# Ultra Encode

## Overview



## Universal Interfaces



## General Settings



## Streaming Server

## Encoding Parameters



## Reset & Reboot



## Log In/Out



## User Management



## Network Settings



## Firmware Update

# EDID



# Cloud

# Introduction

A rich set of APIs are provided for developers to interact with Ultra Encode devices, such as obtaining basic device information including device name, firmware version and etc., modifying device configurations and upgrading firmware. These APIs are based on the HTTP protocol and provide lightweight, connectionless services that return JSON data. With this document, you can acquire a thorough understanding of each API's functions and request method.

APIs in this document apply to:

- Ultra Encode HDMI
- Ultra Encode SDI

# API Agreement

## Overview

- Request protocol: HTTP
- Request method: by default, GET is used to request and commit data, and POST is used to upload a file.
- Request URL: http://IP/usapi?method=xxx&param1=value1&param2=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 result attribute indicates an API Status Codes. The status 0 indicates a successful request, otherwise the request is failed.

```
{
 "result": 0,
  "cur-status": 65552,
  "last-rec-status": 0,
  "cur-time": 0,
  "box-name": "Ultra Encode A304201201001",
  ...
}
```

# API Status Code

```
{
  retSendWaiting          = 31,          // Reserved
  retLivingAuthErr        = 30,          // Live stream status: authentication error
  retLivingNotset         = 29,          // Live stream address not set
  retLivingDNS            = 28,          // Live stream status: Resolving DNS
  retInit                 = 27,          // Initialization
  retLivingAuthing        = 25,          // Live stream status: authorizing
  retLivingWaiting        = 24,          // Live stream status: waiting for connection
  retLivingConnecting     = 23,          // Live stream status: connecting to the streaming destination
  retLivingConnected      = 22,          // Live stream status: stream server connected
  retPushReboot           = 21,
  retAudioSignalChange    = 20,
  retBlueWrite            = 19,
  retBlueRead             = 18,
  retBlueShutDown         = 17,
  retDiskOn               = 16,
  retDiskOff              = 15,
  retDiskChange           = 14,
  retSnapshotOver         = 13,
  retPushReset            = 12,
  retPushLiving           = 11,
  retPushRecord           = 10,
  retSignalChange         = 9,
  retRouteChange          = 8,
  retIPChange             = 7,
  retNetChange            = 6,
  retCancel               = 5,           // Request canceled
  retLowSpace             = 4,           // Reserved
  retLowSpeed             = 3,           // Reserved
  retRunning              = 2,           // Request is being processed
  retRepeat               = 1,           // Repeated request
  retSucceed              = 0,           // Request success
  errPasswd               = -1,          // Wrong password
  errOccupied             = -2,          // Device occupied
  errDisconnect           = -3,          // Reserved
  errDevice               = -4,
  errDisk                 = -5,
  errUnconnect            = -6,
  errKey                  = -7,
  errVersion              = -8,
  errBusy                 = -9,          // System busy
  errParam                = -10,         // Incorrect request parameters
  errUsage                = -11,         // Reserved
  errTimeout              = -12,
  errIP                   = -13,         // Reserved
  errNotFound             = -14,         // Data not found
  errFile                 = -15,         // File error
  errNoSpace              = -16,         // Reserved
  errNeedAuth             = -17,         // Unauthorized log-in
  errSystem               = -18,         // System error
  errDiskSpeed            = -19,
  errEmpty                = -20,
  errNetwork              = -21,
  errEvent                = -22,
  errCodec                = -23,
  errBlue                 = -24,
  errNoUser               = -25,          // User not exist
  errNoPermissin          = -26,
  errSameName             = -27,          // Name already in use
  errString               = -28,          // Invalid input characters
  errChannelsLimited      = -29,          // Streaming 6 sessions simultaneously at most.
  err8MLimited            = -30,          // Reserved
  errFacebookLimited      = -31,          // Reserved
  errCodecLimited         = -32,          // Reserved
  err4GLimited            = -33,          // Reserved
  errMWFUnsupported       = -34,          // Update package does not match current model or hardware version
  errNoSignal             = -35,          // No signal
  errSDCard               = -36,
```

```
  errXinYueServer         = -37,          // Reserved
  errAliYunOSS            = -38,          // Reserved
  errSDNoSpace            = -39,          // Reserved
  errSDNoPermission       = -40,          // Reserved
  errRTSPLimited          = -41,          // Only one RTSP session is supported at a time
  errRTSP8MLimited        = -42,          // Reserved
  errBandwidthLimited     = -43,          // Reserved
  errPortLimited          = -44,          // Stream port occupied
  errNDILimited           = -45,          // Only one NDI|HX session is supported at a time
  errSRTLimited           = -46,          // Only one SRT Listener session is supported at a time
  errNDISettings          = -47,          // The substream can be up to 640x480@60 for a NDI|HX session
  errSubStreamSettings    = -48,          // The substream can be up to 1280x720@30 for a non-NDI|HX session
  errHLSLimited           = -49,          // Only one HLS session is supported at a time
  errProtocolLimited      = -50,          // Allow simultaneous sessions over the same streaming protocol
  errInit                 = -51,          // Failed to initialize channels for live streaming
  errDeinterlaceSettings  = -52,          // Deinterlace settings error
  errTVULimitted          = -53,          // Only one TVU ISSP task is supported to live
  errProtocolOneChannel   = -54,          //
Unified error codes including errRTSPLimited/errNDILimited/errSRTLimited/errHLSLimited/errTVULimitted

}
```

# Cloud API Status Code

```
{
  errLogin        = -200,      // Cloud not login
  errSn           = -109,      // serial number not valid
  errParam        = -10,       // parameters error
  errDevice       = -4,        // unsupported device
  errPasswd       = -1,        // invitation code error
  retSuccess      = 0,
  retRepeat       = 1,         // repeat registration
  retRegistering  = 2,         // registering
  retInit         = 27,        // parameters of Cloud is in initialization state.
  retOnline       = 35,        // Cloud platform is online
  retOffline      = 36,        // Cloud platform is offline
  retDeleted      = 104,
  retWaiting      = 103,
  retRefused      = 102,
  retAccepted     = 101,
}
```

## Device Status Mask

```
{
  statusFirst        = 0x01,      // First booting
  statusRecord       = 0x02,      // Reserved
  statusLiving       = 0x04,      // Reserved
  statusStream       = 0x08,      // Reserved
  statusDiskReady    = 0x10,      // Reserved
  statusRTMPReady    = 0x20,      // Reserved
  statusSoftAP       = 0x40,      // The device has enabled the AP mode
  statusMIC          = 0x100,     // Reserved
  statusPHONE        = 0x200,     // Reserved
  statusOutput       = 0x400,     // Reserved
  statusDiskTest     = 0x1000,    // Reserved
  statusBlue         = 0x2000,    // Reserved
  statusUpgrade      = 0x4000,    // Updating firmware
  statusNetTest      = 0x8000,    // Streaming test is ongoing
  statusPasswd       = 0x10000,   // Device password has been set
  statusOccupied     = 0x20000,   // Device has been locked by app(s), at most 2 apps simultaneously
  statusFormatDisk   = 0x100000,  // Reserved
  statusFormatSD     = 0x200000,  // Reserved
  statusSearchWifi   = 0x400000,  // The device is searching for available Wi-Fi networks
  statusConnectWifi  = 0x800000,  // The device is connecting to a Wi-Fi network
  statusConnectBlue  = 0x1000000, // Reserved
  statusCheckUpgrade = 0x2000000, // The device is checking for new firmware versions
  statusReset        = 0x4000000,   // The device is resetting
  stausIPv6          = 0x8000000,   // Reserved
  statusTestLock     = 0x10000000,  // Reserved
  statusReboot       = 0x20000000,  // The device is rebooting
}
```

# Device Discovery Protocol

You can discover an encode using **multicast protocol** or **SSDP**.

## Multicast

Obtain the basic configurations and status of the device, including device name, serial number, running status, and network status.

- Multicast address: 239.255.255.250
- Port: 2538

Response Body

```
{
  "version":"1.0",
  "flag":"ssip",
  "product":"Ultra Encode",
  "boxname":"Ultra Encode A304201201001",
  "serialnumber":"A304201201001",
  "wifiip":"192.168.48.1",
  "ethip":"192.168.1.217",
  "status":65600
}
```

| Item | Description |
| --- | --- |
| version | Indicates the protocol version. |
| flag | Indicates flag of the device discovery protocol. |
| product | Indicates product type. |
| boxname | Indicates device name. |
| serialnumber | Indicates device serial number. |
| wifiip | Indicates IP address for Wi-Fi. |
| ethip | Indicates IP address for Ethernet. |
| status | Indicates Device Status Mask. |

# DEMO: Node.js

This chapter introduces how to call the Ultra Encode APIs in Node.js.

Download DEMO: ultra-encode-api-demo-nodejs.zip

DEMO Structure

```
ultra-encode-api-demo-nodejs
|
|-- httpUtils.js    // encapsulates the get and upload method based on the HTTP module of Node.js.
|-- xxxx.mwf        // file uploaded by upload.js through invoking the upload-update-file interface.
|-- get.js          // requests data using GET
|-- upload.js       // uploads file using POST
```

## Requirements

- Operating System: macOS, Linux, or Windows
- Node.js Runtime: LTS releases (8.x and later)

## Running Mode

1. Navigate into the DEMO directory in the terminal.

   ```
   cd ultra-encode-demo-nodejs
   ```

2. Replace deviceIP with the IP address of the test device in get.js and upload.js.
3. Run get.js.

   ```
   node get
   ```

4. Run upload.js.

   ```
   node upload
   ```

# DEMO: C

## Requirements

- Operating System: Windows, macOS, or Linux

## Compilation

- Prepare the curl sdk for your Windows/macOS/Linux OS
- Download DEMO: ultra-encode-api-demo-c.zip
- Compile "ultra_encode_curl.c", and link it to "libcurl"
- Build the ultra_encode_curl file

## Example

- Navigate into the bin directory and copy the firmware file here, and run ultra_encode_curl.

```
cd ultra-encode-api/demo/c/bin
cp ultra_encode_hdmi_rev_a_1_3_328.mwf linux
cd linux
./ultra_encode_curl <hostip:port>
```

- Sample response

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

***** 2. get info *****
get info response data:
{
        "result": 0,
        "mac-addr": {
                "eth": "70:b3:d5:75:d0:4c",
                "wifi": "70:b3:d5:75:d0:4d",
                "blue": "70:b3:d5:75:d0:4e"
        },
        "snapshot": "/tmp/sbox-snapshot/sbox-quarter.jpg",
        "product": {
               "sn": "A304201201001",
                "product-id": 772,
                "hardware-ver": "A",
                "firmware-id": 1,
                "firmware-ver-s": "1.3.328",
                "factory-firmware-ver-s": "1.3.328",
                "product-name": "Ultra Encode",
                "module-name": "Ultra Encode HDMI",
                "manu-name": "MAGEWELL",
                "features": 1,
                "max-lock-count": 2
        },
        "audio-range": {
                "hdmi": {
                        "max": 6.00,
                        "min": -100.00,
                        "def": 0.00
                },
                "mic": {
                        "max": 55.25,
                        "min": -12.00,
                        "def": 0.00
                },
                "phone": {
                        "max": 6.00,
                        "min": -57.00,
```

```
                        "def": 0.00
                }
        },
        "codec-cap": {}
}

***** 3. upload firmware *****
upload firmware response data:
{
        "result": 0,
        "up-to-date": true,
        "version": "1.2.123",
        "size": 12494463
}
```

# get-info

Use this interface to obtain device information, including product and manufacture information, MAC address of the network card, and video and audio parameters ranges.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | get-info |

## Response Body

JSON structure is as follows:

```
{
"result": 0,                  // returned status
"mac-addr": {},               // MAC address
"snapshot": "",               // path of snapshot
"product": {},                // product information
"nosignal": {},               // resolutions and size of no-signal image
"audio-range": {              // audio parameters
  "hdmi": {},
  "mic": {},
  "phone": {}
},
"codec-cap": {                // encoding parameters
  "main-stream": {},          // encoding parameters of main stream
  "sub-stream": {},           // encoding parameters of sub stream
  "ndi-sub-stream": {},       // encoding parameters of NDI sub stream
  "resolutions": [],
  "durations": [],
  "profile": [],
  "hevc-profile": [],
  "video-kbps": [],
  "audio-kbps": [],
  "gop-sec": [],
  "video-range": [],
  "stat-sec": [],
  "video-codec": [],
  "video-ar-convert-mode": []
},
"color-range": {             // color parameters
  "contrast": {},
    "brightness": {},
    "saturation": {},
    "hue": {}
  }
"video-format": {              // video input and output parameters
    "input-color-fmt": [],
    "output-color-fmt": [],
    "quant-range": [],
    "sat-range": []
  }
  "living": {                // live stream parameters
    "max-bandwidth": 16384,
    "ttl": {},
    "conn-timeout": {},
    "retry-duration": {},
    "srt": {
      "latency": [],
      "bandwidth": [],
      "aes": [],
      "mtu": {}
    },
    "ndi": {},
```

```
    "udp": {},
  }
}
```

Example


```
{
    "result": 0,
    "mac-addr": {
        "eth": "d0:c8:57:80:3a:70",
        "wifi": "d0:c8:57:80:3a:71",
        "blue": "d0:c8:57:80:3a:72"
    },
    "snapshot": "/tmp/sbox-snapshot/sbox-quarter.jpg",
    "product": {
        "sn": "A305200908002",
        "product-id": 773,
        "hardware-ver": "A",
        "firmware-id": 1,
        "firmware-ver-s": "1.3.540",
        "factory-firmware-ver-s": "1.3.275",
        "product-name": "Ultra Encode",
        "module-name": "Ultra Encode SDI",
        "manu-name": "MAGEWELL",
        "features": 1,
        "max-lock-count": 2,
        "live-support": 2047,
        "cloud-support": 1
    },
    "nosignal": {
        "max-count": 4,
        "max-width": 1920,
        "max-height": 1080,
        "max-size-kb": 512
    },
    "audio-range": {
        "spi": {
            "max": 6.00,
            "min": -100.00,
            "def": 0.00
        },
        "linein": {
            "max": 6.00,
            "min": -100.00,
            "def": -12.00
        },
        "lineout": {
            "max": 6.00,
            "min": -57.00,
            "def": 0.00
        }
    },
    "codec-cap": {
        "main-stream": {
            "max-video-kbps": 20480,
            "max-video-kbps-ratio": 125,
            "min-video-kbps-ratio": 5,
            "min-duration": 166667,
            "max-duration": 2000000
        },
        "sub-stream": {
            "max-width": 1280,
            "max-height": 768,
            "min-duration": 333333,
            "max-duration": 2000000,
            "max-video-kbps": 4096
        },
        "ndi-sub-stream": {
            "max-width": 640,
            "max-height": 480,
            "min-duration": 166667,
            "max-duration": 2000000,
```

```
            "max-video-kbps": 4096
        },
        "resolutions": [
            {
                "w": 480,
                "h": 270
            },
            {
                "w": 480,
                "h": 360
            },
            {
                "w": 640,
                "h": 360
            },
            {
                "w": 640,
                "h": 480
            },
            {
                "w": 720,
                "h": 480
            },
            {
                "w": 720,
                "h": 540
            },
            {
                "w": 720,
                "h": 576
            },
            {
                "w": 768,
                "h": 576
            },
            {
                "w": 800,
                "h": 600
            },
            {
                "w": 960,
                "h": 540
            },
            {
                "w": 1024,
                "h": 768
            },
            {
                "w": 1280,
                "h": 720
            },
            {
                "w": 1280,
                "h": 800
            },
            {
                "w": 1280,
                "h": 960
            },
            {
                "w": 1280,
                "h": 1024
            },
            {
                "w": 1440,
                "h": 900
            },
            {
                "w": 1440,
                "h": 1080
            },
            {
                "w": 1600,
```

```
                "h": 1200
            },
            {
                "w": 1920,
                "h": 1080
            }
        ],
        "durations": [
            {
                "name": "5 FPS",
                "value": 2000000
            },
            {
                "name": "10 FPS",
                "value": 1000000
            },
            {
                "name": "15 FPS",
                "value": 666667
            },
            {
                "name": "24 FPS",
                "value": 416667
            },
            {
                "name": "25 FPS",
                "value": 400000
            },
            {
                "name": "29.97 FPS",
                "value": 333667
            },
            {
                "name": "30 FPS",
                "value": 333333
            },
            {
                "name": "50 FPS",
                "value": 200000
            },
            {
                "name": "59.94 FPS",
                "value": 166833
            },
            {
                "name": "60 FPS",
                "value": 166667
            },
            {
                "name": "Follow Input",
                "value": 0
            }
        ],
        "profile": [
            {
                "name": "Baseline",
                "value": 0
            },
            {
                "name": "Main profile",
                "value": 1
            },
            {
                "name": "High profile",
                "value": 2
            }
        ],
        "hevc-profile": [
            {
                "name": "Main profile",
                "value": 0
            }
        ],
```

```
        "video-kbps": [
            {
                "name": "256 Kbps",
                "value": 256
            },
            {
                "name": "512 Kbps",
                "value": 512
            },
            {
                "name": "768 Kbps",
                "value": 768
            },
            {
                "name": "1 Mbps",
                "value": 1024
            },
            {
                "name": "1.5 Mbps",
                "value": 1536
            },
            {
                "name": "2 Mbps",
                "value": 2048
            },
            {
                "name": "3 Mbps",
                "value": 3072
            },
            {
                "name": "4 Mbps",
                "value": 4096
            },
            {
                "name": "5 Mbps",
                "value": 5120
            },
            {
                "name": "6 Mbps",
                "value": 6144
            },
            {
                "name": "8 Mbps",
                "value": 8192
            },
            {
                "name": "10 Mbps",
                "value": 10240
            },
            {
                "name": "12 Mbps",
                "value": 12288
            },
            {
                "name": "16 Mbps",
                "value": 16384
            },
            {
                "name": "20 Mbps",
                "value": 20480
            }
        ],
        "audio-kbps": [
            {
                "name": " 16 Kbps",
                "value": 16
            },
            {
                "name": " 32 Kbps",
                "value": 32
            },
            {
                "name": " 48 Kbps",
```

```
                "value": 48
            },
            {
                "name": " 64 Kbps",
                "value": 64
            },
            {
                "name": " 96 Kbps",
                "value": 96
            },
            {
                "name": "128 Kbps",
                "value": 128
            },
            {
                "name": "192 Kbps",
                "value": 192
            },
            {
                "name": "256 Kbps",
                "value": 256
            }
        ],
        "gop-sec": [
            {
                "name": "0.5 sec",
                "value": 128
            },
            {
                "name": " 1 sec",
                "value": 1
            },
            {
                "name": " 2 sec",
                "value": 2
            },
            {
                "name": " 5 sec",
                "value": 5
            },
            {
                "name": "10 sec",
                "value": 10
            },
            {
                "name": "30 sec",
                "value": 30
            },
            {
                "name": "60 sec",
                "value": 60
            }
        ],
        "video-range": [
            {
                "name": "Full range (0-255)",
                "value": 1
            },
            {
                "name": "Limited range (16-235)",
                "value": 0
            }
        ],
        "stat-sec": [
            {
                "name": " 1 sec",
                "value": 1
            },
            {
                "name": " 5 sec",
                "value": 5
            },
            {
```

```
                "name": "10 sec",
                "value": 10
            },
            {
                "name": "30 sec",
                "value": 30
            },
            {
                "name": "60 sec",
                "value": 60
            }
        ],
        "video-codec": [
            {
                "name": "H.264",
                "value": 0
            },
            {
                "name": "H.265 (HEVC)",
                "value": 1
            }
        ],
        "video-ar-convert-mode": [
            {
                "name": "Ignore",
                "value": 0
            },
            {
                "name": "Cropping",
                "value": 1
            },
            {
                "name": "Padding",
                "value": 2
            }
        ]
    },
    "rec-control": {
        "usb-option": [
            {
                "name": "Don't record",
                "value": 0
            },
            {
                "name": "Ordinary recording",
                "value": 1
            }
        ],
        "sd-option": [
            {
                "name": "Don't record",
                "value": 0
            },
            {
                "name": "Ordinary recording",
                "value": 1
            },
            {
                "name": "Loop recording",
                "value": 2
            }
        ],
        "time-unit": [
            {
                "name": "5 minutes",
                "value": 5
            },
            {
                "name": "10 minutes",
                "value": 10
            },
            {
                "name": "30 minutes",
```

```
                "value": 30
            },
            {
                "name": "40 minutes",
                "value": 40
            },
            {
                "name": "50 minutes",
                "value": 50
            },
            {
                "name": "60 minutes",
                "value": 60
            },
            {
                "name": "90 minutes",
                "value": 90
            },
            {
                "name": "120 minutes",
                "value": 120
            }
        ],
        "file-ext": [
            {
                "name": "mp4",
                "value": 0
            },
            {
                "name": "mov",
                "value": 1
            }
        ],
        "sdi-anc-trigger": [
            {
                "name": "None",
                "value": 0
            },
            {
                "name": "RED Epic",
                "value": 1
            },
            {
                "name": "Sony",
                "value": 2
            },
            {
                "name": "ARRI",
                "value": 3
            }
        ]
    },
    "color-range": {
        "contrast": {
            "max": 200,
            "min": 50,
            "def": 100
        },
        "brightness": {
            "max": 100,
            "min": -100,
            "def": 0
        },
        "saturation": {
            "max": 200,
            "min": 0,
            "def": 100
        },
        "hue": {
            "max": 90,
            "min": -90,
            "def": 0
        }
```

```
    },
    "video-format": {
        "input-color-fmt": [
            {
                "name": "RGB",
                "value": 1
            },
            {
                "name": "YUV BT.601",
                "value": 2
            },
            {
                "name": "YUV BT.709",
                "value": 3
            },
            {
                "name": "YUV BT.2020",
                "value": 4
            }
        ],
        "output-color-fmt": [
            {
                "name": "YUV BT.601",
                "value": 2
            },
            {
                "name": "YUV BT.709",
                "value": 3
            }
        ],
        "quant-range": [
            {
                "name": "Full range (0-255)",
                "value": 1
            },
            {
                "name": "Limited range (16-235)",
                "value": 2
            }
        ],
        "sat-range": [
            {
                "name": "Full range (0-255)",
                "value": 1
            },
            {
                "name": "Limited range (16-235)",
                "value": 2
            },
            {
                "name": "Extended GAMUT range (1-254)",
                "value": 3
            }
        ]
    },
    "living": {
        "max-bandwidth": 16384,
        "ttl": {
            "max": 255,
            "min": 0,
            "def": 0
        },
        "conn-timeout": {
            "max": 30000,
            "min": 1000
        },
        "retry-duration": {
            "max": 10000,
            "min": 0
        },
        "rtmp": {
            "def-conn-timeout": 10000,
            "def-retry-duration": 10000
```

```
        },
        "srt": {
            "def-conn-timeout": 3000,
            "def-retry-duration": 10000,
            "latency": {
                "max": 8000,
                "min": 30,
                "def": 120
            },
            "bandwidth": {
                "max": 100,
                "min": 5,
                "def": 25
            },
            "aes": [
                {
                    "name": "Not Used",
                    "value": 0
                },
                {
                    "name": "AES-128",
                    "value": 16
                },
                {
                    "name": "AES-192",
                    "value": 24
                },
                {
                    "name": "AES-256",
                    "value": 32
                }
            ],
            "mtu": {
                "max": 1500,
                "min": 232,
                "def": 1496
            }
        },
        "ndi": {
            "transport-mode": [
                {
                    "name": "UDP (Unicast)",
                    "value": 0
                },
                {
                    "name": "UDP (Multicast)",
                    "value": 1
                },
                {
                    "name": "RUDP (Unicast)",
                    "value": 2
                },
                {
                    "name": "TCP (Uni-Connection)",
                    "value": 3
                },
                {
                    "name": "TCP (Multi-Connection)",
                    "value": 4
                }
            ]
        },
        "udp": {
            "mtu": {
                "max": 1500,
                "min": 228,
                "def": 1496
            }
        }
    }
}
```

# get-status

Use this interface to obtain the real-time running status of the device, including status of live stream, firmware update, etc.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | get-status |

## Response Body

JSON structure is as follows:

```
{
  "result": 0,                      // returned status
  "cur-status": 64,                 // device running status mask
  "cur-time": "2021-01-11 ...",     // device time
  "box-name": "",                   // device name
  "sysstat": {},                    // system status
  "live-status": {                  // live stream status
    "live": []
        },
  "upgrade-status": {},             // firmware update status
  "living-test": {},                // streaming test status
  "check-upgrade": {},              // online update detecting status
  "conn-wifi": {},                  // Wi-Fi connection status
  "input-signal": {},               // input signal
  "wifi": {},                       // Wi-Fi connection
  "softap": {},                     // AP connection
  "eth": {},                        // Ethernet connection
  "mobile": {},                     // mobile broadband connection
  "upgrade": {},                    // new firmware information
  "channel-count": 2,
  "vumeters": [
    33,
    32
    ]
}
```

**Response Body**

```
"result": 0
```

**Device Running Status Mask**

```
"cur-status": 65552
```

Masks vary depending on the various device running status. Refer to Device Status Masks to find specific description for each mask. The following condition is used to calculate the device running status.

1. Referring to the Device Status Masks, when a device is updating firmware, the mask is: statusUpgrade = 0x4000.
2. If `cur-status & statusUpgrade = statusUpgrade`, it indicates firmware update is in progress.

**Input Signal Status**

```
"input-signal": {
  "status": 0,
  "cx": 0,
  "cy": 0,
  "interlaced": 0,
  "frame-rate": 0.00,
  "channel-valid": 0,
```

```
  "is-lpcm": 0,
  "bits-per-sample": 0,
  "sample-rate": 0
}
```

**Streaming Status**

```
"live-status": {
  [
    {
      "result": 0,
      "run-ms": 0,
      "cur-bps": 0,
      "avg-bps": 0,
      "net": 0,
      "result2": 0,
      "cur-bps2": 0,
      "net2": 0,
      "client-id": ""
    }
  ]
}
```

**Streaming Test Status**

```
"living-test": {
  "upload-bps": 0,
  "percent": 0,
  "result": 27,
  "net": 0,
  "client-id": ""
}
```

**Online Update Detecting Status**

```
"check-upgrade": {
  "result": 0,
  "client-id": ""
}
```

**New Firmware Information**

```
"upgrade": {
  "ver": "",
  "date": "",
  "size-byte": 0,
  "info": []
}
```

**Firmware Update Status**

```
"upgrade-status": {
  "step": 0,
  "percent": 0,
  "result": 27,
  "client-id": "",
  "mode": "none"
}
```

**Wi-Fi Connection**

```
"wifi": {
  "name": "MWL1",
  "level": 0,
  "ip": "192.168.8.249",
  "mask": "255.255.255.0",
  "router": "192.168.8.1",
```

```
  "dns": "192.168.8.1"
}
```

**Ethernet Connection**

```
"eth": {
  "ip": "10.10.107.212",
  "mask": "255.255.0.0",
  "router": "10.10.0.1",
  "dns": "10.0.0.3"
}
```

**Mobile Broadband Connection**

```
"mobile": {
  "ip": "",
  "mask": "",
  "router": "",
  "dns": ""
}
```

# get-settings

Use this interface to obtain the device configurations.

## HTTP Request

```
GET http://ip/usapi?method=get-settings
```

| Parameter | Description |
| --- | --- |
| method | get-settings |

## Response Body

JSON structure is as follows:

```
{
  "result": 0,                        // returned status
  "name": "Ultra...",                 // device name
  "is-check-update": 1,               // whether to auto-check latest firmware when connecting to Ethernet
  "audio-sync-offset": 0,             // audio offset(ms)
  "udp-mtu": 1496,                    // UDP MTU
  "softap": {},                       // AP configurations
  "video-color": {},                  // video information
  "volume": {},                       // audio information
  "enable-deinterlace": 1,            // deinterlaced or not
  "main-stream": {},                  // main stream configurations
  "sub-stream": {},                   // sub stream configurations
  "audio": {},                        // audio configurations
  "eth": {},                          // Ethernet information
  "wifi": {},                         // Wi-Fi information
  "stream-server": [...],             // streaming server list
  "video-input-format": {},           // input video format
  "video-output-format": {},          // output video format
  "use-nosignal-file": 1,             // whether to show an image when there is no input signal
  "nosignal-files": [...]             // list of no signal images
}
```

Example

```
{
  "result": 0,
  "name": "Ultra Encode A304201201001",
  "passwd": 1,
  "is-check-update": 1,
  "audio-sync-offset": 0,
  "udp-mtu": 1496,
  "softap": {
    "is-softap": 1,
    "is-visible": 1,
    "softap-ssid": "A304201201001",
    "softap-passwd": "01201001"
  },
  "video-color": {
    "contrast": 100,
    "brightness": 0,
    "saturation": 100,
    "hue": 0
  },
  "volume": {
    "is-mic": 1,
    "mic-gain": 0,
    "is-spi": 1,
    "spi-gain": 0,
    "is-phone": 1,
    "phone-gain": 0
  },
```

```
  "enable-deinterlace": 1,
  "main-stream": {
    "is-auto": 0,
    "codec": 0,
    "cx": 1920,
    "cy": 1080,
    "duration": 0,
    "kbps": 20480,
    "gop": 1,
    "fourcc": 0,
    "profile": 2,
    "cbrstat": 60,
    "fullrange": 0,
    "is-vbr": 0,
    "min-vbr-qp": 0,
    "max-vbr-qp": 0,
    "is-time-code-sei": 0,
    "is-closed-caption-sei": 0,
    "ar-convert-mode": 2
  },
  "sub-stream": {
    "enable": 1,
    "codec": 0,
    "cx": 1280,
    "cy": 720,
    "duration": 333333,
    "kbps": 4096,
    "gop": 5,
    "fourcc": 0,
    "profile": 2,
    "cbrstat": 60,
    "fullrange": 1,
    "is-vbr": 0,
    "min-vbr-qp": 0,
    "max-vbr-qp": 0,
    "is-time-code-sei": 0,
    "is-closed-caption-sei": 0,
    "ar-convert-mode": 2
  },
  "audio": {
    "sample-rate": 48000,
    "channels": 2,
    "kbps": 128
  },
  "eth": {
    "is-dhcp": 1,
    "ip": "",
    "mask": "",
    "router": "",
    "dns": ""
  },
  "wifi": {
    "is-dhcp": 1,
    "ip": "",
    "mask": "",
    "router": "",
    "dns": ""
  },
  "stream-server": [
    {
      "id": 0,
      "type": 0,
      "url": "192.168.1.123:345/live",
      "key": "aa",
      "is-auth": 0,
      "user": "",
      "passwd": "",
      "is-use": 0,
      "token": "",
      "net-mode": 1,
      "name": "192.168.1.123"
    }
  ],
```

```
  "video-input-format": {
    "is-color-fmt": 0,
    "color-fmt": 3,
    "is-quant-range": 0,
    "quant-range": 2
    },
  "video-output-format": {
    "is-color-fmt": 0,
    "color-fmt": 3,
    "is-quant-range": 0,
    "quant-range": 2,
    "is-sat-range": 0,
    "sat-range": 2
    }
    "use-nosignal-file": 1,
    "nosignal-files": [
    {
      "id": 0,
      "is-use": 0,
      "is-edit": 0,
      "file-path": "/no-signal/default0.jpg",
      "time": 0
    },
    {
      "id": 1,
      "is-use": 1,
      "is-edit": 0,
      "file-path": "/no-signal/default1.jpg",
      "time": 0
    }
  ]
}
```

# ping

Use this interface to check whether the device is accessible without log-in.

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

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | ping |

## Response Body

```
{
  "result": 0,
  "cur-status": 65552
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates the device is ready. Refer to API Status Codes to find specific description for other values. |
| cur-status | Indicates the mask of current running status. Refer to Device Status Mask to find specific description for each value. |

# get-signal-info

Use this interface to obtain the information of input audio and video signals.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | get-signal-info |

## Response Body

```
{
  "result": 0
  "signal-info-types": [
    "video-info",
    "audio-info",
    "hdmi-info"
  ],
  "hdmi-info": {
    "mode": "hdmi",
    "vic": 0,
    "hdcp": false,
    "it-content": false,
    "3d-format": false,
    "timing-h-total": 1650,
    "timing-h-active": 1280,
    "timing-h-frontporch": 110,
    "timing-h-syncwidth": 40,
    "timing-h-backporch": 220,
    "timing-f0v-syncwidth": 5,
    "timing-f0v-frontporch": 5,
    "timing-f0v-backproch": 20,
    "timing-f0v-active": 720,
    "timing-f0v-totalheight": 750
  },
    "audio-info": {
    "codec": "lpcm",
    "num-channels": 2,
    "sample-rate": 48000,
    "bit-count": 16
  },
    "video-info": {
    "codec": "uncompressed",
    "width": 1280,
    "height": 720,
    "scan": "progressive",
    "field-rate": 60.00,
    "color-depth": 8,
    "color-format": "bt.709",
    "aspect-ratio": "16:9",
    "sampling": "4:4:4",
    "quant-range": "limited",
    "sat-range": "limited",
    "frame-struct": "2d"
  }
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# get-report

Use this interface to check device information, status and configurations.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | get-report |

## Response Body

```
{
  <div class="report-summary">
  ...
  <h2>DEVICE</h2>
  ...
  <h2>STATUS</h2>
  ...
  <h2>SETTINGS</h2>
  ...
  </div>
}
```

# export-report

Use this interface to export a .html file including device information, status and configurations.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | export-report |
| file-name | Path for exported files |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-name

Use this interface to set device name.

## HTTP Request

```
GET http://ip/usapi?method=set-name&name=xxx
```

| Parameter | Description |
| --- | --- |
| method | set-name |
| name | Device name ranging from 1 to 32 characters, which can consist of A to Z, a to z, 0 to 9, spaces ._-+'[](), and cannot start or end with space. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-first-over

Use this interface to initialize the encoder when accessing it for the first time, mainly to set the **device name**.

Obtain current device running status mask using get-status.

```
{
  "cur-status": 65552                    // device running status mask
  ...
}
```

statusFirst(0x01) indicates the device's first booting. If **cur-status** & **statusFirst** = statusFirst, it means the encoder is on the first run.

## HTTP Request

```
GET http://ip/usapi?method=set-first-over&name=xxx
```

| Parameter | Description |
|---|---|
| method | set-first-over |
| name | Device name which contains<br>1. 1 to 32 characters<br>2. A to Z, a to z, 0 to 9, spaces and special characters ._-+'[](), and can not start or end with spaces. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-softap

Use this interface to modify AP configurations.

## HTTP Request

```
GET http://ip/usapi?method=set-softap&is-softap=0&is-visible=1&softap-ssid=xxx&softap-passwd=xxx
```

| Parameter | Description |
|---|---|
| method | set-softap |
| is-softap | Reserved. The default value is 1. |
| is-visible | Reserved. The default value is 1. |
| softap-ssid | Reserved. The default value is the same as the product serial number. |
| softap-passwd | Indicates the SSID password in plain text. The string ranges from 1 to 32 characters which should contain A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). The password can not start or end with spaces. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-ssdp

Use this interface to set whether to enable UPNP.

## HTTP Request

```
GET http://ip/usapi?method=set-ssdp&is-ssdp=1
```

| Parameter | Description |
| --- | --- |
| method | set-ssdp |
| is-ssdp | Indicates whether to enable UPNP.<br>0: disable<br>1: enable |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-volume

Use this interface to adjust the gain of input signal, headphones, and microphone.

You can obtain the value range of recording parameters using get-info.

```
"audio-range": {
    "hdmi": [],       // input gain value
    "mic": [],        // microphone gain value
    "phone": [],      // headphones gain value
  }
```

## Response Body

```
GET http://ip/usapi?method=set-volume&is-mic=1&mic-gain=0&is-spi=1&spi-gain=0&is-phone=1&phone-gain=0
```

| Parameter | Description |
| --- | --- |
| method | set-volume |
| is-mic | Indicates whether the microphone gain is enabled.<br>0: mute.<br>1: enable. |
| mic-gain | Indicates the microphone gain in dB. The default value is 0. |
| is-spi | Indicates whether the input gain is enabled.<br>0: mute.<br>1: enable. |
| spi-gain | Indicates the input gain in dB. The default value is 0. |
| is-phone | Indicates whether the headphone gain is enabled.<br>0: mute.<br>1: enable. |
| phone-gain | Indicates the headphone gain in dB. The default value is 0. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-video-color

Use this interface to adjust the brightness, contrast, hue and saturation of the image.

You can obtain the value range of recording parameters using get-info.

```
"color-range": {
    "contrast": [],       // Value range of contrast
    "brightness": [],     // Value range of brightness
    "saturation": [],     // Value range of saturation
    "hue": []             // Value range of hue
  }
```

## HTTP Request

```
GET http://ip/usapi?method=set-video-color&contrast=100&brightness=0&saturation=100&hue=0
```

| Parameter | Description |
|---|---|
| method | set-video-color |
| contrast | Indicates the contrast value. The default value is 100. |
| brightness | Indicates the brightness value. The default value is 0. |
| saturation | Indicates the saturation value. The default value is 100. |
| hue | Indicates the hue value. The default value is 0. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-video-input-format

Use this interface to set color space and quantization for input video.

Obtain value range of video format parameters by calling get-info.

```
"video-format": {
    "input-color-fmt": [],       // Value range of color space
    "quant-range": [],           // Value range of quantization
  }
```

## HTTP Request

```
GET http://ip/usapi?method=set-video-input-format&is-color-fmt=0&color-fmt=1&is-quant-range=0&quant-range=1
```

| Parameter | Description |
| --- | --- |
| method | set-video-input-format |
| is-color-fmt | Whether to customize color space. The default value is 0, which indicates to auto-set color space, while 1 indicates a custom setting. |
| color-fmt | Indicates the color format parameter value. The value range is obtained by calling get-info. |
| is-quant-range | Whether to customize quantization. The default value is 0, which indicates to auto-set quantization, while 1 indicates a custom setting. |
| quant-range | Indicates the quantization parameter value. The value range is obtained by calling get-info. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-video-output-format

Use this interface to set color space and quantization for output video.

Obtain value range of video format parameters by calling get-info.

```
"video-format": {
    "output-color-fmt": [],       // value range of color space
    "quant-range": [],           // value range of quantization range
    "sat-range": [],             // value range of saturation range
  }
```

## HTTP Request

```
GET http://ip/usapi?method=set-video-output-format&is-color-fmt=0&color-fmt=1&is-quant-range=0&quant-range=1&is-sat-range=0&sat-range=1
```

| Parameter | Description |
|---|---|
| method | set-video-output-format |
| is-color-fmt | Whether to customize color space. The default value is 0, which indicates to auto-set color space, while 1 indicates a custom setting. |
| color-fmt | Indicates the color format parameter value. |
| is-quant-range | Whether to customize quantization. The default value is 0, which indicates to auto-set quantization, while 1 indicates a custom setting. |
| quant-range | Indicates the quantization parameter value. |
| is-sat-range | Whether to customize saturation. The default value is 0, which indicates to auto-set saturation, while 1 indicates a custom setting. |
| sat-range | Indicates the saturation range. The default value is 2. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-sync-offset

Use this interface to set audio offset in milliseconds. Set a positive value to delay the start of the audio track, or set a negative value to reduce the delay.

## HTTP Request

```
GET http://ip/usapi?method=set-sync-offset&audio-sync-offset=100
```

| Parameter | Description |
| --- | --- |
| method | set-sync-offset |
| audio-sync-offset | Set audio offset, ranging from -200 to 200ms. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# add-nosignal-file

Use this interface to import JPEGs for display when there is no input signal available. The resolution of the pictures must be less than 1920x1080, and size no greater than 1MB. 2 pictures are supported.

## HTTP Request

```
POST http://ip/usapi?method=add-nosignal-file
```

| Parameter | Description |
| --- | --- |
| method | add-nosignal-file |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# del-nosignal-file

Use this interface to delete custom pictures for no signal display. The default picture can not be deleted.

## HTTP Request

```
GET http://ip/usapi?method=del-nosignal-file&id=0
```

| Parameter | Description |
| --- | --- |
| method | del-nosignal-file |
| id | Picture ID |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-nosignal-file

Use this interface to specify the picture displayed when there is no input signal.

## HTTP Request

```
GET http://ip/usapi?method=set-nosignal-file&id=0
```

| Parameter | Description |
| --- | --- |
| method | set-nosignal-file |
| id | Picture ID |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# use-nosignal-file

Use this interface to turn on/off the no signal image function.

## HTTP Request

```
GET http://ip/usapi?method=use-nosignal-file&use-nosignal-file=0
```

| Parameter | Description |
| --- | --- |
| method | use-nosignal-file |
| use-nosignal-file | 0: turn off<br>1: turn on |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-time-zone

Use this interface to set time zone.

## HTTP Request

```
GET http://ip/usapi?method=set-time-zone&timezone=Asia/Shanghai
```

| Parameter | Description |
| --- | --- |
| method | set-time-zone |
| timezone | Time zone like Asia/Shanghai, options list as blow. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

## Time Zone

```
[
  'Africa/Abidjan',
  'Africa/Accra',
  'Africa/Addis_Ababa',
  'Africa/Algiers',
  'Africa/Asmara',
  'Africa/Bamako',
  'Africa/Bangui',
  'Africa/Banjul',
  'Africa/Bissau',
  'Africa/Blantyre',
  'Africa/Brazzaville',
  'Africa/Bujumbura',
  'Africa/Cairo',
  'Africa/Casablanca',
  'Africa/Ceuta',
  'Africa/Conakry',
  'Africa/Dakar',
  'Africa/Dar_es_Salaam',
  'Africa/Djibouti',
  'Africa/Douala',
  'Africa/El_Aaiun',
  'Africa/Freetown',
  'Africa/Gaborone',
  'Africa/Harare',
  'Africa/Johannesburg',
  'Africa/Juba',
  'Africa/Kampala',
  'Africa/Khartoum',
  'Africa/Kigali',
  'Africa/Kinshasa',
  'Africa/Lagos',
  'Africa/Libreville',
  'Africa/Lome',
  'Africa/Luanda',
  'Africa/Lubumbashi',
  'Africa/Lusaka',
  'Africa/Malabo',
  'Africa/Maputo',
  'Africa/Maseru',
  'Africa/Mbabane',
```

```
    'Africa/Mogadishu',
    'Africa/Monrovia',
    'Africa/Nairobi',
    'Africa/Ndjamena',
    'Africa/Niamey',
    'Africa/Nouakchott',
    'Africa/Ouagadougou',
    'Africa/Porto-Novo',
    'Africa/Sao_Tome',
    'Africa/Timbuktu',
    'Africa/Tripoli',
    'Africa/Tunis',
    'Africa/Windhoek',
    'America/Adak',
    'America/Anchorage',
    'America/Anguilla',
    'America/Antigua',
    'America/Araguaina',
    'America/Argentina/Buenos_Aires',
    'America/Argentina/Catamarca',
    'America/Argentina/ComodRivadavia',
    'America/Argentina/Cordoba',
    'America/Argentina/Jujuy',
    'America/Argentina/La_Rioja',
    'America/Argentina/Mendoza',
    'America/Argentina/Rio_Gallegos',
    'America/Argentina/Salta',
    'America/Argentina/San_Juan',
    'America/Argentina/San_Luis',
    'America/Argentina/Tucuman',
    'America/Argentina/Ushuaia',
    'America/Aruba',
    'America/Asuncion',
    'America/Atikokan',
    'America/Atka',
    'America/Bahia',
    'America/Bahia_Banderas',
    'America/Barbados',
    'America/Belem',
    'America/Belize',
    'America/Blanc-Sablon',
    'America/Boa_Vista',
    'America/Bogota',
    'America/Boise',
    'America/Buenos_Aires',
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    'America/El_Salvador',
    'America/Ensenada',
    'America/Fort_Nelson',
    'America/Fort_Wayne',
    'America/Fortaleza',
    'America/Glace_Bay',
    'America/Godthab',
    'America/Goose_Bay',
```

```
    'America/Grand_Turk',
    'America/Grenada',
    'America/Guadeloupe',
    'America/Guatemala',
    'America/Guayaquil',
    'America/Guyana',
    'America/Halifax',
    'America/Havana',
    'America/Hermosillo',
    'America/Indiana/Indianapolis',
    'America/Indiana/Knox',
    'America/Indiana/Marengo',
    'America/Indiana/Petersburg',
    'America/Indiana/Tell_City',
    'America/Indiana/Vevay',
    'America/Indiana/Vincennes',
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    'America/Matamoros',
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    'America/Mendoza',
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    'America/Merida',
    'America/Metlakatla',
    'America/Mexico_City',
    'America/Miquelon',
    'America/Moncton',
    'America/Monterrey',
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    'America/Montserrat',
    'America/Nassau',
    'America/New_York',
    'America/Nipigon',
    'America/Nome',
    'America/Noronha        Atlantic islands',
    'America/North_Dakota/Beulah',
    'America/North_Dakota/Center',
    'America/North_Dakota/New_Salem',
    'America/Ojinaga',
    'America/Panama',
    'America/Pangnirtung',
    'America/Paramaribo',
    'America/Phoenix',
    'America/Port-au-Prince',
    'America/Port_of_Spain',
    'America/Porto_Acre',
    'America/Porto_Velho',
    'America/Puerto_Rico',
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    'America/Rankin_Inlet',
    'America/Recife',
    'America/Regina',
    'America/Resolute',
    'America/Rio_Branco',
```

```
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    'America/Scoresbysund',
    'America/Shiprock',
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    'America/St_Kitts',
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    'Asia/Ashkhabad',
    'Asia/Atyrau',
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    'Asia/Dili',
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    'Asia/Dushanbe',
    'Asia/Famagusta',
    'Asia/Gaza',
    'Asia/Harbin',
    'Asia/Hebron    West',
    'Asia/Ho_Chi_Minh',
    'Asia/Hong_Kong',
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    'Asia/Irkutsk',
    'Asia/Istanbul',
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    'Asia/Jayapura',
    'Asia/Jerusalem',
    'Asia/Kabul',
    'Asia/Kamchatka',
    'Asia/Karachi',
    'Asia/Kashgar',
```

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    'Asia/Katmandu',
    'Asia/Khandyga',
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    'Australia/Brisbane',
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    'Australia/Canberra',
    'Australia/Currie',
    'Australia/Darwin',
    'Australia/Eucla',
    'Australia/Hobart',
```

```
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    'Australia/Lindeman',
    'Australia/Lord_Howe',
    'Australia/Melbourne',
    'Australia/NSW',
    'Australia/North',
    'Australia/Perth',
    'Australia/Queensland',
    'Australia/South',
    'Australia/Sydney',
    'Australia/Tasmania',
    'Australia/Victoria',
    'Australia/West',
    'Australia/Yancowinna',
    'Europe/Amsterdam',
    'Europe/Andorra',
    'Europe/Astrakhan',
    'Europe/Athens',
    'Europe/Belfast',
    'Europe/Belgrade',
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    'Europe/Istanbul',
    'Europe/Jersey',
    'Europe/Kaliningrad',
    'Europe/Kiev',
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    'Europe/Podgorica',
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    'Europe/Sofia',
    'Europe/Stockholm',
    'Europe/Tallinn',
    'Europe/Tirane',
    'Europe/Tiraspol',
    'Europe/Ulyanovsk',
    'Europe/Uzhgorod',
    'Europe/Vaduz',
    'Europe/Vatican',
    'Europe/Vienna',
    'Europe/Vilnius',
    'Europe/Volgograd',
```

```
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  'Europe/Zagreb',
  'Europe/Zaporozhye',
  'Europe/Zurich',
  'Indian/Antananarivo',
  'Indian/Chagos',
  'Indian/Christmas',
  'Indian/Cocos',
  'Indian/Comoro',
  'Indian/Kerguelen',
  'Indian/Mahe',
  'Indian/Maldives',
  'Indian/Mauritius',
  'Indian/Mayotte',
  'Indian/Reunion',
  'Pacific/Apia',
  'Pacific/Auckland',
  'Pacific/Bougainville',
  'Pacific/Chatham',
  'Pacific/Chuuk',
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  'Pacific/Enderbury',
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  'Pacific/Fiji',
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  'Pacific/Galapagos',
  'Pacific/Gambier',
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  'Pacific/Kosrae',
  'Pacific/Kwajalein',
  'Pacific/Majuro',
  'Pacific/Marquesas',
  'Pacific/Midway',
  'Pacific/Nauru',
  'Pacific/Niue',
  'Pacific/Norfolk',
  'Pacific/Noumea',
  'Pacific/Pago_Pago',
  'Pacific/Palau',
  'Pacific/Pitcairn',
  'Pacific/Pohnpei',
  'Pacific/Ponape',
  'Pacific/Port_Moresby',
  'Pacific/Rarotonga',
  'Pacific/Saipan',
  'Pacific/Samoa',
  'Pacific/Tahiti',
  'Pacific/Tarawa',
  'Pacific/Tongatapu',
  'Pacific/Truk',
  'Pacific/Wake',
  'Pacific/Wallis',
  'Pacific/Yap',
  'UTC'
]
```

# set-date-time

Use this interface to set date & time server.

## HTTP Request

```
GET http://ip/usapi?method=set-date-time&is-auto=1&time=2019-09-10+15:00:00&...
```

| Parameter | Description |
| --- | --- |
| method | set-date-time |
| is-auto | 0: manual setup; 1: to obtain time automatically based on time zone. |
| time | Set time manually in string form like 2019-09-10 15:10:00.<br>Leave the time="", when is-auto=1. |
| ntp-server | NTP server |
| ntp-server-backup | Backup NTP server |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-udp-mtu

Use this interface to specify UDP MTU for TS over UDP and TS over RTP sessions.

## HTTP Request

```
GET http://ip/usapi?method=set-udp-mtu&udp-mtu=1496
```

| Parameter | Description |
| --- | --- |
| method | set-udp-mtu |
| udp-mtu | value range is from 228 to 1500. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# add-server

Use this interface to add streaming sessions, up to 16 tasks are supported to be added.

Different sessions with same configurations are not allowed, such as:

- Custom RTMP servers with the same URL and StreamKey
- Other RTMP servers(such as Twitch/YouTube/Facebook) with the same StreamKey
- RTSP sessions with the same port number
- SRT Caller sessions with the same IP address and port
- SRT Listenersessions with the same port
- HLS sessions with the same main stream name or sub stream name
- TS over UDP/RTP sessions with the same IP address and port

## HTTP Request

```
GET http://ip/usapi?method=add-server&type=xxx&url=xxx&key=xxx&...
```

| Parameter | Description |
| --- | --- |
| method | add-server |
| type | Indicates a stream type.<br>0: RTMP<br>1: Twitch<br>2: YouTube<br>3: Facebook<br>100: RTSP<br>120: SRT Caller<br>121: SRT Listener<br>130: NDI HX<br>131: HLS<br>132: TS over UDP<br>133: TS over RTP |
| name | Indicates a session name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces ._-+'[](), and cannot start or end with space. |
| RTMP streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates streaming destination address. |
| key | Indicates stream key. |
| is-auth | Indicates authentication status.<br>0: authentication is not required<br>1: authentication is required. Both username and password are mandatory. |
| user | Indicates user name. |
| passwd | Indicates password. |
| token | Indicates Token. |
| event-data | Indicates streaming event. |
| net-mode | Indicates the network priority.<br>0: Mobile broadband first<br>1: Ethernet first<br>2: Wi-Fi first |
| RTSP streaming settings | |
| port | Indicates port number, the default port is 554. |
| max-connection | Indicates number of clients for each RTSP stream. |
| is-auth | Indicates authentication status.<br>0: authentication is not required<br>1: authentication is required. Both username and password are mandatory. |
| user | Indicates user name. |
| passwd | Indicates password. |
| | Indicates whether to enable the main stream. |

| | |
|---|---|
| is-main | 0: disable the main stream.<br>1: enable the main stream. |
| main-stream-name | Indicates the main stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[]( ). The name should not start or end with spaces. |
| is-sub | Indicates whether to enable the sub stream.<br>0: disable the sub stream.<br>1: enable the sub stream. |
| sub-stream-name | Indicates the sub stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[]( ). The name should not start or end withe spaces. |
| is-audio | Indicates whether to enable audio.<br>0: disable audio.<br>1: enable audio. |
| SRT Caller streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates destination address. |
| port | Indicates port number. |
| latency | Indicates delay time. You can obtain its value range by using get-info. |
| bandwidth | Indicates the portion of the total bandwidth of a stream required for the exchange of SRT control and recovered packets. You can obtain its value range by using get-info. |
| aes | Indicates the stream encryption algorithm to ensure the data security.<br>0: no encryption<br>16: AES-128<br>24: AES-192<br>32: AES-256 |
| ase-word | Indicates passphrase. |
| stream-id | Optional |
| mtu | Maximum transport unit ranges from 232 to 1500. |
| conn-timeout | Connect timeout in milliseconds. |
| retry-duration | Waiting time for reconnection in milliseconds. |
| net-mode | Indicates network priority.<br>0: mobile broadband first<br>1: Ethernet first<br>2: Wi-Fi first |
| SRT Listener streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| port | Indicates service port number. The default port is 8000. |
| max-connection | Indicates max client number. |
| latency | Indicates delay time. You can obtain its value range by using get-info. |
| bandwidth | the portion of the total bandwidth of a stream required for the exchange of SRT control and recovered packets. You can obtain its value range by using get-info. |
| aes | Indicates the stream encryption algorithm to ensure the data security.<br>0: no encryption<br>16: AES-128<br>24: AES-192<br>32: AES-256 |
| ase-word | Indicates passphrase. |
| mtu | Maximum transmission unit ranges from 232 to 1500. |
| NDI HX streaming settings | |
| source-name | By default, it is serial number. |
| group-name | Indicates the Group name which the source belongs to. By default, it is public. |
| enable-discovery | Whether to enable discovery server. |
| discovery-server | Indicates the IP address of discovery server. |
| transport-mode | The parameter is required when transporting via multicast. Obtain transport mode related parameters using get-info. |

| | |
|---|---|
| mcast-addr | Multicast address |
| mcast-mask | Multicast mask |
| mcast-ttl | Time to live for multicast ranges from 1 to 255. |
| enable-fail-over | Whether to enable fail over. |
| fail-over-ndi-name | Indicates the backup NDI channel name. |
| fail-over-ip-addr | Indicates the backup NDI channel IP address. |
| enable-web-control | Whether to allow to open the Web UI by clicking the gear icon in the NDI Studio Monitor application. |
| HLS streaming settings | |
| is-main | Whether to push streams over main stream.<br>0: disable<br>1: enable |
| main-stream-name | Indicates the main stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[](). The name should not start or end with spaces. |
| is-sub | Whether to push streams over sub stream<br>0: disable<br>1: enable |
| sub-stream-name | Indicates the sub stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[](). The name should not start or end withe spaces. |
| TS over UDP/RTP streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates the destination address. |
| port | Indicates the stream port |
| net-mode | Indicates the network priority.<br>0: Mobile broadband first<br>1: Ethernet first<br>2: Wi-Fi first |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# enable-server

Use this interface to turn on the stream session. By default, the newly added session is disabled.

Allow simultaneous 6 sessions over the same streaming protocol, such as TS over RTP and TS over UDP, SRT Caller and SRT Listener. The following protocol streams allow only one push.

- RTSP
- NDI HX
- HLS

## HTTP Request

```
GET http://ip/usapi?method=enable-server&id=1&is-use=1
```

| Parameter | Description |
| --- | --- |
| method | enable-server |
| id | Indicates the server ID, obtaining using get-settings. |
| is-use | Indicates whether the server is enabled.<br>0: disable.<br>1: enabled. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-server

Use this interface to modify stream servers.

## HTTP Request

```
GET http://ip/usapi?method=set-server&id=xxx&type=xxx&url=xxx&key=xxx&...
```

| Parameter | Description |
| --- | --- |
| method | add-server |
| type | Indicates a stream type.<br>0: RTMP<br>1: Twitch<br>2: YouTube<br>3: Facebook<br>100: RTSP<br>120: SRT Caller<br>121: SRT Listener<br>130: NDI HX<br>131: HLS<br>132: TS over UDP<br>133: TS over RTP |
| name | Indicates a session name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces ._-+'[](), and cannot start or end with space. |
| RTMP streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates streaming destination address. |
| key | Indicates stream key. |
| is-auth | Indicates authentication status.<br>0: authentication is not required<br>1: authentication is required. Both username and password are mandatory. |
| user | Indicates user name. |
| passwd | Indicates password. |
| token | Indicates Token. |
| event-data | Indicates streaming event. |
| net-mode | Indicates the network priority.<br>0: Mobile broadband first<br>1: Ethernet first<br>2: Wi-Fi first |
| RTSP streaming settings | |
| port | Indicates port number, the default port is 554. |
| max-connection | Indicates number of clients for each RTSP stream. |
| is-auth | 0: no authentication<br>1: authentication required with username and password |
| user | Username |
| passwd | password |
| is-main | Indicates whether to enable the main stream.<br>0: disable the main stream.<br>1: enable the main stream. |
| main-stream-name | Indicates the main stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[](). The name should not start or end with spaces. |
| is-sub | Indicates whether to enable the sub stream.<br>0: disable the sub stream.<br>1: enable the sub stream. |
| sub-stream-name | Indicates the sub stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[](). The name should not start or end withe spaces. |
| | Indicates whether to enable audio. |

| | |
|---|---|
| is-audio | 0: disable audio.<br>1: enable audio. |
| SRT Caller streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates destination address. |
| port | Indicates port number. |
| latency | Indicates delay time. You can obtain its value range by using get-info. |
| bandwidth | Indicates the portion of the total bandwidth of a stream required for the exchange of SRT control and recovered packets. You can obtain its value range by using get-info. |
| aes | Indicates the stream encryption algorithm to ensure the data security.<br>0: no encryption<br>16: AES-128<br>24: AES-192<br>32: AES-256 |
| ase-word | Indicates passphrase. |
| stream-id | Optional |
| mtu | Maximum transport unit ranges from 232 to 1500. |
| conn-timeout | Connect timeout in milliseconds. |
| retry-duration | Waiting time for reconnection in milliseconds. |
| net-mode | Indicates network priority.<br>0: mobile broadband first<br>1: Ethernet first<br>2: Wi-Fi first |
| SRT Listener streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| port | Indicates service port number. The default port is 8000. |
| max-connection | Indicates max client number. |
| latency | Indicates delay time. You can obtain its value range by using get-info. |
| bandwidth | the portion of the total bandwidth of a stream required for the exchange of SRT control and recovered packets. You can obtain its value range by using get-info. |
| aes | Indicates the stream encryption algorithm to ensure the data security.<br>0: no encryption<br>16: AES-128<br>24: AES-192<br>32: AES-256 |
| ase-word | Indicates passphrase. |
| mtu | Maximum transport unit ranges from 232 to 1500. |
| NDI HX streaming settings | |
| source-name | By default, it is serial number. |
| group-name | Indicates the Group name which the source belongs to. By default, it is public. |
| enable-discovery | Whether to enable discovery server. |
| discovery-server | Indicates the IP address of discovery server. |
| transport-mode | transport mode. You can obtain parameters related using get-info. The parameter is required for multicast mode. |
| mcast-addr | Multicast address |
| mcast-mask | Multicast mask |
| mcast-ttl | Multicast time to live ranges from 1 to 255. |
| enable-fail-over | Whether to enable fail over. |
| fail-over-ndi-name | Indicates the backup NDI channel name. |
| fail-over-ip-addr | Indicates the backup NDI channel IP address. |
| enable-web-control | Whether to allow to open the Web UI by clicking the gear icon in the NDI Studio Monitor application. |
| HLS streaming | |

| | |
|---|---|
| settings | |
| is-main | Whether to push streams over main stream.<br>0: disable<br>1: enable |
| main-stream-name | Indicates the main stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[](). The name should not start or end with spaces. |
| is-sub | Whether to push streams over sub stream<br>0: disable<br>1: enable |
| sub-stream-name | Indicates the sub stream name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[](). The name should not start or end withe spaces. |
| TS over UDP/RTP streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates the destination address. |
| port | Indicates the stream port |
| net-mode | Indicates the network priority.<br>0: Mobile broadband first<br>1: Ethernet first<br>2: Wi-Fi first |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# del-server

Use this interface to delete stream sessions.

## HTTP Request

```
GET http://ip/usapi?method=del-server&id=1
```

| Parameter | Description |
| --- | --- |
| method | del-server |
| id | Indicates the server ID, obtaining using get-settings. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# start-test-server

Use this interface to start a stream test. Only one stream can be tested each time.

Call the stop-test-server to cancel the stream test manually if needed. The test will stop automatically at 20s.

## HTTP Request

```
GET http://ip/usapi?method=start-test-server&type=xxx&url=xxx&key=xxx&...
```

| Parameter | Description |
|---|---|
| method | start-test-server |
| type | Indicates the session type.<br>0: RTMP<br>1: Twitch<br>2: YouTube<br>3: Facebook<br>120: SRT Caller |
| name | Indicates server name, ranging from 1 to 32 characters, consisting of A to Z, a to z, 0 to 9, spaces, and special characters ._-+'[](). The name should not start or end with spaces. |
| RTMP streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates destination address. |
| key | Indicates the stream key. |
| is-auth | Indicates whether an authentication is required.<br>0: authentication is not required<br>1: authentication is required, and both username and password are mandatory. |
| user | Indicates username. |
| passwd | Indicates password. |
| token | Indicates token. |
| event-data | Indicates a stream session. |
| net-mode | Indicates the network priority.<br>0: Mobile broadband first<br>1: Ethernet first<br>2: Wi-Fi first |
| SRT Caller streaming settings | |
| stream-index | Indicates the stream type.<br>0: main stream<br>1: sub stream |
| url | Indicates destination address. |
| port | Indicates stream port. |
| latency | Indicates delay time. You can obtain its value range by using get-info. |
| bandwidth | Indicates the portion of the total bandwidth of a stream required for the exchange of SRT control and recovered packets. You can obtain its value range by using get-info. |
| aes | Indicates the stream encryption algorithm to ensure the data security.<br>0: no encryption<br>16: AES-128<br>24: AES-192<br>32: AES-256 |
| ase-word | Indicates passphrase. |
| stream-id | Optional |
| net-mode | Indicates the prime network for streaming.<br>0: Mobile Broadband first<br>1: Ethernet first<br>2: Wi-Fi first |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0: stream test is started.<br>1: repeated request.<br>-9: system is busy.<br>Refer to API Status Codes to find specific description for other values. |

## Test Status

Obtain **living-test** by calling get-status.

```
"living-test": {
  "result": 27,
  "upload-bps": 0,
  "percent": 0,
  "net": 0,
  "client-id": ""
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>27: the device is in initial status.<br>5 indicates that request is canceled.<br>2: stream test is in progress.<br>0: the request was accepted successfully.<br>Refer to API Status Codes to find specific description for other values. |
| percent | Indicates the percentage of stream test. |
| upload-bps | Indicates the upload speed. |
| net | Indicates the network type. |
| client-id | Reserved |

Call the clear-test-server to set the device to the initial status (retInit=27) after the test.

# stop-test-server

Use this interface to cancel stream test after starting a test by calling start-test-server.

## HTTP Request

```
GET http://ip/usapi?method=stop-test-server
```

| Parameter | Description |
| --- | --- |
| method | stop-test-server |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# clear-test-server

Use this interface to reset the device to the initial state (retInit=27) after the device conducts stream test using start-test-server.

## HTTP Request

```
GET http://ip/usapi?method=clear-test-server
```

| Parameter | Description |
| --- | --- |
| method | clear-test-server |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# get-ndi-sources

Use this interface to obtain NDI sources when starting NDI|HX services.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | get-ndi-sources |

## Response Body

```
{
  "result": 0
  "ndi-sources": [
    {
      "ndi-name": "PRO CONVERT (#14 (B403190104002))",
      "ip-addr": "10.10.13.247:5962"
      }
  ]
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-video

Use this interface to configure parameters of the main and sub streams, including:

- resolution
- frame interval
- video codec: choose H264 or HEVC for the main stream. The sub stream uses H264.
- profile
- video bit rate
- keyframe interval
- quantization range
- bit rate stats duration

Obtain parameters value range using get-info.

```
{
  "codec-cap": {
    "resolutions": [],          // Value range of resolution
    "durations": [],            // Value range of frame interval
    "video-codec": [],          // Value range of video codec
    "profile": [],              // H264 profile
    "hevc-profile": [],         // HEVC profile
    "video-kbps": [],           // Value range of video bit rate
    "gop-sec": [],              // Value range of keyframe interval
    "video-range": [],          // Value range of quantization range
    "stat-sec": []              // Value range of bit rate stats duration
  }
}
```

## HTTP Request

```
GET http://ip/usapi?method=set-video&stream=0&is-auto=0&cx=1280&cy=720&duration=333333&kbps=1024&gop=1&fourcc=0&
profile=2&cbrstat=60&fullrange=1&codec=0
```

| Parameter | Description |
|---|---|
| method | set-video |
| stream | Indicates the stream type.<br>0: the main stream<br>1: the sub stream |
| is-auto | Indicates whether the stream format follows that of input signal. For a sub stream, this parameter can only be set to 0.<br>0: custom the format for your session.<br>1: follow input. |
| cx | Indicates width of resolution dimensions in pixels. |
| cy | Indicates height of resolution dimensions. |
| duration | Indicates frame interval. |
| kbps | Indicates bit rate. |
| gop | Indicates keyframe interval. |
| fourcc | Reserved. The default value is 0. |
| codec | Indicates video codec. |
| profile | Indicates encoding profile. |
| cbrstat | Indicates bit rate stats duration. |
| fullrange | Indicates quantization range. |
| is-vbr | 0: CBR<br>1: VBR, the maximum and minimum steps are required |
| min-vbr-qp | min-step ranging from 0 to 51 |
| max-vbr-qp | max-step ranging from minimum to 51 |
| is-time-code-sei | 0: not to set time code SEI messages<br>1: set a time code SEI messages |
|  | 0: not to set CC SEI messages |

| | |
|---|---|
| | 1: set CC SEI messages |
| ar-convert-mode | 0: Ignore<br>1: Cropping<br>2: Padding |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-audio

Use this interface to configure audio encoding parameters.

Obtain value range of audio bit rate using get-info.

```
{
  "codec-cap": {
    "audio-kbps": [],            // Value range of audio bit rate
  }
}
```

## HTTP Request

```
GET http://ip/usapi?method=set-audio&kbps=48
```

| Parameter | Description |
| --- | --- |
| method | set-audio |
| kbps | Indicates audio bit rate. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# enable-deinterlace

Use this interface to deinterlace video.

## HTTP Request

```
GET http://ip/usapi?method=enable-deinterlace&enable-deinterlace=1
```

| Parameter | Description |
| --- | --- |
| method | enable-deinterlace |
| enable-deinterlace | 0: not to deintelace<br>1: deintelace |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# reboot

Use this interface to reboot and reconnect to your device.

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

## HTTP Request

```
GET http://ip/usapi?method=reboot
```

| Parameter | Description |
| --- | --- |
| method | reboot |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# reset-all-settings

Use this interface to reset all settings back to default.

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 restart status.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | reset-all-settings |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# login

Use this 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/usapi?method=login&id=xxx&pass=xxx
```

| Parameter | Description |
| --- | --- |
| method | login |
| id | Indicates user name. |
| pass | Indicates MD5 encrypted password. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0: the request was accepted successfully. 36: the username or password is incorrect. Refer to API Status Codes to find specific description for other values. |

# logout

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

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | logout |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# get-users

Use this interface to list all users with administrative rights.

## HTTP Request

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

| Parameter | Description |
|---|---|
| method | get-users |

## Response Body

```
{
  "result": 0,
  "users": [
    {
      "id": "Admin",
      "type": 1
    },
    {
      "id": "Test",
      "type": 2
    }
  ]
}
```

| Item | Description |
|---|---|
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |
| users | Indicates list of users. id indicates user name. type indicates whether the user is an administrator(1) or a general user(2). |

# add-user

Use this interface to add general users with administrative rights.

## HTTP Request

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

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

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# del-user

Use this interface to delete general users with administrative rights.

## HTTP Request

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

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

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# ch-password

Use this interface to modify the password after logging in.

## HTTP Request

```
GET http://ip/usapi?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

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-password

Use this interface to reset user password without entering the old password. Only admin user is allowed to perform the operation.

## HTTP Request

```
GET http://ip/usapi?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

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-net

Use the interface to configure Ethernet network.

## HTTP Request

```
GET http://ip/usapi?method=set-net&type=0&is-dhcp=1&ip=10.10.107.212&mask=255.255.0.0&router=10.10.0.1&dns=10.0.0.3
```

| Parameter | Description |
| --- | --- |
| method | set-net |
| type | 0: Wi-Fi<br>1: wired Ethernet network |
| is-dhcp | Indicates whether to obtain an IP address from the DHCP server.<br>0 indicates to set IP address manually.<br>1 indicates to obtain an IP address from the DHCP server dynamically. |
| ip | Indicates Ethernet IP address. |
| mask | Indicates the subnet mask. |
| router | Indicates the gateway. |
| dns | Indicates DNS server. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# scan-wifi-results

Use this interface to obtain available Wi-Fi networks.

## HTTP Request

```
GET http://ip/usapi?method=scan-wifi-results
```

| Parameter | Description |
| --- | --- |
| method | scan-wifi-results |

## Response Body

```
{
  "result": 0
  "user-items": [
  ],
  "scan-items": [
  ]
}
```

**Wi-Fi Network Connected**

```
"user-items": [
  {
    "name": "",
    "freq": 5785,
    "level": -35,
    "is-auto": 0,
    "is-use": 0
  }
]
```

**Wi-Fi Network Not Connected**

```
"scan-items": [
  {
    "name": "",
    "freq": 5785,
    "level": -35,
    "is-auto": 0,
    "is-use": 0
  }
]
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# connect-wifi-first

Use this interface to connect your device to a Wi-Fi network for the first time.

## HTTP Request

```
GET http://ip/usapi?method=connect-wifi-first&name=magewell&passwd=1111111&secu=2&is-auto=1
```

| Parameter | Description |
| --- | --- |
| method | connect-wifi-first |
| name | Indicates name of Wi-Fi network. |
| passwd | Indicates password of Wi-Fi network. |
| secu | Indicates encryption method of Wi-Fi network: 0 - unencrypted; 1 - wep; 2 - WPA/PSK; 3 - WPA2/PSK. |
| is-auto | Indicates whether to auto-connect to the saved Wi-Fi network. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# connect-wifi

Use this interface to connect to a saved Wi-Fi network.

## HTTP Request

```
GET http://ip/usapi?method=connect-wifi&name=magewellis-auto=1
```

| Parameter | Description |
| --- | --- |
| method | connect-wifi |
| name | Indicates name of Wi-Fi network. |
| is-auto | Indicates whether to auto-connect to the saved Wi-Fi network. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# cancel-connect-wifi

Use this interface to cancel current Wi-Fi connection.

## HTTP Request

```
GET http://ip/usapi?method=cancel-connect-wifi&name=magewell
```

| Parameter | Description |
| --- | --- |
| method | cancel-connect-wifi |
| name | Wi-Fi network name |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# disconnect-wifi

Use this interface to disconnect from a Wi-Fi Network.

## HTTP Request

```
GET http://ip/usapi?method=disconnect-wifi
```

| Parameter | Description |
| --- | --- |
| method | disconnect-wifi |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# forget-wifi

Use this interface to forget a Wi-Fi network and delete information about the hot spot from your device.

## HTTP Request

```
GET http://ip/usapi?method=forget-wifi&name=magewell
```

| Parameter | Description |
| --- | --- |
| method | forget-wifi |
| name | Indicate a Wi-Fi network name |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-connect-wifi-auto

Use this interface to set whether to allow your device to connect automatically to a Wi-Fi network.

## HTTP Request

```
GET http://ip/usapi?method=set-connect-wifi-auto&name=magewell&is-auto=1
```

| Parameter | Description |
| --- | --- |
| method | set-connect-wifi-auto |
| name | Indicate Wi-Fi network name |
| is-auto | whether to allow the device to connect automatically to a specific Wi-Fi |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# clear-connect-wifi

Use this interface to reset device to initial state (retInit=27) when it fails to configure Wi-Fi using connect-wifi-first.

## HTTP Request

```
GET http://ip/usapi?method=clear-connect-wifi
```

| Parameter | Description |
| --- | --- |
| method | clear-connect-wifi |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# open-softap

Use this interface to turn on the AP mode.

## HTTP Request

```
GET http://ip/usapi?method=open-softap
```

| Parameter | Description |
| --- | --- |
| method | open-softap |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# close-softap

Use this interface to turn off AP mode.

## HTTP Request

```
GET http://ip/usapi?method=close-softap
```

| Parameter | Description |
| --- | --- |
| method | close-softap |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# update

There are two ways to perform the firmware update:

- Manual update: upload the specified firmware file using upload-update-file before update.
- Online update: use online-update-check to check if there is a new version available.

In order to perform the firmware update:

- Firmware checking must not be in progress.

You can obtain current device running status mask using get-status.

```
"cur-status": 65552                    // device running status mask
```

The output of `cur-status` & Device Status Mask is as follows:

| Device status | Condition |
| --- | --- |
| Firmware update is not in progress | cur-status & statusCheckUpgrade != statusCheckUpgrade |

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | update |
| mode | Firmware update method.<br>upload: manual update.<br>online: check and update automatically when device is connecting with Ethernet. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status. 0 indicates the encoder begins to update. Refer to API Status Codes to find specific description for other values. |

## Update Status

Obtain **upgrade-status** using get-status.

```
"upgrade-status": {
  "result": 27,
  "step": 0,
  "percent": 0,
  "mode": "none",
  "client-id": ""
}
```

| Item | Description |
| --- | --- |
| result | Indicates returned update status.<br>27: initial status.<br>2: updating.<br>0: the request was accepted successfully.<br>Refer to API Status Codes to find specific description for other values. |
| step | Indicates update steps. |
| percent | Indicates the percentage of the update step. |
| mode | Indicates firmware update type.<br>none: initial status.<br>upload: manual update |

| | |
|---|---|
| | online: online update |
| client-id | Reserved. |

Call clear-upgrade to reset the status to 27 (Initial status) after update failed.

# upload-update-file

Use this interface to upload the .mwf firmware file to your device.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | upload-update-file |

## Response Body

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

| Item | Description |
| --- | --- |
| status | Indicates returned status.<br>0 indicates that the operation is performed successfully.<br>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 number. |
| size | Indicates the uploaded file size in bytes. |

Call update to update the unit after a successful upload.

# cancel-download

Use this interface to cancel the firmware downloading when the firmware is updating online using the update interface.

## HTTP Request

```
GET http://ip/usapi?method=cancel-download
```

| Parameter | Description |
| --- | --- |
| method | cancel-download |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Indicates returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# online-update-check

Use this interface to check for new firmware versions.

- In order to conduct the firmware checking, an update can not be in progress.

You can obtain current device running status mask using get-status:

```
"cur-status": 65552                    // device running status mask
```

The output of `cur-status` & Device Status Mask is as follows:

| Device status | Condition |
|---|---|
| Firmware update is not in progress | cur-status & statusUpgrade != statusUpgrade |

## HTTP Request

```
GET http://ip/usapi?method=online-update-check
```

| Parameter | Description |
|---|---|
| method | online-update-check |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
|---|---|
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

## Detection Status

Obtain **check-upgrade** and **upgrade** using get-status.

```
"check-upgrade": {
  "result": 0,
  "client-id": ""
},
"upgrade": {
  "ver": "1.2.123",
  "date": "2012-1-1 00:00:00",
  "size-byte": 12004784,
  "info": [
    {
      "version": "1.2.123",
      "changelog": "## Develop version 1.2. ## Develop version2."
    }
  ]
}
```

| Item | Description |
|---|---|
| result | Indicates returned status.<br>27: initial status<br>2: checking<br>0: the request was accepted successfully.<br>Refer to API Status Codes to find specific description for other values. |
| ver | Indicates new firmware version. |
| date | Indicates release date of the new firmware. |
| size-byte | Indicates file size of new firmware(B). |
| info | Indicates release note. |

| | |
|---|---|
| client-id | Reserved. |

Call clear-check-update to reset the status to Initial status(27) after detection failed.

# clear-upgrade

Use this interface to reset the device to the initial state (retInit=27) when the device fails to update manually or automatically using update.

## HTTP Request

```
GET http://ip/usapi?method=clear-upgrade
```

| Parameter | Description |
| --- | --- |
| method | clear-upgrade |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Indicates returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# clear-check-update

Use this interface to reset the device to the initial state (retInit=27) when new firmware check fails or succeeds using the online-update-check.

## HTTP Request

```
GET http://ip/usapi?method=clear-check-update
```

| Parameter | Description |
| --- | --- |
| method | clear-check-update |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Indicates returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-enable-check-update

Use this interface to set whether to allow the device to automatically and regularly check for new firmware versions.

## HTTP Request

```
GET http://ip/usapi?method=set-enable-check-update&is-check-update=1
```

| Parameter | Description |
| --- | --- |
| method | set-enable-check-update |
| is-check-update | 0: disable auto-check<br>1: enable auto-check |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# import-edid

Use the interface to import EDID to the input port.

## HTTP Request

```
POST http://ip/usapi?method=import-edid
```

| Parameter | Description |
| --- | --- |
| method | import-edid |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# export-edid

Use the interface to export EDID of the input port.

## HTTP Request

```
GET http://ip/usapi?method=export-edid&file-name=...
```

| Parameter | Description |
| --- | --- |
| method | export-edid |
| file-name | Path for exported file. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-default-edid

Use the interface to restore EDID of the input port to the default value.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | set-default-edid |

## Response Body


```
{
  "result": 0
  "data": "AP///////wA09wEAAQAAAAEaAQOAAAB4Au6Vo1RMmSYPUFT//4AxQEVAYUBxQIGA0QDhwAEACOgAMPJwWoCwWIoAUB10AAAeAjqAG
HE4LUBYLEUAUB10AAAeAAAA/QAPlg+HPAAAAAAAAAAAAAAAA/ABNQUdFV0VMTAogICAgAWYCA1HxV2EQHwQTBRQgISJdXl9gZWZiY2QHFgMSMgl/B
xUHUD0GwFcGAF9/AWd/AINPAADiAA9uAwwAEAC4eCEQgAECAwRn2F3EAXiAA+MPAeABHYAYcRwWIFgsJQBAhGMAAJ5mIVaqUQAeMEaPMwBQHXQAA
B4AAAAAAAAAAAAAzw=="
}
```


| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# get-edid-config

Use the interface to obtain EDID ralated information of the input port.

## HTTP Request

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

| Parameter | Description |
| --- | --- |
| method | get-edid-config |

## Response Body


```
{
  "result": 0
  "smart-edid": 1,
  "keep-last": 0,
  "add-audio": 1,
  "limit-pixel-clock": 1,
  "data": "AP///////wA09wEAAQAAAAEaAQOAAAB4Au6Vo1RMmSYPUFT//4AxQEVAYUBxQIGA0QDhwAEACOgAMPJwWoCwWIoAUB10AAAeAjqAG
HE4LUBYLEUAUB10AAAeAAAA/QAPlg+HPAAAAAAAAAAAAAAAA/ABNQUdFV0VMTAogICAgAWYCA1HxV2EQHwQTBRQgISJdXl9gZWZiY2QHFgMSMgl/B
xUHUD0GwFcGAF9/AWd/AINPAADiAA9uAwwAEAC4eCEQgAECAwRn2F3EAXiAA+MPAeABHYAYcRwWIFgsJQBAhGMAAJ5mIVaqUQAeMEaPMwBQHXQAA
B4AAAAAAAAAAAAAzw=="
}
```


| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# set-edid-config

Use the interface to modify EDID related information for the input port.

## HTTP Request

```
GET http://ip/usapi?method=set-edid-config&...
```

| Parameter | Description |
| --- | --- |
| method | set-edid-config |
| smart-edid | 0: Disable smart EDID<br>1: Enable smart EDID |
| keep-last | 0: Do not use the last loop-through EDID<br>1: Use the last loop-through EDID |
| add-audio | 0: Do not force add audio<br>1: Force add audio |
| limit-pixel-clock | 0: Do not use limit pixel clock<br>1: Use Limit pixel clock |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# get-loop-through-edid

Use the interface to obtain EDID of loop-through port.

## HTTP Request

```
GET http://ip/usapi?method=get-loop-through-edid
```

| Parameter | Description |
| --- | --- |
| method | get-loop-through-edid |

## Response Body


```
{
  "result": 0
  "data": "AP///////wA09wEAAQAAAAEaAQOAAAB4Au6Vo1RMmSYPUFT//4AxQEVAYUBxQIGA0QDhwAEACOgAMPJwWoCwWIoAUB10AAAeAjqAG
HE4LUBYLEUAUB10AAAeAAAA/QAPlg+HPAAAAAAAAAAAAAAAA/ABNQUdFV0VMTAogICAgAWYCA1HxV2EQHwQTBRQgISJdXl9gZWZiY2QHFgMSMgl/B
xUHUD0GwFcGAF9/AWd/AINPAADiAA9uAwwAEAC4eCEQgAECAwRn2F3EAXiAA+MPAeABHYAYcRwWIFgsJQBAhGMAAJ5mIVaqUQAeMEaPMwBQHXQAA
B4AAAAAAAAAAAAAzw=="
}
```


| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# export-loop-through-edid

Use the interface to export the EDID of the loop-through port.

## HTTP Request

```
GET http://ip/usapi?method=export-loop-through-edid&file-name=...
```

| Parameter | Description |
| --- | --- |
| method | export-loop-through-edid |
| file-name | Path for exported file. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | Returned status.<br>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values. |

# cloud-reg-ex

Use the interface to register your device with Magewell Clouds. You can host your device to 2 cloud platforms simultaneously.

```
GET http://ip:8070/cloud-api?method=cloud-reg-ex&id=1&cloud-enable-https=0&...
```

| Parameter | Description |
| --- | --- |
| method | cloud-reg-ex |
| id | Cloud ID. Options are 0 and 1. |
| cloud-code | 4-digit string invitation code given by the Cloud. |
| cloud-ip-addr | IP address of the Cloud. |
| cloud-http-port | HTTP port of the Cloud server. |
| cloud-enable-https | 0: disable https<br>1: enable https |
| cloud-https-port | HTTPS port of the Cloud server. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to Cloud API Status Codes to find specific description for other values. |

# cloud-unreg-ex

Use the interface to unregistered from a Magewell Cloud.

## HTTP Request

```
GET http://ip:8070/cloud-api?method=cloud-unreg-ex&id=1
```

| Parameter | Description |
| --- | --- |
| method | cloud-reg-ex |
| id | Cloud ID. Options are 0 and 1. |

## Response Body

```
{
  "result": 0
}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to Cloud API Status Codes to find specific description for other values. |

# cloud-status

Use the interface to obtain status of the Cloud platforms that your device has registered with.

## HTTP Request

```
GET http://ip/usapi?method=cloud-status&version=1
```

| Parameter | Description |
| --- | --- |
| method | cloud-status |
| version | Cloud version, should be 1. |

## Response Body

```
{
  "device_id": "A305200908004", // serial number of your device
  "number": 2,                  // number of Cloud platforms your device can register with
  "version" : 1,
  "result": 0,
  "status": [
    {
      "cloud-code": "",
      "cloud-date": 0,
      "cloud-enable-https": 0,
      "cloud-http-port": 80,
      "cloud-https-port": 443,
      "cloud-ip-addr": "10.0.1.32",
      "cloud-reg-status": 101,
      "cloud-status": 35,
      "id": 0,
      "is-cloud-set": 1
    },
    {
      "cloud-code": "",
      "cloud-date": 0,
      "cloud-enable-https": 0,
      "cloud-http-port": 80,
      "cloud-https-port": 443,
      "cloud-ip-addr": "10.10.8.233",
      "cloud-reg-status": 103,
      "cloud-status": 35,
      "id": 1,
      "is-cloud-set": 1
    }
  ]

}
```

| Item | Description |
| --- | --- |
| result | 0 indicates that the request was accepted successfully. Refer to Cloud API Status Codes to find specific description for other values. |