Ultra Encode Plus

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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 HTTP-based, lightweight, and connectionless services that return JSON data. With this document, you can get a thorough understanding of each API's functions and request method.

APIs in this document apply to:

- Ultra Encode HDMI Plus
- Ultra Encode SDI Plus
- Ultra Encode SDI Plus Module
- Ultra Encode HDMI Plus Module

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=xxxxxxxxx in cookies

Example Response

The JSON formatted data is as follows. HTTP response status codes indicate whether a specific HTTP request has been successfully completed. 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 B313221201001",
  ...
}
```

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 requests
  retSucceed              = 0,           // The request has succeeded.
  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 access
  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,          // Streaming one NDI|HX session is supported
  errSRTLimited           = -46,          // Streaming one SRT Listener session is supported
  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,          // Streaming one HLS session is supported
  errProtocolLimited      = -50,          // Allow 1 simultaneous session over the same streaming protocol
  errInit                 = -51,          // Failed to initialize channels for live streaming
  errDeinterlaceSettings  = -52,          // Deinterlace settings error
  errTVULimitted          = -53,          // Streaming one TVU ISSP task is supported
  errProtocolOneChannel   = -54,          //
Unified error codes including errRTSPLimited/errNDILimited/errSRTLimited/errHLSLimited/errTVULimitted
  errUHDSettings         = -55,           // The frame rate of the main stream should be no greater than 30 FPS when
the encode resolution is greater than 2048x1080.
  errInputSignal         = -56,           // The frame rate of the main stream should be no greater than 30 FPS when
the input resolution is greater than 2048x1080.
  errScheduler           = -57,           // Reserved
  errMountPoint          = -58,           // Error NAS mount point

}
```

Control Hub API Status Code

```
{
  errLogin        = -200,      // The device has not been logged-in when being called by the Control Hub.
  errSn           = -109,      // Invalid serial number
  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 Control Hub is in initialization state.
  retOnline       = 35,        // Control Hub platform is online
  retOffline      = 36,        // Control Hub 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,      // AP mode enabled
  statusMIC          = 0x100,     // Reserved
  statusPHONE        = 0x200,     // Reserved
  statusOutput       = 0x400,     // Reserved
  statusDiskTest     = 0x1000,    // Storage medium is testing performance.
  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,  // USB is formatting
  statusFormatSD     = 0x200000,  // SD card is formatting
  statusSearchWifi   = 0x400000,  // The device is searching for available Wi-Fi networks
  statusConnectWifi  = 0x800000,  // The device is connecting to a Wi-Fi hotspot
  statusLoading      = 0x1000000, // The device is loading configuration profile
  statusCheckUpgrade = 0x2000000, // The device is checking for new firmware versions
  statusReset        = 0x4000000,   // The device is resetting all parameters to default
  stausIPv6          = 0x8000000,   // Reserved
  statusTestLock     = 0x10000000,  // Reserved
  statusReboot       = 0x20000000,  // The device is rebooting
  statusSendTest     = 0x40000000,  // The device is testing the server for file uploading
}
```

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 B313221201001",
  "serialnumber":"B313221201001",
  "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    // provides the HTTP get and HTTP upload in Node.js
|-- xxxx.mwf        // file uploaded by upload.js through invoking the upload-update-file interface.
|-- get.js          // requests data
|-- upload.js       // uploads file
```

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_aio_rev_b_2_0_318.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": "d0:c8:57:81:02:2d",
                "wifi": "d0:c8:57:81:02:2e",
                "softap": "d0:c8:57:81:02:2f"
        },
        "snapshot": "/tmp/sbox-snapshot/sbox-quarter.jpg",
        "main-snapshot": "/tmp/sbox-snapshot/mainstream.jpg",
        "sub-snapshot": "/tmp/sbox-snapshot/substream.jpg",
        "product": {
                "sn": "B313220727002",
                "product-id": 787,
                "hardware-ver": "B",
                "firmware-id": 1,
                "firmware-ver-s": "2.0.312",
                "factory-firmware-ver-s": "2.0.283",
                "product-name": "Ultra Encode",
                "module-name": "Ultra Encode AIO",
                "manu-name": "MAGEWELL",
                "features": 1,
                "max-lock-count": 2,
                "live-support": 4095,
                "cloud-support": 1,
                "record-support": 1,
                "scheduler-support": 1,
                "nas-support": 1,
                "multi-audio-support": 1
        },
        "nosignal": {},
        "input-source": {},
        "audio-range": {},
        "codec-cap": {},
        "rec": {},
        "nas": {},
        "color-range": {},
        "video-format": {},
        "living": {},
        "surface": {}
}

***** 3. upload firmware *****
upload firmware response data:
{
        "result": 0,
        "up-to-date": true,
        "version": "2.0.123",
        "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": "",             // snapshot location of the input
  "main-snapshot": "",   // snapshot location of the main stream
  "main-crop-snapshot": "",    //crop thumbnails location of the main stream cropped
  "sub-snapshot": "",       // snapshot location of the sub stream
  "sub-crop-snapshot": "",     // crop thumbnails location of the sub stream
  "product": {},              // product information
  "nosignal": {},             // resolutions and size of no-signal image
  "input-source": {},          // parameter values of input and video mixer
  "audio-range": {            // range of audio parameters
    "hdmi": {},
    "linein": {},
    "lineout": {}
  },
  "codec-cap": {              // encoding parameters
    "main-stream": {},        // encoding parameters of the main stream
    "sub-stream": {},         // encoding parameters of the sub stream
    "ndi-sub-stream": {},      // reserved
    "ndi-hx3-main-stream": {}, // parameter ranges of main stream of NDI|HX3 protocol
    "ndi-hx3-duration": {},    // frame rate range of main stream of NDI|HX3 protocol
    "resolutions": [],
    "durations": [],
    "profile": [],
    "hevc-profile": [],
    "video-kbps": [],
    "audio-streams": [],        // range of audio streams
    "audio-channels": [],        // range of audio channels
    "audio-chmap": [],           // range of audio channel mapping relationships
    "audio-kbps": [],
    "gop-sec": [],
    "video-range": [],
    "stat-sec": [],
    "video-codec": [],
    "video-ar-convert-mode": [],
    "video-rotation": [],
    "rc": {}
  },
  "rec": {
    "mode": [],                   //values of record mode
    "file-prefix": [],           // values of file prefix
    "file-suffix": [],            // values of fils suffix
    "time-unit": [],
    "trigger-mode": []         // values of auto-upload mode
  },
  "nas": {
    "proto": []                    // values of NAS protocol
  },
  "color-range": {            //values of color adjustment and correction
    "contrast": {},
    "brightness": {},
    "saturation": {},
    "hue": {}
  }
"video-format": {             // values of video input and output
    "input-color-fmt": [],
    "output-color-fmt": [],
    "quant-range": [],
    "sat-range": []
  }
```

```
  "living": {               // values of live stream
    "max-bandwidth": 16384,
    "ttl": {},
    "conn-timeout": {},
    "retry-duration": {},
    "srt": {
      "latency": [],
      "bandwidth": [],
      "aes": [],
      "mtu": {}
    },
    "ndi": {},
    "udp": {},
    "hls-push": {}
  },
  "surface": {
    "image": {},
    "type":[],
    "image-type": [],
    "condition": [],
    "position": [],
    "font-family":[],
    "font-style": [],
    "font-weight": [],
    "time-format": []
  },
  "web": {
    "theme": []             // light/dark mode
  },
  "send-file": {            // file upload parameters
    "server": [],           // server parameters for file upload
    "ftp-proto": {},
    "ftp-encryption": {},
    "ftp-transfer-mode": {}
  },
  "lcd": {
    "page": []              // LCD display
  }
}
```

Example

```
{
  "result": 0,
  "mac-addr": {
    "eth": "d0:c8:57:81:02:2d",
    "wifi": "d0:c8:57:81:02:2e",
    "softap": "d0:c8:57:81:02:2f"
  },
  "snapshot": "/tmp/sbox-snapshot/sbox-quarter.jpg",
  "main-snapshot": "/tmp/sbox-snapshot/mainstream.jpg",
  "main-crop-snapshot": "/tmp/sbox-snapshot/crop-mainstream.jpg",
  "sub-snapshot": "/tmp/sbox-snapshot/substream.jpg",
  "sub-crop-snapshot": "/tmp/sbox-snapshot/crop-substream.jpg",
  "product": {
    "sn": "B313220727002",
    "product-id": 787,
    "hardware-ver": "B",
    "firmware-id": 1,
    "firmware-ver-s": "2.0.312",
    "factory-firmware-ver-s": "2.0.283",
    "product-name": "Ultra Encode",
    "module-name": "Ultra Encode AIO",
    "manu-name": "MAGEWELL",
    "features": 1,
    "max-lock-count": 2,
    "live-support": 4095,
    "cloud-support": 1,
    "record-support": 1,
    "scheduler-support": 1,
    "nas-support": 1,
    "multi-audio-support": 1
  },
  "nosignal": {
    "max-count": 4,
    "max-width": 1920,
    "max-height": 1080,
    "max-size-kb": 1024
  },
  "input-source": {
    "sources": [
      {
        "name": "Auto Scan",
        "value": 3
      },
      {
        "name": "SDI Input",
        "value": 1
      },
      {
        "name": "HDMI Input",
        "value": 2
      },
      {
        "name": "Mixer",
        "value": 4
      }
    ],
    "video-mixer": {
      "types": [
        {
          "name": "Picture in Picture",
          "value": 0
```

```
        },
        {
          "name": "Side by Side",
          "value": 1
        }
      ],
      "pip": [
        {
          "name": "Left Top Corner",
          "value": 1
        },
        {
          "name": "Top Right Corner",
          "value": 2
        },
        {
          "name": "Left Bottom Corner",
          "value": 3
        },
        {
          "name": "Bottom Right Corner",
          "value": 4
        }
      ],
      "sbs": [
        {
          "name": "Half",
          "value": 1
        },
        {
          "name": "One Third",
          "value": 2
        },
        {
          "name": "Two Thirds",
          "value": 3
        },
        {
          "name": "One Fourth",
          "value": 4
        },
        {
          "name": "Three Fourths",
          "value": 5
        }
      ]
    }
  },
  "audio-range": {
    "spi": {
    "max": 600,
    "min": -10000,
    "def": 0
    },
    "linein": {
      "max": 5525,
      "min": -13900,
      "def": 0
    },
    "lineout": {
      "max": 600,
      "min": -5700,
```

```
      "def": 0
    }
  },
  "codec-cap": {
    "main-stream": {
      "max-video-kbps": 32768,
      "min-video-kbps-ratio": 5,
      "max-video-kbps-ratio": 100,
      "def-video-kbps-ratio": 20,
      "min-duration": 166667,
      "max-duration": 2000000,
      "min-gop-size": 15,
      "max-gop-size": 300
    },
    "sub-stream": {
      "max-width": 1920,
      "max-height": 1200,
      "max-duration": 2000000,
      "min-duration": 166667,
      "max-video-kbps": 32768,
      "reserved": [
        {
        "w": 1920,
        "h": 1200
        }
      ]
    },
    "ndi-sub-stream": {
      "max-width": 1920,
      "max-height": 1200,
      "max-duration": 2000000,
      "min-duration": 166667,
      "max-video-kbps": 32768
    },
    "ndi-hx3-main-stream": {
      "max-width": 1920,
      "max-height": 1200,
      "max-duration": 2000000,
      "min-duration": 166667,
      "max-video-kbps": 63488,
      "min-video-kbps-ratio": 10,
      "max-video-kbps-ratio": 156,
      "def-video-kbps-ratio": 155,
      "hevc-min-video-kbps-ratio": 10,
      "hevc-max-video-kbps-ratio": 126,
      "hevc-def-video-kbps-ratio": 125,
      "min-gop-size": 2,
      "max-gop-size": 120,
      "reserved": [
        {
        "w": 1920,
        "h": 1200
        }
      ]
    },
    "ndi-hx3-durations": [
      {
        "name": "25 FPS",
        "value": 400000
      },
      {
        "name": "30 FPS",
```

```
        "value": 333333
      },
      {
        "name": "50 FPS",
        "value": 200000
      },
      {
        "name": "60 FPS",
        "value": 166667
      },
      {
        "name": "Follow Input",
        "value": 0
      }
    ],
    "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": 900
      },
      {
        "w": 1600,
        "h": 1200
      },
      {
        "w": 1664,
        "h": 936
      },
      {
        "w": 1920,
        "h": 1080
      },
      {
        "w": 1920,
        "h": 1200
      },
      {
        "w": 2048,
        "h": 1080
      },
      {
        "w": 3840,
        "h": 2160
      },
      {
        "w": 4096,
        "h": 2160
      }
    ],
    "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
    },
    {
      "name": "24 Mbps",
      "value": 24576
    },
```

```
      {
        "name": "25 Mbps",
        "value": 25600
      },
      {
        "name": "26 Mbps",
        "value": 26624
      },
      {
        "name": "31 Mbps",
        "value": 31744
      },
      {
        "name": "32 Mbps",
        "value": 32768
      },
      {
        "name": "41 Mbps",
        "value": 41984
      },
      {
        "name": "50 Mbps",
        "value": 51200
      },
      {
        "name": "52 Mbps",
        "value": 53248
      },
      {
        "name": "62 Mbps",
        "value": 63488
      }
    ],
    "audio-streams": [
      {
        "name": "Audio stream 1",
        "value": 0
      },
      {
        "name": "Audio stream 2",
        "value": 1
      },
      {
        "name": "Audio stream 3",
        "value": 2
      },
      {
        "name": "Audio stream 4",
        "value": 3
      }
    ],
    "audio-channels": [
      {
        "name": "Follow Input",
        "value": 0
      },
      {
        "name": "2 Channels",
        "value": 2
      },
      {
        "name": "4 Channels",
```

```
        "value": 4
      },
      {
        "name": "6 Channels",
        "value": 6
      },
      {
        "name": "8 Channels",
        "value": 8
      }
    ],
    "audio-chmap": [
      {
        "name": "Source channels 1/2",
        "value": 0
      },
      {
        "name": "Source channels 3/4",
        "value": 1
      },
      {
        "name": "Source channels 5/6",
        "value": 2
      },
      {
        "name": "Source channels 7/8",
        "value": 3
      }
    ],
    "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": " 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
      }
    ],
    "video-rotation": [
      {
        "name": "Off",
        "value": 0
      },
      {
        "name": "90",
        "value": 1
      },
      {
        "name": "180",
        "value": 2
      },
      {
        "name": "270",
        "value": 3
      }
    ],
    "rc": {
      "mim-qp": 0,
      "max-qp": 51,
      "def-h264-min-qp": 10,
      "def-h264-max-qp": 48,
      "def-hevc-min-qp": 12,
      "def-hevc-max-qp": 51
    }
  },
  "rec": {
    "mode": [
      {
        "name": "Ordinary recording",
        "value": 0
      },
      {
        "name": "Loop recording",
        "value": 1
      }
    ],
    "file-prefix": [
      {
        "name": "Custom prefix",
```

```
        "value": 0
      },
      {
        "name": "Creation time",
        "value": 1
      }
    ],
    "file-suffix": [
      {
        "name": "mp4",
        "value": 0
      },
      {
        "name": "mov",
        "value": 1
      }
    ],
    "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
      }
    ],
    "trigger-mode": [
      {
        "name": "Signal locked",
        "value": 0
      },
      {
        "name": "USB drive detected",
        "value": 1
      }
    ]
  },
```

```
  "nas": {
    "proto": [
      {
        "name": "NFS - Network File System",
        "value": 0
      },
      {
        "name": "CIFS - Common Internet File System",
        "value": 1
      }
    ]
  },
  "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
    }
  },
  "hls-push": {
    "seg-count": {
      "max": 5,
      "min": 1,
      "def": 3
    },
    "seg-duration": {
      "max": 4,
      "min": 1,
      "def": 3
    }
```

```
    }
  },
  "surface": {
    "image": {
    "max-count": 8,
    "max-width": 1920,
    "max-height": 1080,
    "max-size-kb": 512
    },
    "type": [
      {
        "name": "Text",
        "value": 0
      },
      {
        "name": "System Time",
        "value": 1
      },
      {
        "name": "Image",
        "value": 2
      }
    ],
    "image-type": [
      {
        "name": "JPEG",
        "value": 0
      },
      {
        "name": "PNG",
        "value": 1
      }
    ],
    "condition": [
      {
        "name": "Always",
        "value": 0
      }
    ],
    "position": [
      {
        "name": "Custom",
        "value": 0
      },
      {
        "name": "Left Top Corner",
        "value": 1
      },
      {
        "name": "Top Right Corner",
        "value": 2
      },
      {
        "name": "Top Center",
        "value": 5
      },
      {
        "name": "Left Bottom Corner",
        "value": 3
      },
      {
        "name": "Bottom Right Corner",
```

```
        "value": 4
      },
      {
        "name": "Bottom Center",
        "value": 6
      },
      {
        "name": "Center",
        "value": 7
      }
    ],
    "font-family": [
      {
        "name": "Source Han Sans",
        "value": 0
      },
      {
        "name": "Lato",
        "value": 1
      }
    ],
    "font-style": [
      {
        "name": "Normal",
        "value": 0
      },
      {
        "name": "Italic",
        "value": 1
      },
      {
        "name": "Oblique",
        "value": 2
      }
    ],
    "font-weight": [
      {
        "name": "Normal",
        "value": 0
      },
      {
        "name": "Bold",
        "value": 1
      }
    ],
    "time-format": [
      {
        "name": "YYYY-MM-DD hh:mm:ss",
        "value": 0
      },
      {
        "name": "MM/DD/YYYY hh:mm:ss",
        "value": 1
      },
      {
        "name": "DD/MM/YYYY hh:mm:ss",
        "value": 2
      },
      {
        "name": "YYYY-MM-DD",
        "value": 3
      },
```

```
      {
        "name": "MM/DD/YYYY",
        "value": 4
      },
      {
        "name": "DD/MM/YYYY",
        "value": 5
      },
      {
        "name": "hh:mm:ss",
        "value": 6
      },
      {
        "name": "hh:mm",
        "value": 7
      }
    ]
  },
  "web": {
    "theme": [
      {
        "name": "Light",
        "value": 0
      },
      {
        "name": "Dark",
        "value": 1
      }
    ]
  },
  "send-file": {
    "server": [
      {
        "name": "FTP Server",
        "value": 0
      },
      {
        "name": "Google Drive",
        "value": 1
      },
      {
        "name": "Dropbox",
        "value": 2
      }
    ],
    "ftp-proto": [
      {
        "name": "FTP - File Transfer Protocol",
        "value": 0
      },
      {
        "name": "SFTP - SSH File Transfer Protocol",
        "value": 1
      }
    ],
    "ftp-encryption": [
      {
        "name": "Only use plain FTP (insecure)",
        "value": 0
      },
      {
        "name": "Require explicit FTP over TLS",
```

```
        "value": 1
      },
      {
        "name": "Require implicit FTP over TLS",
        "value": 2
      }
    ],
    "ftp-transfer-mode": [
      {
        "name": "Active",
        "value": 0
      },
      {
        "name": "Passive",
        "value": 1
      }
    ]
  },
  "lcd": {
    "page": [
      {
        "name": "Preview",
        "value": 0
      },
      {
        "name": "Live",
        "value": 1
      },
      {
        "name": "Record",
        "value": 2
      },
      {
        "name": "QR Code",
        "value": 3
      }
    ]
  }
}
```

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 current time
  "box-name": "",                 // device name
  "input-source": 1,              // input source
  "input-device": 1,              // input device
  "cpu-temperature": 61100,
  "enable-ndi-hx3": 0,
  "codec": {                      // codec status
    "main-stream": {},
    "sub-stream": {},
    "audio": {}
  },
  "sysstat": {},                  // device running status
  "live-status": {                // live status
    "live": []
    },
  "upgrade-status": {},           // update status
  "rec-status": {                 // recording status
    "rec": []
  },
  "format-status": {},            // disk format status
  "disk-test": {},                // disk performance test status
  "nas": {},                      // nas connection status
  "living-test": {},              // live test status
  "check-upgrade": {},            // online update check status
  "conn-wifi": {},                // wifi connection status
  "input-signal": {},             // input signal
  "disk-info": {},                // disk information
  "wifi": {},                     // wifi network
  "softap": {},                   // AP network
  "eth": {},                      // ethernet network
  "mobile": {},                   // mobile broadband network
  "rndis": {},                    // USB net
  "upgrade": {},                  // new firmware information
  "channel-count": 2,
  "vumeters": [
    33,
    32
    ]
}
```

Response Body

```
"result": 0
```

Device Running Status Mask

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

Masks represent the device running status. Specific description for each mask refers to Device Status Masks. The following conditions are used to get 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 is updating.

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,
  "hdmi": {
    "status": 0,
    "cx": 0,
    "cy": 0,
    "interlaced": 0,
    "interlaced-scale": 1,
    "frame-rate": 0.00,
    "channel-valid": 0,
    "is-lpcm": 0,
    "bits-per-sample": 0,
    "sample-rate": 0
  },
  "sdi": {
    "status": 0,
    "cx": 0,
    "cy": 0,
    "interlaced": 0,
    "interlaced-scale": 1,
    "frame-rate": 0.00,
    "channel-valid": 0,
    "is-lpcm": 0,
    "bits-per-sample": 0,
    "sample-rate": 0
  }
}
```

Streaming Status

```
"live-status": {
  [
    {
      "id": 0,
      "type": 130,
      "is-use": 1,
      "is-skd-runnung": 0,
      "name": "NDI HX",
      "run-ms": 231465213,
      "result": 22,
      "main-inst-bps": 993141,
      "sub-inst-bps": 103444,
    }
  ]
}
```

Streaming Test Status

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

Record Status

```
"rec-status": {
  "rec": [
    {
      "id": 1,
      "type": 1,
      "is-use": 1,
      "is-skd-runnung": 0,
      "result": 2,
      "run-ms": 1700,
      "parted-num": 1,
      "video-frame-count": 70,
      "audio-frame-count": 54
    }
  ]
}
```

Disk Formatting Status

```
"format-status": {
  "type": 0,
  "percent": 0,
  "result": 27,
  "client-id": ""
}
```

Disk Testing Status

```
"disk-test": {
  "type": 0,
  "read-bps": 0,
  "write-bps": 0,
  "percent": 0,
  "result": 27,
  "client-id": ""
}
```

NAS Connection Status

```
"nas": [
  {
    "id": 0,
    "type": 2,
    "result": 22
  }
]
```

Online Check 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 settings.

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,             // enable status of auto-check online update
  "audio-sync-offset": 0,           // audio offset in ms
  "udp-mtu": 1496,                  // UDP MTU
  "enable-ndi-hx3": 0,              // NDI|HX3 enable status
  "softap": {},                     // AP settings
  "date-time": {},                  // value of date and time
  "input-source": {},               // input source value
  "video-color": {},                // video information
  "volume": {},                     // audio information
  "enable-deinterlace": 1,          // deinterlace enable status
  "3d-output": {},                  // 3D output settings
  "main-stream": {},                // main stream settings
  "sub-stream": {},                 // sub stream settings
  "audio": {},                      // audio settings
  "audio-streams": [...],           // ÒôÆµÂëÁ÷ÁÐ±í
  "eth": {},                        // Ethernet information
  "wifi": {},                       // Wi-Fi information
  "rndis": {},                      // USB NET 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": [...]           // no signal images list
  "nas": [...]                      // NAS list
  "send-file-cloud": [...],         // Upload server list
  "web": {},                        // Web security management and theme configuration information
  "rec": {},                        // record settings
  "living": {},                     // live settings
  "lcd-control": {}                 // LCD screen settings
}
```

Example

```
{
  "result": 0,
  "name": "Ultra Encode B313220727002",
  "is-check-update": 1,
  "living-kbps": 32768,
  "audio-sync-offset": 0,
  "enable-advanced-pcr": 0,
  "udp-mtu": 1496,
  "enable-ndi-hx3": 0,
  "softap": {
    "is-softap": 1,
    "is-visible": 1,
    "softap-ssid": "B313220727002",
    "softap-passwd": "20727002"
  },
  "date-time": {
    "timezone": "Asia/Shanghai",
    "is-auto": 1,
    "ntp-server": "0.pool.ntp.org",
    "ntp-server-backup": "1.pool.ntp.org"
  },
  "input-source": {
    "source": 1,
    "mixer": {
    "input-device": 2,
    "is-hdmi-top": 0,
    "type": 0,
    "location": 2
  }
  },
  "video-color": {
    "hdmi": {
    "contrast": 100,
    "brightness": 0,
    "saturation": 100,
    "hue": 0
  },
  "sdi": {
    "contrast": 100,
    "brightness": 0,
    "saturation": 100,
    "hue": 0
  }
  },
  "volume": {
    "is-spi": 1,
    "spi-gain": 0,
    "is-linein": 1,
    "linein-gain": 127,
    "is-lineout": 1,
    "lineout-gain": 0,
    "enable-mic-bias": 0
  },
  "enable-deinterlace": 1,
  "3d-output": {
    "enable": 0,
    "mode": 1
  },
  "main-stream": {
    "is-auto": 0,
    "codec": 1,
```

```
    "cx": 1920,
    "cy": 1080,
    "duration": 0,
    "kbps": 8192,
    "gop": 60,
    "fourcc": 0,
    "profile": 0,
    "cbrstat": 60,
    "fullrange": 0,
    "is-vbr": 0,
    "min-vbr-qp": 0,
    "max-vbr-qp": 0,
    "is-time-code-sei": 1,
    "is-closed-caption-sei": 0,
    "ar-convert-mode": 2,
    "rotation": 0,
    "mirroring": 0
  },
  "sub-stream": {
    "enable": 1,
    "codec": 1,
    "cx": 1920,
    "cy": 1080,
    "duration": 333333,
    "kbps": 4096,
    "gop": 60,
    "fourcc": 0,
    "profile": 0,
    "cbrstat": 60,
    "fullrange": 0,
    "is-vbr": 0,
    "min-vbr-qp": 0,
    "max-vbr-qp": 0,
    "is-time-code-sei": 1,
    "is-closed-caption-sei": 0,
    "ar-convert-mode": 2,
    "rotation": 0,
    "mirroring": 0
  },
  "audio": {
  "sample-rate": 48000,
    "channels": 0,
    "kbps": 256,
    "ch0": 0,
    "ch1": 1,
    "ch2": 1,
    "ch3": 3
  },
  "audio-streams": [
    {
     "sample-rate": 48000,
      "channels": 0,
      "kbps": 256,
      "ch0": 0,
      "ch1": 1,
      "ch2": 1,
      "ch3": 3
    },
    {
      "sample-rate": 48000,
      "channels": 2,
      "kbps": 32,
```

```
      "ch0": 2,
      "ch1": 1,
      "ch2": 2,
      "ch3": 3
    },
    {
      "sample-rate": 48000,
      "channels": 2,
      "kbps": 128,
      "ch0": 3,
      "ch1": 1,
      "ch2": 2,
      "ch3": 3
    },
    {
      "sample-rate": 48000,
      "channels": 2,
      "kbps": 192,
      "ch0": 3,
      "ch1": 1,
      "ch2": 2,
      "ch3": 3
    }
  ],
  "eth": {
    "is-dhcp": 1,
    "ip": "",
    "mask": "",
    "router": "",
    "dns": ""
  },
  "wifi": {
    "is-dhcp": 1,
    "ip": "",
    "mask": "",
    "router": "",
    "dns": ""
  },
  "rndis": {
    "ip": "192.168.66.1",
    "mask": "255.255.255.0"
  },
  "stream-server": [
    {
      "id": 0,
      "type": 130,
      "name": "NDI HX",
      "is-use": 0,
      "source-name": "#serial-no#",
      "group-name": "public",
      "enable-discovery": 0,
      "discovery-server": "",
      "transport-mode": 3,
      "mcast-addr": "",
      "mcast-mask": "",
      "mcast-ttl": 0,
      "enable-fail-over": 0,
      "fail-over-ndi-name": "",
      "fail-over-ip-addr": "",
      "enable-web-control": 0,
      "enable-ptz-control": 0,
      "main-stream": 0,
```

```
      "prvw-stream": 1,
      "audio": 2,
      "opt": 0,
      "is-media-hub": 0
    }
  ],
  "video-input-format": {
    "hdmi": {
    "is-color-fmt": 0,
    "color-fmt": 1,
    "is-quant-range": 0,
    "quant-range": 1
  },
  "sdi": {
    "is-color-fmt": 0,
    "color-fmt": 1,
    "is-quant-range": 0,
    "quant-range": 1
  }
  },
  "video-output-format": {
    "hdmi": {
    "is-color-fmt": 0,
    "color-fmt": 3,
    "is-quant-range": 0,
    "quant-range": 2,
    "is-sat-range": 0,
    "sat-range": 2
    },
    "sdi": {
      "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
    },
    {
      "id": 2,
      "is-use": 0,
      "is-edit": 1,
      "file-path": "/no-signal/default2.jpg",
      "time": 16687566986732126
    }
  ],
```

```
  "nas": [
    {
      "id": 0,
      "type": 2,
      "proto": 0,
      "is-use": 1,
      "addr": "10.10.14.193",
      "mount": "/home/magewell/nfs"
    }
  ],
  "send-file-cloud": [
  ],
  "web": {
    "is-http": 1,
    "http-port": 80,
    "is-https": 0,
    "https-port": 443,
    "is-cert-valid": 0,
    "is-cert-key-valid": 0,
    "theme": 0
  },
  "rec": {
    "is-auto": 0,
    "trigger-mode": 0
  },
  "living": {
    "ts": {
      "mtu": 1497
    },
    "hls-push": {
      "seg-count": 3,
      "seg-duration": 3
    }
  },
  "lcd-control": {
    "no-touch": 0,
    "page-idx": 3,
    "no-flip": 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,
  "micro-sec": 149564858458,
  "cur-status": 65552
}
```

Item	Description
result	0 indicates the device is able to access. 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-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	Specifies where to store the 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.

get-logs

Use this interface to obtain system logs list which can include up to 1000 records with administrator rights.

HTTP Request

```
GET http://ip/usapi?method=get-logs&types=all
```

Parameter	Description
method	get-logs
types	Log types including all, info, warn and error, separated by comma when there are multiple values.

Response Body

```
{
  "result": 0
  "logs:[
    {
      "type": "warn",
      "time": "2022-03-19 09:53:03.047",
      "message": "USB state: disconnected"
    },
    ...
  ]"
}
```

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

export-logs

Use this interface to export current system logs as html files with administrator rights.

HTTP Request

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

Parameter	Description
method	export-logs
file-name	File saved directory.

Response Body

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

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

clear-logs

Use this interface to clear all system logs with administrator rights.

HTTP Request

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

Parameter	Description
method	clear-logs

Response Body

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

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

start-live

> Added at V2.1

Use this interface to start live. You can call stop-live to stop it.

HTTP Request

```
GET http://ip/usapi?method=start-live
```

Parameter	Description
method	start-live

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.

stop-live

> Added at V2.1

Use this interface to stop streaming.

HTTP Request

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

Parameter	Description
method	stop-live

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-live

> Added at V2.1

Use this interface to reset the device to the initial state (retInit=27) when live streaming fails or succeeds.

HTTP Request

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

Parameter	Description
method	clear-live

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.

start-rec

> Added at V2.1

Use this interface to start recording.

You can call stop-rec to stop it.

HTTP Request

```
GET http://ip/usapi?method=start-rec
```

Parameter	Description
method	start-rec

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.

stop-rec

> Added at V2.1

Use this interface to stop recording.

HTTP Request

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

Parameter	Description
method	stop-rec

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-rec

> Added at V2.1

Use this interface to reset the device to the initial state (retInit=27) when recording fails or succeeds.

HTTP Request

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

Parameter	Description
method	clear-clear-rec

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	The string of device name ranges from 1 to 32 characters, which contains 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	The string of device name which contains 1. 1 to 32 characters 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 contains 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 UPNP enable status.

HTTP Request

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

Parameter	Description
method	set-ssdp
is-ssdp	0: disable UPNP 1: enable UPNP

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, line in, and line out.

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

```
"audio-range": {
    "spi": [],       // range of input audio gain
    "linein": [],        // range of line in audio gain
    "lineout": [],      // range of line out audio gain
  }
```

Response Body

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

Parameter	Description
method	set-volume
is-linein	0: mute the linein gain. 1: enable the line in gain.
linein-gain	Indicates the line in gain in dB. The default value is 0.
is-spi	0: mute the input gain. 1: enable the input gain.
spi-gain	Indicates the input gain in dB. The default value is 0.
is-lineout	0: mute the line out gain. 1: enable the line out gain.
lineout-gain	Indicates the line out 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-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	Specifies audio offset which ranges 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 less 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 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	Specifies 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',
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```

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    'America/Nipigon',
    'America/Nome',
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    'America/Rankin_Inlet',
```

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    'Europe/Kaliningrad',
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    '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 like 2019-09-10 15:10:00. Specify 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	MTU 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.

set-analog-mic-bias

Use the interface to set mic bias for Line In interface.

HTTP Request

```
GET http://ip/usapi?method=set-analog-mic-bias&enable-mic-bias=1
```

Parameter	Description
method	set-analog-mic-bias
enable-mic-bias	0: disable mic bias 1: enable mic bias

Response Body

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

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

set-web

> Added at V2.2

Use this interface to set security management.

HTTP Request

```
GET http://ip/usapi?method=set-web&http-port=80&is-https=1&https-port=443
```

Parameter	Description
method	set-web
http-port	http service port
is-https	0: disable https 1: enable https
https-port	https port

Response Body

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

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

upload-cert

> Added at V2.2

Use this interface to add the SSL certificate.

HTTP Request

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

Parameter	Description
method	upload-cert

Response Body

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

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

upload-cert-key

> Added at V2.2

Use this interface to add the SSL private key.

HTTP Request

```
POST http://ip/usapi?method=upload-cert-key
```

Parameter	Description
method	upload-cert-key

Response Body

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

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

generate-cert-key

> Added at V2.4

Use this interface to generate SSL certificate and private key.

HTTP Request

```
GET http://ip/usapi?method=generate-cert-key
```

Parameter	Description
method	Method name: generate-cert-key

Response Body

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

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

set-theme

> Added at V2.2

Use this interface to set light/dark mode.

HTTP Request

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

Parameter	Description
method	set-theme
theme	0: light theme 1: dark theme

Response Body

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

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

set-hls-push-segment

> Added at V2.3

Use this interface to set number and duration of file segment for HLS (push).

Use the interface get-info to get the parameters as below.

```
{
  "living": {
    "hls-push": {
      seg-count: {},    // rang of number for file segment
      seg-duration: {}  // rang of file segment duration
    },
  }
}
```

HTTP Request

```
GET http://ip/usapi?method=set-hls-push-segment&seg-count=3&seg-duration=3
```

Parameter	Description
method	set-hls-push-segment
seg-count	file segment count.
seg-duration	file segment duration

Response Body

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

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

set-lcd-control

> Added at V2.3, supported by Ultra Encode AIO only

Set LCD touch screen and display.

Use the interface get-info to get the range of the LCD display.

```
{
  "lcd": {
    "page": []   // range of LCD display
  }
}
```

HTTP Request

```
GET http://ip/usapi?method=set-lcd-control&no-touch=0&no-flip=0&page-idx=1
```

Parameter	Description
method	set-lcd-control
no-touch	0: disable LCD touch screen 1: enable LCD touch screen
no-flip	0: disable page flip 1: enable page flip
page-idx	LCD display 0: preview 1: live 2: record 3: Web UI QR code

Response Body

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

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

set-live-keep-last

> Added at V2.4

Use this interface to restart live streaming sessions when the device reboots.

HTTP Request

```
GET http://ip/usapi?method=set-live-keep-last&live-keep-last=1
```

Parameter	Description
method	Method name: set-live-keep-last
live-keep-last	Whether to enable 0: Disable 1: Enable

Response Body

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

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

set-ndi-bridge-config

> Added at V2.4

Use this interface to set NDI Bridge configuration information.

HTTP Request

```
GET http://ip/usapi?method=set-ndi-bridge-config&enable-ndi-bridge=1&groups=public&xxx
```

Parameter	Description
method	Method name: set-ndi-bridge-config
enable-ndi-bridge	Whether to enable bridge service
groups	Group name, default is public
bridge-name	Bridge service name
ip-addr	Bridge server IP address
port	Bridge server port
encryp-key	Bridge server encryption key

Response Body

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

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

add-token

> Added at V2.4

Use this interface to add a token for user.

HTTP Request

```
GET http://ip/usapi?method=add-token&token=xxx&expire=xxx&user=xxx
```

Parameter	Description
method	Method name: add-token
token	Token
expire	Token expiration time, calculated from 1970-01-01 00:00:00 +0000 (UTC), -1 for unlimited, unit: seconds
user	Username

Response Body

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

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

del-token

> Added at V2.4

Use this interface to delete user token.

HTTP Request

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

Parameter	Description
method	Method name: del-token
token	Token

Response Body

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

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

get-tokens

> Added at V2.4

Use this interface to get user token.

HTTP Request

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

Parameter	Description
method	Method name: get-tokens

Response Body

```
{
  "tokens": [
    {
      "token": "Q7kMpTN7YYJ7PHtQBGAS3HZTbNCiA35SesersYKJceZRxANZ55CK47Hctn5JnnGN",
      "expire": -1,
      "user": "Admin"
    }
  ],
  "result": 0
}
```

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

upload-zen-master-key

> Added at V2.4

Use this interface to upload ZIXI ZEN Master SSH private key.

HTTP Request

```
POST http://ip/usapi?method=upload-zen-master-key
```

Parameter	Description
method	Method name: upload-zen-master-key

Response Body

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

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

set-zen-master-config

> Added at V2.4

Use this interface to configure ZIXI ZEN Master.

HTTP Request

```
GET http://ip/usapi?method=set-zen-master-config&enable-zen-master=1&user-name=xxx&host=xxx&tunnel-port=xxx
```

Parameter	Description
method	Method name: set-zen-master-config
enable-zen-master	Whether to enable connection to ZEN Master
user-name	Username configured on ZEN Master
host	ZEN Master address
tunnel-port	Forwarding port number configured on ZEN Master (Remote Source Port)

Response Body

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

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

set-video-mixer-config

> Supported by Ultra Encode AIO only

Use this interface to specify parameters to combine input SDI and HDMI video.

You can obtain the ranges of mixer parameters using get-info.

```
"input-source": {
  "video-mixer": {
    "types": [],          // range of locations
    "pip": [],            // range of picture in picture locations
    "sbs": [],            // range of side by side locations
  },
}
```

HTTP Request

```
GET http://ip/usapi?method=set-video-mixer-config&input-device=1...
```

Parameter	Description
method	set-video-mixer-config
input-device	Input mixer format. 1: same as SDI input 2: same as HDMI input
is-hdmi-top	The z-order for video mixer. 0: HDMI input as the bottom layer and SDI as top. 1: HDMI input as the top layer and SDI as bottom.
type	Video mixer mode. 0: picture in picture 1: side by side
location	Location of video mixer which can be obtained by calling get-info.

Response Body

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

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

select-input-source

> Supported by Ultra Encode AIO only

Use this interface to set A/V input source.

Obtain range of record parameters via get-info.

```
"input-source": {
  "sources": [],          // range of input sources
}
```

HTTP Request

```
GET http://ip/usapi?method=select-input-source&input-source=1
```

Parameter	Description
method	select-input-source
input-source	Input source. 1: SDI only 2: HDMI only 3: SDI or HDMI 4: mix SDI and HDMI input

Response Body

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

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

get-signal-info

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

HTTP Request

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

Parameter	Description
method	get-signal-info
input-device	Input source. 1: SDI 2: HDMI

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	Returned status. 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 range of recording parameters using get-info.

```
"color-range": {
    "contrast": [],       // range of contrast
    "brightness": [],     // range of brightness
    "saturation": [],     // range of saturation
    "hue": []             // 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	The contrast value. The default value is 100.
brightness	The brightness value. The default value is 0.
saturation	The saturation value. The default value is 100.
hue	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 range of video format parameters by calling get-info.

```
"video-format": {
    "input-color-fmt": [],       // range of color space
    "quant-range": [],           // 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
input-device	Input sources. 1: SDI in 2: HDMI in
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 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 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 range of video format parameters by calling get-info.

```
"video-format": {
    "output-color-fmt": [],       // range of color space
    "quant-range": [],           // range of quantization range
    "sat-range": [],             // 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
input-device	Input sources. 1: SDI in 2: HDMI in
is-color-fmt	The default value is 0, which indicates to auto-set color space, while 1 indicates a custom setting.
color-fmt	The color format parameter value. The default value is 3.
is-quant-range	The default value is 0, which indicates to auto-set quantization, while 1 indicates a custom setting.
quant-range	The quantization parameter value. The default value is 2.
is-sat-range	The default value is 0, which indicates to auto-set saturation, while 1 indicates a custom setting.
sat-range	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-audio-mixer-config

> Added at: V2.4

Configure audio output.

HTTP Request

```
GET http://ip/usapi?method=set-audio-mixer-config&enable-spi-mix=1...
```

Parameter	Description
method	Method name: set-audio-mixer-config
enable-spi-mix	Whether to output HDMI or SDI audio 0: Not output 1: Output
enable-lineout-mix	Whether to output Line Out audio 0: Not output 1: Output

Response Body

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

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

set-video

> Added at V2.2 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.
- H264/HEVC profile
- video bit rate
- keyframe interval
- quantization range
- aspect ratio
- rotation

Obtain parameters range using get-info.

```
{
  "codec-cap": {
    "resolutions": [],          // range of resolution
    "durations": [],            // range of frame interval
    "video-codec": [],          // range of video codec
    "profile": [],              // H264 profile
    "hevc-profile": [],         // HEVC profile
    "video-kbps": [],           // range of video bit rate
    "gop-sec": [],              // range of keyframe interval
    "video-range": [],          // range of quantization
    "video-ar-convert-mode": []£¬// range of aspect ratio conversion
    "video-rotation: []         // range of video rotation angle
  }
}
```

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&profi
le=2&cbrstat=60&fullrange=1&codec=0
```

Parameter	Description
method	set-video
stream	Indicates the stream type. 0: the main stream 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. 0: custom the format for your session. 1: follow input.
cx	Indicates width of resolution dimensions in pixels.
cy	Indicates height of resolution dimensions in pixels.
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	Reserved.
fullrange	Indicates quantization range.
is-vbr	0: CBR 1: VBR, the maximum and minimum steps are required
min-vbr-qp	min-step ranges from 0 to 51
max-vbr-qp	max-step ranges from minimum to 51
is-time-code-sei	0: not to set time code SEI messages 1: use system time 2: use input source time code
is-closed-caption-sei	0: not to set CC SEI messages 1: set CC SEI messages
ar-convert-mode	0: Ignore 1: Cropping 2: Padding
rotation	0: 0° 90: rotate 90° 180: rotate 180° 270: rotate 270°

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 set audio encoding parameters.

Obtain ranges of audio encoding parameters using get-info.

```
{
  "codec-cap": {
    "audio-streams": [],         // range of audio streams
    "audio-channels": [],        // range of audio channels
    "audio-chmap": [],           // range of audio channel mapping
    "audio-kbps": [],            // range of audio bit rate
  }
}
```

HTTP Request

```
GET http://ip/usapi?method=set-audio&stream=1&kbps=48...
```

Parameter	Description
method	set-audio
stream	The output channel 0: stream 1 The output channel 1: stream 2 The output channel 2: stream 3 The output channel 3: stream 4
channels	The output channel count.
kbps	Indicates audio bit rate.
ch0	Source channel number which is mapped by audio encoding channel 1.
ch1	Source channel number which is mapped by audio encoding channel 2.
ch2	Source channel number which is mapped by audio encoding channel 3.
ch3	Source channel number which is mapped by audio encoding channel 4.
ch4	Source channel number which is mapped by audio encoding channel 5.
ch5	Source channel number which is mapped by audio encoding channel 6.
ch6	Source channel number which is mapped by audio encoding channel 7.
ch7	Source channel number which is mapped by audio encoding channel 8.
use-lfe	Whether to enable LFE, the number of audio encoding channels greater than 2 is valid. 0: disabled 1: enabled

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 videos.

HTTP Request

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

Parameter	Description
method	enable-deinterlace
enable-deinterlace	0: not to deinterlace 1: deinterlace

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.

select-audio-channels

> Deprecated at V2.4

Use this interface to select the audio channels to be encoded from the audio input channels, valid only when the input source is SDI and the number of input audio channels is greater than 8, and the selection is limited to a maximum of 8.

HTTP Request

```
GET http://ip/usapi?method=select-audio-channels&channel-mask=1
```

Parameter	Description
method	select-audio-channels
channel-mask	mask for input audio channel. If the chosen number is n, (from 0 to 15), then channel-mask |= (1 << n)

Response Body

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

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

set-enable-stream1

> Added at V2.2

Use this interface to turn on/off the sub stream encoding.

HTTP Request

```
GET http://ip/usapi?method=set-enable-stream1&enable=1
```

Parameter	Description
method	set-enable-stream1
enable	0: disable the sub stream 1: enable the sub stream.

Response Body

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

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

set-in-cropping

> Added at V2.3 Use this interface to generate a thumbnail image for cropping.

Use the interface get-info to get the thumbnails path:

```
{
  "main-crop-snapshot": "",         // thumbnail image path for the main stream video cropping
  "sub-crop-snapshot": "",         // thumbnail image path for the sub stream video cropping
}
```

HTTP Request

```
GET http://ip/usapi?method=set-in-cropping&stream-idx=1
```

Parameter	Description
method	set-in-cropping
stream-idx	0: main stream 1: sub stream

Response Body

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

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

set-crop

> Added at V2.3

Use this interface to set crop parameters for the main and sub stream.

HTTP Request

```
GET http://ip/usapi?method=set-crop&stream-idx=1&is-use=0...
```

Parameter	Description
method	set-crop
stream-idx	0: the main stream 1: the sub stream
is-use	0: disable cropping the video stream 1: enable cropping the video stream
x-offset	Horizontal offset
y-offset	Vertical offset
act-w	Width.
act-h	Height.

Response Body

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

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

set-3d-output-config

> Added at V2.3, supported by Ultra Encode Plus only

Use this interface to set Set whether to enable video 3D output configuration information.

HTTP Request

```
GET http://ip/usapi?method=set-3d-output-config&enable=1&mode=0
```

Parameter	Description
method	set-3d-output-config
enabe	0: to disable 3D output 1: to enable 3D output
mode	Reservered. It is 0 by default.

Response Body

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

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

set-audio-stream-count

> Added at: V2.4

Use this interface to set the number of audio encoding streams.

HTTP Request

```
GET http://ip/usapi?method=set-audio-stream-count&audio-stream-count=2
```

Parameter	Description
method	Method name: set-audio-stream-count
audio-stream-count	Number of audio streams, maximum 8 audio streams

Response Body

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

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

add-server

> Modified at: V2.4

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, port and stream ID
- SRT Listener sessions 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
- specify the same IP address and port number for TS over UDP and TS over RTP
- NDI HX sessions with the same source
- For ZIXI live streaming, same stream ID is considered same configuration
- For RIST Caller live streaming, same IP address and port number are considered same configuration
- For RIST Listener live streaming, same port number is considered same configuration

HTTP Request

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

Parameter	Description
method	add-server
type	Server type 0: RTMP 1: Twitch 2: YouTube 3: Facebook 4: Wowza over RTMP 100: RTSP 120: SRT Caller 121: SRT Listener 122: Wowza over SRT 130: NDI HX 131: HLS 132: TS over UDP 133: TS over RTP 140: TVU ISS 143: YouTube HLS 144: ZIXI 150: RIST Caller 151: RIST Listener
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. 0: main stream 1: sub stream
url	Indicates streaming destination address.
key	Indicates stream key.
is-auth	Indicates authentication status. 0: authentication is not required 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. 0: Mobile broadband first 1: Ethernet first 2: Wi-Fi first
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
RTSP streaming settings	
port	Indicates port number, the default port is 554.
max-connection	Indicates number of clients for each RTSP stream.

Parameter	Description
is-auth	Indicates authentication status. 0: authentication is not required 1: authentication is required. Both username and password are mandatory.
user	Indicates user name.
passwd	Indicates password.
is-main	Indicates whether to enable the main stream. 0: disable the main stream. 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. 0: disable the sub stream. 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. 0: disable audio. 1: enable audio.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
SRT Caller streaming settings	
stream-index	Indicates the stream type. 0: main stream 1: sub stream
url	Indicates destination address.
port	Indicates port number.
latency	Indicates delay time. You can obtain its 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 range by using get-info.
aes	Indicates the stream encryption algorithm to ensure the data security. 0: no encryption 16: AES-128 24: AES-192 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. 0: mobile broadband first 1: Ethernet first 2: Wi-Fi first

Parameter	Description
audio-streams	Audio stream mask. If the selected audio stream is n (n ranges from 0 to 3), then audio-streams |= (1 << n)
token	Token, valid only for Wowza over SRT
event-data	Live events, only valid for Wowza over SRT
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range from 0x10~0x1FFE
pcr-pid	Program clock reference PID, range from 0x10~0x1FFE
video-pid	Video PID, range from 0x10~0x1FFE
audio-pid	Audio PID, range from 0x10~0x1FFE
SRT Listener streaming settings	
stream-index	Indicates the stream type. 0: main stream 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 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 range by using get-info.
aes	Indicates the stream encryption algorithm to ensure the data security. 0: no encryption 16: AES-128 24: AES-192 32: AES-256
ase-word	Indicates passphrase.
mtu	Maximum transmission unit ranges from 232 to 1500.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range from 0x10~0x1FFE
pcr-pid	Program clock reference PID, range from 0x10~0x1FFE
video-pid	Video PID, range from 0x10~0x1FFE
audio-pid	Audio PID, range from 0x10~0x1FFE
NDI HX streaming settings	
source-name	By default, it is the same as 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.

Parameter	Description
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.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
HLS streaming settings	
stream-index	Streams. 0: main stream 1: sub stream
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.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
TS over UDP/RTP streaming settings	
stream-index	Indicates the stream type. 0: main stream 1: sub stream
url	Indicates the destination address.
port	Indicates the stream port
net-mode	Indicates the network priority. 0: Mobile broadband first 1: Ethernet first 2: Wi-Fi first
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
is-custom-pid	0: default PID 1: custom PID
pmt-pid	Program mapping PID, value range is from 0x10 to 0x1FFE.
pcr-pid	Program clock reference PID, value range is from 0x10 to 0x1FFE.
video-pid	Video PID, value range is from 0x10 to 0x1FFE.

Parameter	Description
audio-pid	Audio PID, value range is from 0x10 to 0x1FFE.
TVU ISSP streaming settings	
port	Indicates the stream port. 6539 by default.
stream-index	Indicates the stream type. 0: main stream 1: sub stream
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
YouTube HLS streaming settings	
stream-index	0: main stream 1: sub stream
url	Server URL
key	Stream key
is-auth	0: No authentication required 1: authentication required with username and password
user	Username
passwd	Password
token	Token
event-data	Live event
net-mode	Network priority. 0: mobile broadband first 1: wired network first 2: wireless network first
audio	Audio stream. 0: Audio stream 1 1: Audio stream 2 2: Audio stream 3 3: Audio stream 4
ZIXI streaming settings	
stream-index	Encoding stream 0: Main stream 1: Sub stream
links	Link information, including host, port, network, maximum bitrate, backup link; e.g. "10.10.35.34,2088,0,8192,0;10.10.35.34,2088,1,8192,1"
bond-links	Bond links 0: Not bond 1: Bond
stream-id	Stream ID
passwd	Password
latency	Delay time, you can obtain the range of related parameters through get-info
fec-overhead	FEC overhead, you can obtain the range of related parameters through get-info

Parameter	Description
aes	Encryption method 0: No encryption 16: AES-128 encryption 24: AES-192 encryption 32: AES-256 encryption
ase-word	Encryption field
ignore-tls-cert-error	Ignore TLS certificate error
audio-streams	Audio stream mask value, if the selected audio stream is n (n ranges from 0~3), then audio-streams |= (1 << n)
RIST Caller streaming settings	
stream-index	Encoding stream 0: Main stream 1: Sub stream
profile	Mode 0: Simple Profile 1: Main Profile
url	Server address
port	Port number
latency	Delay time, you can obtain the range of related parameters through get-info
bandwidth	Retransmission bandwidth, you can obtain the range of related parameters through get-info
aes	Encryption method 0: No encryption 16: AES-128 encryption 32: AES-256 encryption
ase-word	Encryption field
stream-id	Optional
mtu	Maximum transmission unit, valid value: 228 ~ 1500
net-mode	Network priority 0: Mobile broadband first 1: Wired network first 2: Wireless network first
audio-streams	Audio stream mask value, if the selected audio stream is n (n ranges from 0~3), then audio-streams |= (1 << n)
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range: 0x10~0x1FFE
pcr-pid	Program clock reference PID, range: 0x10~0x1FFE
video-pid	Video PID, range: 0x10~0x1FFE
audio-pid	Audio PID, range: 0x10~0x1FFE
RIST Listener streaming settings	
stream-index	Encoding stream 0: Main stream 1: Sub stream
port	Port number, default is 6000

Parameter	Description
max-connection	Maximum number of clients
latency	Delay time, you can obtain the range of related parameters through get-info
bandwidth	Retransmission bandwidth, you can obtain the range of related parameters through get-info
aes	Encryption method 0: No encryption 16: AES-128 encryption 32: AES-256 encryption
ase-word	Encryption field
mtu	Maximum transmission unit, valid value: 228 ~ 1500
audio-streams	Audio stream mask value, if the selected audio stream is n (n ranges from 0~3), then audio-streams |= (1 << n)
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range: 0x10~0x1FFE
pcr-pid	Program clock reference PID, range: 0x10~0x1FFE
video-pid	Video PID, range: 0x10~0x1FFE
audio-pid	Audio PID, range: 0x10~0x1FFE

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.

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	0: disable the server. 1: enable the server.

Response Body

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

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

set-server

> Modified at: V2.4 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	set-server
id	Server ID, obtained via get-settings
type	Server type 0: RTMP 1: Twitch 2: YouTube 3: Facebook 4: Wowza over RTMP 100: RTSP 120: SRT Caller 121: SRT Listener 122: Wowza over SRT 130: NDI HX 131: HLS 132: TS over UDP 133: TS over RTP 140: TVU ISS 143: YouTube HLS 144: ZIXI 150: RIST Caller 151: RIST Listener
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. 0: main stream 1: sub stream
url	Indicates streaming destination address.
key	Indicates stream key.
is-auth	Indicates authentication status. 0: authentication is not required 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. 0: Mobile broadband first 1: Ethernet first 2: Wi-Fi first
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
RTSP streaming settings	
port	Indicates port number, the default port is 554.
max-connection	Indicates number of clients for each RTSP stream.

Parameter	Description
is-auth	0: no authentication 1: authentication required with username and password
user	Username
passwd	password
is-main	Indicates whether to enable the main stream. 0: disable the main stream. 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. 0: disable the sub stream. 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. 0: disable audio. 1: enable audio.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
SRT Caller streaming settings	
stream-index	Indicates the stream type. 0: main stream 1: sub stream
url	Indicates destination address.
port	Indicates port number.
latency	Indicates delay time. You can obtain its 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 range by using get-info.
aes	Indicates the stream encryption algorithm to ensure the data security. 0: no encryption 16: AES-128 24: AES-192 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. 0: mobile broadband first 1: Ethernet first 2: Wi-Fi first
audio-streams	Audio stream mask. If the selected audio stream is n (n ranges from 0 to 3), then audio-streams |= (1 << n)

Parameter	Description
token	Token, valid only for Wowza over SRT
event-data	Live events, only valid for Wowza over SRT
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range from 0x10~0x1FFE
pcr-pid	Program clock reference PID, range from 0x10~0x1FFE
video-pid	Video PID, range from 0x10~0x1FFE
audio-pid	Audio PID, range from 0x10~0x1FFE
SRT Listener streaming settings	
stream-index	Indicates the stream type. 0: main stream 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 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 range by using get-info.
aes	Indicates the stream encryption algorithm to ensure the data security. 0: no encryption 16: AES-128 24: AES-192 32: AES-256
ase-word	Indicates passphrase.
mtu	Maximum transport unit ranges from 232 to 1500.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range from 0x10~0x1FFE
pcr-pid	Program clock reference PID, range from 0x10~0x1FFE
video-pid	Video PID, range from 0x10~0x1FFE
audio-pid	Audio PID, range from 0x10~0x1FFE
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.

Parameter	Description
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.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
HLS streaming settings	
stream-index	Indicates the stream type. 0: main stream 1: sub stream
stream-name	Indicates the 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.
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
TS over UDP/RTP streaming settings	
stream-index	Indicates the stream type. 0: main stream 1: sub stream
url	Indicates the destination address.
port	Indicates the stream port
net-mode	Indicates the network priority. 0: Mobile broadband first 1: Ethernet first 2: Wi-Fi first
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
is-custom-pid	0: default PID 1: custom PID
pmt-pid	Program mapping PID, value range is from 0x10 to 0x1FFE.
pcr-pid	Program clock reference PID, value range is from 0x10 to 0x1FFE.
video-pid	Video PID, value range is from 0x10 to 0x1FFE.
audio-pid	Audio PID, value range is from 0x10 to 0x1FFE.

Parameter	Description
TVU ISSP streaming settings	
port	Indicates the stream port. 6539 by default.
stream-index	Indicates the stream type. 0: main stream 1: sub stream
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
YouTube HLS streaming settings	
stream-index	0: main stream 1: sub stream
url	Server URL
key	Stream key
is-auth	0: No authentication required 1: authentication required with username and password
user	Username
passwd	Password
token	Token
event-data	Live event
net-mode	Network priority. 0: mobile broadband first 1: wired network first 2: wireless network first
audio	Audio stream. 0: Audio stream 1 1: Audio stream 2 2: Audio stream 3 3: Audio stream 4
ZIXI streaming settings	
stream-index	Encoding stream 0: Main stream 1: Sub stream
links	Link information, including host, port, network, maximum bitrate, backup link; e.g. "10.10.35.34,2088,0,8192,0;10.10.35.34,2088,1,8192,1"
bond-links	Bond links 0: Not bond 1: Bond
stream-id	Stream ID
passwd	Password
latency	Delay time, you can obtain the range of related parameters through get-info
fec-overhead	FEC overhead, you can obtain the range of related parameters through get-info

Parameter	Description
aes	Encryption method 0: No encryption 16: AES-128 encryption 24: AES-192 encryption 32: AES-256 encryption
ase-word	Encryption field
ignore-tls-cert-error	Ignore TLS certificate error
audio-streams	Audio stream mask value, if the selected audio stream is n (n ranges from 0~3), then audio-streams |= (1 << n)
RIST Caller streaming settings	
stream-index	Encoding stream 0: Main stream 1: Sub stream
profile	Mode 0: Simple Profile 1: Main Profile
url	Server address
port	Port number
latency	Delay time, you can obtain the range of related parameters through get-info
bandwidth	Retransmission bandwidth, you can obtain the range of related parameters through get-info
aes	Encryption method 0: No encryption 16: AES-128 encryption 32: AES-256 encryption
ase-word	Encryption field
stream-id	Optional
mtu	Maximum transmission unit, valid value: 228 ~ 1500
net-mode	Network priority 0: Mobile broadband first 1: Wired network first 2: Wireless network first
audio-streams	Audio stream mask value, if the selected audio stream is n (n ranges from 0~3), then audio-streams |= (1 << n)
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range: 0x10~0x1FFE
pcr-pid	Program clock reference PID, range: 0x10~0x1FFE
video-pid	Video PID, range: 0x10~0x1FFE
audio-pid	Audio PID, range: 0x10~0x1FFE
RIST Listener streaming settings	
stream-index	Encoding stream 0: Main stream 1: Sub stream
port	Port number, default is 6000

Parameter	Description
max-connection	Maximum number of clients
latency	Delay time, you can obtain the range of related parameters through get-info
bandwidth	Retransmission bandwidth, you can obtain the range of related parameters through get-info
aes	Encryption method 0: No encryption 16: AES-128 encryption 32: AES-256 encryption
ase-word	Encryption field
mtu	Maximum transmission unit, valid value: 228 ~ 1500
audio-streams	Audio stream mask value, if the selected audio stream is n (n ranges from 0~3), then audio-streams |= (1 << n)
is-custom-pid	Whether to customize PID 0: Default PID 1: Custom PID
pmt-pid	Program map PID, range: 0x10~0x1FFE
pcr-pid	Program clock reference PID, range: 0x10~0x1FFE
video-pid	Video PID, range: 0x10~0x1FFE
audio-pid	Audio PID, range: 0x10~0x1FFE

Response Body

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

Item	Description
result	Returned status. 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. 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. 0: RTMP 1: Twitch 2: YouTube 3: Facebook 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. 0: main stream 1: sub stream
url	Indicates destination address.
key	Indicates the stream key.
is-auth	Indicates whether an authentication is required. 0: authentication is not required 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. 0: Mobile broadband first 1: Ethernet first 2: Wi-Fi first
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4
SRT Caller streaming settings	
stream-index	Indicates the stream type. 0: main stream 1: sub stream
url	Indicates destination address.
port	Indicates stream port.
latency	Indicates delay time. You can obtain its 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 range by using get-info.
aes	Indicates the stream encryption algorithm to ensure the data security. 0: no encryption 16: AES-128 24: AES-192 32: AES-256

Parameter	Description
ase-word	Indicates passphrase.
stream-id	Optional
net-mode	Indicates the prime network for streaming. 0: Mobile Broadband first 1: Ethernet first 2: Wi-Fi first
audio-streams	Audio stream mask. If the selected audio stream is n (n ranges from 0 to 3), then audio-streams |= (1 << n)
token	Token, valid only for Wowza over SRT
event-data	Live events, only valid for Wowza over SRT

Response Body

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

Item	Description
result	Returned status. 0: stream test is started. 1: repeated request. -9: system is busy. 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. 27: the device is in initial status. 5 indicates that request is canceled. 2: stream test is in progress. 0: the request was accepted successfully. 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. 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. 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 within the same LAN 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": "ULTRA ENCODE (A304220101001)",
      "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-ndi-find-config

Use this interface to set NDI|HX discovery service.

HTTP Request

```
GET http://ip/usapi?method=set-ndi-find-config&group-name=public&xxx
```

Parameter	Description
method	set-ndi-find-config
group-name	Group name, public by default.
enable-discovery	0 indicates to disable discovery service, 1 indicates to enable discovery service.
discovery-server	IP address of discovery server.

Response Body

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

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

enable-ndi-hx3

Use this interface to set NDI|HX3 enable status.

HTTP Request

```
GET http://ip/usapi?method=enable-ndi-hx3&enable-ndi-hx3=1
```

Parameter	Description		
method	enable-ndi-hx3		
enable-ndi-hx3	0: disable NDI	HX3. 1: enable NDI	HX3.

Response Body

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

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

add-rec-channel

Use this interface to add a record channel. 3 channels are supported, one for each storage medium. By default, record channels of USB flash drive, SD card and NAS are reserved.

HTTP Request

```
GET http://ip/usapi?method=add-rec-channel&type=xxx&stream-index=1...
```

Parameter	Description
method	add-rec-channel
type	Storage medium type. 0: USB flash drive 1: SD card 2: NAS
stream-index	0: the main stream 1: sub stream
mode	Record mode. 1: normal 2: loop
dir-name	Recorded files directory. `REC_Folder` by default. 2-level directory is supported. Use slash(/) to separate different directories, such as a/b. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
file-prefix	The file prefix. 0: custom 1: the creation date and time of the specified file
prefix-name	The file name starts with `VID` by default. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
file-suffix	File suffix. 0: mp4 1: mov
time-unit	Recoding intervals in minutes. Note that a vfat files should be no greater than 4G, that is, time-unit * recording code rate <= 4G
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4

Response Body

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

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

enable-rec-channel

Use this interface to enable a record channel and start a recording task. 2 channels are supported.

HTTP Request

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

Parameter	Description
method	enable-rec-channel
id	Record channel ID which can be obtained via get-rec-channels.
is-use	0: disable a record channel. 1: enable a record channel.

Response Body

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

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

set-rec-channel

Use this interface to modify a recording channel.

HTTP Request

```
GET http://ip/usapi?method=set-rec-channel&id=xxx&type=xxx&stream-index=xxx&...
```

Parameter	Description
method	set-rec-channel
id	Recording channel ID which can be obtained via get-rec-channels.
type	Storage mediums. 0: USB flash drive 1: SD card 2: NAS
stream-index	0: the main stream 1: sub stream
mode	Record mode. 1: normal 2: loop
dir-name	Recorded files directory. `REC_Folder` by default. 2-level directory are supported. Use slash(/) to separate different directories, such as a/b. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
file-prefix	File name prefix generator. 0: custom 1: the creation date and time of the specified file
prefix-name	File name prefix is `VID` by default. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
file-suffix	File name suffix. 0: mp4 1: mov
time-unit	Recode time unit in minutes. The vfat files should be no greater than 4G, that is time-unit * recording code rate <= 4G
audio	Audio streams. 0: Stream 1 1: Stream 2 2: Stream 3 3: Stream 4

Response Body

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

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

del-rec-channel

Use this interface to delete a record channel.

HTTP Request

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

Parameter	Description
method	del-rec-channel
id	Record channel ID which can be obtained via get-rec-channels.

Response Body

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

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

get-rec-channels

Use this interface to obtain configurations of all record channels.

HTTP Request

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

Parameter	Description
method	get-rec-channels

Response Body

```
{
  "result": 0,
  "rec-channels": [],
}
```

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

clear-rec-status

Use this interface to reset the interface to the initial status (27) after starting recording.

HTTP Request

```
GET http://ip/usapi?method=clear-rec-status&id=1
```

Parameter	Description
method	clear-clear-rec-status
id	Record channel ID which can be obtained via get-rec-channels.

Response Body

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

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

add-nas

Use this interface to add a NAS. 4 NAS servers are supported.

NAS protocols supported can be obtained via get-info.

```
{
  "nas": {
    "proto": [],         // range of NAS protocols
  }
}
```

HTTP Request

```
GET http://ip/usapi?method=add-nas&proto=xxx&addr=xxx&mount=xxx&...
```

Parameter	Description
method	add-nas
proto	NAS protocol. 0: NFS 1: CIFS
addr	NAS address.
mount	NAS mount point.
CIFS parameters	
user	Username
passwd	Password

Response Body

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

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

enable-nas

Use this interface to enable a NAS server and the NAS record channel will be auto-bound with. 1 NAS server is supported.

HTTP Request

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

Parameter	Description
method	enable-nas
id	Server ID which can be obtained via get-settings.
is-use	0: disable a NAS. 1: enable a NAS.

Response Body

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

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

set-nas

Use this interface to modify the NAS server.

HTTP Request

```
GET http://ip/usapi?method=set-nas&id=xxx&proto=xxx&addr=xxx&mount=xxx&...
```

Parameter	Description
method	set-nas
id	Server ID which can be obtained via get-settings.
proto	NAS protocol. 0: NFS 1: CIFS
addr	Server address.
mount	Server mount point.
CIFS parameters	
user	Username
passwd	Password

Response Body

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

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

del-nas

Use this interface to delete the nas server.

HTTP Request

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

Parameter	Description
method	del-nas
id	Server ID which can be obtained via get-settings.

Response Body

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

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

set-auto-rec

> Added at V2.1

Use this interface to set automatic recording.

HTTP Request

```
GET http://ip/usapi?method=set-auto-rec&is-auto=1&trigger-mode=0
```

Parameter	Description
method	set-auto-rec
is-auto	0: disable automatic recording 1: enable automatic recording
trigger-mode	Set trigger for automatic recording. Refer to API Status Codes to find specific parameter values.

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.

start-format-usb

> Deprecated at V2.2, use start-disk-format instead.

Use the interface to format the USB flash drive. The stored data cannot be recovered after formatting and the process can not be canceled.

In order to format the USB flash drive, the following conditions must be met.

- firmware update is not in progress
- neither reset nor reboot is in progress
- recording is not in progress
- USB performance test is not in progress
- USB flash drive is valid to work

Obtain mask of device status and USB status using get-status.

```
"cur-status": 65552                  // device running status mask
"disk-info" [
  {

  "disk-status": 1,                  // USB status mask
  "disk-type": 0,                    // 0: USB flash drive, 1: SD card
  "total-size": 61638148096,
  "used-size": 97058816,
    ...
  }
]
```

The output of `cur-status` & Device Status Mask are as follows.

Device status	Condition
Firmware update is not in progress	cur-status & statusUpgrade != statusUpgrade
Reset all settings is not in progress	cur-status & statusReset != statusReset
Reboot is not in progress	cur-status & statusReboot != statusReboot
record is not in progress	cur-status & statusRecord != statusRecord
USB performance test is not in progress	cur-status & statusDiskTest != statusDiskTest

The output of `disk-status` & USB Status is as follows.

Device status	Condition
USB is valid to work	disk-status & DiskValid = DiskValid

HTTP Request

```
GET http://ip/usapi?method=start-format-usb
```

Parameter	Description
method	start-format-usb

Response Body

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

Item	Description
result	Returned status. 0 indicates that the USB starts to format. 1 indicates repeat request. -5 indicates USB disk is error. -9 indicates that system is busy. Refer to API Status Codes to find specific description for other values.

Format Status

Obtain **format-status** using the get-status.

```
"format-status": {
  "result": 27,
  "percent": 20,
  "client-id": ""
}
```

Item	Description
result	Returned status. 27 indicates that USB is in initial state. 2 indicates that USB is formatting. 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
percent	Indicates the percentage of usb format.
client-id	Reserved

Call clear-format-usb to reset the device to the initial status (retInit=27) after the USB format is completed.

start-format-sd

> Deprecated at V2.2, use start-disk-format instead.

Use the interface to format SD card. The data cannot be recovered after formatting and the operation can not be canceled.

The prerequisites for formatting SD card are as follows.

- firmware updating is not in progress
- resetting or rebooting the device is not in progress
- recording is not in progress
- SD card is valid to work

Obtain the following information using get-status.

```
"cur-status": 65552                   // device running status mask
"disk-info": [
  {
  "disk-status": 1,                   // SD card status mask
  "disk-type": 1,                     // 0: USB flash drive, 1: SD card
  "total-size": 61638148096,
  "used-size": 97058816,
  ...
}
```

The outputs of `cur-status` & Device Status Mask are as follows.

Device status	Condition
Firmware updating is not in progress	cur-status & statusUpgrade != statusUpgrade
Resetting device is not in progress	cur-status & statusReset != statusReset
Rebooting device is not in progress	cur-status & statusReboot != statusReboot
Recording is not in progress	cur-status & statusRecord != statusRecord

The output of `disk-status` & Storage device status is as follows.

Device status	Condition
SD card is valid to work	disk-status & DiskValid = DiskValid

HTTP Request

```
GET http://ip/usapi?method=start-format-sd
```

Parameter	Description
method	start-format-sd

Response Body

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

Item	Description
result	Returned status. 0 indicates that the SD card starts to format. 1 indicates repeat request. -5 indicates SD card is error. -9 indicates system is busy. Refer to API Status Codes to find specific description for other values.

Format Process Status

Obtain the **format-status** information using get-status .

```
"format-status": {
  "result": 27,
  "percent": 20,
  "client-id": ""
}
```

Item	Description
result	Returned status. 27 indicates that the device is in initial status. 2 indicates the SD format is in progress. 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
percent	Indicates the process of SD format.
client-id	Reserved

Call the clear-format-sd to reset the device to the initial status (retInit=27) after the SD format is completed successfully or not.

clear-format-usb

> Deprecated at V2.2, use clear-disk-format instead.

Use the interface to set the device state to the initial status (retInit=27) after formatting usb successfully or not.

HTTP Request

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

Parameter	Description
method	clear-format-usb

Response Body

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

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

clear-format-sd

> Deprecated at V2.2, use clear-disk-format clear-disk-format instead.

Use the interface to set the device state to the initial status (retInit=27) after formatting SD card successfully or not.

HTTP Request

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

Parameter	Description
method	clear-format-sd

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.

start-test-usb

> Deprecated at V2.2, use start-disk-test instead.

Use the interface to test whether the write speed of USB flash drive meets the requirements before recording. You can call the stop-test-usb to cancel the request during testing.

In order to test the performance of USB flash drive, the following conditions must be met.

- firmware update is not in progress
- reset and reboot is not in progress
- recording is not in progress
- USB format is not in progress
- USB performance test is not in progress
- USB is valid to work
- USB has more than 200M free space
- USB is writable

Obtain the mask of device status and USB status using get-status.

```
"cur-status": 65552          // device running status mask
"usb": {
 "disk-status": 1,          // USB status mask
 "total-size": 61638148096,
 "used-size": 97058816,
 ...
}
```

The output of `cur-status` & Device Status Mask are as follows.

Device status	Condition
Firmware update is not in progress	cur-status & statusUpgrade != statusUpgrade
Reset all settings is not in progress	cur-status & statusReset != statusReset
Reboot is not in progress	cur-status & statusReboot != statusReboot
Recording is not in progress	cur-status & statusRecord != statusRecord
USB format is not in progress	cur-status & statusFormatDisk != statusFormatDisk
USB performance test is not in progress	cur-status & statusDiskTest != statusDiskTest

The output of `disk-status` & USB Status are as follows.

Device status	Condition
USB is valid to work	disk-status & DiskValid = DiskValid
USB has more then 200 M free space	disk-status & LowSpace != LowSpace
USB is writable	disk-status & NotWrite != NotWrite

HTTP Request

```
GET http://ip/usapi?method=start-test-usb
```

Parameter	Description
method	start-test-usb

Response Body

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

Item	Description
result	Returned status. 0 indicates that the USB starts to format. 1 indicates repeat request -5 indicates USB disk is error. -9 indicates system is busy. -16 indicates there is not enough free space on USB flash drive. Refer to API Status Codes to find specific description for other values.

The Lowest Required Write Speed

Obtain the recording configurations using get-settings.

```
"rec-stream": 0,
"main-stream": {
 "kbps": 4096,
 ...
},
"sub-stream": {
 "kbps": 1024,
 ...
}
"audio": {
 "kbps": 128
 ...
}
```

rec-stream indicates the recording stream type. 0 indicates **main-stream**, 1 indicates **sub-stream**.

The current recording requirSpeed can be calculated with the above information.

```
requirSpeed = main-stream.kbps + audio.kbps
            = (4096 Kbps + 128 Kbps)
            = 4224 Kbps / 1024 * 8
            ≈ 0.52 MB/S
```

Performance Test Status

Obtain the **disk-test** information using get-status.

```
"disk-test": {
 "read-bps": 0,
 "write-bps": 14833071,  // 14833071 bps / 1024 * 1024 ≈ 14.15 MB/S
 "percent": 3,
 "result": 2,
 "client-id": "web-session-32435088"
}
```

Item	Description
result	Returned status. 27 indicates that the device is in initial status. 5 indicates the request is canceled. 2 indicates the USB performance test is in progress. Returned status. 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
percent	Indicates the percentage of USB format.
read-bps	Indicates current read speed.
write-bps	Indicates current write speed. The USB disk performance is up to standard if it is above the requirSpeed.
client-id	Reserved

Call the clear-test-usb to reset the device to the initial status (retInit=27) after the performance test is completed.

stop-test-usb

> Deprecated at V2.2, use start-disk-test instead.

Use the interface to cancel the ongoing USB performance test which is started by calling start-test-usb.

HTTP Request

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

Parameter	Description
method	stop-test-usb

Response Body

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

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

clear-test-usb

> Deprecated at V2.2, use clear-disk-test instead.

Use the interface to reset the device to the initial status (retInit=27) after the USB performance test.

HTTP Request

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

Parameter	Description
method	clear-test-usb

Response Body

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

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

get-media-files

Use the interface to get recorded files saved in USB flash drive or SD card.

Call del-media-files to delete the obtained files.

HTTP Request

```
GET http://ip/usapi?method=get-media-files&disk-type=1&start=0&count=3
```

Parameter	Description
method	get-media-files
disk-type	Indicates the storage device type. 0 indicates USB flash drive. 1 indicates SD card. 2 indicates NAS.
start	Indicates the start of index from 0.
count	Indicates the count of recorded files.

Response Body

```
{
  "result": 0,
  "path": "/media/disk1/REC_Folder",
  "thumbnail": "thumbnail",
  "media-files": [
    {
      "name": "VID_9.mp4",                          // video file name
      "thumbnail-name": "VID_9.mp4_1569393321",     // Thumbnail name, the default file extension is .jpg.
      "status": 1,                                  // video file status, 0 indicates the file is recording. 1 indic
ates the file is normal; 2 indicates the file is error; 3 indicates the file is lost.
      "create-time": "2019-09-25 06:35:21",         // the creation date and time of the specified file
      "size-bytes": 4025670,                        // file size in bytes
      "duration": 14480,                            // Video duration in seconds
      "width": 1280,                                // video width in pixels
      "height": 720,                                // video height in pixels
      "interval": 200000,                           // frame rate in FPS = 10000000 / interval
      "codec": 0                                    // code type. 0 indicates H264; 1 indicates HEVC.
    },
    ...
  ]
}
```

Item	Description
result	0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
path	Indicates the path for recorded video clips.
thumbnail	Indicates subdirectory which saves video thumbnails, the absolute path consists: path + thumbnail.
media-files	Indicates the recorded files list.

Common Paths

Item	Format	Example
Video file path	path/name	/media/disk1/REC_Folder/VID_9.mp4
Download path	http://ip:8080/download/path/name	http://ip:8080/download/media/disk1/REC_Folder/VID_9.mp4
Thumbnail path	path/thumbnail/thumbnail-name	/media/disk1/REC_Folder/thumbnail/thumbnail-name.jpg

del-media-files

Use the interface to batch delete the recorded files saved in USB flash drive, SD card (device internal storage) or NAS.

HTTP Request

```
POST http://ip/usapi?method=del-media-files
```

Parameter	Description
method	del-media-files

Request Header

```
Content-Type: application/json;charset=UTF-8
```

Request Payload

```
{
  disk-type: 1,                       // storage device type. 0 indicates USB flash drive. 1 indicates SD card. 2 in
dicates NAS.
  media-files: ["VID_6_14.mp4"]       // array of file name to be deleted
}
```

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.

start-disk-format

> Added at V2.2

Use the interface to format the USB flash drive or SD card. The stored data cannot be recovered after formatting and the process can not be canceled.

Prerequisites are as follows.

- firmware update is not in progress
- neither reset nor reboot is in progress
- recording is not enabled
- USB flash drive or SD card is valid to work

Obtain the following information using get-status.

```
"cur-status": 65552                    // device running status mask
"disk-info": [
  {
    "disk-status": 1,                    // SD status mask
    "disk-type": 1,                      // 0: USB flash drive, 1: SD card
    "total-size": 61638148096,
    "used-size": 97058816,
    ...
  }
]
```

The output of `cur-status` & Device Status Mask are as follows.

Device status	Condition
Firmware update is not in progress	cur-status & statusUpgrade != statusUpgrade
Reset all settings is not in progress	cur-status & statusReset != statusReset
Reboot is not enabled	cur-status & statusReboot != statusReboot
record is not in progress	cur-status & statusRecord != statusRecord

The output of `disk-status` & Device Status code is as follows.

Device status	Condition
USB flash drive or SD card is valid to work	disk-status & DiskValid = DiskValid

HTTP Request

```
GET http://ip/usapi?method=start-disk-format&disk-type=0
```

Parameter	Description
method	start-disk-format
disk-type	0: USB flash drive, 1: SD card

Response Body

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

Item	Description
result	Returned status. 0 indicates that the USB starts to format. 1 indicates repeat request. -5 indicates USB disk is error. -9 indicates that system is busy. Refer to API Status Codes to find specific description for other values.

Format Status

Obtain **format-status** using the get-status.

```
"format-status": {
  "result": 27,
  "percent": 20,
  "client-id": ""
}
```

Item	Description
result	Returned status. 27 indicates that formatting is in initial state. 2 indicates that formatting is ongoing. 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
percent	Indicates the percentage of formatting.
client-id	Reserved

Call clear-disk-format to reset the device to the initial status (retInit=27) after the formatting is completed.

clear-disk-format

> Added at V2.2

Use this interface to reset the device to the initial state (retInit=27) when disk formatting fails or succeeds.

HTTP Request

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

Parameter	Description
method	clear-disk-format

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.

start-disk-test

> Added at V2.2 Use the interface to test whether the write speed meets the requirements for recording. You can call the stop-disk-test to cancel the request during testing.

Prerequisites are as follows.

- firmware update is not in progress
- reset and reboot is not in progress
- recording is not in progress
- disk format is not in progress
- disk performance test is not in progress
- disk is valid to work
- disk has more than 200M free space
- disk is writable

Obtain the mask of device status and disk status using get-status.

```
"cur-status": 65552                  // device running status mask
"usb": {
  "disk-status": 1,                  // disk status mask
  "total-size": 61638148096,
  "used-size": 97058816,
  ...
}
```

The output of `cur-status` & Device Status Mask are as follows.

Device status	Condition
Firmware update is not in progress	cur-status & statusUpgrade != statusUpgrade
Reset all settings is not in progress	cur-status & statusReset != statusReset
Reboot is not in progress	cur-status & statusReboot != statusReboot
Recording is not in progress	cur-status & statusRecord != statusRecord
Disk format is not in progress	cur-status & statusFormatDisk != statusFormatDisk
Disk performance test is not in progress	cur-status & statusDiskTest != statusDiskTest

The output of `disk-status` & disk Status are as follows.

Device status	Condition
Disk is valid to work	disk-status & DiskValid = DiskValid
Disk has more then 200 M free space	disk-status & LowSpace != LowSpace
Disk is writable	disk-status & NotWrite != NotWrite

HTTP Request

```
GET http://ip/usapi?method=start-disk-test&disk-type
```

Parameter	Description
method	start-disk-test
disk-type	0: USB flash drive, 1: SD card

Response Body

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

Item	Description
result	Returned status. 0 indicates that the formatting begins. 1 indicates repeat request -5 indicates disk error. -9 indicates system busy. -16 indicates there is not enough free space. Refer to API Status Codes to find specific description for other values.

The Lowest Required Write Speed (requirSpeed)

Obtain the recording configurations using get-settings.

```
"rec-stream": 0,
"main-stream": {
  "kbps": 4096,
  ...
},
"sub-stream": {
  "kbps": 1024,
  ...
}
"audio": {
  "kbps": 128
  ...
}
```

rec-stream indicates the recording stream type. 0 indicates **main-stream**, 1 indicates **sub-stream**.

The current recording requirSpeed can be calculated with the above information.

```
requirSpeed = main-stream.kbps + audio.kbps
            = (4096 Kbps + 128 Kbps)
            = 4224 Kbps / 1024 * 8
            ≈ 0.52 MB/S
```

Performance Test Status

Obtain the **disk-test** information using get-status.

```
"disk-test": {
  "read-bps": 0,
  "write-bps": 14833071,    // 14833071 bps / 1024 * 1024 ≈ 14.15 MB/S
  "percent": 3,
  "result": 2,
  "client-id": "web-session-32435088"
}
```

Item	Description
result	Returned status. 27 indicates that the device is in initial status. 5 indicates the request is canceled. 2 indicates the test is in progress. Returned status. 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.
percent	Indicates the percentage of test.
read-bps	Indicates current read speed.
write-bps	Indicates current write speed, if it is greater than requirSpeed, then the performance of the USB flash drive is up to standard.
client-id	Reserved

Call the clear-disk-test to reset the device to the initial status (retInit=27) after the performance test is completed.

stop-disk-test

> Added at V2.2

Use the interface to cancel the ongoing disk performance test which is started by calling start-disk-test.

HTTP Request

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

Parameter	Description
method	stop-disk-test

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-disk-test

> Added at V2.2

Use this interface to reset the device to the initial state (retInit=27) when USB formatting fails or succeeds.

HTTP Request

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

Parameter	Description
method	clear-disk-test

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.

send-file-add-server

> Added at V2.3

Use this interface to add a server for file uploading, up to 8 servers are supported.

HTTP Request

```
GET http://ip/usapi?method=send-file-add-server&type=xxx&net-mode=1&...
```

Parameter	Description
method	send-file-add-server
type	Server type. 0: FTP/SFTP 1: Google Drive 2: Dropbox 3: YouTube
net-mode	Network priority. 0: mobile broadband first 1: wired network first 2: wireless network first
FTP/SFTP upload parameters	
proto	Protocol type. 0: FTP 1: SFTP
url	Server URL
port	Server port.
dir-name	File directory name.
encryption	FTP encryption types. 0: use plaintext FTP only 1: require explicit FTP over TLS 2: require implicit FTP over TLS
login-type	Login types. 0: anonymous 1: normal
user-name	Username
passwd	Password
mode	Transport mode. 0: active 1: passive
Google Drive upload parameters	
account-id	Account ID
photo-path	User avatar address
user-name	Username
access-token	Access token.
refresh-token	Refresh token
dir-name	Directory name.
parents	Parent directory ID.
Dropbox upload parameters	
account-id	Account ID
photo-path	User avatar address
user-name	Username
access-token	Access token.
refresh-token	Refresh token
dir-name	Directory name.

Parameter	Description
YouTube upload parameters	
account-id	Account ID
photo-path	User avatar address
user-name	Username
access-token	Access token.
refresh-token	Refresh token
privacy	Authority

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.

send-file-del-server

> Added at V2.3

Use this interface to delete servers for file uploading.

HTTP Request

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

Parameter	Description
method	send-file-del-server
id	Server 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.

send-file-enable-server

> Added at V2.3

Use the interface to enable a server. The first added server is enabled by default. And at one time, only one server is supported to be uploaded to.

HTTP Request

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

Parameter	Description
method	send-file-enable-server
id	Server ID
is-use	Enable status of the server for uploading. 0: Disabled 1: Enabled

Response Body

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

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

send-file-set-server

> Added at V2.3

Use the interface to edit settings of the upload server.

HTTP Request

```
GET http://ip/usapi?method=send-file-set-server&id=xxx&type=xxx&net-mode=1&...
```

Parameter	Description
method	send-file-set-server
id	Server ID
type	Server type. 0: FTP/SFTP 1: Google Drive 2: Dropbox 3: YouTube
net-mode	Indicates the network priority. 0: Mobile broadband first 1: wired Ethernet first 2: Wi-Fi first
FTP/SFTP	
proto	Protocol type. 0: FTP 1: SFTP
url	Server address.
port	Server port.
dir-name	Target directory name.
encryption	FTP encryption type. 0: plaintext FTP only 1: explicit FTP over TLS 2: implicit FTP over TLS
login-type	Login type. 0: Anonymous 1: Normal
user-name	User name.
passwd	User password.
mode	Transfer mode. 0: active 1: passive
Google Drive	
account-id	Account id.
photo-path	Path for User avatar.
user-name	User name.
access-token	Access token.
refresh-token	Refresh token.
dir-name	Target directory name.
parents	Parents folder id
Dropbox	
account-id	Account id.
photo-path	Path for User avatar.
user-name	User name
access-token	Access token.
refresh-token	Refresh token.

Parameter	Description
dir-name	Target directory name.
YouTube	
account-id	Account id.
photo-path	Path for User avatar.
user-name	User name
access-token	Access token.
refresh-token	Refresh token.
privacy	Privacy

Response Body

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

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

send-file-start-test-server

> Added at V2.3

Use the interface to start the upload sever test. You can use send-file-stop-test-server to stop it. FTP/SFTP servers are supported.

HTTP Request

```
GET http://ip/usapi?method=send-file-start-test-server&type=xxx&net-mode=1&...
```

Parameter	Description
method	send-file-start-test-server
type	Server type. 0: FTP/SFTP 1: Google Drive 2: Dropbox 3: YouTube
net-mode	Network priority. 0: mobile broadband first 1: wired Ethernet first 2: Wi-Fi first
FTP/SFTP	
proto	Protocol type. 0: FTP 1: SFTP
url	Server address.
port	Server port.
dir-name	Target directory name.
encryption	FTP encryption type. 0: plaintext FTP only 1: explicit FTP over TLS 2: implicit FTP over TLS
login-type	Login type. 0: Anonymous 1: Normal
user-name	User name.
passwd	User password.
mode	Transfer mode. 0: active 1: passive

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.

send-file-stop-test-server

> Added at V2.3

Use the interface to stop the upload test. You can start a test by using send-file-start-test-server.

HTTP Request

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

Parameter	Description
method	send-file-stop-test-server

Response Body

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

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

clear-test-send-file

> Added at V2.3

Use this interface to reset the device to the initial state (retInit=27) when upload test fails or succeeds.

HTTP Request

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

Parameter	Description
method	clear-test-send-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.

send-file-add

> Added at V2.3

Use this interface to add files to the file upload list, currently it only supports uploading files recorded on SD card.

HTTP Request

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

Parameter	Description
method	send-file-add

Request Header

```
Content-Type: application/json;charset=UTF-8
```

Request Payload

```
{
  disk-type: 1,                       // Storage device type, 0: USB flash drive, 1: SD card
  media-files: ["VID_6_14.mp4"]       // Array of file names to be deleted
}
```

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.

send-file-del

> Added at V2.3

Use this interface to delete files from the file upload list.

HTTP Request

```
POST http://ip/usapi?method=send-file-del
```

Parameter	Description
method	send-file-del

Request Header

```
Content-Type: application/json;charset=UTF-8
```

Request Payload

```
{
  disk-type: 1,                       // Storage device type, 0: USB flash drive, 1: SD card
  media-files: ["VID_6_14.mp4"]       // Array of file names to be deleted
}
```

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.

send-file-clear

> Added at V2.3

Use this interface to clear file list.

HTTP Request

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

Parameter	Description
method	send-file-clear

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.

send-file-get-status

> Added at V2.3

Use the interface to obtain file upload related data, such as upload list, upload process.

HTTP Request

```
GET http://ip/usapi?method=send-file-get-status&disk-type=1&start=0&count=0
```

Parameter	Description
method	send-file-get-status
disk-type	Disk where files are saved. 0: USB flash drive. 1: SD card
start	Upload index, which starts from 0.
count	The number of uploads.

Response Body

JSON structure is as follows:

```
{
  "result": 0,                    // Returned status
  "total-count-ongoing": 1,       // The number of files to be uploaded
  "total-count-done": 2,          // The number of files that has been uploaded
  "start": 0,
  "count": 10,
  "status": {}                    // upload status
  "media-files": {},              // upload list
}
```

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

send-file-set-is-auto

> Added at V2.3

Use the interface to set whether to automatically upload files stored in SD card. By default, it is disabled.

HTTP Request

```
GET http://ip/usapi?method=send-file-set-is-auto&is-auto=0
```

Parameter	Description
method	send-file-set-is-auto
is-auto	0: auto upload is disabled. 1: auto upload is enabled.

Response Body

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

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

send-file-start

> Added at V2.3

Use the interface to start uploads. By default, it is enabled.

HTTP Request

```
GET http://ip/usapi?method=send-file-start
```

Parameter	Description
method	send-file-start

Response Body

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

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

send-file-stop

> Added at V2.3

Use the interface to stop uploading, including the ongoing one.

HTTP Request

```
GET http://ip/usapi?method=send-file-stop
```

Parameter	Description
method	send-file-stop

Response Body

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

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

add-image

Use this interface to add up to 8 JPEG or PNG graphics which should be smaller than 1920x1080, 512KB.

HTTP Request

```
POST http://ip/usapi?method=add-image&name=xxx
```

Parameter	Description
method	add-image
name	Reserved
enable-colorkey	Reserved
colorkey-mode	Reserved
key-color	Reserved
tolerance	Reserved

Response Body

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

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

set-image

Use this interface to modify pictures and keep the interface reserved.

HTTP Request

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

Parameter	Description
method	set-image
id	Record channel ID which can be obtained using get-settings.
name	Reserved
enable-colorkey	Reserved
colorkey-mode	Reserved
key-color	Reserved
tolerance	Reserved

Response Body

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

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

del-image

Use this interface to delete pictures.

HTTP Request

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

Parameter	Description
method	del-image
id	Image ID, you can obtain it using get-images.

Response Body

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

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

get-images

Use this interface to obtain list of uploaded pictures.

HTTP Request

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

Parameter	Description
method	get-images

Response Body

```
{
  "result": 0,
  "images": [],
}
```

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

add-surface

Use this interface to add an overlay. The main stream and sub stream supports 8 overlays each, 16 in total.

Obtain the ranges of overlay parameters using get-info.

```
{
  "surface": {
    "image": {},          // picture restrictions
    "image-type": [],     // range of picture formats
    "type": [],           // range of overlay types
    "position": [],       // range of overlay locations
    "font-family": [],    // range of fonts
    "font-style": [],     // range of font styles
    "font-weight": [],    // range of font weights
    "time-format": [],    // range of time formats
  }
}
```

HTTP Request

```
GET http://ip/usapi?method=add-surface&type=xxx&stream-index=1...
```

Parameter	Description
method	add-surface
stream-index	0: main stream 1: sub stream
position	Overlay location.
x-offset	The x-coordinate of the upper left corner of the overlay position, which is valid when the overlay location is customized.
y-offset	The y-coordinate of the upper left corner of the overlay position, which is valid when the overlay location is customized.
margin	The width between the overlay and the outer margin. The default value is 0.
condition	Reserved.
class	Overlay types. 0: text 1: system clock 2: picture
Text	
font-family	Font family.
font-size	Font size.
font-style	Font style.
font-weight	Font weight.
font-color	Font color.
line-width	Line width.
line-color	Line color.
width	Width of text box.
height	Height of text box.
text	Text content.
System time	
font-family	Font family.
font-size	Font size.
font-style	Font style.
font-weight	Font weight.
font-color	Font color.
line-width	Line width.
line-color	Line color.
width	Width of time box.
height	Height of time box.
text	Time format.
Picture	
index	Picture ID which can be obtained using get-images.
alpha	alpha value ranges from 0 to 255.
scale	Resize a picture from 1% to 400%.

Response Body

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

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

set-enable-surface

Use this interface to set enable status of all overlays for the main stream and sub stream.

HTTP Request

```
GET http://ip/usapi?method=set-enable-surface&stream-index=1&enable=1
```

Parameter	Description
method	set-enable-surface
stream-index	0: main stream 1: sub stream
enable	0: disable 1: enable

Response Body

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

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

enable-surface

Use this interface to enable overlay function to enter status of waiting to work. Then you can make all overlays effective using set-enable-surface.

HTTP Request

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

Parameter	Description
method	enable-surface
id	Overlay ID, you can obtain it using get-surfaces.
is-use	0: disable 1: enable

Response Body

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

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

set-surface

Use this interface to modify overlay settings.

HTTP Request

```
GET http://ip/usapi?method=set-surface&id=xxx&stream-index=xxx&...
```

Parameter	Description
method	set-surface
id	Overlay ID which can be obtained using get-surfaces.
stream-index	0: main stream 1: sub stream
position	Overlay location.
x-offset	The x-coordinate of the upper left corner of the overlay position, which is valid when the overlay location is customized.
y-offset	The y-coordinate of the upper left corner of the overlay position, which is valid when the overlay location is customized.
margin	The width between the overlay and the outer margin. The default value is 0.
condition	Reserved.
class	Overlay options. 0: text 1: system clock 2: picture
Text	
font-family	Font family.
font-size	Font size.
font-style	Font style.
font-weight	Font weight.
font-color	Font color.
line-width	Font line width.
line-color	Font line color.
width	Text width.
height	Text height.
text	Content.
System time	
font-family	Font family.
font-size	Font size.
font-style	Font style.
font-weight	Font weight.
font-color	Font color.
line-width	Line width.
line-color	Line color.
width	Text width.
height	Text height.
text	Time format.
Picture	
index	Picture ID which can be obtained using get-images.
alpha	alpha ranges from 0 to 255.
scale	Scale an image from 1% to 400%.

Response Body

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

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

del-surface

Use this interface to delete overlays.

HTTP Request

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

Parameter	Description
method	del-surface
id	Overlay ID, you can obtain it using get-surfaces.

Response Body

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

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

get-surfaces

Use this interface to list all overlays.

HTTP Request

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

Parameter	Description
method	get-surfaces

Response Body

```
{
  "result": 0,
  "main-surface": 1,      // enable overlays for the main stream
  "second-surface": 0,    // disable overlays for the sub stream
  "surfaces": [],
}
```

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

add-scheduler

> Modified at V2.1 Use this interface to add a schedule. You can add 8 schedulers for each streaming session or record task.

HTTP Request

```
GET http://ip/usapi?method=add-scheduler&chn-type=xxx&chn-id=xxx...
```

Parameter	Description
method	add-scheduler
chn-type	Channel type. 0: streaming channel 1: record channel 2: auto-reboot
chn-id	Channel ID. Streaming channel which can be obtained using get-settings or get-rec-channels.
title	Schedule title. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
desc	Schedule description. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
is-full-day	0: not a full day schedule. 1: a full day schedule.
time-begin	Start time formats like 2023-02-02 10:00:00.
time-end	End time formats like 2023-02-02 11:00:00.
is-repeat	0: not recurring event. 1: recurring event.
repeat-event	0: daily 1: weekly 2: monthly 3: yearly
Daily	
repeat-interval	The number of days between each occurrence.
repeat-is-workday	Every weekday
Weekly	
repeat-is-interval	The number of weeks between each occurrence.
repeat-wdays	Specifies mask(s) for on which day(s) of the week the event occurs. 0x01: Monday 0x02: Tuesday 0x04: Wednesday 0x08: Thursday 0x10: Friday 0x20: Saturday 0x40: Sunday
Monthly	
repeat-interval	The number of months between each occurrence.
repeat-mday	Specifies on which day of the month the event occurs.
repeat-wdy	Specifies on which week the event occurs.
repeat-idx	Specifies on which day(s) the event can occur. 0: Monday 1: Tuesday 2: Wednesday 3: Thursday 4: Friday 5: Saturday 6: Sunday

Parameter	Description
Yearly	
repeat-month	Specifies in which month the event occurs.
repeat-mday	Specifies on which day the event occurs.
repeat-wdy	Specifies on which week the event occurs.
repeat-idx	Specifies on which day(s) the event can occur. 0: Monday 1: Tuesday 2: Wednesday 3: Thursday 4: Friday 5: Saturday 6: Sunday
end-event	Specifies the end event. 0: no ending. 1: end by repeat times 2: end by date.
Repeat times	
end-interval	Specifies the number of occurrences. Must be a positive integer.
End date	
end-dateline	Specifies the date to stop applying the pattern.

Response Body

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

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

enable-scheduler

> Modified at V2.1 Use this interface to enable a scheduler.

HTTP Request

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

Parameter	Description
method	enable-scheduler
id	Scheduler ID which can be obtained via get-schedulers.
chn-type	Channel type. 0: live channel 1: record channel 2: auto-reboot
chn-id	-1, reserved.
is-use	0: disable a scheduler. 1: enable a scheduler.

Response Body

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

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

set-scheduler

> Modified at V2.1 Use this interface to set schedulers.

HTTP Request

```
GET http://ip/usapi?method=set-scheduler&id=xxx&chn-type=xxx&chn-id=xxx&...
```

Parameter	Description
method	set-scheduler
id	Scheduler ID which can be obtained via get-schedulers.
chn-type	Channel type. 0: live channel 1: record channel 2: auto-reboot
chn-id	Channel ID. Live channel ID which can be obtained via get-settings. Record channel ID which can be obtained via get-rec-channels.
title	Schedule title. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
desc	Schedule description. The string ranges from 1 to 32 characters which contains A-Z, a-z, 0-9, spaces and special characters like ._-+'[](). It can not start or end with spaces.
is-full-day	0: not a full day schedule. 1: a full day schedule.
time-begin	Start time formats like 2023-02-02 10:00:00.
time-end	End time formats like 2023-02-02 11:00:00.
is-repeat	0: not recurring event. 1: recurring event.
repeat-event	0: no repeats 1: daily 2: weekly 3: monthly 4: yearly
Daily	
repeat-interval	The number of days between each occurrence.
repeat-is-workday	Every weekday
Weekly	
repeat-is-interval	The number of weeks between each occurrence.
repeat-wdays	Specifies mask(s) for on which day(s) of the week the event occurs. 0x01: Monday 0x02: Tuesday 0x04: Wednesday 0x08: Thursday 0x10: Friday 0x20: Saturday 0x40: Sunday
Monthly	
repeat-interval	The number of months between each occurrence.
repeat-mday	Specifies on which day of the month the event occurs.
repeat-wdy	Specifies on which week the event occurs.

Parameter	Description
repeat-idx	Specifies on which day(s) the event can occur. 0: Monday 1: Tuesday 2: Wednesday 3: Thursday 4: Friday 5: Saturday 6: Sunday
Yearly	
repeat-month	Specifies in which month the event occurs.
repeat-mday	Specifies on which day the event occurs.
repeat-wdy	Specifies on which week the event occurs.
repeat-idx	Specifies on which day(s) the event can occur. 0: Monday 1: Tuesday 2: Wednesday 3: Thursday 4: Friday 5: Saturday 6: Sunday
end-event	Specifies the end event. 0: no ending. 1: end by repeat times 2: end by date.
Repeat times	
end-interval	Specifies the number of occurrences. Must be a positive integer.
End date	
end-dateline	Specifies the date to stop applying the pattern.

Response Body

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

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

del-scheduler

> Modified at V2.1 Use this interface to delete a scheduler.

HTTP Request

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

Parameter	Description
method	del-scheduler
id	Scheduler ID which can be obtained via get-schedulers.
chn-type	Channel type. 0: live channel 1: record channel 2: auto-reboot
chn-id	-1, reserved.

Response Body

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

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

get-schedulers

Use this interface to obtain scheduler configurations.

HTTP Request

```
GET http://ip/usapi?method=get-schedulers&id=xxx&chn-type=xxx&chn-id=xxx
```

Parameter	Description
method	get-schedulers
id	Scheduler ID which can be obtained via get-schedulers. -1 indicates to get all scheduling information for the specific channel type.
chn-type	Channel type. 0: live channel 1: record channel 2: auto-reboot
chn-id	-1, reserved.

Response Body

```
{
  "result": 0,
  "schedulers": [],
}
```

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

import-scheduler

> Added at: V2.4

Configure schedule source.

HTTP Request

```
GET http://ip/usapi?method=import-scheduler&chn-type=xxx&chn-id=xxx...
```

Parameter	Description
method	Method name: import-scheduler
chn-type	Channel type, 0: Live 1: Recording
chn-id	Reserved value -1
import-type	Schedule source, 0: None 1: Local 2: Remote
Local	
file-name	Uploaded calendar file name
Remote	
url	Remote calendar link

Response Body

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

Item	Description
result	Returned status, 0: Added successfully, refer to API Status Codes for other values

upload-icalendar-file

> Added at: V2.4

Use this interface to add ICS format calendar file.

HTTP Request

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

Parameter	Description
method	Method name: upload-icalendar-file

Response Body

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

Item	Description
result	Returned status, 0: Operation successful, refer to API Status Codes for other values

sync-scheduler

> Added at V2.4

Synchronize remote calendar.

HTTP Request

```
GET http://ip/usapi?method=sync-scheduler&chn-type=xxx&chn-id=xxx
```

Parameter	Description
method	Method name: sync-scheduler
chn-type	Channel type, 0: Live 1: Recording
chn-id	Reserved value -1

Response Body

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

Item	Description
result	Returned status, 0: Added successfully, refer to API Status Codes 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.

import-settings

> Added at V2.3

Use this interface to import a configuration file to your device, in JSON format.

HTTP Request

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

Parameter	Description
method	import-settings

Response Body

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

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

export-settings

> Added at V2.3

Use this interface to save configurations as a JSON file to local folder.

HTTP Request

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

Parameter	Description
method	export-settings
file-name	File path.

Response Body

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

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

add-user

Use the interface to add users with administrative rights.

HTTP Request

```
GET http://ip/usapi?method=add-user&id=xxx&pass=xxx&is-admin=0
```

Parameter	Description
method	add-user
id	Indicates the user name.
pass	Indicates MD5 encrypted password.
is-admin	Indicates whether an administrator is added.

Response Body

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

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

del-user

Use the interface to delete general users with administrative rights.

HTTP Request

```
GET http://ip/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. 0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.

ch-passwd

Use this interface to modify the password after logging in.

HTTP Request

```
GET http://ip/usapi?method=ch-passwd&pass=xxx&new-pass=xxx
```

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

Response Body

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

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

set-passwd

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-passwd&id=xxx&pass=xxx
```

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

Response Body

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

Item	Description
result	Returned status. 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 1: wired Ethernet network
is-dhcp	Indicates whether to obtain an IP address from the DHCP server. 0 indicates to set IP address manually. 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.

enable-station

> Added at: V2.4

Use this interface to enable Wi-Fi function.

HTTP Request

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

Parameter	Description
method	Method name: enable-station
enable-station	Whether to enable Wi-Fi 0: Disable 1: Enable

Response Body

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

Item	Description
result	Returned status. 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

> Added at V2.2

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&is-hide=0
```

Parameter	Description
method	connect-wifi-first
name	Indicates name of Wi-Fi network.
passwd	Indicates password of Wi-Fi network.
secu	Wi-Fi network encryption method, 0: unencrypted 1: wep 2: WPA/PSK 3: WPA2/PSK 4: WPA2/EAP
is-auto	Indicates whether to auto-connect to the saved Wi-Fi network.
is-hide	Indicates whether connecting to a hidden Wi-Fi network.
identity	Identity authentication, set when secu is WPA2/EAP
is-dhcp	Whether to dynamically obtain IP address 0: Manual setting 1: Dynamic obtain
ip	IP address
mask	Subnet mask
router	Gateway
dns	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.

connect-wifi

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

HTTP Request

```
GET http://ip/usapi?method=connect-wifi&name=magewell&is-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.
is-dhcp	Whether to dynamically obtain IP address 0: Manual setting 1: Dynamic obtain
ip	IP address
mask	Subnet mask
router	Gateway
dns	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.

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.

set-rndis-config

Use this interface to set USB NET.

HTTP Request

```
GET http://ip/usapi?method=set-rndis-config&addr=192.168.66.1
```

Parameter	Description
method	set-rndis-config
addr	USB NET IP address.

Response Body

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

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

set-net-prior

> Added at: V2.4

Set network connection priority when there are multiple network connections.

HTTP Request

```
GET http://ip/usapi?method=set-net-prior&net-prior=1
```

Parameter	Description
method	Method name: set-net-prior
net-prior	Network priority 0: Mobile broadband first 1: Wired network first 2: Wireless network first

Response Body

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

Item	Description
result	Returned status, 0: Operation successful, refer to API Status Codes 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. upload: manual update. 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. 27: initial status. 2: updating. 0: the request was accepted successfully. 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. none: initial status. 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. 0 indicates that the operation is performed successfully. Refer to API Status Codes to find specific description for other values.
up-to-date	Indicates whether the current firmware is up to date. If yes, it is true; otherwise, it is false.
version	Indicates the uploaded firmware version 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. 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. 27: initial status 2: checking 0: the request was accepted successfully. 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. 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. 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 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. 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//4AxQEVAYUBxQIGA0QDhwAEACOgAMPJwWoCwWIoAUB10AAAeAjqAGHE4LU
BYLEUAUB10AAAeAAAA/QAPlg+HPAAAAAAAAAAAAAAAA/ABNQUdFV0VMTAogICAgAWYCA1HxV2EQHwQTBRQgISJdXl9gZWZiY2QHFgMSMgl/BxUHUD0GwFc
GAF9/AWd/AINPAADiAA9uAwwAEAC4eCEQgAECAwRn2F3EAXiAA+MPAeABHYAYcRwWIFgsJQBAhGMAAJ5mIVaqUQAeMEaPMwBQHXQAAB4AAAAAAAAAAAA
zw=="
}
```


Item	Description
result	Returned status. 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 related 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//4AxQEVAYUBxQIGA0QDhwAEACOgAMPJwWoCwWIoAUB10AAAeAjqAGHE4LU
BYLEUAUB10AAAeAAAA/QAPlg+HPAAAAAAAAAAAAAAAA/ABNQUdFV0VMTAogICAgAWYCA1HxV2EQHwQTBRQgISJdXl9gZWZiY2QHFgMSMgl/BxUHUD0GwFc
GAF9/AWd/AINPAADiAA9uAwwAEAC4eCEQgAECAwRn2F3EAXiAA+MPAeABHYAYcRwWIFgsJQBAhGMAAJ5mIVaqUQAeMEaPMwBQHXQAAB4AAAAAAAAAAAA
zw=="
}
```


Item	Description
result	Returned status. 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 1: Enable smart EDID
keep-last	0: Do not use the last loop-through EDID 1: Use the last loop-through EDID
add-audio	0: Do not force add audio 1: Force add audio
limit-pixel-clock	0: Do not use limit pixel clock 1: Use Limit pixel clock

Response Body

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

Item	Description
result	Returned status. 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//4AxQEVAYUBxQIGA0QDhwAEACOgAMPJwWoCwWIoAUB10AAAeAjqAGHE4LU
BYLEUAUB10AAAeAAAA/QAPlg+HPAAAAAAAAAAAAAAAA/ABNQUdFV0VMTAogICAgAWYCA1HxV2EQHwQTBRQgISJdXl9gZWZiY2QHFgMSMgl/BxUHUD0GwFc
GAF9/AWd/AINPAADiAA9uAwwAEAC4eCEQgAECAwRn2F3EAXiAA+MPAeABHYAYcRwWIFgsJQBAhGMAAJ5mIVaqUQAeMEaPMwBQHXQAAB4AAAAAAAAAAAA
zw=="
}
```


Item	Description
result	Returned status. 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. 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 Control Hub. You can host your device to 2 Control Hub 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	Control Hub ID. Options are 0 and 1.
cloud-code	4-digit string invitation code given by the Control Hub.
cloud-ip-addr	IP address or domain of the Control Hub.
cloud-http-port	HTTP port of the Control Hub server.
cloud-enable-https	0: disable https 1: enable https
cloud-https-port	HTTPS port of the Control Hub server.

Response Body

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

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

cloud-unreg-ex

Use the interface to release your device from a Control Hub.

HTTP Request

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

Parameter	Description
method	cloud-reg-ex
id	Control Hub ID. Options are 0 and 1.

Response Body

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

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

cloud-status

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

HTTP Request

```
GET http://ip:8070/cloud-api?method=cloud-status&version=1
```

Parameter	Description
method	cloud-status
version	Control Hub version, should be 1.

Response Body

```
{
  "device_id": "B313221201001", // serial number of your device
"number": 2,                    // count of Control Hub 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 Control Hub API Status Codes to find specific description for other values.