

Table of Contents

Overview

Introduction	1.1
API Agreement	1.2
API Status Codes	1.3
Device Status Mask	1.4
Status Code of Storage Device	1.5
API Limits	1.6
Device Discover Protocol	1.7
DEMO: Node.js	1.8
DEMO: C	1.9

Universal Interfaces

get-info	2.1
get-status	2.2
get-settings	2.3
start-rec	2.4
stop-rec	2.5
start-live	2.6
stop-live	2.7
ping	2.8

General Settings

set-name	3.1
set-app-settings	3.2
set-app-passwd	3.3
set-first-over	3.4
set-rec-control	3.5
set-softap	3.6
set-date-time	3.7
set-signal-lost-ctrl	3.8
set-startup-rec	3.9
set-startup-live	3.10
set-ssdp	3.11

set-hdmi-rec-ctrl	3.12
-------------------	------

Storage Device

start-format-usb	4.1
start-format-sd	4.2
clear-format-usb	4.3
start-test-usb	4.4
stop-test-usb	4.5
clear-test-usb	4.6
get-media-files	4.7
del-media-files	4.8

Stream Server

add-server	5.1
enable-server	5.2
set-server	5.3
del-server	5.4
start-test-server	5.5
stop-test-server	5.6
clear-test-server	5.7

Encoding Parameters

set-stream	6.1
set-video	6.2
set-audio	6.3

Reset & Reboot

reboot	7.1
reset-all-settings	7.2

Log In/Out

login	8.1
logout	8.2

User Management

get-users	9.1
add-user	9.2
del-user	9.3
ch-password	9.4
set-password	9.5

Network Settings

set-eth	10.1
disconn-wifi	10.2
close-softap	10.3

Firmware Update

update	11.1
upload-update-file	11.2
cancel-download	11.3
online-update-check	11.4
clear-upgrade	11.5
clear-check-update	11.6

Introduction

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

APIs in this document apply to these products:

- Ultra Stream HDMI
- Ultra Stream SDI

API Agreement

Overview

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

Example Response

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

```
{
  "result": 0,
  "cur-status": 65552,
  "last-rec-status": 0,
  "cur-time": 0,
  "box-name": "Ultra Stream C301181214002",
  ...
}
```

API Status Code

```
{
  retLivingAuthErr      = 30,      // Live stream status: the authentication is error
  retLivingNotset       = 29,      // Live stream address is not set
  retLivingDNS          = 28,      // Live stream status: Resolving DNS
  retInit               = 27,      // Initial status
  retLivingAuthing      = 25,      // Live stream status: the authorization is in progress
  retLivingWaiting      = 24,      // Live stream status: the device is waiting for connection to the stream
server
  retLivingConnecting   = 23,      // Live stream status: the device is connecting to the stream server
  retLivingConnected    = 22,      // Live stream status: the stream server has 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 is canceled
  retLowSpace          = 4,      // There is not enough free space on the storage device.
  retLowSpeed          = 3,      // The storage device is too slow to record smooth video.
  retRunning           = 2,      // The request is running
  retRepeat            = 1,      // Repeat request
  retSucceed           = 0,      // Request has succeeded
  errPasswd            = -1,      // Password is error
  errOccupied          = -2,      // The device is being used by others currently
  errDisconnect        = -3,      // Reserved
  errDevice            = -4,
  errDisk              = -5,
  errUnconnect         = -6,
  errKey               = -7,
  errVersion           = -8,
  errBusy              = -9,      // System is busy
  errParam             = -10,     // Error request parameters
  errUsage             = -11,     // Reserved
  errTimeout           = -12,
  errIP                = -13,     // Reserved
  errNotFound          = -14,     // Data does not exist
  errFile              = -15,     // Error file
  errNoSpace           = -16,     // There is not any free space on the storage device.
  errNeedAuth          = -17,     // An authentication is required.
  errSystem            = -18,     // System error
  errDiskSpeed         = -19,
  errEmpty             = -20,
  errNetwork           = -21,
  errEvent             = -22,
  errCodec             = -23,
  errBlue              = -24,
  errNoUser            = -25,     // This user does not exist
  errSameName          = -27,     // The name already exists
  errString            = -28,     // Input characters are not valid
  errChannelsLimited   = -29,     // Stream simultaneously to 2 servers at most.
```

```
err8MLimited      = -30,          // When the bitrate is 8 Mbps, the encoder can stream to 1 server only.
errFacebookLimited = -31,          // As is required by Facebook's Terms of Service, the device can not stream
simultaneously to Facebook and other online streaming services.
errCodecLimited   = -32,          // Live stream is not allowed when HEVC encoder is used.
err4GLimited      = -33,          // The maximum size of a single saved recording file should be no more than 4G
errMWFUnsupported = -34           // The update package does not match current model or hardware version of
the product
}
```

Device Status Mask

```
{
    statusFirst      = 0x01,      // first boot
    statusRecord     = 0x02,      // recording
    statusLiving     = 0x04,      // live streaming
    statusStream     = 0x08,      // Reserved
    statusDiskReady  = 0x10,      // USB flash drive is ready to work
    statusRTMPReady  = 0x20,      // RTMP is ready to live stream
    statusSoftAP     = 0x40,      // The device is in Wi-Fi AP mode
    statusMIC        = 0x100,     // Reserved
    statusPHONE      = 0x200,     // Reserved
    statusOutput     = 0x400,     // Reserved
    statusDiskTest   = 0x1000,    // USB performance test is in progress
    statusBlue       = 0x2000,    // Reserved
    statusUpgrade    = 0x4000,    // Firmware update is in progress
    statusNetTest    = 0x8000,    // Streaming test is in progress
    statusPasswd     = 0x10000,   // Device password has been set
    statusOccupied   = 0x20000,   // Device has been locked by app(s), at most 2 simultaneously
    statusFormatDisk = 0x100000,  // USB format is in progress
    statusSearchWifi = 0x400000,  // The device is searching for available Wi-Fi networks
    statusConnectWifi = 0x800000, // The device is connecting to a Wi-Fi network
    statusConnectBlue = 0x1000000, // Reserved
    statusCheckUpgrade = 0x2000000, // The device is detecting if there is a new firmware version
    statusReset      = 0x4000000, // resetting
    stausIPv6        = 0x8000000, // Reserved
    statusTestLock   = 0x10000000, // Reserved
    statusReboot     = 0x20000000, // rebooting
}
```


The Status Code of the Storage Device

```
{
  NotDisk: 0x00,           // Storage device is not detected
  DiskValid: 0x01,        // Storage device is valid
  NotSpace: 0x03,         // There is not free space on Storage device
  NotWrite: 0x04,         // Storage device is not writable
  LowSpace: 0x05,         // There is not enough free space on storage device, that is less than 200 MB
  DiskInvalid: 0x06       // Storage device is invalid
}
```

API Limits

This topic lists the scenarios between different requests that may come in at one time and what will happen when they meet. It will help provide a level of protection from random and unexpected requests that threaten the availability and performance characteristics of the streamer.

- N: independent events.
- Mutually exclusive: if the occurrence of any one of them means the others will not occur (That is, we cannot have 2 events occurring at the same time).
- Repeat request: remind the user to refresh the page manually or automatically when repeat requests are performed at nearly the same time.
- Last effective: make the last applied modification effective if the same parameter is specified multiple times.

Requests	USB Format	Performance Test	Live Test	Edit Streaming Server	LIVE	REC
Usb Format	Repeat request	Mutually exclusive	N	N	N	Mutually exclusive
Performance Test	Mutually exclusive	Repeat request	N	N	N	Mutually exclusive
Live Test	N	N	Mutually exclusive	Mutually exclusive	Mutually exclusive	N
Edit Streaming Server	N	N	Mutually exclusive	Last effective	Mutually exclusive	N
LIVE	N	N	Mutually exclusive	Mutually exclusive	Repeat request	N
REC	Mutually exclusive	Mutually exclusive	N	N	N	Repeat request
Encoding Parameter	N	N	Mutually exclusive	N	Mutually exclusive	Mutually exclusive
Firmware Update	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive
Reset	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive
Reboot	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive	Mutually exclusive
Other	N	N	N	N	N	N



Device Discover Protocol

The encoder can be discovered by using **multicast protocol** or **SSDP**.

Multicast

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

- Multicast address: 239.255.255.250
- Port: 2538

Response Body

```
{
  "version": "1.0",
  "flag": "ssip",
  "product": "Ultra Stream",
  "boxname": "[LH-SDI]-1.2.1",
  "serialnumber": "A302190719003",
  "wifiip": "192.168.48.1",
  "ethip": "192.168.1.217",
  "status": 65600
}
```

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

DEMO: Node.js

This chapter introduces how to call the Ultra Stream API in Node.js.

Download DEMO: [ultra-stream-api-demo-nodejs.zip](#)

DEMO Structure

```
ultra-stream-api-demo-nodejs
|
|-- httpUtils.js // based on HTTP get and upload in Node.js
|-- xxxx.mwf // the uploaded file called by upload-update-file in upload.js
|-- get.js // request data using GET
|-- upload.js // upload file using POST
```

Requirements

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

Running Mode

1. Navigate into the DEMO directory in the terminal.

```
cd ultra-stream-demo-nodejs
```

2. Replace deviceIP with the tested IP address of 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 and Linux

Compilation

- Prepare the curl sdk for the Windows/macOS/Linux Operating System
- Download DEMO: [ultra-stream-api-demo-c.zip](#)
- Compile "ultra_stream_curl.c", and link to "libcurl"
- Build the ultra_stream_curl file

Example

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

```
cd ultra-stream-api/demo/c/bin
cp ultra_stream_hdmi_rev_c_1_2_123.mwf linux
cd linux
./ultra_stream_curl <hostip:port>
```

- Sample response

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

***** 2. get info *****
get info response data:
{
  "result": 0,
  "mac-addr": {
    "eth": "70:b3:d5:75:d0:4c",
    "wifi": "70:b3:d5:75:d0:4d",
    "blue": "70:b3:d5:75:d0:4e"
  },
  "snapshot": "/tmp/sbox-snapshot/sbox-quarter.jpg",
  "product": {
    "sn": "C301171116015",
    "product-id": 769,
    "hardware-ver": "C",
    "firmware-id": 1,
    "firmware-ver-s": "1.2.122",
    "factory-firmware-ver-s": "1.2.116",
    "product-name": "Ultra Stream",
    "module-name": "Ultra Stream HDMI",
    "manu-name": "MAGEWELL",
    "features": 1,
    "max-lock-count": 2
  },
  "audio-range": {
    "hdmi": {
      "max": 6.00,
```

```
        "min": -100.00,  
        "def": 0.00  
    },  
    "mic": {  
        "max": 55.25,  
        "min": -12.00,  
        "def": 0.00  
    },  
    "phone": {  
        "max": 6.00,  
        "min": -57.00,  
        "def": 0.00  
    }  
},  
"codec-cap": {}  
}
```

***** 3. upload firmware *****

upload firmware response data:

```
{  
    "result": 0,  
    "up-to-date": true,  
    "version": "1.2.123",  
    "size": 12494463  
}
```

get-info

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

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": "",           // input path of snapshot
  "product": {},            // product information
  "audio-range": {          // the ranges of audio parameters
    "hdm1": {},
    "mic": {},
    "phone": {}
  },
  "codec-cap": {            // the ranges of encoding parameters
    "resolutions": [],
    "durations": [],
    "profile": [],
    "hevc-profile": [],
    "video-kbps": [],
    "audio-kbps": [],
    "gop-sec": [],
    "video-range": [],
    "stat-sec": [],
    "video-codec": []
  },
  "rec-control": {}         // the ranges of recording parameters
}
```

Request Body

```
{
  "result": 0,
  "mac-addr": {
    "eth": "70:b3:d5:75:d5:fc",
    "wifi": "70:b3:d5:75:d5:fd",
    "blue": "70:b3:d5:75:d5:fe"
  },
  "snapshot": "/tmp/sbox-snapshot/sbox-quarter.jpg",
  "product": {
    "sn": "C301181214002",
    "product-id": 769,
    "hardware-ver": "C",
  }
}
```



```

"firmware-id": 0,
"firmware-ver-s": "1.2.122",
"factory-firmware-ver-s": "1.2.115",
"product-name": "Ultra Stream",
"module-name": "Ultra Stream HDMI",
"manu-name": "MAGEWELL",
"features": 1,
"max-lock-count": 2
},
"audio-range": {
  "hdmi": {
    "max": 6.00,
    "min": -100.00,
    "def": 0.00
  },
  "mic": {
    "max": 55.25,
    "min": -12.00,
    "def": 0.00
  },
  "phone": {
    "max": 6.00,
    "min": -57.00,
    "def": 0.00
  }
},
"codec-cap": {
  "resolutions": [
    {
      "w": 480,
      "h": 360
    },
    {
      "w": 640,
      "h": 360
    },
    {
      "w": 640,
      "h": 480
    },
    {
      "w": 720,
      "h": 480
    },
    {
      "w": 720,
      "h": 576
    },
    {
      "w": 768,
      "h": 576
    },
    {
      "w": 800,
      "h": 600
    },
    {
      "w": 960,
      "h": 540
    },
    {
      "w": 1024,
      "h": 768
    },
    {
      "w": 1280,

```

```

    "h": 720
  },
  {
    "w": 1280,
    "h": 800
  },
  {
    "w": 1280,
    "h": 960
  },
  {
    "w": 1280,
    "h": 1024
  },
  {
    "w": 1440,
    "h": 900
  },
  {
    "w": 1440,
    "h": 1080
  },
  {
    "w": 1600,
    "h": 1200
  },
  {
    "w": 1920,
    "h": 1080
  }
],
"durations": [
  {
    "name": "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
  }
],
"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": "8 Mbps",
    "value": 8192
  }
],
"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
}
],
"gorp-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": "HEVC",
      "value": 1
    }
  ]
},
"rec-control": {
  "usb-option": [
    {
      "name": "Don't record",
      "value": 0
    },
    {
      "name": "Ordinary recording",
      "value": 1
    }
  ],
  "sd-option": [
    {
      "name": "Don't record",
      "value": 0
    },
    {
      "name": "Ordinary recording",
      "value": 1
    },
    {
      "name": "Loop recording",
      "value": 2
    }
  ],
  "time-unit": [
    {
      "name": "5 minutes",
      "value": 5
    },
    {
      "name": "10 minutes",
      "value": 10
    },
    {
      "name": "30 minutes",
      "value": 30
    },
    {
      "name": "40 minutes",
      "value": 40
    },
    {
      "name": "50 minutes",
      "value": 50
    }
  ],
},

```

```
{
  "name": "60 minutes",
  "value": 60
},
{
  "name": "90 minutes",
  "value": 90
},
{
  "name": "120 minutes",
  "value": 120
}
],
"file-ext": [
  {
    "name": "mp4",
    "value": 0
  },
  {
    "name": "mov",
    "value": 1
  }
]
}
```

get-status

Use the interface to obtain the real-time working status of the device, including status of record, live stream, firmware update, and USB format.

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": 65552, // device running status Mask
  "last-rec-status": 0,
  "cur-time": "2019-09-26 ...", // current time of device
  "box-name": "", // device name
  "lock-user": [],
  "rec-status": {}, // recording status
  "live-status": {}, // live stream status
  "upgrade-status": {}, // status of firmware update process
  "format-status": {}, // status of USB format
  "disk-test": {}, // status of USB performance test process
  "living-test": {}, // status of live stream test process
  "check-upgrade": {}, // status of online firmware detection process
  "input-signal": {}, // input signal information
  "usb": {}, // USB information
  "sd": {}, // SD card information
  "wifi": {}, // Wireless network information. If the AP mode is turned on , it shows the AP c
onnection information.
  "eth": {}, // Ethernet information
  "mobile": {}, // mobile network information
  "upgrade": {}, // new version firmware information
  "downgrade": {}
}
```

Response Body

```
"result": 0
```

Device Running Status Mask

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

Masks vary depending on the various device running status. Refer to [Device Status Masks](#) to find specific description for each value. The following condition is used to calculate the device running status.

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

Input Signal Status

```
"input-signal": {
  "status": 0,
  "cx": 0,
  "cy": 0,
  "interlaced": 0,
  "frame-rate": 0.00,
  "channel-valid": 0,
  "is-lpcm": 0,
  "bits-per-sample": 0,
  "sample-rate": 0
}
```

Recording Status

```
"rec-status": {
  "result": 0,
  "run-ms": 0,
  "cur-bps": 0,
  "avg-bps": 0,
  "client-id": ""
}
```

Live Stream Status

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

Live Stream Test Process Status

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

Online Firmware Update Detecting Process Status

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



```
}
```

New Firmware Information

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

Firmware Update Process Status

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

USB Information

```
"usb": {  
  "disk-status": 1,  
  "total-size": 61638148096,  
  "used-size": 3559489536,  
  "free-size": 57944440832,  
  "block-size": 32768,  
  "usage": 6,  
  "sys-path": "/dev/sda1",  
  "fs-type": "vfat",  
  "mount-path": "/usr/share/web-data/media/disk0",  
  "fs-label": "C472-731D",  
  "write-bps": 14255282,  
  "read-bps": 0,  
  "free-sec": 208038,  
  "file-count": 47,  
  "beign-time": "2019-09-24 08:04:39",  
  "end-time": "2019-09-28 07:12:44",  
  "total-cache-time": 0  
}
```

SD Card Information

```
"sd": {  
  "disk-status": 1,  
  "total-size": 31895175168,  
  "used-size": 3708043264,  
  "free-size": 24997614388,  
  "block-size": 16384,  
  "usage": 12,  
  "sys-path": "/dev/mmcblk1p1",  
  "fs-type": "vfat",  
  "mount-path": "/usr/share/web-data/media/disk1",  
  "fs-label": "9C30-9CB8",  
  "write-bps": 0,  
  "read-bps": 0,  
  "free-sec": 89749,  
  "file-count": 50,  
}
```

```
"begin-time": "2019-09-24 07:49:57",
"end-time": "2019-09-28 07:12:44",
"total-cache-time": 103062
}
```

USB Performance Test Process Status

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

USB Format Process Status

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

Wi-Fi Information

It shows the AP information when `cur-status & 0x40 = 0x40`, the AP mode of wireless network card is turned on.

```
"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 Information

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

Mobile Broadband Network Information

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


get-settings

Use the interface to obtain the configurations of device.

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
  "passwd": 1, // whether a password is needed for mobile app
  "is-settings": 0, // whether modifications of device can be made using mobile app
  "is-ssdp": 1, // whether to enable UPNP
  "is-startup": 0, // whether to start recording and broadcasting when device is boot up
  "is-startup-rec": 1, // whether to start recording when device is boot up
  "is-startup-live": 1, // whether to start broadcasting when device is boot up
  "is-signal-lost": 0, // whether to stop recording and broadcasting when signal is lost
  "is-hdmi-rec-ctrl": 0, // whether to allow that digital cameral or other device can control the streamer to start/stop recording by the feeding HDMI signal.
  "softap": {}, // AP configurations
  "date-time": {}, // time zone and date
  "rec-control": {}, // recording configurations
  "video-color": {}, // video information
  "volume": {}, // audio information
  "rec-stream": 0, // type of recording streams
  "live-stream": 0, // type of live streams
  "mws-stream": 1, // type of preview stream in app client
  "main-stream": {}, // configurations of the main stream
  "sub-stream": {}, // configurations of the sub stream
  "audio": {}, // configurations of audio
  "eth": {}, // Ethernet information
  "stream-server": [...] // list of streaming servers
}
```

Request Body:

```
{
  "result": 0,
  "name": "Ultra Stream C301181214002",
  "passwd": 1,
  "is-settings": 0,
  "is-ssdp": 1,
  "is-startup-rec": 1,
  "is-startup-live": 1,
  "is-signal-lost": 0,
  "is-hdmi-rec-ctrl": 0,
  "softap": {
```

```

    "is-softap": 1,
    "is-visible": 1,
    "softap-ssid": "C301181214002",
    "softap-passwd": "81214002"
  },
  "date-time": {
    "timezone": "UTC",
    "is-auto": 1
  },
  "rec-control": {
    "mime-type": 0,
    "usb-option": 1,
    "sd-option": 1,
    "root-folder": "REC_Folder",
    "file-prefix": "VID",
    "time-unit": 5
  },
  "video-color": {
    "contrast": 100,
    "brightness": 0,
    "saturation": 100,
    "hue": 0
  },
  "volume": {
    "is-mic": 1,
    "mic-gain": 0,
    "is-spi": 1,
    "spi-gain": 0,
    "is-phone": 1,
    "phone-gain": 0
  },
  "rec-stream": 0,
  "live-stream": 0,
  "mws-stream": 1,
  "main-stream": {
    "is-auto": 0,
    "codec": 0,
    "cx": 1920,
    "cy": 1080,
    "duration": 166667,
    "kbps": 4096,
    "gop": 1,
    "fourcc": 0,
    "profile": 2,
    "cbrstat": 60,
    "fullrange": 0
  },
  "sub-stream": {
    "cx": 1024,
    "cy": 768,
    "duration": 333333,
    "kbps": 1024,
    "gop": 1,
    "fourcc": 0,
    "profile": 2,
    "cbrstat": 60,
    "fullrange": 1
  },
  "audio": {
    "sample-rate": 48000,
    "channels": 2,
    "kbps": 128
  },
  "eth": {
    "is-dhcp": 1,
    "ip": "",

```

```
"mask": "",
"router": "",
"dns": ""
},
"stream-server": [
  {
    "id": 0,
    "type": 0,
    "url": "192.168.1.123:345/live",
    "key": "aa",
    "is-auth": 0,
    "user": "",
    "passwd": "",
    "is-use": 0,
    "token": "",
    "net-mode": 1,
    "name": "192.168.1.123"
  }
]
}
```

start-rec

Use the interface to start recording.

You can call [stop-rec](#) to stop the session.

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

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

start-live

Use the interface to start broadcasting.

You can call [stop-live](#) to stop the session.

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

Use the interface to stop live broadcasting.

HTTP Request

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

Parameter	Description
method	stop-live

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.

ping

Use the interface to detect whether the device is accessible without login.

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

HTTP Request

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

Parameter	Description
method	ping

Response Body

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

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

set-name

Use the interface to set device name.

HTTP Request

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

Parameter	Description
method	set-name
name	Indicates the string of device name ranges from 1 to 32 characters, which should contain 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-app-settings

Use the interface to configure whether user can change settings using app.

HTTP Request

```
GET http://ip/usapi?method=set-app-settings&is-settings=0
```

Parameter	Description
method	set-app-settings
is-settings	Indicates whether user can change settings using app. 0 indicates it is disabled. 1 indicates user can change settings using app.

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-app-passwd

Use the interface to set or modify the password to pair app and the streamer.

HTTP Request

```
// Enable password
GET http://ip/usapi?method=set-app-passwd&is-pass=1&new-pass=xxx

// Disable password. The old password is required.
GET http://ip/usapi?method=set-app-passwd&is-pass=0&pass=xxx

// Modify password. The old password is required.
GET http://ip/usapi?method=set-app-passwd&is-pass=1&pass=xxx&new-pass=xxx
```

Parameter	Description
method	set-app-passwd
is-pass	Indicates the enable status of the pairing password. 0 indicates it is disabled. 1 indicates it is enabled.
pass	Indicates the MD5 encrypted old password. It is mandatory when you want to disable or modify the password.
new-pass	Indicates the MD5 encrypted new password. It is mandatory when you want to enable or modify the password.

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 the interface to initialize the encoder when visiting it for the first time, especially the **device name** and **passcode**.

Obtain current device running status mask using [get-status](#).

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

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

HTTP Request

```
// Enable pairing password
GET http://ip/usapi?method=set-first-over&name=xxx&enable-passwd=1&passwd=xxx

// Disable pairing password
GET http://ip/usapi?method=set-first-over&name=xxx&enable-passwd=0
```

Parameter	Description
method	set-first-over
name	Indicates the 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 space.
enable-passwd	Indicates the enable status of pairing password. 0 indicates disabled. 1 indicates enabled.
pass	Indicates MD5 encrypted password. It is mandatory when enable-passwd = 1.

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-rec-control

Added in: V1.3

Use the interface to modify recording configurations.

Obtain ranges of recording parameters by calling [get-info](#).

```
"rec-control": {  
  "usb-option": [],      // USB recording options  
  "sd-option": [],      // SD card recording options  
  "time-unit": [],      // Recording cycle list, in minutes  
  "file-ext": []        // file prefix list  
}
```

HTTP Request

```
GET http://ip/usapi?method=set-rec-control&usb-option=0&sd-option=2&root-folder=xxx&file-prefix=xxx&time-unit=5
```

Parameter	Description
method	set-rec-control
usb-option	Indicates USB recording options 0 indicates closed recording. 1 indicates normal recording.
sd-option	Indicates SD recording options 0 indicates closed recording. 1 indicates normal recording. 2 indicates cycle recording.
mime-type	Indicates video recording format.
root-folder	Indicates folder name of recorded files. The default value is <code>REC_Fo1der</code> . Two-level directory is supported at most, which is separated by '/', such as a/b. The folder name is case-sensitive and should contain A-Z, a-z, 0-9, spaces and special characters like <code>._-+/'</code> . The name can not start or end with spaces or <code>/</code> .
file-prefix	Indicates the prefix of record file name. The default prefix is <code>VID</code> . The prefix is case-sensitive and should contain A-Z, a-z, 0-9, spaces and special characters like <code>._-+/'</code> . The name can not start or end with spaces.
time-unit	Indicates the recording cycles in minutes. The single file can not exceed 4G, that is $\text{time-unit} * \text{record-bit-rate} \leq 4\text{G}$.

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

Added in: V1.3

Use the 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	Indicates whether to enable AP mode when the device boots up. 0 indicates not to enable AP. 1 indicates to enable AP.
is-visible	Indicates whether to hide SSID. 0 indicates to hide SSID. 1 indicates to display SSID.
softap-ssid	Indicates the SSID, which ranges from 1 to 32 characters and should contain A-Z, a-z, 0-9, spaces and special characters like <code>._-+!</code> . The SSID can not start or end with spaces.
softap-passwd	Indicates the SSID password in plain text. The string ranges from 1 to 32 characters which should contain A-Z, a-z, 0-9, spaces and special characters like <code>._-+!</code> . 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-date-time

Added in: V1.3

Use the interface to set date & time.

HTTP Request

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

Parameter	Description
method	set-date-time
timezone	Indicates the time zone, such as Asia/Shanghai. For details, see the Time Zones around the World
is-auto	Indicates whether to obtain time automatically. 0 indicates manual setup; 1 indicates to obtain time automatically based on time zone.
time	Indicates to set time manually in string form like 2019-09-10 15:10:00 Leave the time="", when is-auto=1.

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 Zones around the World

```
[  
  'Africa/Abidjan',  
  'Africa/Accra',  
  'Africa/Addis_Ababa',  
  'Africa/Algiers',  
  'Africa/Asmara',  
  'Africa/Bamako',  
  'Africa/Bangui',  
  'Africa/Banjul',  
  'Africa/Bissau',  
  'Africa/Blantyre',  
  'Africa/Brazzaville',  
  'Africa/Bujumbura',  
  'Africa/Cairo',  
  'Africa/Casablanca',  
  'Africa/Ceuta',  
  'Africa/Conakry',  
  'Africa/Dakar',
```

'Africa/Dar_es_Salaam',
'Africa/Djibouti',
'Africa/Douala',
'Africa/El_Aaiun',
'Africa/Freetown',
'Africa/Gaborone',
'Africa/Harare',
'Africa/Johannesburg',
'Africa/Juba',
'Africa/Kampala',
'Africa/Khartoum',
'Africa/Kigali',
'Africa/Kinshasa',
'Africa/Lagos',
'Africa/Libreville',
'Africa/Lome',
'Africa/Luanda',
'Africa/Lubumbashi',
'Africa/Lusaka',
'Africa/Malabo',
'Africa/Maputo',
'Africa/Maseru',
'Africa/Mbabane',
'Africa/Mogadishu',
'Africa/Monrovia',
'Africa/Nairobi',
'Africa/Ndjamena',
'Africa/Niamey',
'Africa/Nouakchott',
'Africa/Ouagadougou',
'Africa/Porto-Novo',
'Africa/Sao_Tome',
'Africa/Timbuktu',
'Africa/Tripoli',
'Africa/Tunis',
'Africa/Windhoek',
'America/Adak',
'America/Anchorage',
'America/Anguilla',
'America/Antigua',
'America/Araguaina',
'America/Argentina/Buenos_Aires',
'America/Argentina/Catamarca',
'America/Argentina/ComodRivadavia',
'America/Argentina/Cordoba',
'America/Argentina/Jujuy',
'America/Argentina/La_Rioja',
'America/Argentina/Mendoza',
'America/Argentina/Rio_Gallegos',
'America/Argentina/Salta',
'America/Argentina/San_Juan',
'America/Argentina/San_Luis',
'America/Argentina/Tucuman',
'America/Argentina/Ushuaia',
'America/Aruba',
'America/Asuncion',
'America/Atikokan',
'America/Atka',
'America/Bahia',
'America/Bahia_Banderas',
'America/Barbados',
'America/Belem',
'America/Belize',
'America/Blanc-Sablon',
'America/Boa_Vista',
'America/Bogota',

'America/Boise',
'America/Buenos_Aires',
'America/Cambridge_Bay',
'America/Campo_Grande',
'America/Cancun',
'America/Caracas',
'America/Cayenne',
'America/Cayman',
'America/Chicago',
'America/Chihuahua',
'America/Costa_Rica',
'America/Creston',
'America/Cuiaba',
'America/Curacao',
'America/Danmarkshavn',
'America/Dawson',
'America/Dawson_Creek',
'America/Denver',
'America/Detroit',
'America/Dominica',
'America/Edmonton',
'America/Eirunepe',
'America/El_Salvador',
'America/Ensenada',
'America/Fort_Nelson',
'America/Fort_Wayne',
'America/Fortaleza',
'America/Glace_Bay',
'America/Godthab',
'America/Goose_Bay',
'America/Grand_Turk',
'America/Grenada',
'America/Guadeloupe',
'America/Guatemala',
'America/Guayaquil',
'America/Guyana',
'America/Halifax',
'America/Havana',
'America/Hermosillo',
'America/Indiana/Indianapolis',
'America/Indiana/Knox',
'America/Indiana/Marengo',
'America/Indiana/Petersburg',
'America/Indiana/Tell_City',
'America/Indiana/Vevay',
'America/Indiana/Vincennes',
'America/Indiana/Winamac',
'America/Indianapolis',
'America/Inuvik',
'America/Iqaluit',
'America/Jamaica',
'America/Juneau',
'America/Kentucky/Louisville',
'America/Kentucky/Monticello',
'America/Kralendijk',
'America/La_Paz',
'America/Lima',
'America/Los_Angeles',
'America/Louisville',
'America/Lower_Princes',
'America/Maceio',
'America/Managua',
'America/Manaus',
'America/Marigot',
'America/Martinique',
'America/Matamoros',

'America/Mazatlan',
'America/Mendoza',
'America/Menominee',
'America/Merida',
'America/Metlakatla',
'America/Mexico_City',
'America/Miquelon',
'America/Moncton',
'America/Monterrey',
'America/Montevideo',
'America/Montreal',
'America/Montserrat',
'America/Nassau',
'America/New_York',
'America/Nipigon',
'America/Nome',
'America/Noronha Atlantic islands',
'America/North_Dakota/Beulah',
'America/North_Dakota/Center',
'America/North_Dakota/New_Salem',
'America/Ojinaga',
'America/Panama',
'America/Pangnirtung',
'America/Paramaribo',
'America/Phoenix',
'America/Port-au-Prince',
'America/Port_of_Spain',
'America/Porto_Acre',
'America/Porto_Velho',
'America/Puerto_Rico',
'America/Punta_Arenas',
'America/Rainy_River',
'America/Rankin_Inlet',
'America/Recife',
'America/Regina',
'America/Resolute',
'America/Rio_Branco',
'America/Rosario',
'America/Santa_Isabel',
'America/Santarem',
'America/Santiago',
'America/Santo_Domingo',
'America/Sao_Paulo',
'America/Scoresbysund',
'America/Shiprock',
'America/Sitka',
'America/St_Barthlemy',
'America/St_Johns',
'America/St_Kitts',
'America/St_Lucia',
'America/St_Thomas',
'America/St_Vincent',
'America/Swift_Current',
'America/Tegucigalpa',
'America/Thule',
'America/Thunder_Bay',
'America/Tijuana',
'America/Toronto',
'America/Tortola',
'America/Vancouver',
'America/Virgin',
'America/Whitehorse',
'America/Winnipeg',
'America/Yakutat',
'America/Yellowknife',
'Asia/Aden',

'Asia/Almaty',
'Asia/Amman',
'Asia/Anadyr',
'Asia/Aqtau',
'Asia/Aqtobe',
'Asia/Ashgabat',
'Asia/Ashkhabad',
'Asia/Atyrau',
'Asia/Baghdad',
'Asia/Bahrain',
'Asia/Baku',
'Asia/Bangkok',
'Asia/Barnaul',
'Asia/Beirut',
'Asia/Bishkek',
'Asia/Brunei',
'Asia/Calcutta',
'Asia/Chita',
'Asia/Choibalsan',
'Asia/Chongqing',
'Asia/Chungking',
'Asia/Colombo',
'Asia/Dacca',
'Asia/Damascus',
'Asia/Dhaka',
'Asia/Dili',
'Asia/Dubai',
'Asia/Dushanbe',
'Asia/Famagusta',
'Asia/Gaza',
'Asia/Harbin',
'Asia/Hebron West',
'Asia/Ho_Chi_Minh',
'Asia/Hong_Kong',
'Asia/Hovd',
'Asia/Irkutsk',
'Asia/Istanbul',
'Asia/Jakarta',
'Asia/Jayapura',
'Asia/Jerusalem',
'Asia/Kabul',
'Asia/Kamchatka',
'Asia/Karachi',
'Asia/Kashgar',
'Asia/Kathmandu',
'Asia/Katmandu',
'Asia/Khandyga',
'Asia/Kolkata',
'Asia/Krasnoyarsk',
'Asia/Kuala_Lumpur',
'Asia/Kuching',
'Asia/Kuwait',
'Asia/Macao',
'Asia/Macau',
'Asia/Magadan',
'Asia/Makassar',
'Asia/Manila',
'Asia/Muscat',
'Asia/Nicosia',
'Asia/Novokuznetsk',
'Asia/Novosibirsk',
'Asia/Omsk',
'Asia/Oral',
'Asia/Phnom_Penh',
'Asia/Pontianak',
'Asia/Pyongyang',

'Asia/Qatar',
'Asia/Qyzylorda',
'Asia/Rangoon',
'Asia/Riyadh',
'Asia/Saigon',
'Asia/Sakhalin',
'Asia/Samarkand',
'Asia/Seoul',
'Asia/Shanghai',
'Asia/Singapore',
'Asia/Srednekolymsk',
'Asia/Taipei',
'Asia/Tashkent',
'Asia/Tbilisi',
'Asia/Tehran',
'Asia/Thimbu',
'Asia/Thimphu',
'Asia/Tokyo',
'Asia/Tomsk',
'Asia/Ujung_Pandang',
'Asia/Ulaanbaatar',
'Asia/Ulan_Bator',
'Asia/Urumqi',
'Asia/Ust-Nera',
'Asia/Vientiane',
'Asia/Vladivostok',
'Asia/Yangon',
'Asia/Yakutsk',
'Asia/Yekaterinburg',
'Asia/Yerevan',
'Atlantic/Azores',
'Atlantic/Bermuda',
'Atlantic/Canary',
'Atlantic/Cape_Verde',
'Atlantic/Faeroe',
'Atlantic/Faroe',
'Atlantic/Jan_Mayen',
'Atlantic/Madeira',
'Atlantic/Reykjavik',
'Atlantic/South_Georgia',
'Atlantic/St_Helena',
'Atlantic/Stanley',
'Australia/ACT',
'Australia/Adelaide',
'Australia/Brisbane',
'Australia/Broken_Hill',
'Australia/Canberra',
'Australia/Currie',
'Australia/Darwin',
'Australia/Eucla',
'Australia/Hobart',
'Australia/LHI',
'Australia/Lindeman',
'Australia/Lord_Howe',
'Australia/Melbourne',
'Australia/NSW',
'Australia/North',
'Australia/Perth',
'Australia/Queensland',
'Australia/South',
'Australia/Sydney',
'Australia/Tasmania',
'Australia/Victoria',
'Australia/West',
'Australia/Yancowinna',
'Europe/Amsterdam',

'Europe/Andorra',
'Europe/Astrakhan',
'Europe/Athens',
'Europe/Belfast',
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'Europe/Bratislava',
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'Europe/Budapest',
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'Europe/Chisinau',
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'Europe/Dublin',
'Europe/Gibraltar',
'Europe/Guernsey',
'Europe/Helsinki',
'Europe/Isle_of_Man',
'Europe/Istanbul',
'Europe/Jersey',
'Europe/Kaliningrad',
'Europe/Kiev',
'Europe/Kirov',
'Europe/Lisbon',
'Europe/Ljubljana',
'Europe/London',
'Europe/Luxembourg',
'Europe/Madrid',
'Europe/Malta',
'Europe/Mariehamn',
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'Europe/Samara',
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'Europe/Sarajevo',
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'Europe/Skopje',
'Europe/Sofia',
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'Europe/Tallinn',
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'Europe/Warsaw',
'Europe/Zagreb',
'Europe/Zaporozhye',
'Europe/Zurich',
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'Indian/Chagos',
'Indian/Christmas',
'Indian/Cocos',

```
'Indian/Comoro',  
'Indian/Kerguelen',  
'Indian/Mahe',  
'Indian/Maldives',  
'Indian/Mauritius',  
'Indian/Mayotte',  
'Indian/Reunion',  
'Pacific/Apia',  
'Pacific/Auckland',  
'Pacific/Bougainville',  
'Pacific/Chatham',  
'Pacific/Chuuk',  
'Pacific/Easter',  
'Pacific/Efate',  
'Pacific/Enderbury',  
'Pacific/Fakaofu',  
'Pacific/Fiji',  
'Pacific/Funafuti',  
'Pacific/Galapagos',  
'Pacific/Gambier',  
'Pacific/Guadacanal',  
'Pacific/Guam',  
'Pacific/Honolulu',  
'Pacific/Johnston',  
'Pacific/Kiritimati',  
'Pacific/Kosrae',  
'Pacific/Kwajalein',  
'Pacific/Majuro',  
'Pacific/Marquesas',  
'Pacific/Midway',  
'Pacific/Nauru',  
'Pacific/Niue',  
'Pacific/Norfolk',  
'Pacific/Noumea',  
'Pacific/Pago_Pago',  
'Pacific/Palau',  
'Pacific/Pitcairn',  
'Pacific/Pohnpei',  
'Pacific/Ponape',  
'Pacific/Port_Moresby',  
'Pacific/Rarotonga',  
'Pacific/Saipan',  
'Pacific/Samoa',  
'Pacific/Tahiti',  
'Pacific/Tarawa',  
'Pacific/Tongatapu',  
'Pacific/Truk',  
'Pacific/Wake',  
'Pacific/Wallis',  
'Pacific/Yap',  
'UTC'
```

```
]
```

set-signal-lost-ctrl

Added in: V1.3

Use the interface to set whether the recording would stop automatically when the input signal is lost.

HTTP Request

```
GET http://ip/usapi?method=set-signal-lost-ctrl&is-signal-lost=0
```

Parameter	Description
method	set-signal-lost-ctrl
is-signal-lost	Indicates whether the recording would stop automatically when the input signal is lost. 0 indicates not to stop. 1 indicates stop.

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-startup-rec

Added in: V1.3

Use the interface to set whether the recording is automatically started when the device is boot up.

HTTP Request

```
GET http://ip/usapi?method=set-startup-rec&is-startup-rec=0
```

Parameter	Description
method	set-startup-rec
is-startup-rec	Indicates whether the recording is automatically started. 0 indicates no. 1 indicates yes.

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-startup-live

Added in: V1.3

Use the interface to set whether the live broadcasting is automatically started when the device is boot up.

HTTP Request

```
GET http://ip/usapi?method=set-startup-live&is-startup-live=0
```

Parameter	Description
method	set-startup-live
is-startup-live	Indicates whether the live broadcasting is automatically started. 0 indicates no. 1 indicates yes.

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

Added in: V1.3

Use the interface to set whether to enable UPNP.

HTTP Request

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

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

Response Body

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

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

set-hdmi-rec-ctrl

Added in: V1.3

Use the interface to set whether to allow that digital camera or other device controls the streamer to start/stop recording by the feeding HDMI signal.

HTTP Request

```
GET http://ip/usapi?method=set-hdmi-rec-ctrl&is-hdmi-rec-ctrl=1
```

Parameter	Description
method	set-hdmi-rec-ctrl
is-hdmi-rec-ctrl	Indicates whether to allow to be controlled by digital camera or other device. 0 indicates it is not allowed. 1 indicates it is allowed.

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

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
"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
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 (retlnit=27) after the USB format is completed.

start-format-sd

Added in: V1.3

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

In order to format SD card, the following conditions must be met.

- firmware update is not in progress
- reset or reboot 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
"sd": {
  "disk-status": 1, // SD card 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

The output of `disk-status` & [Storage device status](#) are as follows.

Device status	Condition
SD 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 percentage of USB format.
client-id	Reserved

Call the [clear-format-usb](#) to reset the device to the initial status (retlnit=27) after the SD format is completed.

clear-format-usb

Use the interface to reset the storage device to the initial status (retInit=27).

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.

start-test-usb

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	<code>cur-status & statusUpgrade != statusUpgrade</code>
Reset all settings is not in progress	<code>cur-status & statusReset != statusReset</code>
Reboot is not in progress	<code>cur-status & statusReboot != statusReboot</code>
Recording is not in progress	<code>cur-status & statusRecord != statusRecord</code>
USB format is not in progress	<code>cur-status & statusFormatDisk != statusFormatDisk</code>
USB performance test is not in progress	<code>cur-status & statusDiskTest != statusDiskTest</code>

The output of `disk-status` & [USB Status](#) are as follows.

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

HTTP Request

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

Parameter	Description
method	start-test-usb

Response Body

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

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

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	<p>Returned status.</p> <p>27 indicates that the device is in initial status.</p> <p>5 indicates the request is canceled.</p> <p>2 indicates the USB performance test is in progress.</p> <p>Returned status.</p> <p>0 indicates that the request was accepted successfully. Refer to API Status Codes to find specific description for other values.</p>
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 (retlnit=27) after the performance test is completed.

stop-test-usb

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

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

Added in: V1.3

Use the interface to obtain recorded files from 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 storage device type. 0 indicates USB flash drive. 1 indicates SD card
start	Indicates the start of index from 0.
count	Indicates Get the number of records.

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 suffix is .jpg.
      "status": 1, // video file status, 0 indicates the device is recording. 1 i
      ndicates the file is normal; 2 indicates the file is error; 3 indicates the file is lost.
      "create-time": "2019-09-25 06:35:21", // created time of 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": 2000000, // 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 storage file path of recording video.
thumbnail	Indicates Video thumbnail storage subdirectory, absolute path is: path + thumbnail
media-	Indicates files list.

files	Indicates files list.
-------	-----------------------

Find Common Directory Path

Item	Format	Example
Video path	path/name	/media/disk1/REC_Folder/MD_9.mp4
Download path	http://ip:8080/download/path/name	http://ip:8080/download/media/disk1/REC_Folder/MD_9.mp4
Thumbnail path	path/thumbnail/thumbnail-name	/media/disk1/REC_Folder/thumbnail/thumbnail-name

del-media-files

Added in: V1.3

Use the interface to batch delete the recorded files saved in USB flash or SD card.

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.
  media-files: ["VID_6_14.mp4"] // array of file name to delete
}
```

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-serve

Use the interface to add stream servers, 16 servers are supported at most.

Different servers with the same configurations are not allowed, such as:

- RTMP servers with the same URL and StreamKey
- servers with the same StreamKey

HTTP Request

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

Parameter	Description
method	add-server
type	Indicates server type. 0: RTMP 1: Twitch 2: YouTube 3: Facebook
name	Indicates server name, the characters contain 1. 1 to 32 characters 2. A to Z, a to z, 0 to 9, spaces ._-+', and cannot start or end with space.
url	Indicates server address.
key	Indicates stream key.
is-auth	Indicates authentication status. 0: authentication is not needed 1: authentication is needed. Username and password are required.
user	Indicates user name.
passwd	Indicates password.
token	Indicates Token.
net-mode	Indicates the network priority. 0: Mobile network first 1: Ethernet first 2: Wi-Fi first

Response Body

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

Item	Description
result	0 indicates that the request was accepted successfully. Refer to API Status Codes to find

result	specific description for other values.
--------	--

enable-server

Use the interface to enable the added stream server which you want to post your live broadcast to. By default, the newly added server is disabled.

Stream simultaneously to 2 servers are supported at most, except the following 2 scenarios where only one push is allowed.

- Facebook live interface is selected.
- The bitrate of live stream is set to 8 Mbps.

HTTP Request

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

Parameter	Description
method	enable-server
id	Indicates the server ID
is-use	Indicates whether the server is enabled. 0 indicates the server is disabled. 1 indicates the server 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.

set-server

Use the interface to modify stream server.

HTTP Request

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

Parameter	Description
method	set-server
id	Indicates server ID.
type	Indicates server type. 0: RTMP 1: Twitch 2: YouTube 3: Facebook
name	Indicates server name. 1. 1 to 32 characters 2. A-Z, a-z, 0-9, space, _-+\' and cannot begin or end with a space
url	Indicates server address.
key	Indicates stream key.
is-auth	Indicates whether an authentication is required. 0: authentication is not required 1: authentication is required, and username and password are mandatory.
user	Indicates username.
passwd	Indicates password.
token	Indicates Token.
net-mode	Indicates the prime network for streaming. 0: Mobile Broadband 1: Ethernet 2: Wi-Fi

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 the interface to delete stream servers.

HTTP Request

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

Parameter	Description
method	del-server
id	Indicates the server ID.

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 the 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 server type. 0: RTMP 1: Twitch 2: YouTube 3: Facebook
url	Indicates server address.
key	Indicates the stream key.
is-auth	Indicates whether an authentication is required. 0 indicates that an authentication is not required 1 indicates that an authentication is required, and username and password are mandatory.
user	Indicates username.
passwd	Indicates password.
token	Indicates token.
net-mode	Indicates the prime network for streaming. 0: Mobile Broadband first 1: Ethernet first 2: Wi-Fi first

Response Body

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

Item	Description
result	Returned status. 0 indicates that a stream test is started. 1 indicates repeat request. -9 indicates that 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 indicates that the device is in initial status. 5 indicates that request is canceled. 2 indicates that a stream test 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 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 (retlnit=27) after the test.

stop-test-server

Use the 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 the 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.

set-stream

Use the interface to select stream type for your sessions. Usually the performance of the main stream is better than that of the sub stream.

HTTP Request

```
GET http://ip/usapi?method=set-stream&rec=0&live=1&mws=1
```

Parameter	Description
method	set-stream
rec	Indicates the stream type used to record. 0 indicates main stream 1 indicates sub stream
live	Indicates the stream type used to live broadcast. 0 indicates main stream 1 indicates sub stream
mws	Indicates the stream type used to preview code stream in the App. 0 indicates main stream 1 indicates sub stream

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

Use the interface to configure parameters of the main and sub stream including:

- resolution
- frame interval
- video code type: choose H264 or HEVC for the main stream. But it can only be H264 when live or mws is set to 0: main stream in [set-stream](#). By default, sub stream is using H264.
- encode quality
- video bit rate
- keyframe interval
- quantization range
- bit rate stats duration

Obtain ranges of parameters using [get-info](#).

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

HTTP Request

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

Parameter	Description
method	set-video
stream	Indicates stream type. 0: main stream 1: sub stream
is-auto	Indicates whether to set stream type automatically. The sub stream can only be set when it is 0. 0: custom 1: auto
cx	Indicates width of resolution dimensions, in pixels.
cy	Indicates height of resolution dimensions, in pixels.
duration	Indicates frame rate.
kbps	Indicates bit rate of video coding.

gop	Indicates keyframe interval.
fourcc	Reserved. The default value is 0.
codec	Indicates code type.
profile	Indicates encoding profile.
cbrstat	Indicates bit rate stats duration.
fullrange	Indicates quantization range.

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 the interface to configure audio coding parameters.

Obtain range of audio coding bitrate using [get-info](#).

```
{
  "codec-cap": {
    "audio-kbps": [],          // range of audio coding bitrate
  }
}
```

HTTP Request

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

Parameter	Description
method	set-audio
kbps	Indicates audio coding bitrate.

Response Body

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

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

reboot

Use the interface to reboot device and log in again after rebooting.

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

HTTP Request

```
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 the 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 state.

HTTP Request

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

Parameter	Description
method	reset-all-settings

Response Body

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

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

login

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

HTTP Request

```
GET http://ip/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 indicates that the request was accepted successfully. 36 indicates that the username or password is incorrect. Refer to API Status Codes to find specific description for other values.

logout

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

HTTP Request

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

Parameter	Description
method	logout

Response Body

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

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

get-users

Use 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 general users with administrative rights.

HTTP Request

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

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

Response Body

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

Item	Description
result	Returned status. 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-password

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

HTTP Request

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

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

Response Body

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

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

set-password

Use the interface to reset user password with administrative rights.

HTTP Request

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

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

Response Body

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

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

set-eth

Use the interface to configure Ethernet network.

HTTP Request

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

disconn-wifi

Use the interface to disconnect Wi-Fi.

HTTP Request

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

Parameter	Description
method	disconn-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.

close-softap

Added in: V1.3

Use the interface to turn off AP mode.

HTTP Request

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

Parameter	Description
method	close-softap

Response Body

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

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

update

There are two ways to perform the firmware update:

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

In order to perform the firmware update:

- USB format can not be in progress.
- Firmware detect 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
USB format is not in progress	cur-status & statusFormatDisk != statusFormatDisk
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 type. upload indicates manual update. online indicates online update.

Response Body

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

Item	Description
result	Returned status. 0 indicates the streamer 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 operation status. 27 indicates initial status. 2 indicates updating status. 0 indicates that 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 USB format.
mode	Indicates firmware update type. 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 the interface to update the .mwf firmware file.

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.
size	Indicates the uploaded file size in bytes.

Call [update](#) to update the unit after a successful upload.

cancel-download

Use the interface to cancel the download process when the new firmware is being downloaded using the [update](#) for online update.

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 the interface to online detect if there is a new firmware version.

- In order to conduct the detection for new version, a firmware 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 updat 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 indicates initial status 2 indicates detecting status 0 indicates that 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 the 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 the interface to reset the device to the initial state (retInIt=27) when the device is detecting if there is a new firmware version 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.