  "out-raw-resolution": true,
  "out-aspect-x": 16,
  "out-aspect-y": 9,
  "out-auto-aspect": true,
  "out-fr-conversion": "raw",
  "out-auto-color-fmt": true,
  "out-color-fmt": "bt.709",
  "out-auto-sat-range": true,
  "out-sat-range": "limited",
  "out-auto-quant-range": true,
  "out-quant-range": "limited",
  "bit-rate-ratio": 100
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
in-auto-aspect	Indicates whether to obtain the aspect ratio of input signal automatically. If yes, it shows true; otherwise, it is false.
in-aspect-x	Indicates the width of the input aspect ratio.
in-aspect-y	Indicates the height of the input aspect ratio.
in-auto-color-fmt	Indicates whether to obtain the color space of input signal automatically. If yes, it shows true; otherwise, it is false.
in-color-fmt	Indicates the color space of input signal, including rgb, bt.601, bt.709, bt.2020.
in-auto-quant-range	Indicates whether to obtain the quantization range of input signal automatically. If yes, it shows true; otherwise, it is false.
in-quant-range	Indicates the quantization range of input signal, including full, limited.
brightness	Indicates the brightness of input signal. The value ranges from -100 to +100.
contrast	Indicates the contrast of input signal. The value ranges from 50 to 200.
hue	Indicates the hue of input signal. The value ranges from -90 to 90.
saturation	Indicates the saturation range of input signal. The value ranges from 0 to 200.
in-crop-enabled	Reserved.
in-crop-left-percent	Reserved.
in-crop-top-percent	Reserved.
in-crop-top-percent	Reserved.
in-crop-bottom-percent	Reserved.
deinterlace	Indicates deinterlace options of the input signal, including none, top-field, bottom-field.
ar-conversion	Indicates the aspect ratio Conversion, including ignore, cropping, padding. Only shown when the "show-adv-ui" is true.
out-flip	Indicates whether to vertically flip the output signal. If yes, it shows true; otherwise, it is false.

Name	Description
out-mirror	Indicates whether to horizontally flip the output signal. If yes, it shows true; otherwise, it is false.
out-cx	Indicates the width of output resolution.
out-cy	Indicates the height of output resolution.
out-raw-resolution	Indicates whether the resolution of output follows that of input. If yes, it shows true; otherwise, it is false.
out-auto-aspect	Indicates whether to obtain the aspect ratio of output signal automatically. If yes, it shows true; otherwise, it is false.
out-aspect-x	Indicates the width of the output aspect ratio.
out-aspect-y	Indicates the height of the output aspect ratio.
out-fr-conversion	Indicates the output frame rate, including raw, half, one-third, quarter.
out-auto-color-fmt	Indicates whether to obtain the color space of output signal automatically. If yes, it shows true; otherwise, it is false.
out-color-fmt	Indicates the color space of output signal, including bt.601, bt.709, bt.2020.
out-auto-sat-range	Indicates whether to obtain the saturation range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-sat-range	Indicates the saturation range of output signal, including full, limited, extended.
out-auto-quant-range	Indicates whether to obtain the quantizations range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-quant-range	Indicates the quantizations range of output signal, including full, limited.
bit-rate-ratio	Indicates the bitrate ratio. The value ranges from 50 to 200.

set-video-config

Use the interface to modify the video settings.

HTTP Request

```
GET http://ip/mwapi?method=set-video-config&param1=value1&param2=value2...
```

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

Example

1. Set input color space

```
http://ip/mwapi?method=set-video-config&in-auto-color-fmt=false&in-color-fmt=rgb
```

Parameter	Description
method	set-video-config
in-auto-color-fmt	Indicates whether to obtain the color space of input signal automatically. If yes, it shows true; otherwise, it is false.
in-color-fmt	Indicates the color space of input signal, including rgb, bt.601, bt.709, bt.2020.

2. Set input quantization range

```
http://ip/mwapi?method=set-video-config&in-auto-quant-range=false&in-quant-range=limit
```

Parameter	Description
method	set-video-config
in-auto-quant-range	Indicates whether to obtain the quantization range of input signal automatically. If yes, it shows true; otherwise, it is false.
in-quant-range	Indicates the quantization range of input signal, including full, limited.

3. Set color

```
http://ip/mwapi?method=set-video-config&brightness=0&contrast=0&hue=0&saturation=0
```

Parameter	Description
method	set-video-config
brightness	Indicates the brightness of input signal. The value ranges from -100 to +100.
contrast	Indicates the contrast of input signal. The value ranges from 50 to 200.
hue	Indicates the hue of input signal. The value ranges from -90 to 90.
saturation	Indicates the saturation range of input signal. The value ranges from 0 to 200.

4. Set deinterlace

```
http://ip/mwapi?method=set-video-config&deinterlace=wave
```

Parameter	Description
method	set-video-config
deinterlace	Indicates deinterlace options of the input signal, including none, top-field, bottom-field.

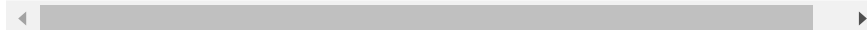
4. Set special effect

```
http://ip/mwapi?method=set-video-config&out-mirror=false
```

Parameter	Description
method	set-video-config
out-mirror	Indicates whether to horizontally flip the output signal. If yes, it shows true; otherwise, it is false.

5. Set output resolution

```
http://ip/mwapi?method=set-video-config&out-raw-resolution=false&out-cx=1280&out-cy=720
```



Parameter	Description
method	set-video-config
out-cx	Indicates the width of output resolution, the value is integer and multiple of 4.
out-cy	Indicates the height of output resolution, the value is integer and multiple of 2.
out-raw-resolution	Indicates whether the resolution of output follows that of input. If yes, it shows true; otherwise, it is false.

5. Set output frame

```
http://ip/mwapi?method=set-video-config&out-fr-conversion=frame-rate-raw
```

Parameter	Description
method	set-video-config
out-fr-conversion	Indicates the output frame rate, including raw, half, one-third, quarter.

6. Set output aspect ratio

```
http://ip/mwapi?method=set-video-config&out-auto-aspect=false&out-aspect-x=16&out-aspe
```

Parameter	Description
method	set-video-config
out-auto-aspect	Indicates whether to obtain the aspect ratio of output signal automatically. If yes, it shows true; otherwise, it is false.
out-aspect-x	Indicates the width of the output aspect ratio.
out-aspect-y	Indicates the height of the output aspect ratio.

7. Set bitrate ratio

```
http://ip/mwapi?method=set-video-config&bit-rate-ratio=150
```

Parameter	Description
method	set-video-config
bit-rate-ratio	Indicates the bitrate ratio. The value ranges from 50 to 200, and the default value is 100.

8. Set Others

http://ip/mwapi?method=set-video-config&out-auto-color-fmt=false&out-color-fmt=rgb&out

Parameter	Description
method	set-video-config
out-auto-color-fmt	Indicates whether to obtain the color space of output signal automatically. If yes, it shows true; otherwise, it is false.
out-color-fmt	Indicates the color space of output signal, including bt.601, bt.709, bt.2020.
out-auto-sat-range	Indicates whether to obtain the saturation range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-sat-range	Indicates the saturation range of output signal, including full, limited, extended.
out-auto-quant-range	Indicates whether to obtain the quantizations range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-quant-range	Indicates the quantizations range of output signal, including full, limited.

reset-video-config

Use the interface to reset all video settings back to default.

HTTP Request

```
GET http://ip/mwapi?method=reset-video-config
```

Parameter	Description
method	reset-video-config

Response Body

```
{
  "status": 0,
  "in-auto-aspect": true,
  "in-aspect-x": 16,
  "in-aspect-y": 9,
  "in-auto-color-fmt": true,
  "in-color-fmt": "bt.709",
  "in-auto-quant-range": true,
  "in-quant-range": "limited",
  "brightness": 0,
  "contrast": 100,
  "hue": 0,
  "saturation": 100,
  "in-crop-enabled": false,
  "in-crop-left-percent": 0.00,
  "in-crop-top-percent": 0.00,
  "in-crop-right-percent": 0.00,
  "in-crop-bottom-percent": 0.00,
  "deinterlace": "none",
  "ar-conversion": "ignore",
  "out-flip": false,
  "out-mirror": false,
  "out-cx": 1920,
  "out-cy": 1080,
  "out-raw-resolution": true,
  "out-aspect-x": 16,
  "out-aspect-y": 9,
  "out-auto-aspect": true,
  "out-fr-conversion": "raw",
  "out-auto-color-fmt": true,
  "out-color-fmt": "bt.709",
  "out-auto-sat-range": true,
  "out-sat-range": "limited",
  "out-auto-quant-range": true,
  "out-quant-range": "limited",
  "bit-rate-ratio": 100
}
```


Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
in-auto-aspect	Indicates whether to obtain the aspect ratio of input signal automatically. If yes, it shows true; otherwise, it is false.
in-aspect-x	Indicates the width of the input aspect ratio.
in-aspect-y	Indicates the height of the input aspect ratio.
in-auto-color-fmt	Indicates whether to obtain the color space of input signal automatically. If yes, it shows true; otherwise, it is false.
in-color-fmt	Indicates the color space of input signal, including rgb, bt.601, bt.709, bt.2020.
in-auto-quant-range	Indicates whether to obtain the quantization range of input signal automatically. If yes, it shows true; otherwise, it is false.
in-quant-range	Indicates the quantization range of input signal, including full, limited.
brightness	Indicates the brightness of input signal. The value ranges from -100 to +100.
contrast	Indicates the contrast of input signal. The value ranges from 50 to 200.
hue	Indicates the hue of input signal. The value ranges from -90 to 90.
saturation	Indicates the saturation range of input signal. The value ranges from 0 to 200.
in-crop-enabled	Reserved.
in-crop-left-percent	Reserved.
in-crop-top-percent	Reserved.
in-crop-top-percent	Reserved.
in-crop-bottom-percent	Reserved.
deinterlace	Indicates deinterlace options of the input signal, including none, top-field, bottom-field.
ar-conversion	Indicates the aspect ratio Conversion, including ignore, cropping, padding. Only shown when the "show-adv-ui" is true.
out-flip	Indicates whether to vertically flip the output signal. If yes, it shows true; otherwise, it is false.

Name	Description
out-mirror	Indicates whether to horizontally flip the output signal. If yes, it shows true; otherwise, it is false.
out-cx	Indicates the width of output resolution.
out-cy	Indicates the height of output resolution.
out-raw-resolution	Indicates whether the resolution of output follows that of input. If yes, it shows true; otherwise, it is false.
out-auto-aspect	Indicates whether to obtain the aspect ratio of output signal automatically. If yes, it shows true; otherwise, it is false.
out-aspect-x	Indicates the width of the output aspect ratio.
out-aspect-y	Indicates the height of the output aspect ratio.
out-fr-conversion	Indicates the output frame rate, including raw, half, one-third, quarter.
out-auto-color-fmt	Indicates whether to obtain the color space of output signal automatically. If yes, it shows true; otherwise, it is false.
out-color-fmt	Indicates the color space of output signal, including bt.601, bt.709, bt.2020.
out-auto-sat-range	Indicates whether to obtain the saturation range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-sat-range	Indicates the saturation range of output signal, including full, limited, extended.
out-auto-quant-range	Indicates whether to obtain the quantizations range of output signal automatically. If yes, it shows true; otherwise, it is false.
out-quant-range	Indicates the quantizations range of output signal, including full, limited.
bit-rate-ratio	Indicates the bitrate ratio. The value ranges from 50 to 200.

get-edid-config

Use the interface to obtain EDID of input port.

HTTP Request

```
GET http://ip/mwapi?method=get-edid-config
```

Parameter	Description
method	get-edid-config

Response Body

```
{
  "status": 0,
  "smart-edid": true,
  "keep-last": false,
  "add-audio": true,
  "limit-pixel-clock": true,
  "data": "AP////////wA09wEAAQAAAAEaAQ0AAAB4Au6Vo1RMmSYPUFT//4AxQEVAyUBxQIGA0QDhwAEACogA"
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
smart-edid	Indicates whether to enable SmartEDID. If yes, it is true; otherwise, it is false.
keep-last	Indicates whether to use the latest loophrough EDID. If yes, it is true; otherwise, it is false.
add-audio	Indicates whether to force the the source device to output audio. If yes, it is true; otherwise, it is false.
limit-pixel-clock	Indicates whether to lower pixel resolution to avoid the output producing a blank screen when the pixel resolution of the loop-through device is beyond the capability of the Pro Convert. If yes, it is true; otherwise, it is false.
data	Indicates the EDID information in base64 format, and it will be translated to hex to display.

get-output-edid

Use the interface to obtain the EDID of output port.

HTTP Request

```
GET http://ip/mwapi?method=get-output-edid
```

Parameter	Description
method	get-output-edid

Response Body

```
{
  "status": 0,
  "data": "AP////////wA09wEAAQAAAAEaAQ0AAAB4Au6Vo1RMmSYPUFT//4AxQEVAyUBxQIGA0QDhwAEACogA"
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
data	Indicates the EDID information in base64 format, it will be translated to hex to display.

set-edid-config

Use the interface to modify EDID of input port.

HTTP Request

```
GET http://ip/mwapi?method=set-edid-config&param1=value1&param2=value2...
```

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

Example

```
http://192.168.66.1/mwapi?method=set-edid-config&smart-edid=true&keep-last=false&add-a
```

Parameter	Description
method	set-edid-config
smart-edid	Indicates whether to enable SmartEDID. If yes, it is true; otherwise, it is false.
keep-last	Indicates whether to use the latest loopthrough EDID. If yes, it is true; otherwise, it is false.
add-audio	Indicates whether to force the the source device to output audio. If yes, it is true; otherwise, it is false.
limit-pixel-clock	Indicates whether to lower pixel resolution to avoid the output producing a blank screen when the pixel resolution of the loop-through device is beyond the capability of the Pro Convert. If yes, it is true; otherwise, it is false.

set-default-edid

Use the interface to reset the current EDID to default values.

HTTP Request

```
GET http://ip/mwapi?method=set-default-edid
```

Parameter	Description
method	set-default-edid

Response Body

```
{
  "status": 0,
  "smart-edid": true,
  "keep-last": false,
  "add-audio": true,
  "limit-pixel-clock": true,
  "data": "AP////////wA09wEAAQAAAAEaAQ0AAAB4Au6Vo1RMmSYPUFT//4AxQEVAyUBxQIGA0QDhwAEACogA"
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
smart-edid	Indicates whether to enable SmartEDID. If yes, it is true; otherwise, it is false.
keep-last	Indicates whether to use the latest loophrough EDID. If yes, it is true; otherwise, it is false.
add-audio	Indicates whether to force the the source device to output audio. If yes, it is true; otherwise, it is false.
limit-pixel-clock	Indicates whether to lower pixel resolution to avoid the output producing a blank screen when the pixel resolution of the loop-through device is beyond the capability of the Pro Convert. If yes, it is true; otherwise, it is false.
data	Indicates the EDID information in base64 format, and it will be translated to hex to display.

upload-edid

Use the interface to import a local .bin EDID file to the input port.

HTTP Request

```
POST http://ip/mwapi?method=upload-edid
```

Name	Description
method	upload-edid

Response Body

```
{
  "status": 0,
  "data": "AP////////wA09wEAAQAAAAEaAQ0AAAB4Au6Vo1RMmSYPUFT//4AxQEVAyUBxQIGA0QDhwAEACogA"
}
```

Name	Description
status	0 indicates that EDID is imported successfully. Refer to API Status Codes to find specific description for other values.
data	Indicates the EDID information in base64 format, and it will be translated to hex to display.

export-edid

Use the interface to export EDID configuration in a .bin file.

HTTP Request

```
GET http://ip/mwapi?method=export-edid&port=xxx&file-name=xxx.bin
```

Parameter	Description
method	export-edid
port	Indicates the port type, including in, out.
file-name	Indicates the BIN file name.

Response Body

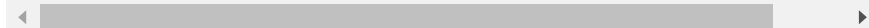
```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

Example

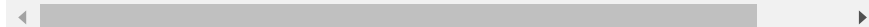
1. Export the EDID of input port

```
http://ip/mwapi?method=export-edid&port=in&file-name=Input_Port_EDID_2019_03_20_17_35_
```



2. Export the EDID of output port

```
http://ip/mwapi?method=export-edid&port=out&file-name=Output_Port_EDID_2019_03_20_17_3
```



get-ndi-config

Use the interface to obtain NDI configurations.

HTTP Request

```
GET http://ip/mwapi?method=get-ndi-config
```

Parameter	Description
method	get-ndi-config

Response Body

```
{
  "status": 0,
  "enable": true,
  "source-name": "#%board-id% (%serial-no%)",
  "group-name": "public",
  "enable-web-control": true,
  "enable-ptz-control": false,
  "enable-fail-over": true,
  "fail-over-ndi-name": "",
  "fail-over-ip-addr": "",
  "enable-mcast": false,
  "mcast-addr": "239.255.0.0",
  "mcast-mask": "255.255.0.0",
  "mcast-ttl": 4
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
enable	Indicates whether NDI is enabled. If enabled, it shows true; otherwise, it is false.
source-name	Indicates the NDI source name. The %string% is used as variable name and is replace with the board-id and serial-no when displaying. board-id indicates the unit's rotary switch number. You can change the board-id by operating rotary switch in the unit. serial-no indicates the unit's serial number (as shown on the barcode label on its surface). %board-id% and %serial-no% are the only supported variables.
group-name	Indicates the NDI group name to which the converter is multicasted.
enable-web-control	Indicates whether you can open the Web UI by clicking the gear icon in the NDI Studio Monitor. If yes, it shows true; otherwise, it is false.
enable-ptz-control	Indicates whether you can control a connected PTZ camera through the NDI Studio Monitor. If yes, it shows true; otherwise, it is false.
enable-fail-over	indicate whether failover function is enabled, which is used to provide a backup device service when the source video failed. If yes, it shows true; otherwise, it is false.
fail-over-ndi-name	Indicates the backup NDI channel name.
fail-over-ip-addr	Indicates the IP Address of the backup NDI channel.
enable-mcast	Indicates whether the multicast is enabled. If yes, it shows true; otherwise, it is false.
mcast-addr	Indicates the multicast address.
mcast-mask	Indicates the subnet mask for multicast address.
mcast-ttl	Indicates the multicast time-to-live, which limits the lifespan or lifetime of data in your network.

set-ndi-config

Use the interface to set NDI configurations.

HTTP Request

```
GET http://ip/mwapi?method=set-ndi-config&param1=value1&param2=value2...
```

Response Body

```
{
  "status": 0
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

Example

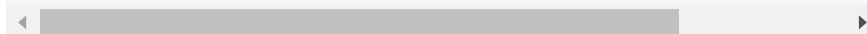
1. Enable NDI

```
http://ip/mwapi?method=set-ndi-config&enable=true
```

Parameter	Description
method	set-ndi-config
enable	Indicates whether to enable NDI. If yes, it shows true; otherwise, it is false.

2. Set Source Video

```
http://ip/mwapi?method=set-ndi-config&source-name=%23%25board-id%25+(%25serial-no%25)+
```



Parameter	Description
method	set-ndi-config
source-name	Indicates the NDI source name used for the converter. %board-id% and %serial-no% are the only supported variables.
group-name	Indicates the group that the converter is multicasted to, separated by commas if there are multiple groups, including public,test, etc.

3. Set Multicast (Beta)

```
http://ip/mwapi?method=set-ndi-config&enable-mcast=false&mcast-addr=239.255.0.0&mcast-
```

Parameter	Description
method	set-ndi-config
enable-mcast	Indicates whether the multicast is enabled. If yes, it shows true; otherwise, it is false.
mcast-addr	Indicates the multicast address.
mcast-mask	Indicates the subnet mask for multicast address.
mcast-ttl	Indicates the multicast time-to-live value, that is, the number of hops that a packet travels before being discarded in the local network. The value ranges from 1 to 255.

4. Set Failover

You can obtain the backup channels through the [get-ndi-sources](#) interface.

```
http://ip/mwapi?method=set-ndi-config&enable-fail-over=true&fail-over-ndi-name=02-0+Pr
```

Parameter	Description
method	set-ndi-config
enable-fail-over	Indicates whether failover is enabled. If yes, when the source video fails, the backup device begins to provide a service, and it shows true; otherwise, it is false.
fail-over-ndi-name	Indicates the backup NDI channel name.
fail-over-ip-addr	Indicates the IP Address of the backup NDI channel.

5. Set Receiver Control

```
http://ip/mwapi?method=set-ndi-config&enable-ptz-control=true&enable-web-control=false
```

Parameter	Description
method	set-ndi-config
enable-ptz-control	Indicates whether you can control a connected PTZ camera through the NDI Studio Monitor. If yes, it shows true; otherwise, it is false.
enable-web-control	Indicates whether you can open the Web UI by clicking the gear icon in the NDI Studio Monitor. If yes, it shows true; otherwise, it is false.

6. Set NDI Vendor

```
http://ip/mwapi?method=set-ndi-config&vendor-name=Magewell&vendor-id=01234567-0123-012
```

Parameter	Description
method	set-ndi-config
vendor-name	1 to 63 characters
vendor-id	1 to 31 characters

get-ndi-sources

Use the interface to obtain the available backup NDI channels when you configure the failover function.

HTTP Request

```
GET http://ip/mwapi?method=get-ndi-sources
```

Parameter	Description
method	get-ndi-sources

Response Body

```
{
  "status": 0,
  "sources": [
    {
      "ndi-name": "DESKTOP-ASCNS3Q (02-0 Eco Capture HDMI 4K M.2)",
      "ip-addr": "192.168.1.110:5961"
    },
    {
      "ndi-name": "DESKTOP-E1N05G4 (02-0 Pro Capture HDMI 4K+)",
      "ip-addr": "192.168.1.102:5961"
    },
    {
      "ndi-name": "DESKTOP-G2E84KV (00-0 Pro Capture AIO 4K+)",
      "ip-addr": "192.168.1.54:5961"
    }
  ]
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
sources	Indicates the current available backup channel arrays.

get-tally

Use the interface to check whether the custom tally is enabled with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=get-tally
```

Parameter	Description
method	get-tally

Response Body

```
{  
  "status": 0,  
  "ext-tally": false  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
ext-tally	Indicates whether to enable "User customized tally lights". If enabled, it shows true; otherwise, it is false.

set-tally

Use the interface to enable the custom tally with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=set-tally&ext-tally=xxx
```

Parameter	Description
method	set-tally
ext-tally	Indicates whether to enable "User customized tally lights". If enabled, it is true; otherwise, it is false.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

get-ptz-config

Use the interface to obtain PTZ configurations.

HTTP Request

```
GET http://ip/mwapi?method=get-ptz-config
```

Parameter	Description
method	get-ptz-config

Response Body

```
{  
  "status": 0,  
  "proto": "none",  
  "index": 1,  
  "baudrate": 9600,  
  "invert-pan": false,  
  "invert-tilt": false  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
proto	Indicates the communication protocol that allows the camera and the converter to communicate to each other, including none. By default, it shows none. For now, only Sony VISCA Protocol is supported.
index	the ID of the camera, which allows the controller to identify different PTZ cameras, especially when multiple cameras are connected. The range of value is from 1 to 7.
baudrate	Indicates the control data speed. For example, "9600 baud" means that the PTZ control port is capable of transferring a maximum of 9600 bits per second. If multiple cameras are connected, each camera should be set to the same value. Supported options including: 2400, 4800, 9600, 19200 and 38400.
invert-pan	Indicates whether to reverse the pan-direction movement. If yes, it shows true; otherwise, it is false.
invert-tilt	Indicates whether to reverse the tilt-direction movement. If yes, it shows true; otherwise, it is false.

set-ptz-config

Use the interface to set PTZ parameters.

HTTP Request

```
GET http://ip/mwapi?method=set-ptz-config&param1=value1&param2=value2...
```

Parameter	Description
method	set-tally
proto	Indicates the communication protocol that allows the camera and the converter to communicate to each other, including none. By default, it shows none. For now, only Sony VISCA Protocol is supported.
index	Indicates the ID of the camera, which allows the controller to identify different PTZ cameras, especially when multiple cameras are connected. The value ranges from 1 to 7.
baudrate	Indicates the control data speed. For example, "9600 baud" means that the PTZ control port is capable of transferring a maximum of 9600 bits per second. If multiple cameras are connected, each camera should be set to the same value. Supported options including: 2400, 4800, 9600, 19200 and 38400.
invert-pan	Indicates whether to reverse the pan-direction movement. If yes, it shows true; otherwise, it is false.
invert-tilt	Indicates whether to reverse the tilt-direction movement. If yes, it shows true; otherwise, it is false.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

arrange-ptz-cameras

Use the interface to effect the ptz settings.

HTTP Request

```
GET http://ip/mwapi?method=arrange-ptz-cameras
```

Parameter	Description
method	arrange-ptz-cameras

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

get-users

Use the interface to list all users with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=get-users
```

Parameter	Description
method	get-users

Response Body

```
{
  "status": 0,
  "users": [
    {
      "id": "Admin",
      "group": "Admin"
    },
    {
      "id": "Test",
      "group": "User"
    }
  ]
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
users	Indicates the user group arrays. id indicates user name, group indicates whether the user is an administrator or a general user.

add-user

Use the interface to add general users with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=add-user&id=xxx&pass=xxx
```

Parameter	Description
method	add-user
id	Indicates the user name.
pass	Indicates MD5 encrypted password.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

del-user

Use the interface to delete general users with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=del-user&id=xxx
```

Parameter	Description
method	del-user
id	Indicates the user name.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

ch-password

Use the interface to create a password after logging in with old password.

HTTP Request

```
GET http://ip/mwapi?method=ch-password&pass=xxx&new-pass=xxx
```

Parameter	Description
method	ch-password
pass	Indicates MD5 encrypted old password.
new-pass	Indicates MD5 encrypted new password.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

set-password

Use the interface to reset user password with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=set-password&id=xxx&pass=xxx
```

Parameter	Description
method	set-password
id	Indicates the user name.
pass	Indicates MD5 encrypted new password.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

get-eth-status

Use the interface to obtain the ethernet status with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=get-eth-status
```

Parameter	Description
method	get-eth-status

Response Body

```
{  
  "status": 0,  
  "use-dhcp": true,  
  "device-name": "Pro Convert",  
  "state": "1000m",  
  "mac-addr": "70:B3:D5:75:D2:41",  
  "ip-addr": "192.168.1.90",  
  "ip-mask": "255.255.255.0",  
  "gw-addr": "192.168.1.1",  
  "dns-addr": "10.0.0.3",  
  "tx-speed-kbps": 0,  
  "rx-speed-kbps": 5  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
use-dhcp	Indicates whether to use DHCP to obtain IP address. If yes, it shows true; otherwise, it is false.
device-name	Indicates the device name.
state	Indicates Ethernet network connection status and the bandwidth speed, including down, disconnected, 10m, 100m, 1000m, 2500m, 5000m, 10000m.
mac-addr	Shows the MAC address.
ip-addr	Shows the IP address.
ip-mask	Shows the subnet mask address.
gw-addr	Shows the gateway address.
dns-addr	Shows the DNS server address.
tx-speed-kbps	Shows the Ethernet send speed in Kbps.
rx-speed-kbps	Shows the Ethernet receive speed in Kbps.

set-eth-config

Use the interface to set Ethernet configurations.

HTTP Request

```
GET http://ip/mwapi?method=set-eth-config&param1=value1&param2=value2...
```

Parameter	Description
method	set-eth-config
name	Indicates the device name.
dhcp	Indicates whether to use DHCP to obtain IP address. If yes, it shows true; otherwise, it is false.
addr	Indicates the IP address.
mask	Indicates the subnet mask address.
gw-addr	Indicates the gateway address.
dns-addr	Indicates the DNS server address.

Response Body

```
{  
  "status": 0,  
  "reconnect": true  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
reconnect	Indicates whether to reconnect and log in the device after modification. If yes, it is true; otherwise, it is false.

get-rndis-status

Use the interface to obtain the Ethernet over USB status with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=get-rndis-status
```

Parameter	Description
method	get-rndis-status

Response Body

```
{
  "status": 0,
  "state": "high-speed",
  "ip-addr": "192.168.66.1",
  "tx-speed-kbps": 0,
  "rx-speed-kbps": 0
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
state	Shows Ethernet over USB connection status, including disconnected, full-speed, high-speed, super-speed-5g, super-speed-10g.
ip-addr	Shows Ethernet over USB IP Address.
tx-speed-kbps	Shows current Ethernet over USB send speed, in Kbps.
rx-speed-kbps	Shows current Ethernet over USB receive speed, in Kbps.

set-usb-config

Use the interface to set the RNDIS address.

HTTP Request

```
GET http://ip/mwapi?method=set-usb-config&addr=xxx
```

Parameter	Description
method	set-eth-config
addr	Indicates the IP address as 192.168.xxx.1.

Response Body

```
{  
  "status": 0,  
  "reconnect": true  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
reconnect	Indicates whether to reconnect and log in after modification. If yes, it shows true; otherwise, it is false.

get-update-state

Use the interface to obtain the current firmware information and update status with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=get-update-state
```

Parameter	Description
method	get-update-state

Response Body

Idle

```
{
  "status": 0,
  "state": "idle",
  "cur-ver": "1.1.72"
}
```

Updating

```
{
  "status": 0,
  "state": "updating",
  "cur-ver": "1.1.72",
  "update-to-ver": "1.1.72",
  "num-steps": 4,
  "step-id": 2,
  "step-name": "Erasing image",
  "step-percent": 28
}
```

Failed

```
{
  "status": 0,
  "state": "failed",
  "cur-ver": "1.1.72",
  "error-status": 16
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
state	Indicates the current update state, including idle, updating, completed, failed.
cur-ver	Indicates the current firmware version.
update-to-ver	Indicates the latest version.
num-steps	Indicates the total number of steps for updating, only available in the updating state.
step-id	Indicates the current step id, only available in the updating state.
step-name	Indicates the current step name, only available in the updating state.
step-percent	Indicates the current update process, only available in the updating state.
error-status	Indicates the error code, only available in the failed state.

upload-update-file

Use the interface to upload the .mwf file.

HTTP Request

```
POST http://ip/mwapi?method=upload-update-file
```

Parameter	Description
method	upload-update-file

Response Body

```
{  
  "status": 0,  
  "up-to-date": true,  
  "version": "1.1.72",  
  "size": 11890776  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
up-to-date	Indicates whether the current firmware is up to date. If yes, it is true; otherwise, it is false.
version	Indicates the uploaded firmware version.
size	Indicates the uploaded file size in bytes.

update

Use the interface to update firmware. During the update process you can use the [get-update-state](#) interface to obtain the current status.

HTTP Request

```
GET http://ip/mwapi?method=update&mode=xxx
```

Parameter	Description
method	update
mode	Indicates the update mode, such as manual indicates to update the device to a specified version manually.

Response Body

```
{  
  "status": 0  
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

get-report 接口

Use the interface to get all current conditions of the device with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=get-report
```

Response Body

HTML segment in plain text format

```
<div class="report-summary">
  <h1>Pro Convert HDMI 4K+</h1>
  <p>Generated at Thu, 21 Mar 2019 07:42:56 GMT</p>
</div>
<div class="report-content">
  <div class="content-level1">
    .
    .
    .
    .
  </div>
</div>
```

export-report

Use the interface to get a file of all current conditions of the device with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=export-report&file-name=xxx.html
```

Parameter	Description
method	export-report
file-name	Indicates the file name.

Respond

The report file is downloaded.

get-logs

Use the interface to obtain the logs as administrator. The device can store up to 1000 local log entries.

HTTP Request

```
GET http://ip/mwapi?method=get-logs&types=xxx,xxx,xxx
```

Parameter	Description
method	get-logs
types	Indicates the log types including all, info, warn, error, which can be separated by commas if multiple types are requested.

Response Body

```
{
  "status": 0,
  "logs": [
    {
      "type": "warn",
      "time": "2019-03-19 09:53:03.047",
      "message": "USB state: disconnected"
    },
    {
      "type": "warn",
      "time": "2019-03-19 09:14:09.292",
      "message": "User 'Admin' (192.168.66.2) session 4 timeout"
    },
    {
      "type": "warn",
      "time": "1970-01-01 00:00:11.872",
      "message": "USB state: disconnected"
    },
    ...
  ]
}
```

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
logs	Indicates the log arrays, including log "type", generated "time" and "message" data.

Example

Obtain all logs

```
http://192.168.66.1/mwapi?method=get-ptz-configmethod=get-logs&types=all
```

Obtain warn and error logs

```
http://192.168.66.1/mwapi?method=get-ptz-configmethod=get-logs&types=warn,error
```

export-logs

Use the interface to export logs from the convert as a .html file with administrative rights.

HTTP Request

```
GET http://ip/mwapi?method=export-logs&file-name=xxx.html
```

Parameter	Description
method	export-logs
file-name	Indicates the exported file name.

Respond

The log file is downloaded.

clear-logs

Use the interface to clear all logs with administrative rights.

HTTP Request

```
Get http://ip/mwapi?method=clear-logs
```

Response Body

Name	Description
status	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.