TP-LINK TECHNOLOGIES CO., LTD.

**VIGI Open API Document**

**Directory**

1. [INTRODUCE 1](#_bookmark0)
2. [OPENAPI TRANSACTION 1](#_bookmark1)
   1. [Request Format 1](#_bookmark2)
      1. [The request format of OpenAPI Discovery 1](#_bookmark3)
      2. [The request format of OpenAPI control interface 1](#_bookmark4)
      3. [The request format of OpenAPI stream interface 1](#_bookmark5)
   2. [Authentication 2](#_bookmark6)
      1. [Method:doAuth 2](#_bookmark7)
      2. [Digest Authentication 2](#_bookmark8)
   3. [Data Transmission 3](#_bookmark9)
3. [OPENAPI DISCOVERY PROTOCOL 3](#_bookmark10)
   1. [ODP PACKET 3](#_bookmark11)
   2. [Reply packet format 5](#_bookmark12)
4. [OPENAPI INTERFACE 5](#_bookmark13)
   1. [Special interface 6](#_bookmark14)
      1. [doAuth 6](#_bookmark15)
      2. [getModuleList 6](#_bookmark16)
   2. [SYSTEM 9](#_bookmark17)
      1. [getDeviceInfo 9](#_bookmark18)
      2. [setDeviceAlias 10](#_bookmark19)
      3. [getDeviceAlias 11](#_bookmark20)
      4. [doSoftReset 12](#_bookmark21)
      5. [searchSystemLog 12](#_bookmark22)
      6. [getDeviceStatus 13](#_bookmark23)
   3. [dateTime 14](#_bookmark24)
      1. [setTimeZone 14](#_bookmark25)
      2. [getTimeZone 15](#_bookmark26)
      3. [setSystemTime 16](#_bookmark27)
      4. [getSystemTime 17](#_bookmark28)
   4. [AUDIO 17](#_bookmark29)
      1. [setSpeakerVolume 17](#_bookmark30)
      2. [getSpeakerVolume 18](#_bookmark31)
      3. [setMicrophoneVolume 19](#_bookmark32)
      4. [getMicrophoneVolume 19](#_bookmark33)
      5. [getAudioCapability 20](#_bookmark34)
   5. [VIDEO 21](#_bookmark35)
      1. [setResolution 21](#_bookmark36)
      2. [getResolution 22](#_bookmark37)
      3. [getVideoCapability 23](#_bookmark38)
   6. [dayNightMode 24](#_bookmark39)
      1. [setDayNightMode 24](#_bookmark40)
      2. [getDayNightMode 25](#_bookmark41)
   7. [SDCARD 25](#_bookmark42)
      1. [formatSdCard 25](#_bookmark43)
      2. [getSdCardStatus 26](#_bookmark44)
   8. [Event Detection 28](#_bookmark45)
      1. [setMotionDetectionSwitch 28](#_bookmark46)
      2. [getMotionDetectionSwitch 30](#_bookmark47)
      3. [setMotionDetectionRegion 31](#_bookmark48)
      4. [getMotionDetectionRegion 32](#_bookmark49)
      5. [setCrosslineDetectionSwitch 34](#_bookmark50)
      6. [getCrosslineDetectionSwitch 35](#_bookmark51)
      7. [setCrosslineDetectionRegion 36](#_bookmark52)
      8. [getCrosslineDetectionRegion 38](#_bookmark53)
      9. [setInvasionDetectionSwitch 40](#_bookmark54)
      10. [getInvasionDetectionSwitch 41](#_bookmark55)
      11. [setInvasionDetectionRegion 42](#_bookmark56)
      12. [getInvasionDetectionRegion 44](#_bookmark57)
      13. [setTamperDetectionSwitch 46](#_bookmark58)
      14. [getTamperDetectionSwitch 47](#_bookmark59)
      15. [setPeopleDetectionSwitch 48](#_bookmark60)
      16. [getPeopleDetectionSwitch 49](#_bookmark61)
      17. [setPeopleDetectionRegion 50](#_bookmark62)
      18. [getPeopleDetectionRegion 51](#_bookmark63)
      19. [setVehicleDetectionSwitch 53](#_bookmark64)
      20. [getVehicleDetectionSwitch 54](#_bookmark65)
      21. [setVehicleDetectionRegion 55](#_bookmark66)
      22. [getVehicleDetectionRegion 56](#_bookmark67)
      23. [setAreaEntryDetectionSwitch 58](#_bookmark68)
      24. [getAreaEntryDetectionSwitch 59](#_bookmark69)
      25. [setAreaEntryDetectionRegion 60](#_bookmark70)
      26. [getAreaEntryDetectionRegion 61](#_bookmark71)
      27. [setAreaLeaveDetectionSwitch 63](#_bookmark72)
      28. [getAreaLeaveDetectionSwitch 64](#_bookmark73)
      29. [setAreaLeaveDetectionRegion 65](#_bookmark74)
      30. [getAreaLeaveDetectionRegion 67](#_bookmark75)
      31. [setDropAndTakeDetectionSwitch 69](#_bookmark76)
      32. [getDropAndTakeDetectionSwitch 70](#_bookmark77)
      33. [setDropAndTakeDetectionRegion 71](#_bookmark78)
      34. [getDropAndTakeDetectionRegion 72](#_bookmark79)
      35. [setLoiterDetectionSwitch 74](#_bookmark80)
      36. [getLoiterDetectionSwitch 75](#_bookmark81)
      37. [setLoiterDetectionRegion 76](#_bookmark82)
      38. [getLoiterDetectionRegion 78](#_bookmark83)
      39. [setSceneChangeDetectionSwitch 79](#_bookmark84)
      40. [getSceneChangeDetectionSwitch 80](#_bookmark85)
      41. [setAudioAnomalyDetectionSwitch 81](#_bookmark86)
      42. [getAudioAnomalyDetectionSwitch 83](#_bookmark87)
      43. [getEventEnhanceCapability 84](#_bookmark88)
   9. [PTZ 85](#_bookmark89)
      1. [getPresetPoint 85](#_bookmark90)
      2. [motorMove 86](#_bookmark91)
      3. [cruiseMove 87](#_bookmark92)
      4. [stopMove 88](#_bookmark93)
      5. [setPresetPoint 88](#_bookmark94)
      6. [removePresetPoint 89](#_bookmark95)
      7. [gotoPresetPoint 90](#_bookmark96)
      8. [getPTZCapability 91](#_bookmark97)
   10. [PLAYBACK 91](#_bookmark98)
       1. [searchVideoCalendar 91](#_bookmark99)
       2. [searchVideoList 92](#_bookmark100)
       3. [getUserId 94](#_bookmark101)
   11. [DOWNLOAD 95](#_bookmark102)
       1. [getMediaList 95](#_bookmark103)
   12. [STREAMPORT 98](#_bookmark104)
       1. [getStreamPort 98](#_bookmark105)
   13. [MSGPUSH 99](#_bookmark106)
       1. [subscribeMsg 99](#_bookmark107)
       2. [setMsgpushInterval 101](#_bookmark108)
       3. [getMsgpushInterval 102](#_bookmark109)
   14. [recordSchedule 102](#_bookmark110)
       1. [setRecordSchedule 102](#_bookmark111)
       2. [getRecordSchedule 103](#_bookmark112)
   15. [ALARM 105](#_bookmark113)
       1. [manualAlarm 105](#_bookmark114)
5. [OPENAPI STREAM INTERFACE 106](#_bookmark115)
   1. [PREVIEW 106](#_bookmark116)
   2. [PLAYBACK 108](#_bookmark117)
   3. [DOWNLOAD 110](#_bookmark118)
   4. [STOP 113](#_bookmark119)
   5. [PLAY 114](#_bookmark120)
      1. [Modify the parameters for obtaining data 114](#_bookmark121)
   6. [VIDEO 115](#_bookmark122)
      1. [force\_iframe 115](#_bookmark123)
   7. [TALK 116](#_bookmark124)

[APPENDIX Ⅰ ERROR CODE INFORMATION 119](#_bookmark125)

[APPENDIX Ⅱ PAYLOAD TYPE 121](#_bookmark126)

[APPENDIX Ⅲ AREA ABOUT ‘SETTIMEZONE’ 122](#_bookmark127)

# Introduce

This section explains how to use VIGI OpenAPI.

VIGI OpenAPI consists of three parts: discovery protocol, control protocol and stream protocol. The OpenAPI Discovery Protocol (ODP) is used for device Discovery. The OpenAPI Discovery Protocol can be used to obtain summary information about a specific host on the same network segment or across network segments. After the device is discovered, you can know the IP address, mac address, and port of the device. Based on this information, you can obtain and set parameters of the device through the OpenAPI control interface, and also make requests related to data stream through the stream interface. Note that authentication is required before the interface is officially used. See Section

2.2 for authentication methods. When the OpenAPI stream interface is used, data streams are often transmitted. In this case, parse and assemble data packets based on RTP Over RTSP format.

# OpenAPI Transaction

## Request Format

### The request format of OpenAPI Discovery

The OpenAPI Discovery Protocol (ODP) local service port is 23001, and the protocol type field in the Ethernet package is 0x7210.

The request packet must be constructed according to the OpenAPI Discovery Protocol. For details, see Section 3.

### The request format of OpenAPI control interface

The VIGI OpenAPI request format is as follows:

POST https://device\_addr:port/stok=xx HTTP/1.1 Content-Type: application/json

Content-Length: xxx

{"method":"xx","params":{…}}

// or {"method":"xx"}

The VIGI OpenAPI information must be a json string containing “method” and “method” parameters. For details, see section -- 4.OpenAPI Interface.

Port opened by VIGI for the openAPI control interface can be obtained using the OpenAPI Discovery Protocol, the default value is 20443.

### The request format of OpenAPI stream interface

The VIGI OpenAPI stream request format is as follows:

MULTITRANS rtsp : //ip /multitrans RTSP/1 .0 CSeq : 1

Content-Type : application/json

Content-Length : xxx

{"type" : "request","seq" : "1","params" : {"method" : "xx"}}

The VIGI OpenAPI stream information must be a json string. For details, see section -- 5.OpenAPI Stream interface.

The port corresponding to the OpenAPI stream interface is the port corresponding to the rtsp. The default port is 554. This port is available through the ‘getStreamPort’ interface.

## Authentication

### Method:doAuth

Method: doAuth indicates the authentication before using various openAPI interfaces. After the authentication is successful, ‘stok’ is returned. ‘stok’ is required when using all types of openAPI interfaces (except doAuth).

The format of the ‘doAuth’ is as follows:

POST https://device\_addr:20443 HTTP/1.1 Content-Type: application/json

Content-Length: xxx

{"method":"doAuth","params":{…}}

### Digest Authentication

Digest authentication is used to establish OpenAPI stream connections. The client sends the request without authentication, and the server replies the message with the nonce. The client then sends a request with authorization label, which contains the response calculated by using information such as nonce. The server authenticates the packet after receiving the Authorization label, and continues to process the packet if it passes. Otherwise, a 401 Unauthorized error is displayed.

The process is as follows:

/\* No authentication request \*/

C->S : MULTITRANS rtsp : //192 .168.1.10 /multitrans RTSP/1 .0 CSeq : 1

Content-Type : application/json Content-Length : xxx

<json >

/\* reply \*/

S->C : RTSP/1 .0 401 Unauthorized

CSeq : 1

WWW-Authenticate : Digest realm="< Request domain >", nonce="<A random 32-bit character string >"

/\* authentication request \*/

C->S : MULTITRANS rtsp : //192 .168.1.10 /multitrans RTSP/1 .0 CSeq : 1

Authorization : Digest username="< username >", realm="< Request domain >", nonce="< A

random 32-bit character string returned by the Server >", uri="rtsp : //192 .168.1.10 /multitrans", response="<MD5 digest >"

Content-Type : application/json Content-Length : xxx

<json >

/\* reply \*/

S->C : RTSP/1 .0 200 OK

CSeq : 1

Content-Type : application/json Content-Length : xxx

<json >

## Data Transmission

The data transfer occurs after IPC successfully responds to the relevant request. Using the idea of RTP Over TCP. The format is as follows:

|  |  |  |
| --- | --- | --- |
| $ (1B) | Chn ID (1B) | Length (2B) |

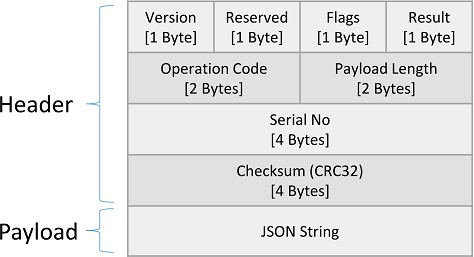
# OpenAPI Discovery Protocol

OpenAPI Discovery Protocol (ODP) is a device discovery protocol used for OpenAPI. In broadcast or unicast mode, the OpenAPI Discovery Protocol (ODP) can be used to obtain summary information on the same network segment, across network segments, or a specific host.

The ODP local service port is 23001, and the protocol type field in the Ethernet package is 0x7210.

## ODP packet

Please see the following figure for the format of ODP packet:



The fields are described as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| **fields** | **size**（**byte**） | **value** | **description** |
| Version | 1 | t\_uint8 | payload format version |
| Reserved | 1 | t\_uint8 | Reserved field, don't care about the value |
| Flags | 1 | ODP\_FLAG\_NONE 0x00 | Tag fields, which support many functions, Currently in effect are:  REQUEST REPLY BROADCAST UNICAST |
| ODP\_FLAG\_REPLY 0x01 |
| ODP\_FLAG\_REQUEST 0x02 |
| ODP\_FLAG\_COMPRESS 0x04 |
| ODP\_FLAG\_ENCRYPT 0x08 |
| ODP\_FLAG\_UNICAST 0x10 |
| ODP\_FLAG\_BROADCAST 0x20 |
| ODP\_FLAG\_ALL 0xff |
| Result | 1 | ODP\_RET\_OK 0x01 | success |
| ODP\_RET\_ERR 0xff | Packet error |
| Operation Code | 2 | t\_uint16 | Operation code. Currently, the defined  operation code is 0x01 |
| Payload Length | 2 | t\_uint16 | Payload length |
| Serial No. | 4 | t\_uint32 | The serial number of the request and the reply must be consistent. Anti-attack processing, ensuring that only sent request packets are processed. The exception is  broadcast mode. |
| Checksum | 4 | t\_uint32 | MAGIC CODE，Check for the entire package  0x77805D05 |
| Payload |  | t\_int8 \* |  |

## Reply packet format

The format of payload content in the reply packet on the device is as follows:

|  |  |  |
| --- | --- | --- |
| **fields** | | **description** |
| error\_code int | | Error code. 0 indicates that the execution succeeds.  Otherwise, the execution fails. The specific error value is to be defined. |
| result | device\_name  String | Device name |
| device\_type  String | Device type (such as "IPCAM") |
| device\_model  String | Equipment model |
| ip  String | Device IP address |
| mac  String | MAC address of the device (format: XXXXXXXXXXXX, in all  uppercase) (Unique identifier of the device) |
| factory\_default  Bool | Whether it is in factory condition. true indicates factory  status; otherwise, non-factory status. |
| http\_port  int | Local http access port, 80/443, etc |

The following is an example of device reply data:

{

"error\_code": 0, "result": {

"device\_name": "XXXXXX", "device\_type": "SMART.IPCAMERA", "device\_model": "XXXXXX",

"ip": "192.168.0.60",

"mac": "AABBCCDDEEFF",

"factory\_default": true, "http\_port": 443

}

}

# OpenAPI interface

The APIs in this section use the HTTPS protocol. See 2.1.2 for the format of the request.

## Special interface

### doAuth

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | doAuth | |
| **Description** | This API is used for Auth | |
| **Request** | password | string[], the MD5 value of the ipc password |
| passwdType | string[], Currently, only md5 is supported. |
| **Response** | stok | string[32], token required for control protocol instruction authentication. wireless module interfaces do not need to carry tokens. All other control interfaces need to carry tokens. The token aging time  is half an hour |
| **Example** | **request:** | |
|  | { | |
|  | "method": "doAuth", | |
|  | "params": { | |
|  | "password": "C6A173D4EC7FB10AC11B5E37C975D453", | |
|  | "passwdType": "md5" | |
|  | } | |
|  | } | |
|  | **response:** | |
|  | { | |
|  | "method": "doAuth", | |
|  | "errCode": 0, | |
|  | "stok": "C2em0U1rQIYKvHmkvuykSurbq3Xvm23P" | |
|  | } | |

### getModuleList

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Content** | | | |
| **Command** | getModuleList | | | |
| **Description** | This API is used for getting module list | | | |
| **Request** | NULL | | | |
| **Response** | moduleList | array | name | string, [0,32], module name |
| version | number, version of the current. |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method":"getModuleList"  } |
| **response:**  {  "method": "getModuleList", "result": {  "moduleList": [  {  "name": "system", "version": 1  },  {  "name": "dateTime", "version": 1  },  {  "name": "wireless", "version": 1  },  {  "name": "audio\_speaker", "version": 1  },  {  "name": "audio\_microphone", "version": 1  },  {  "name": "video", "version": 1  },  {  "name": "dayNightMode", "version": 1  }, |

|  |  |
| --- | --- |
|  | {  "name": "sdCard", "version": 1  },  {  "name": "motionDetection", "version": 1  },  {  "name": "sound\_alarm\_enabled", "version": 1  },  {  "name": "light\_alarm\_enabled", "version": 1  },  {  "name": "ptz", "version": 1  },  {  "name": "playback", "version": 1  },  {  "name": "download", "version": 1  },  {  "name": "StreamPort", "version": 1  }  ]  },  "errCode": 0  } |

The current module and its corresponding version are shown in following Table:

|  |  |
| --- | --- |
| **Name** | **Version** |
| system | 1 |
| wireless | 1 |

|  |  |
| --- | --- |
| dateTime | 1 |
| audio\_speaker | 1 |
| audio\_microphone | 1 |
| video | 1 |
| dayNightMode | 1 |
| sdCard | 1 |
| motionDetection | 1 |
| CrossLineDetection | 1 |
| InvasionDetection | 1 |
| AreaEntryDetection | 1 |
| AreaLeaveDetection | 1 |
| PeopleDetection | 1 |
| VehicleDetection | 1 |
| DropAndTakeDetection | 1 |
| tamperDetection | 1 |
| sound\_alarm\_enabled | 1 |
| light\_alarm\_enabled | 1 |
| ptz | 1 |
| playback | 1 |
| download | 1 |
| StreamPort | 1 |
| msgPush | 1 |
| recordSchedule | 1 |
| ptz\_zoom | 1 |
| LoiterDetection | 1 |
| SceneChangeDetection | 1 |
| AudioAnomalyDetection | 1 |

## system

### getDeviceInfo

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **method** | getDeviceInfo | | |
| **Description** | This API is used for getting the device information. | | |
| **Request** | NULL | | |
| **Response** | deviceInfo | alias | string, [1,32], the alias of the device. |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | type | string, [0,256], device type. |
| model | string, [0,32]. |
| mac | string, the MAC address in the format like “AA-BB-CC-DD-EE-FF”. |
| hwId | string, [32], HW\_ID |
| oemId | string, [32], OEM\_ID |
| deviceId | string, [40], device id |
| hwVer | string, [3, 5], hardware version. |
| swVer | string, [0,256], software version with country code. |
| **Example** | **request:**  {  "method":"getDeviceInfo"  } | | |
| **response:**  {  "method": "getDeviceInfo", "errCode": 0,  "result": {  "alias": "!@#$%^&\*()\_+|{}:\"<>?-=\\[];',./", "type": "SMART.IPCAMERA",  "model": "C100",  "mac": "00-0A-EB-01-88-11",  "hwId": "5AC4CF9E3183C16825EB28BC3C27059C" , "oemId": "A4551BD7CF274B28C532A79E87B9FFB5",  "deviceId": "80217D4B87B119E91F1EB085EE1000C100112001", "hwVer": "1.0",  "swVer": "1.0.0 Build 202011 Rel.65962n(4555) "  }  } | | |

### setDeviceAlias

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | setDeviceAlias |

|  |  |  |
| --- | --- | --- |
| **Description** | This API is used for setting device alias. | |
| **Request** | alias | string, [1,32], device alias. |
| **Response** | NULL | |
| **Example** | **request:** | |
|  | { | |
|  | "method":"setDeviceAlias", | |
|  | "params": | |
|  | { | |
|  | "alias": "VIGI C230 1.0" | |
|  | } | |
|  | } | |
|  | **response:**  {  "method": "setDeviceAlias", "errCode":0,  } | |

### getDeviceAlias

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getDeviceAlias | |
| **Description** | This API is used for getting device alias. | |
| **Request** | NULL | |
| **Response** | alias | string, [1,32], device alias. |
| **Example** | **request:**  {  "method":"getDeviceAlias"  } | |
| **response:**  {  "method": "getDeviceAlias", "errCode": 0,  "result": {  "alias": "VIGI C540-W 2.0"  }  } | |

### doSoftReset

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | doSoftReset |
| **Description** | This API is used for resetting device in local network |
| **Request** | NULL |
| **Response** | NULL |
| **Example** | **request:**  {  "method": "doSoftReset"  } |
| **response:**  {  "method": "doSoftReset", "errCode": 0,  } |

### searchSystemLog

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | searchSystemLog | |
| **Description** | This API is used to search system logs | |
| **Request** | start\_time | The number of seconds since the start time of the system log query, from 1970.1.1 zero to the present |
| end\_time | The syslog end time of the query, the number of seconds since 1970.1.1 zero to the present |
| log\_type | The type of system log  The value ranges are as follows: all  alarm exception operation  information |
| **Response** | syslog | An array of logs |
| syslog\_xx | Specific information for each log entry. The content format of the log is:  <number>date[module]message  number: indicates the log type, 0 is all, 1 is alarm, 2 is exception, 3 |

|  |  |  |
| --- | --- | --- |
|  |  | is operation, and 4 is information  date: The time the log was generated. The format is the number of seconds from January 1, 1970 to the present.  module: The name of the module that generated the log  message: The content of the log |
| total | Total log entries, which refers to logs that meet the query criteria, not all logs |
| **Example** | **request:**  {  "method": "searchSystemLog", "params":  {  "start\_time": "1691976514",  "end\_time": "1692581314", "log\_type": "all",  }  } | |
| **response:**  {  "method": "searchSystemLog", "result": {  "syslog": [  {  "syslog\_1": "<4>1692612202[NSD][SNTPC]Init over"  },  {  "syslog\_2": "<4>1692612202[NSD][TPNTP]Init over"  }  ],  "total": 2  },  "errCode": 0  } | |

### getDeviceStatus

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | getDeviceStatus |

|  |  |  |
| --- | --- | --- |
| **Description** | This API is used to getting device status | |
| **Request** | NULL | |
| **Response** | device\_model | string, device model. |
| dev\_alias | string, device alias. |
| ip | string, ip of the device |
| mac | string, mac of the device |
| link\_status | int. The connection status of the device range :   1. –Not connected 2. - Connected |
| uptime | long long. Time from system boot to present (in seconds) |
| **Example** | **request:**  {  "method":"getDeviceStatus"  } | |
| **response:**  {  "method": "getDeviceStatus", "result": {  "device\_model": "VIGI C440", "dev\_alias": "VIGI C440 2.0", "ip": "192.168.137.1",  "mac": "00-ff-11-22-33-44",  "link\_status": 1,  "uptime": 582  },  "errCode": 0  } | |

## dateTime

### setTimeZone

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | setTimezone |

|  |  |  |
| --- | --- | --- |
| **Description** | This API is used for setting time zone info | |
| **Request** | timezone | string, [1,15], time zone, the format must be similar to **"UTC+hh:mm"**  or **"UTC-hh:mm"**. |
| area | string, [1,63], reference to Appendix Ⅲ. |
| **Response** | NULL | |
| **Example** | **request:** | |
|  | { | |
|  | "method":"setTimeZone", | |
|  | "params": | |
|  | { | |
|  | "timezone": "UTC-00:00", | |
|  | "area": "Europe/London" | |
|  | } | |
|  | } | |
|  | **response:**  {  "method": "setTimezone", "errCode": 0,  } | |

### getTimeZone

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getTimezone | |
| **Description** | This API is used for getting time zone info | |
| **Request** | NULL | |
| **Response** | timezone | string, [1,15], time zone |
| area | string, [1,63], reference to Appendix Ⅲ. |
| **Example** | **request:**  {  "method":"getTimeZone"  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "getTimezone", "errCode": 0,  "result": {  "timezone": "UTC-00:00", "area": "Europe/London"  }  } |

### setSystemTime

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setSystemTime | |
| **Description** | This API is used for setting the system time | |
| **Request** | system\_time | int. Sets the current time, the number of seconds from 1970.1.1 to now, and must not be less than 946656000 (1/1/2000 0:0:0) |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setSystemTime", "params":  {  "system\_time": 1692864317,  }  } | |
|  | **response:**  {  "method": "setSystemTime", "errCode": 0  } | |

### getSystemTime

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getSystemTime | |
| **Description** | This API is used for getting the system time | |
| **Request** | NULL | |
| **Response** | system\_time | int. The current time of the system, the number of seconds since 1970.1.1 zero hour to the present |
| **Example** | **request:**  {  "method":"getSystemTime"  } | |
|  | **response:**  {  "method": "getSystemTime", "result": {  "system\_time": 1692862677  },  "errCode": 0  } | |

## audio

### setSpeakerVolume

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setSpeakerVolume | |
| **Description** | This API is used for setting speaker volume. | |
| **Request** | volume | int, [0-100], for current speaker volume. |
| **Response** | NULL | |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method": "setSpeakerVolume", "params":  {  "volume": 50  }  } |
| **response:**  {  "method": "setSpeakerVolume", "errCode":0  } |

### getSpeakerVolume

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getSpeakerVolume | |
| **Description** | This API is used for getting speaker volume. | |
| **Request** | NULL | |
| **Response** | volume | int, [0-100], for current speaker volume. |
| **Example** | **request:**  {  "method": "getSpeakerVolume"  } | |
| **response:**  {  "method": "getSpeakerVolume", "errCode": 0,  "result": {  "volume": 50  }  } | |

### setMicrophoneVolume

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setMicrophoneVolume | |
| **Description** | This API is used for setting microphone volume. | |
| **Request** | volume | int, [0-100], for current microphone volume. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "setMicrophoneVolume", "params":  {  "volume": 50  }  } | |
| **response:**  {  "method": "setMicrophoneVolume", "errCode":0  } | |

### getMicrophoneVolume

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getMicrophoneVolume | |
| **Description** | This API is used for getting microphone volume. | |
| **Request** | NULL | |
| **Response** | volume | int, [0-100], for current microphone volume. |
| **Example** | **request:**  {  "method": "getMicrophoneVolume"  } | |

### getAudioCapability

**response:**

{

"method": "getMicrophoneVolume", "errCode": 0,

"result": {

"volume": 50

}

}

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getAudioCapability | |
| **Description** | This API is used for getting the audio capability. | |
| **Request** | NULL | |
| **Response** | speaker/microphone | volume：string[], 1- Configuration is supported.  0- Configuration is not supported  Currently, you can only set the volume. |
| **Example** | **request:**  {  "method": "getAudioCapability",  } | |

## video

**response:**

{

"method": "getAudioCapability", "errCode": 0,

"result": {

"speaker": {

"volume": "1"

},

"microphone": {

"volume": "1"

}

}

}

### setResolution

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setResolution | |
| **Description** | This API is used for setting stream resolution. | |
| **Request** | main\_ resolution | string,{ "2560\*1440","2304\*1296","2048\*1280","1920\*108 |
|  |  | 0","1280\*720" } |
|  |  | Range reference interface ‘getVideoCapability’ |
|  | minor\_resolution | string,{ "640\*480","352\*288","320\*240" } |
|  |  | Range reference interface ‘getVideoCapability’ |
|  | At least one in main/minor\_ resolution | |
| **Response** | NULL | |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method": "setResolution", "params":  {  "main\_resolution": "2560\*1440"  }  } |
|  | **response:**  {  "method": "setResolution", "errCode":0  } |

### getResolution

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getResolution | |
| **Description** | This API is used for getting stream resolution. | |
| **Request** | NULL | |
| **Response** | resolution | string |
| **Example** | **request:**  {  "method":"getResolution",  } | |
| **response:**  {  "method": "getResolution", "result": {  "main": {  "resolutions": "2560\*1440"  },  "minor": { | |

}

"resolutions": "640\*480"

}

},

"errCode": 0

### getVideoCapability

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getVideoCapability | |
| **Description** | This API is used for getting the video capability. | |
| **Request** | NULL | |
| **Response** | resolutions | string array, ["1920x1080", "1280x960", "1280x720", "704x576",  "640x360"], the option of resolutions. |
| **Example** | **request:**  {  "method": "getVideoCapability"  } | |
| **response:**  {  "method": "getVideoCapability", "result": {  "main": {  "resolutions": [  "2560\*1440", "2304\*1296", "2048\*1280", "1920\*1080", "1280\*720"  ]  }, | |

}

"minor": {

"resolutions": [

"640\*480", "352\*288", "320\*240"

]

}

},

"errCode": 0

## dayNightMode

### setDayNightMode

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setDayNightMode | |
| **Description** | This API is used for setting day and night mode. | |
| **Request** | mode | string, {"auto", "day", "night"}, default is "auto". |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "setDayNightMode", "params":  {  "mode": "auto"  }  } | |

### getDayNightMode

**response:**

{

"method": "setDayNightMode", "errCode":0

}

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getDayNightMode | |
| **Description** | This API is used for getting day and night mode. | |
| **Request** | NULL | |
| **Response** | mode | string, {"auto", "day", "night"}, default is "auto". |
| **Example** | **request:**  {  "method": "getDayNightMode"  } | |
| **response:**  {  "method": "getDayNightMode", "errCode": 0,  "result": {  "mode": "auto"  }  } | |

## sdCard

### formatSdCard

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | formatSdCard | |
| **Description** | This API is used for formatting sd card. | |
| **Request** | card\_index(optional) | int, [1, 2, …], sd card disk index. (At present, IPC only has one sd card, so it is limited to 1) |
| **Response** | NULL | |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method": "formatSdCard", "params":  {  "card\_index": 1  }  } |
| **response:**  {  "method": "formatSdCard", "errCode":0  } |

### getSdCardStatus

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **method** | getSdCardStatus | | |
| **Description** | This API is used for getting the status of sd card. | | |
| **Request** | NULL | | |
| **Response** | sdCardInfo | card\_index | int, [1,2,…], sd card disk index. |
| rw\_attr | string , {"w", "r", "rw"} harddisk read and write permissions. |
| status | string , {"normal", "unformatted", "formatting", "abnormal", "offline", "insufficient"}, sd card status. |
| detect\_status | string , {"normal", "detecting", "dilatant", "dilatant\_suspect", "low\_speed", "fail"}. |
| write\_protect | string , {"0", "1"} write protection. |
| percent | string , precentage of sd card formatting. |
| type | string , {"local", "remote"} type of disk. |
| record\_duration | string , length of recorded video ,unit is second. |
| record\_free\_duration | string , the length of video that can be recorded with the remaining disk space. |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | record\_start\_time | string , the start recording seconds since 0:00 on January 1, 1970 |
| loop\_record\_status | string , {"0", "1"} indicates whether the disk is in a circular overwrite state. |
| total\_space | string , total space of harddisk |
| free\_space | string , free space of harddisk |
| video\_total\_space | string , total space of video |
| video\_free\_space | string , free space of video |
| picture\_total\_space | string , total space of picture |
| picture\_free\_space | string , free space of picture |
| msg\_push\_total\_space | string , total space of push message |
| msg\_push\_free\_space | string , free space of push message |
| **Example** | **request:**  {  "method":"getSdCardStatus",  } | | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "getSdCardStatus", "errCode": 0,  "result": {  "card\_index": 1, "rw\_attr": "rw",  "status": "normal",  "detect\_status": "normal", "write\_protect": "0",  "percent": "100",  "type": "local", "record\_duration": "3549",  "record\_free\_duration": "2586875",  "record\_start\_time": "1584341988",  "loop\_record\_status": "0", "total\_space": "119.1GB", "free\_space": "118.4GB", "video\_total\_space": "118.3GB", "video\_free\_space": "118.0GB" , "picture\_total\_space": "1.0MB", "picture\_free\_space": "1.0MB", "msg\_push\_total\_space": "210.0MB", "msg\_push\_free\_space": "210.0MB"  }  } |

## Event Detection

### setMotionDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setMotionDetectionSwitch | |
| **Description** | This API is used for setting motion detection switch. | |
| **Request** | enabled | string, {"on", "off"}, open/close motion detection switch, |

|  |  |  |
| --- | --- | --- |
|  |  | default is "on". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for motion detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for motion detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for motion detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for motion detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| sensitivity | int, range[1,100]. The sensitivity of motion detection, the higher the sensitivity, the easier it is to generate motion detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "setMotionDetectionSwitch", "params":  {  "enabled": "on", "sensitivity": 75,  "sound\_alarm\_enabled": "on", "light\_alarm\_enabled": "on",  "msg\_push\_enabled": "on", "record\_enabled": "on", "people\_enhance":"off", "vehicle\_enhance":"off", "enhance\_validity":"low",  }  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "setMotionDetectionSwitch", "errCode": 0  } |

### getMotionDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getMotionDetectionSwitch | |
| **Description** | This API is used for getting motion detection switch. | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close motion detection switch, default is "on". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for motion detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for motion detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for motion detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for motion detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| sensitivity | int, range[1,100]. The sensitivity of motion detection, the higher the sensitivity, the easier it is to generate motion detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Example** | **request:**  {  "method":"getMotionDetectionSwitch"  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "getMotionDetectionSwitch", "errCode": 0,  "result": { "enabled": "on", "sensitivity": 75,  "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off", "msg\_push\_enabled": "on", "record\_enabled": "on", "people\_enhance": "off", "vehicle\_enhance": "off", "enhance\_validity": "low"  }  } |

### setMotionDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setMotionDetectionRegion | | |
| **Description** | This API is used for setting motion detection region. The interface clears the original zone before adding new zones. | | |
| **Request** | set\_region\_info | points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of points. x- range[0,10000] |
| points\_y | Integer array. An array representing the y-  coordinate of the i-th point in a set of points. y- range[0,10000] |
| **Response** | NULL | | |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method": "setMotionDetectionRegion", "params":  {  "set\_region\_info":[  {  "points\_num": 4,  "points\_x": [1774,3850,6229,6270],  "points\_y": [5994,2795,2096,8870]  },  {  "points\_num": 4,  "points\_x": [7762,9193,9717,7721],  "points\_y": [1774,2983,7043,9731]  }  ]  }  } |
| **response:**  {  "method": "setMotionDetectionRegion", "errCode": 0  } |

### getMotionDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getMotionDetectionRegion | |
| **Description** | This API is used for getting motion detection region. | |
| **Request** | null | |
| **Response** | points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y-coordinate of the |

|  |  |  |
| --- | --- | --- |
|  |  | i-th point in a set of points. y-range[0,10000] |
| **Example** | **request:**  {  "method":"getMotionDetectionRegion"  } | |
| **response:**  {  "method": "getMotionDetectionRegion", "result": {  "region\_info\_1": { "points\_num": 4, "points\_x": [  7762,  9193,  9717,  7721  ],  "points\_y": [ 1774,  2983,  7043,  9731  ]  },  "region\_info\_2": { "points\_num": 4, "points\_x": [  806,  4536,  5262,  2883  ], | |

|  |  |
| --- | --- |
|  | "points\_y": [ 2123,  1935,  5564,  8736  ]  },  "region\_info\_3": { "points\_num": 4, "points\_x": [  5120,  5927,  6189,  5866  ],  "points\_y": [ 8198,  5188,  6532,  8064  ]  }  },  "errCode": 0  } |

### setCrosslineDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setCrosslineDetectionSwitch | |
| **Description** | This API is used for setting Crossline detection switch. | |
| **Request** | enabled | string, {"on", "off"}, open/close crossline detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for crossline detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for crossline detection, default is "off". |

|  |  |  |
| --- | --- | --- |
|  | msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for crossline detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for crossline detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "setCrosslineDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on", "msg\_push\_enabled": "on", "record\_enabled": "on"  }  } | |
| **response:**  {  "method": "setCrosslineDetectionSwitch", "errCode": 0  } | |

### getCrosslineDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getCrosslineDetectionSwitch | |
| **Description** | This API is used for getting Crossline detection switch. | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close crossline detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for crossline detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for crossline detection, default is "off". |

|  |  |  |
| --- | --- | --- |
|  | msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for crossline detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for crossline detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Example** | **request:**  {  "method": "getCrosslineDetectionSwitch",  } | |
| **response:**  {  "method": "getCrosslineDetectionSwitch", "result": {  "enabled": "on", "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off", "msg\_push\_enabled": "on", "record\_enabled": "on"  },  "errCode": 0  } | |

### setCrosslineDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setCrosslineDetectionRegion | | |
| **Description** | This API is used for setting Crossline detection region. The interface clears the original zone before adding new zones. | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of Crossline Detection Region. |
| points\_num | int, The number of point set elements that make up the detected polyline area. The maximum can be 5 |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | direction | string, {"AtoB" "BtoA" "both"}, The cordon has two points pt1 and pt2, palm down the left hand, four fingers together, thumb perpendicular to the four fingers, the base of the left hand is placed on pt1, four fingers point to pt2, the thumb is on one side is A and the other side is B. "AtoB" refers to moving from side A to side B, "BtoA" refers to moving from side B to side A, and "both" means both.  Value range: "AtoB" "BtoA" "both". |
| points\_x | Integer array. An array representing the x-  coordinate of the i-th point in a set of points. x- range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y- range[0,10000] |
| sensitivity | Int, range[1,100]. The sensitivity of crossline detection, the higher the sensitivity, the easier it is to generate crossline detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Response** | NULL | | |
| **Example** | **request:**  {  "method": "setCrosslineDetectionRegion", "params":  {  "set\_region\_info":[  {  "id": 1,  "points\_num": 4, "direction": "AtoB", | | |

|  |  |
| --- | --- |
|  | "points\_x": [0, 6666, 7777,9999, 0],  "points\_y": [0, 7777, 5555, 2222, 0],  "sensitivity": 50, "people\_enhance": "on", "vehicle\_enhance": "on", "enhance\_validity": "medium"  },  {  "id": 2,  "points\_num": 2, "direction": "both",  "points\_x": [0, 8888, 0, 0, 0],  "points\_y": [0, 6677, 0, 0, 0],  "sensitivity": 70, "people\_enhance": "off", "vehicle\_enhance": "off", "enhance\_validity": "medium"  }  ]  }  } |
| **response:**  {  "method": "setCrosslineDetectionRegion", "errCode": 0  } |

### getCrosslineDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getCrosslineDetectionRegion | |
| **Description** | This API is used for getting Crossline detection region. | |
| **Request** | NULL | |
| **Response** | id | int, range[1,4], the id of Crossline Detection Region. |
| points\_num | int, The number of point set elements that make up the detected polyline area. The maximum can be 5 |

|  |  |  |
| --- | --- | --- |
|  | direction | string, {"AtoB" "BtoA" "both"}, The cordon has two points pt1 and pt2, palm down the left hand, four fingers together, thumb perpendicular to the four fingers, the base of the left hand is placed on pt1, four fingers point to pt2, the thumb is on one side is A and the other side is B. "AtoB" refers to moving from side A to side B, "BtoA" refers to moving from side B to side A, and "both" means both.  Value range: "AtoB" "BtoA" "both". |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points |
| points\_y | Integer array. An array representing the y-coordinate of the i-th point in a set of points |
| sensitivity | Int, range[1,100]. The sensitivity of crossline detection, the higher the sensitivity, the easier it is to generate crossline detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Example** | **request:**  {  "method":"getCrosslineDetectionRegion"  } | |
| **response:**  {  "method": "getCrosslineDetectionRegion", "result": {  "region\_info\_1": { "id": 1,  "points\_num": 4,  "direction": "AtoB", "points\_x": [ | |

|  |  |
| --- | --- |
|  | 0,  6666,  9999,  0,  0  ],  "points\_y": [  0,  7777,  0,  0,  0  ],  "sensitivity": 50, "people\_enhance": "on", "vehicle\_enhance": "on", "enhance\_validity": "medium",  }  },  "errCode": 0  } |

### setInvasionDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setInvasionDetectionSwitch | |
| **Description** | This API is used for setting invasion detection switch. | |
| **Request** | enabled | string, {"on", "off"}, open/close invasion detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for invasion detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for invasion detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for invasion detection, default is "on". |

|  |  |  |
| --- | --- | --- |
|  | record\_enabled | string, {"on", "off"}, open/close the record switch for invasion detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "setInvasionDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on", "msg\_push\_enabled": "on", "record\_enabled": "on"  }  } | |
| **response:**  {  "method": "setInvasionDetectionSwitch", "errCode": 0  } | |

### getInvasionDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getInvasionDetectionSwitch | |
| **Description** | This API is used for getting invasion detection switch. | |
| **Request** | enabled | string, {"on", "off"}, open/close invasion detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for invasion detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for invasion detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for invasion detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for invasion detection, default is "on". But if you want to record, |

|  |  |  |
| --- | --- | --- |
|  |  | you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "getInvasionDetectionSwitch",  } | |
| **response:**  {  "method": "getInvasionDetectionSwitch", "result": {  "enabled": "on", "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off", "msg\_push\_enabled": "on", "record\_enabled": "on"  },  "errCode": 0  } | |

### setInvasionDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setInvasionDetectionRegion | | |
| **Description** | This API is used for setting invasion detection region. The interface clears the original zone before adding new zones. | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of Invasion Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| threshold | int, range[0,10]. Time threshold |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y-range[0,10000] |
| sensitivity | Int, range[1,100]. The sensitivity of invasion detection, the higher the sensitivity, the easier it is to generate invasion detection |
| percentage | Int, range[1,100] |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Response** | NULL | | |
| **Example** | **request:**  {  "method": "setInvasionDetectionRegion", "params":  {  "set\_region\_info":[  {  "id": 2,  "sensitivity": 75,  "points\_num": 4,  "points\_x": [4112,6189,9012,8608],  "points\_y": [6290,3091,5645,9166],  "threshold":"3",  "percentage":"60", "people\_enhance": "off",  "vehicle\_enhance": "off",  "enhance\_validity": "medium" | | |

|  |  |
| --- | --- |
|  | },  {  "id": 3,  "sensitivity": 70,  "points\_num": 4,  "points\_x": [2000,3850,6229,6270],  "points\_y": [5994,2795,2096,8870],  "threshold":"1",  "percentage":"65", "people\_enhance": "on",  "vehicle\_enhance": "on", "enhance\_validity": "low"  },  ]  }  } |
| **response:**  {  "method": "setInvasionDetectionRegion", "errCode": 0  } |

### getInvasionDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getInvasionDetectionRegion | |
| **Description** | This API is used for getting invasion detection region. | |
| **Request** | NULL | |
| **Response** | id | int, range[1,4], the id of Invasion Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points |
| points\_y | Integer array. An array representing the y-coordinate of the i-th point in a set of points |
| sensitivity | Int, range[1,100]. The sensitivity of invasion detection, the |

|  |  |  |
| --- | --- | --- |
|  |  | higher the sensitivity, the easier it is to generate invasion detection |
| threshold | int, range[0,10]. Time threshold |
| percentage | Int, range[1,100] |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Example** | **request:**  {  "method":"getInvasionDetectionRegion"  } | |
| **response:**  {  "method": "getInvasionDetectionRegion", "result": {  "region\_info\_1": { "id": 1,  "points\_num": 4, "points\_x": [  2500,  7500,  7500,  2500  ],  "points\_y": [ 2500,  2500,  7500,  7500 | |

|  |  |
| --- | --- |
|  | ],  "sensitivity": 50,  "threshold": 5,  "percentage": 20, "people\_enhance": "off", "vehicle\_enhance": "off", "enhance\_validity": "medium"  }  },  "errCode": 0  } |

### setTamperDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setTamperDetectionSwitch | |
| **Description** | This API is used for setting Tamper Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close tamper detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of tamper detection, the higher the sensitivity, the easier it is to generate tamper detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for tamper detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for tamper detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for tamper detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for tamper detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |

|  |  |
| --- | --- |
| **Example** | **request:** |
|  | { |
|  | "method":"setTamperDetectionSwitch", |
|  | "params": |
|  | { |
|  | "enabled": "on", |
|  | "sensitivity": 10, |
|  | "sound\_alarm\_enabled": "on", |
|  | "light\_alarm\_enabled": "on", |
|  | "msg\_push\_enabled": "on", |
|  | "record\_enabled": "on" |
|  | } |
|  | } |
|  | **response:**  {  "method":"setTamperDetectionSwitch", "errCode": 0  } |

### getTamperDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getTamperDetectionSwitch | |
| **Description** | This API is used for getting Tamper Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close tamper detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of tamper detection, the  higher the sensitivity, the easier it is to generate tamper detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for tamper detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for tamper detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for tamper detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for tamper |

|  |  |  |
| --- | --- | --- |
|  |  | detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Example** | **request:**  {  "method":"getTamperDetectionSwitch"  } | |
| **response:**  {  "method": "getTamperDetectionSwitch", "result": {  "enabled": "off", "sensitivity": 10,  "sound\_alarm\_enabled": "on", "light\_alarm\_enabled": "on", "msg\_push\_enabled": "on", "record\_enabled": "on"  },  "errCode": 0  } | |

### setPeopleDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setPeopleDetectionSwitch | |
| **Description** | This API is used for setting People Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close people detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of people detection, the higher the sensitivity, the easier it is to generate people detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for people detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for |

|  |  |  |
| --- | --- | --- |
|  |  | people detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for people detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for people detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setPeopleDetectionSwitch", "params":  {  "enabled": "on", "sensitivity": 10,  "sound\_alarm\_enabled": "on", "light\_alarm\_enabled": "on", "msg\_push\_enabled": "on", "record\_enabled": "on",  }  } | |
| **response:**  {  "method": "setPeopleDetectionSwitch", "errCode": 0  } | |

### getPeopleDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getPeopleDetectionSwitch | |
| **Description** | This API is used for getting People Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close people detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of people detection, the |

|  |  |  |
| --- | --- | --- |
|  |  | higher the sensitivity, the easier it is to generate people detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for people detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for people detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for people detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for people detection, default is "on". But if you want to record, you need  to have recordschedule turned on at the same time. |
| **Example** | **request:**  {  "method":"getPeopleDetectionSwitch"  } | |
| **response:**  {  "method": "getPeopleDetectionSwitch", "result": {  "enabled": "off", "sensitivity": 10,  "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off"  },  "errCode": 0  } | |

### setPeopleDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setPeopleDetectionRegion | | |
| **Description** | This API is used for setting People Detection region | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of People Detection Region. |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y-range[0,10000] |
| **Response** | NULL | | |
| **Example** | **request:**  {  "method": "setPeopleDetectionRegion", "params": {  "set\_region\_info":  [  {  "id": 1,  "points\_num": 4,  "points\_x": [0, 10000, 10000, 0],  "points\_y": [0, 0, 10000, 10000]  },  ]  },  } | | |
| **response:**  {  "method": "setPeopleDetectionRegion", "errCode": 0  } | | |

### getPeopleDetectionRegion

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | getPeopleDetectionRegion |
| **Description** | This API is used for getting People Detection region |
| **Request** | NULL |

|  |  |  |
| --- | --- | --- |
| **Response** | id | int, range[1,4], the id of People Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000] |
| **Example** | **request:**  {  "method":"getPeopleDetectionRegion"  } | |
| **response:**  {  "method": "getPeopleDetectionRegion", "result": {  "region\_info\_1": { "id": 1,  "points\_num": 4, "points\_x": [  0,  10000,  10000,  0  ],  "points\_y": [  0,  0,  10000,  10000  ]  }  },  "errCode": 0 | |

|  |  |
| --- | --- |
|  | } |

### setVehicleDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setVehicleDetectionSwitch | |
| **Description** | This API is used for setting Vehicle Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close vehicle detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of vehicle detection, the higher the sensitivity, the easier it is to generate vehicle detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for vehicle detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for vehicle detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for vehicle detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for vehicle detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setVehicleDetectionSwitch", "params":  {  "enabled": "on", "sensitivity": 20,  "sound\_alarm\_enabled": "on", "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off",  "record\_enabled": "off", | |

|  |  |
| --- | --- |
|  | }  } |
| **response:**  {  "method": "setVehicleDetectionSwitch", "errCode": 0  } |

### getVehicleDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getVehicleDetectionSwitch | |
| **Description** | This API is used for getting Vehicle Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close vehicle detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of vehicle detection, the higher the sensitivity, the easier it is to generate vehicle detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for vehicle detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for vehicle detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for vehicle detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for vehicle detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method":"getVehicleDetectionSwitch"  } |
| **response:**  {  "method": "getVehicleDetectionSwitch", "result": {  "enabled": "off", "sensitivity": 50,  "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off", "msg\_push\_enabled": "on", "record\_enabled": "on"  },  "errCode": 0  } |

### setVehicleDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setVehicleDetectionRegion | | |
| **Description** | This API is used for setting Vehicle Detection region | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of Vehicle Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y-range[0,10000] |

|  |  |
| --- | --- |
| **Response** | NULL |
| **Example** | **request:**  {  "method": "setVehicleDetectionRegion", "params": {  "set\_region\_info": [  {  "id": 1,  "points\_num": 4,  "points\_x": [1000, 9000, 9000, 1000],  "points\_y": [1000, 1000, 9000, 9000]  },  {  "id": 2,  "points\_num": 4,  "points\_x": [0, 1000, 1000, 0],  "points\_y": [0, 0, 1000, 1000]  },  ]  },  } |
| **response:**  {  "method": "setVehicleDetectionRegion", "errCode": 0  } |

### getVehicleDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getVehicleDetectionRegion | |
| **Description** | This API is used for getting Vehicle Detection region | |
| **Request** | NULL | |
| **Response** | id | int, range[1,4], the id of Vehicle Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |

|  |  |  |
| --- | --- | --- |
|  | points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000] |
| **Example** | **request:**  {  "method":"getVehicleDetectionRegion"  } | |
| **response:**  {  "method": "getVehicleDetectionRegion", "result": {  "region\_info\_1": { "id": 1,  "points\_num": 4, "points\_x": [  0,  10000,  10000,  0  ],  "points\_y": [  0,  0,  10000,  10000  ]  }  }, "errCode": 0  } | |

### setAreaEntryDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setAreaEntryDetectionSwitch | |
| **Description** | This API is used for setting Area Entry Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close Area Entry detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Area Entry detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Area Entry detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Area Entry detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Area Entry detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setAreaEntryDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off",  }  } | |
| **response:**  {  "method": "setAreaEntryDetectionSwitch", "errCode": 0  } | |

### getAreaEntryDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getAreaEntryDetectionSwitch | |
| **Description** | This API is used for getting Area Entry Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close Area Entry detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Area Entry detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Area Entry detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Area Entry detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Area Entry detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Example** | **request:**  {  "method":"getAreaEntryDetectionSwitch"  } | |
| **response:**  {  "method": "getAreaEntryDetectionSwitch", "result": {  "enabled": "on", "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off", "msg\_push\_enabled": "on", "record\_enabled": "on"  },  "errCode": 0  } | |

### setAreaEntryDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setAreaEntryDetectionRegion | | |
| **Description** | This API is used for setting Area Entry Detection region | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of Area Entry Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y-range[0,10000] |
| sensitivity | int, range[1,100]. The sensitivity of Area Entry detection, the higher the sensitivity, the easier it is to generate Area Entry detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when  a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Response** | NULL | | |
| **Example** | **request:**  {  "method": "setAreaEntryDetectionRegion", "params": {  "set\_region\_info": [  {  "id": 1,  "points\_num": 4,  "points\_x": [1000, 9000, 9000, 1000],  "points\_y": [1000, 1000, 9000, 9000], | | |

|  |  |
| --- | --- |
|  | "sensitivity": 30, "people\_enhance": "on", "vehicle\_enhance": "on", "enhance\_validity": "low"  },  {  "id": 2,  "points\_num": 4,  "points\_x": [0, 1000, 1000, 0],  "points\_y": [0, 0, 1000, 1000],  "sensitivity": 70, "people\_enhance": "on", "vehicle\_enhance": "off", "enhance\_validity": "high"  },  ]  },  } |
| **response:**  {  "method": "setAreaEntryDetectionRegion", "errCode": 0  } |

### getAreaEntryDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getAreaEntryDetectionRegion | |
| **Description** | This API is used for getting Area Entry Detection region | |
| **Request** | NULL | |
| **Response** | id | int, range[1,4], the id of AreaEntry Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y-coordinate of the |

|  |  |  |
| --- | --- | --- |
|  |  | i-th point in a set of points. y-range[0,10000] |
| sensitivity | int, range[1,100]. The sensitivity of Area Entry detection, the higher the sensitivity, the easier it is to generate Area Entry detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Example** | **request:**  {  "method":"getAreaEntryDetectionRegion"  } | |
| **response:**  {  "method": "getAreaEntryDetectionRegion", "result": {  "region\_info\_1": { "id": 1,  "points\_num": 4, "points\_x": [  2500,  7500,  7500,  2500  ],  "points\_y": [ 2500,  2500,  7500,  7500 | |

|  |  |
| --- | --- |
|  | ],  "sensitivity": 50, "people\_enhance": "off", "vehicle\_enhance": "off", "enhance\_validity": "medium"  }  },  "errCode": 0  } |

### setAreaLeaveDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setAreaLeaveDetectionSwitch | |
| **Description** | This API is used for setting Area Leave Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close Area Leave detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Area Leave detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Area Leave detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Area Leave detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Area Leave detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setAreaLeaveDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on",  "msg\_push\_enabled": "off", "record\_enabled": "off", | |

|  |  |
| --- | --- |
|  | }  } |
| **response:**  {  "method": "setAreaLeaveDetectionSwitch", "errCode": 0  } |

### getAreaLeaveDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getAreaLeaveDetectionSwitch | |
| **Description** | This API is used for getting Area Leave Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close Area Leave detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Area Leave detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Area Leave detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Area Leave detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Area  Leave detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method":"getAreaLeaveDetectionSwitch"  } |
| **response:**  {  "method": "getAreaLeaveDetectionSwitch", "result": {  "enabled": "off", "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off", "msg\_push\_enabled": "on", "record\_enabled": "on"  },  "errCode": 0  } |

### setAreaLeaveDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setAreaLeaveDetectionRegion | | |
| **Description** | This API is used for setting Area Leave Detection region | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of Area Leave Detection Region. |
| points\_num | int, the value can only be 4. The number of  point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y-range[0,10000] |

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | sensitivity | int, range[1,100]. The sensitivity of Area Leave detection, the higher the sensitivity, the easier it is to generate Area Leave detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}.  Confidence levels for people enhancement and vehicle enhancement |
| **Response** | NULL | | |
| **Example** | **request:**  {  "method": "setAreaLeaveDetectionRegion", "params": {  "set\_region\_info": [  {  "id": 1,  "points\_num": 4,  "points\_x": [1000, 9000, 9000, 1000],  "points\_y": [1000, 1000, 9000, 9000],  "sensitivity": 30, "people\_enhance": "on", "vehicle\_enhance": "on", "enhance\_validity": "high"  },  {  "id": 2,  "points\_num": 4,  "points\_x": [0, 1000, 1000, 0],  "points\_y": [0, 0, 1000, 1000],  "sensitivity": 70, "people\_enhance": "on", "vehicle\_enhance": "on", "enhance\_validity": "medium"  }, | | |

|  |  |
| --- | --- |
|  | ]  },  } |
| **response:**  {  "method": "setAreaLeaveDetectionRegion", "errCode": 0  } |

### getAreaLeaveDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getAreaLeaveDetectionRegion | |
| **Description** | This API is used for getting Area Leave Detection region | |
| **Request** | NULL | |
| **Response** | id | int, range[1,4], the id of Area Leave Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000] |
| sensitivity | int, range[1,100]. The sensitivity of Area Leave detection, the higher the sensitivity, the easier it is to generate Area  Leave detection |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method":"getAreaLeaveDetectionRegion"  } |
| **response:**  {  "method": "getAreaLeaveDetectionRegion", "result": {  "region\_info\_1": { "id": 1,  "points\_num": 4, "points\_x": [  2500,  7500,  7500,  2500  ],  "points\_y": [ 2500,  2500,  7500,  7500  ],  "sensitivity": 50, "people\_enhance": "off", "vehicle\_enhance": "off", "enhance\_validity": "medium"  }  },  "errCode": 0  } |

### setDropAndTakeDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setDropAndTakeDetectionSwitch | |
| **Description** | This API is used for setting DropAndTake Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close DropAndTake detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for DropAndTake detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for DropAndTake detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for DropAndTake detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for DropAndTake detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setDropAndTakeDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off",  }  } | |
| **response:**  {  "method": "setDropAndTakeDetectionSwitch", "errCode": 0  } | |

### getDropAndTakeDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getDropAndTakeDetectionSwitch | |
| **Description** | This API is used for getting DropAndTake Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close DropAndTake detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for DropAndTake detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for DropAndTake detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for DropAndTake detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for DropAndTake detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Example** | **request:**  {  "method":"getDropAndTakeDetectionSwitch"  } | |
| **response:**  {  "method": "getDropAndTakeDetectionSwitch", "result": {  "enabled": "off", "sound\_alarm\_enabled": "off", "light\_alarm\_enabled": "off", "msg\_push\_enabled": "on", "record\_enabled": "on"  },  "errCode": 0  } | |

### setDropAndTakeDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setDropAndTakeDetectionRegion | | |
| **Description** | This API is used for setting DropAndTake Detection region | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of DropAndTake Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection  area |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y-range[0,10000] |
| sensitivity | int, range[1,100]. The sensitivity of DropAndTake detection, the higher the sensitivity, the easier it is to generate  DropAndTake detection |
| threshold | int, range[5,20]. Time threshold |
| detect | String, {‘take’,’drop’,’both’}. Detect event types, ‘take’: take away, ‘drop’: legacy, ‘both’ (default): legacy and take. |
| **Response** | NULL | | |
| **Example** | **request:**  {  "method": "setDropAndTakeDetectionRegion", "params": {  "set\_region\_info": [  {  "id": 1,  "points\_num": 4,  "points\_x": [1000, 9000, 9000, 1000],  "points\_y": [1000, 1000, 9000, 9000],  "sensitivity": 30,  "threshold": 16, | | |

|  |  |
| --- | --- |
|  | "detect": "drop"  },  {  "id": 2,  "points\_num": 4,  "points\_x": [0, 1000, 1000, 0],  "points\_y": [0, 0, 1000, 1000],  "sensitivity": 70,  "threshold": 6, "detect": "take"  },  ]  },  } |
| **response:**  {  "method": "setDropAndTakeDetectionRegion", "errCode": 0  } |

### getDropAndTakeDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getDropAndTakeDetectionRegion | |
| **Description** | This API is used for getting DropAndTake Detection region | |
| **Request** | NULL | |
| **Response** | id | int, range[1,4], the id of DropAndTake Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000] |
| sensitivity | int, range[1,100]. The sensitivity of DropAndTake detection, the higher the sensitivity, the easier it is to generate DropAndTake detection |

|  |  |  |
| --- | --- | --- |
|  | threshold | int, range[5,20]. Time threshold |
| detect | String, {‘take’,’drop’,’both’}. Detect event types, ‘take’: take away, ‘drop’: legacy, ‘both’ (default): legacy and take. |
| **Example** | **request:**  {  "method":"getDropAndTakeDetectionRegion"  } | |
| **response:**  {  "method": "getDropAndTakeDetectionRegion", "result": {  "region\_info\_1": { "id": 1,  "points\_num": 4, "points\_x": [  2500,  7500,  7500,  2500  ],  "points\_y": [ 2500,  2500,  7500,  7500  ],  "sensitivity": 50,  "threshold": 50, "detect": "both"  }  },  "errCode": 0 | |

|  |  |
| --- | --- |
|  | } |

### setLoiterDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setLoiterDetectionSwitch | |
| **Description** | This API is used for setting Loiter Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close Loiter detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Loiter detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Loiter detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Loiter detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Loiter detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setLoiterDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off",  }  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "errCode": 0  } |

### getLoiterDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getLoiterDetectionSwitch | |
| **Description** | This API is used for getting Loiter Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close Loiter detection switch, default is "off". |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Loiter detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Loiter detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Loiter detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Loiter detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Example** | **request:**  {  "method":"getLoiterDetectionSwitch"  } | |
| **response:**  {  "method": "getLoiterDetectionSwitch", "result": {  "enabled": "on",  "sound\_alarm\_enabled": "on", | |

|  |  |
| --- | --- |
|  | "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off"  },  "errCode": 0  } |

### setLoiterDetectionRegion

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Content** | | |
| **Command** | setLoiterDetectionRegion | | |
| **Description** | This API is used for setting Loiter Detection region | | |
| **Request** | set\_region\_info | id | int, range[1,4], the id of Loiter Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x- coordinate of the i-th point in a set of points. x- range[0,10000] |
| points\_y | Integer array. An array representing the y- coordinate of the i-th point in a set of points. y- range[0,10000] |
| sensitivity | int, range[1,100]. The sensitivity of Area Entry detection, the higher the sensitivity, the easier it is to generate Loiter detection |
| threshold | int, range[1,10]. Time threshold |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Response** | NULL | | |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method": "setLoiterDetectionRegion", "params": {  "set\_region\_info": [  {  "id": 1,  "points\_num": 4,  "points\_x": [1000, 9000, 9000, 1000],  "points\_y": [1000, 1000, 9000, 9000],  "sensitivity": 30,  "threshold": 6, "people\_enhance": "on", "vehicle\_enhance": "on", "enhance\_validity": "low"  },  {  "id": 2,  "points\_num": 4,  "points\_x": [0, 1000, 1000, 0],  "points\_y": [0, 0, 1000, 1000],  "sensitivity": 70,  "threshold": 3, "people\_enhance": "on", "vehicle\_enhance": "off", "enhance\_validity": "high"  },  ]  },  } |
| **response:**  {  "errCode": 0  } |

### getLoiterDetectionRegion

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getLoiterDetectionRegion | |
| **Description** | This API is used for getting Loiter Detection region | |
| **Request** | NULL | |
| **Response** | id | int, range[1,4], the id of Loiter Detection Region. |
| points\_num | int, the value can only be 4. The number of point set elements that make up the detection area |
| points\_x | Integer array. An array representing the x-coordinate of the i-th point in a set of points. x-range[0,10000] |
| points\_y | Integer array. An array representing the y-coordinate of the i-th point in a set of points. y-range[0,10000] |
| sensitivity | int, range[1,100]. The sensitivity of Loiter detection, the higher the sensitivity, the easier it is to generate Loiter detection |
| threshold | int, range[1,10]. Time threshold |
| people\_enhance | string, {"on", "off"}. Humanoid recognition switch. An event will be triggered only when a specific object enters the area. |
| vehicle\_enhance | string, {"on", "off"}. Vehicle recognition switch. An event will be triggered only when a specific object enters the area. |
| enhance\_validity | String, {"high", "medium", "low"}. Confidence levels for people enhancement and vehicle enhancement |
| **Example** | **request:**  {  "method":"getLoiterDetectionRegion"  } | |
| **response:**  {  "method": "getLoiterDetectionRegion", "result": {  "region\_info\_1": { | |

|  |  |
| --- | --- |
|  | "id": 1,  "points\_num": 4, "points\_x": [  1000,  9000,  9000,  1000  ],  "points\_y": [ 1000,  1000,  9000,  9000  ],  "sensitivity": 30,  "threshold": 6, "people\_enhance": "on", "vehicle\_enhance": "on", "enhance\_validity": "low"  },  },  "errCode": 0  } |

### setSceneChangeDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setSceneChangeDetectionSwitch | |
| **Description** | This API is used for setting Scene Change Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close Scene Change detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of Scene Change detection, the higher the sensitivity, the easier it is to generate Scene Change detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Scene Change detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for |

|  |  |  |
| --- | --- | --- |
|  |  | Scene Change detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Scene Change detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Scene Change detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setSceneChangeDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off", "sensitivity": 30,  }  } | |
| **response:**  {  "errCode": 0  } | |

### getSceneChangeDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getSceneChangeDetectionSwitch | |
| **Description** | This API is used for getting Scene Change Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close Scene Change detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of Scene Change detection, the higher the sensitivity, the easier it is to generate Audio Anomaly detection |

|  |  |  |
| --- | --- | --- |
|  | sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Scene Change detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Scene Change detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Scene Change detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Scene Change detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| **Example** | **request:**  {  "method":"getSceneChangeDetectionSwitch"  } | |
| **response:**  {  "method": "getSceneChangeDetectionSwitch", "result": {  "enabled": "on", "sound\_alarm\_enabled": "on", "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off", "sensitivity": 30  },  "errCode": 0  } | |

### setAudioAnomalyDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setAudioAnomalyDetectionSwitch | |
| **Description** | This API is used for setting Audio Anomaly Detection switch | |
| **Request** | enabled | string, {"on", "off"}, open/close Audio Anomaly detection |

|  |  |  |
| --- | --- | --- |
|  |  | switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of Audio Anomaly detection, the higher the sensitivity, the easier it is to generate Audio Anomaly detection |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Audio Anomaly detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Audio Anomaly detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Audio Anomaly detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Audio Anomaly detection, default is "on". But if you want to record, you need to have recordschedule turned on at the same time. |
| threshold | int, range[1,100]. Alert threshold |
| **Response** | NULL | |
| **Example** | **request:**  {  "method":"setAudioAnomalyDetectionSwitch", "params":  {  "enabled": "on", "sound\_alarm\_enabled": "on",  "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off", "sensitivity": 30,  "threshold": 40  }  } | |
| **response:**  {  "errCode": 0  } | |

### getAudioAnomalyDetectionSwitch

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getAudioAnomalyDetectionSwitch | |
| **Description** | This API is used for getting Audio Anomaly Detection switch | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close Audio Anomaly detection switch, default is "off". |
| sensitivity | int, range[1,100]. The sensitivity of Audio Anomaly detection, the higher the sensitivity, the easier it is to generate  tamper detection |
| threshold | int, range[1,100]. Alert threshold |
| sound\_alarm\_enabled | string, {"on", "off"}, open/close the sound alarm switch for Audio Anomaly detection, default is "off". |
| light\_alarm\_enabled | string, {"on", "off"}, open/close the light alarm switch for Audio Anomaly detection, default is "off". |
| msg\_push\_enabled | string, {"on", "off"}, open/close the msg push switch for Audio Anomaly detection, default is "on". |
| record\_enabled | string, {"on", "off"}, open/close the record switch for Audio Anomaly detection, default is "on". But if you want to record, you need to have recordschedule turned on at the  same time. |
| **Example** | **request:**  {  "method":"getAudioAnomalyDetectionSwitch"  } | |
| **response:**  {  "method": "getAudioAnomalyDetectionSwitch", "result": {  "enabled": "on", "sensitivity": 30,  "threshold": 40,  "sound\_alarm\_enabled": "on", | |

|  |  |
| --- | --- |
|  | "light\_alarm\_enabled": "on", "msg\_push\_enabled": "off", "record\_enabled": "off"  },  "errCode": 0  } |

### getEventEnhanceCapability

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **method** | getEventEnhanceCapability | |
| **Description** | This API is used for get the enhance capability. | |
| **Request** | NULL | |
|  |  | Integer strings. Humanoid enhancement is based on the |
|  |  | following matching rules: |
|  |  | 1: MotionDetection |
|  |  | 2: CrossLineDetection |
|  |  | 4: InvasionDetection |
|  | people\_enhance\_ver | 8: AreaEntryDetection |
|  |  | 16: AreaLeaveDetection |
|  |  | 32: LoiterDetection |
|  |  | Support bitwise or, such as 3 indicates that humanoid |
|  |  | enhancement is supported in motion detection and crossline |
| **Response** |  | detection |
|  | Integer strings. Vehicle enhancement is based on the |
|  |  | following matching rules: |
|  |  | 1: MotionDetection |
|  |  | 2: CrossLineDetection |
|  |  | 4: InvasionDetection |
|  | vehicle\_enhance\_ver | 8: AreaEntryDetection |
|  |  | 16: AreaLeaveDetection |
|  |  | 32: LoiterDetection |
|  |  | Support bitwise or, such as 3 indicates that vehicle |
|  |  | enhancement is supported in motion detection and crossline |
|  |  | detection |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method": "getEventEnhanceCapability"  } |
| **response:**  {  "method": "getEventEnhanceCapability", "result": {  "people\_enhance\_ver": "63",  "vehicle\_enhance\_ver": "63",  },  "errCode": 0  } |

## ptz

### getPresetPoint

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getPresetPoint | |
| **Description** | This API is used for getting preset point | |
| **Request** | NULL | |
| **Response** | id | Int[], Presets a point-unique identifier |
| name | String[], The name of the preset point |
| position\_pan | Float[], Preset point horizontal position information |
| position\_tilt | Float[], Preset point vertical position information |
| position\_zoom | Float[], Preset point zoom position information(Only available when ptz\_zoom is supported) |
| **Example** | **request:**  {  "method": "getPresetPoint"  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "getPresetPoint", "result": {  "id": [  "3"  ],  "name": [  "vigi-test"  ],  "position\_pan": [ "0.200000"  ],  "position\_tilt": [ "0.600000"  ]  "position\_ zoom ": [ "0.200000"  ]  },  "errCode": 0  } |

### motorMove

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | motorMove | |
| **Description** | This API is used for absolute movement | |
| **Request** | x\_coord | Float, range in [-1,1] |
| y\_coord | Float, range in [-1,1] |
| z\_coord | Float, range in [0,1] (Only essential when ptz\_zoom is supported) |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "motorMove", "params": | |

|  |  |
| --- | --- |
|  |  |
|  | {  "x\_coord": "0.2",  "y\_coord": "0.2",  "z\_coord": "0.2",  }  } |
| **response:**  {  "method": "motorMove", "errCode": 0  } |

### cruiseMove

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | cruiseMove | |
| **Description** | This API is used for continuous movement | |
| **Request** | coord | String, “x”, “y”, “-x” or “-y”;  String, “x” , “y” , “-x”, “-y”, “z” or “-z” when ptz\_zoom is supported |
| coord\_speed (option) | Floating-point strings. The speed at which the coord direction is moving. The maximum speed is 1.000000 |
| **Response** | NULL | |
| **Example** | **request:** | |
|  | { | |
|  | "method": "cruiseMove", | |
|  | "params": | |
|  | { | |
|  | "coord": "y", | |
|  | } | |
|  | } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "cruiseMove", "errCode": 0  } |

### stopMove

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | stopMove |
| **Description** | This API is used for stop moving |
| **Request** | NULL |
| **Response** | NULL |
| **Example** | **request:**  {  "method": "stopMove"  } |
| **response:**  {  "method": "stopMove", "errCode": 0  } |

### setPresetPoint

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setPresetPoint | |
| **Description** | This API is used for setting preset point. Save the current PTZ information as the preset point PTZ information. | |
| **Request** | id | Int, Presets a point-unique identifier, incrementing from 1 to a maximum of 8 |

|  |  |  |
| --- | --- | --- |
|  | name | String, The name of the preset point |
| **Response** | id | Int, Presets a point-unique identifier, incrementing from 1 to a maximum of 8 |
| name | String, The name of the preset point |
| **Example** | **request:**  {  "method": "setPresetPoint", "params":  {  "id":"3",  "name":"vigi-test"  }  } | |
| **response:**  {  "method": "setPresetPoint", "result": {  "name": "vigi-test", "id": 3,  }  "errCode": 0  } | |

### removePresetPoint

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | removePresetPoint | |
| **Description** | This API is used for removing preset point | |
| **Request** | id | An array of integer strings. Presets a point-unique identifier, incrementing from 1 to a maximum of 8 |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "removePresetPoint", "params":  { | |

"id":["3"],

}

}

**response:**

{

"method": "removePresetPoint", "errCode": 0

}

### gotoPresetPoint

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | gotoPresetPoint | |
| **Description** | This API is used for jumping to preset point | |
| **Request** | id | Int, Presets a point-unique identifier, incrementing from 1 to a maximum of 8 |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "gotoPresetPoint", "params":  {  "id":"3",  }  } | |
| **response:**  {  "method": "gotoPresetPoint", "errCode": 0  } | |

### getPTZCapability

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **method** | getPTZCapability | |
| **Description** | This API is used for get the PTZ capability. | |
| **Request** | NULL | |
| **Response** | speed\_x\_max | String. Maximum speed in the x-direction. |
| speed\_y\_max | String. Maximum speed in the y-direction. |
| speed\_z\_max | String. Maximum speed in the z-direction, when ptz\_zoom is supported. |
| **Example** | **request:**  {  "method": "getPTZCapability"  } | |
| **response:**  {  "method": "getPTZCapability", "result": {  "speed\_x\_max": "1.000000",  "speed\_y\_max": "1.000000",  "speed\_z\_max": "1.000000",  },  "errCode": 0  } | |

## playback

### searchVideoCalendar

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | searchVideoCalendar |
| **Description** | get date that had recorded video data |

|  |  |  |
| --- | --- | --- |
| **Request** | start\_date | string, [6], start time of search date, the parameter format is  ***yyyymm***. |
| end\_date | string, [6], end time of search date, the parameter format is  ***yyyymm***. |
| **Response** | search\_results | array, all recording dates within the given date, count by day , named by yyyymmdd |
| **Example** | **request:**  {  "method": "searchVideoCalendar", "params": {  "start\_date": "202103",  "end\_date": "202104"  }  } | |
| **response:**  {  "method": "searchVideoCalendar", "errCode": 0,  "result": {  "dates": [  "20210303",  "20210304",  "20210305",  "20210306",  "20210307"  ]  }  } | |

### searchVideoList

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | searchVideoList | |
| **Description** | get all the video information in a specific UTC time interval | |
| **Request** | date | string, [8], end time of search date, the parameter format is ***yyyymmdd***. |

|  |  |  |
| --- | --- | --- |
|  | start\_index | uint32\_t, the start index (including) of the query result. For example, search the video event list in 20210301, and the client obtains the first 20 events through start\_index = 0, end\_index = 19, and then the client obtains the next 20 events until all the events of the channel are obtained. When the number of entries returned by the device side is less than 20, the client thinks that there are no more events on the device side and stops the search. |
| end\_index | uint32\_t, the end index (including) of the query result. |
| user\_id (optional) | int, user id, return by getUserID command |
| **Response** | startTime | uint64\_t, video start time, seconds since zero hour on January 1, 1970 |
| endTime | uint64\_t, video end time, seconds since zero hour on January 1, 1970 |
| video\_type | string, video type: Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection  AudioAnomalyDetection |
| **Example** | **request:**  {  "method": "searchVideoList", "params": {  "date":"20220912",  "start\_index": 0,  "end\_index": 99  }  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "searchVideoList", "result": {  "search\_video\_results": [  {  "search\_video\_results\_1": { "startTime": 1662975800,  "endTime": 1662975818,  "video\_type": "Timing"  }  },  {  "search\_video\_results\_2": { "startTime": 1662976759,  "endTime": 1662983232,  "video\_type": "Timing"  }  },  {  "search\_video\_results\_3": { "startTime": 1662983232,  "endTime": 1662990625,  "video\_type": "Timing"  }  },  {  "search\_video\_results\_4": { "startTime": 1662990625,  "endTime": 1662996442,  "video\_type": "Timing"  }  }  ]  },  "errCode": 0  } |

### getUserId

|  |  |
| --- | --- |
| **Name** | **Content** |
| **method** | getUserId |
| **Description** | This API is used for get a user ID. |

|  |  |  |
| --- | --- | --- |
| **Request** | NULL | |
| **Response** | user\_id | int, the user id to Used to distinguish and limit the number of users watching a replay video at the same time. |
| **Example** | **request:**  {  "method": "getUserId"  } | |
| **response:**  {  "method": "getUserId", "result": {  "user\_id": 2  },  "errCode": 0  } | |

## download

### getMediaList

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getMediaList | |
| **Description** | This API is used for getting media list | |
| **Request** | start\_time | String, The start time of the query, the number of seconds since  1970.1.1. |
| end\_time | String, The start time of the query, the number of seconds since 1970.1.1. |
| event\_type | string[], Event type, represented as an array ["MotionDetection"," DropAndTakeDetection ", …] type value:  Timing MotionDetection TamperDetection  CrossLineDetection |

|  |  |  |
| --- | --- | --- |
|  |  | InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection |
| media\_type | string[]. Media file type, represented as an array. ["video"]  (Currently, the download interface only supports media\_type with a  value of "video") |
| start\_index | Integer, Query the start number of the video, starting from 0, as follows:   1. This field is optional. If no field is left, all fields are obtained. 2. The value is the same as that of max\_num. 3. containing. the index>=start\_index of the returned result is not index>start\_index.   start\_index and max\_num either exist at the same time or they do not |
| max\_num | Integer, Return the maximum entry of the result  start\_index and max\_num either exist at the same time or they do not |
| user\_id (optional) | int, user id, return by getUserID command |
| **Response** | error\_code | Integer, Error code |
| start\_time | String[], Start time, the number of seconds since 1970.1.1. The default value is "". |
| end\_time | String[], End time, the number of seconds since 1970.1.1 0. The default value is "". |
| size | Integer[]. The size of the file, in bytes, is 0 by default |
| file\_id | String[]. File name, a uniquely identified file. The default value is "" |
| event\_type | string[]. Event type, represented as an array ["MotionDetection"," DropAndTakeDetection ", …] type value:  Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection  PeopleDetection |

|  |  |  |
| --- | --- | --- |
|  |  | VehicleDetection DropAndTakeDetection |
| media\_type | string[]. Media file type, represented as an array. ["video"]  (Currently, the download interface only supports media\_type with a  value of "video") |
| index  （optional） | Integer[]. Index number, starting with start\_index in the request. The  default value is 0 |
| rest\_num | String. The device caches a certain number of media information in a single search. This field is used to represent the difference between the total number of media cached in a single search and the number of media actually obtained. This field is optional and returned when  supported by the device. |
| total\_num | String. Indicates the total number of media that match the search  criteria in the search time range. This field is optional. It is returned when the device supports it |
| **Example** | **request:**  {  "method":"getMediaList", "params":  {  "start\_time" : "1688350527",  "end\_time" : "1688351757",  "event\_type" : ["MotionDetection","DropAndTakeDetection"], "media\_type" : ["video"],  "start\_index" : 0,  "max\_num" : 20  }  } | |
| **response:**  {  "media": {  "total\_num": "2", "start\_time": [  "1688350527",  "1688351737"  ],  "end\_time": [  "1688350546",  "1688351757"  ],  "size": [ | |

|  |  |
| --- | --- |
|  | 3467800,  963784  ],  "file\_id": [  "00010000000001",  "00010000000002"  ],  "event\_type": [  "MotionDetection", "DropAndTakeDetection"  ],  "media\_type": [  "video", "video"  ],  },  "error\_code": 0  } |

## StreamPort

### getStreamPort

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **method** | getStreamPort | |
| **Description** | This API is used for getting the stream port. | |
| **Request** | NULL | |
| **Response** | streamPort | The port used for the stream protocol |
| **Example** | **request:**  {  "method":"getStreamPort"  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "getStreamPort", "errCode": 0,  "result": {  "streamPort": "554",  }  } |

## msgPush

### subscribeMsg

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **method** | subscribeMsg | |
| **Description** | This API is used for subscribing to event detection information. The premise of device push messages is that the corresponding "msg\_push\_enabled" in event detection is turned on. After sending the interface request, you need to maintain the connection, the device will periodically send heartbeat packets to the client, and when the event is triggered, the device will send a message to the client.  (Note that if you want to get certain types of event detection messages, you need to  enable "msg\_push\_enabled" in the corresponding event) | |
| **Request** | event\_type | String[].  The event type to which you subscribed. Value range:  "all", "MotionDetection", "TamperDetection", "CrossLineDetection", "InvasionDetection", "AreaEntryDetection", "AreaLeaveDetection", "PeopleDetection", "VehicleDetection",  "DropAndTakeDetection", "LoiterDetection", "SceneChangeDetection",  "AudioAnomalyDetection" |

|  |  |  |
| --- | --- | --- |
|  | heartbeat | int, range[1,60]. The interval at which the heartbeat packet is sent |
| **Response** | (Please see example-response. Other, when the event\_type value in the event message looks like "xxx ", it stands for xxx event detection. When the event\_type value in the event message looks like "xxx\_yyy\_enhance", it stands for xxx event detection, and xxx event detection enables enhancements of the yyy type.) | |
| **Example** | **request:**  {  "method": "subscribeMsg", "params":  {  "event\_type":["MotionDetection","InvasionDetection"], "heartbeat":15  }  } | |
| **response:**  (After sending a subscription request, the device first returns a successful/failed result and boundary format.)  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Cache-Control: no-cache  Content-Type: multipart/mixed;boundary=--boundary--  ----boundary--  Content-Type: application/json Content-Length: 32  {"result":"success","errCode":0}  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  **Or**  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  Cache-Control: no-cache Content-Type: application/json Content-Length: 31  {"result":"failed","errCode":0}  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  (After the subscription is successful, the device sends event notifications in the same connection and sends heartbeat packets on a regular basis. The format is as follows)  \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  ----boundary--  Content-Type: application/json | |

|  |  |
| --- | --- |
|  | Content-Length: 18  {"Heartbeat":"30"}  ----boundary--  Content-Type: application/json Content-Length: 50  {"event\_type":"TamperDetection","time":1723175020}  ----boundary--  Content-Type: application/json Content-Length: 18  {"Heartbeat":"30"}  …… |

### setMsgpushInterval

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | setMsgpushInterval | |
| **Description** | This API is used for setting the time interval for pushing various event messages. Event messages within the interval are ignored. The time of different clients is calculated independently. | |
| **Request** | event\_interval | int, the default is 0. The interval at which event messages of the same type are pushed to clients. |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "setMsgpushInterval", "params":  {  "event\_interval":60  }  } | |
| **response:**  {  "method": "setMsgpushInterval", "errCode": 0  } | |

### getMsgpushInterval

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | getMsgpushInterval | |
| **Description** | This API is used for getting the time interval for pushing various event messages. Event messages within the interval are ignored. The time of different clients is calculated independently. | |
| **Request** | NULL | |
| **Response** | event\_interval | int, the default is 0. The interval at which event messages of the same type are pushed to clients |
| **Example** | **request:**  {  "method": "getMsgpushInterval",  } | |
| **response:**  {  "method": "getMsgpushInterval", "result": {  "event\_interval": 60  },  "errCode": 0  } | |

## recordSchedule

### setRecordSchedule

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **method** | setRecordSchedule | |
| **Description** | This API is used for setting Record Schedule | |
| **Request** | enabled | string, {"on", "off"}, open/close record |
| monday | String array  1. Use each time period: ["AABB-CCDD:type", "AABB- CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type |
| tuesday |
| wednesday |
| thursday |

|  |  |  |
| --- | --- | --- |
|  | friday | is represented by an integer, with 1 representing timing; 2 represents event triggering.  2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24  (Note that if you want to record a certain type of event when the type  is 2, "record\_enabled" needs to be enabled in the corresponding event detection) |
| saturday |
| sunday |
| **Response** | NULL | |
| **Example** | **request:**  {  "method": "setRecordSchedule", "params":  {  "enabled": "on",  "monday": ["0000-2400:2"],  "tuesday": ["0000-2400:2"],  "wednesday": ["0000-2400:2"],  "thursday": ["0000-2400:2"],  "friday": ["0000-2400:2"],  "saturday": ["0000-2400:2"],  "sunday": ["0000-2400:2"]  }  } | |
| **response:**  {  "method":"setRecordSchedule", "errCode":0  } | |

### getRecordSchedule

|  |  |
| --- | --- |
| **Name** | **Content** |

|  |  |  |
| --- | --- | --- |
| **method** | getRecordSchedule | |
| **Description** | This API is used for getting Record Schedule | |
| **Request** | NULL | |
| **Response** | enabled | string, {"on", "off"}, open/close record |
| monday | String array   1. Use each time period: ["AABB-CCDD:type", "AABB- CCDD:type", ...] Indication, AABB means that the start time is AA:BB, CCDD means that the end time is CC:DD, type is the schedule type, and the time period and type are separated by ":". Type is represented by an integer, with 1 representing timing; 2 represents event triggering. 2. There is a limit to the number of time periods included in each day, and the maximum number of time periods is 24   (Note that if you want to record a certain type of event when the type  is 2, "record\_enabled" needs to be enabled in the corresponding event detection) |
| tuesday |
| wednesday |
| thursday |
| friday |
| saturday |
| sunday |
| **Example** | **request:**  {  "method": "getRecordSchedule",  } | |
| **response:**  {  "method": "getRecordSchedule", "result": {  "enabled": "off", "monday": [  "0000-2400:2"  ],  "tuesday": [  "0000-2400:2"  ],  "wednesday": [  "0000-2400:2"  ],  "thursday": [  "0000-2400:2" | |

|  |  |  |
| --- | --- | --- |
|  |  | ], |
|  | "friday": [ |
|  | "0000-2400:2" |
|  | ], |
|  | "saturday": [ |
|  | "0000-2400:2" |
|  | ], |
|  | "sunday": [ |
|  | "0000-2400:2" |
|  | ] |
|  | }, |
|  | "errCode": 0 |
| } |  |

## Alarm

### manualAlarm

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **method** | manualAlarm | |
| **Description** | This API is used to manually start or end alarms. | |
| **Request** | act | String, {start, stop}. Indicates the action performed. |
| **Response** | duration | Int, Indicates the duration of the countdown on the device, in seconds.  When “act” is “stop”, the response does not carry this field |
| **Example** | **request:**  {  "method": "manualAlarm", "params": {  "act": "start",  }  } | |

|  |  |
| --- | --- |
|  | **response:**  {  "method": "manualAlarm", "result": {  "duration": 10  },  "errCode": 0  } |

# OpenAPI Stream interface

The interfaces in this section are based on the RTSP protocol. See 2.1.3 for the format of the request. Streaming data is transmitted using the RTP over TCP.

## preview

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | preview | |
| **Description** | Get preview data | |
| **Request** | resolutions | String[]. You need to obtain the resolution of the channel corresponding to the preview stream, which can be VGA, or HD. This field is mandatory for multistream machines, and an error is returned if it is missing. Is an optional field for the model with a single bit stream. If this field is missing, the current effective bit stream is obtained. If this field is carried, it indicates the bitstream for which a specific resolution needs to be forcibly obtained. |
| **Response** | interleaved | String. RTSP chn id. Indicates the track occupied by the channel. Value range: 0 to 127. Format:  ‘a-b’: occupies the id segment from a to b. Generally, two adjacent ids, the former for video transmission and the latter for audio transmission.  ‘a’: Occupied id a. |
| av\_config | Audio and video configuration |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method" : "get" , "preview" :  {  "resolutions" : ["HD" ]  }  } |
| **response:**  {  "error\_code":0, "session\_id":"0", "interleaved" :  [  {  "channel":0, "interleaved\_id":"0-1"  }  ],  "av\_config":  [  {  "channel":0, "video\_codec":"H264", "audio\_codec": "G711alaw", "audio\_sampling\_rate": "8",  "audio\_bitwidth": "16",  "audio\_channels": "1", "extra\_data":  {  "video\_rtpmap":"96 H264/90000", "video\_fmtp":  "a=fmtp:96 packetization-mode=1; profile-level-id=640032;  sprop-parameter- sets=Z2QAMqzGuAoALWhAAAD6QAAnGgE=,aOqPLA=="  }  }  ]  } |

## playback

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | playback | |
| **Description** | Get playback data.  (If the parameters of the playback video are inconsistent with the parameters of the current response, the device will send a notification message.) | |
| **Request** | client\_id | String, client\_id is specified by the client and must be unique by the client. The client\_id can contain a maximum of 64 characters, including letters, digits, and symbols. |
| event\_type | string[],The Client is used to request the type of event that needs to be played back.  Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection  AudioAnomalyDetection |
| scale | String, Playback rate and direction, use +n/m format. Positive numbers represent forward play. 1/1 means normal speed. Currently, only ‘+1/1’ is supported |
| event\_type\_exclude | string[]. Optional field that specifies the type of the event to be excluded. If not carried, it means that the event is not modified. event\_type and event\_type\_exclude can contain only one. An empty array indicates that all events are retrieved. The value meaning of the elements in the array is  the same as that of event\_type. |
| start\_time | Time Stamp. Start time, the number of seconds corresponding to the time point since 1970.1.1 |
| end\_time | String. End time of playback, number of seconds since  1970.1.1, mandatory field. |
| **Response** | error\_list | Json. Optional field that cannot be completed due to an error in the required playback channel (such as insufficient resources to store the index). If no errors occur, this field can be omitted |

|  |  |  |
| --- | --- | --- |
|  | channels | Integer[]. The array of channels where the error occurred |
| error\_code | Integer[]. The error code corresponding to the error occurs in the sequence corresponding to the channel array. |
| Interleaved\_id | String. RTSP chn id. Indicates the track occupied by the channel. Value range: 0 to 127. Format:  ‘a-b’: occupies the id segment from a to b. Generally, two adjacent ids, the former for video transmission and the latter for audio transmission.  ‘a’: Occupied id a. |
| av\_config | Audio and video configuration |
| **Example** | **request:**  {  "method":"get", "playback":  {  "client\_id":"123abc", "scale":"+1/1", "event\_type":["InvasionDetection"], "start\_time":"123123123", "end\_time":"123123123"  }  } | |
| **response:**  {  "error\_code":0, "session\_id":"0", "interleaved":  [  {  "channel":0, "interleaved\_id":"0-1"  }  ],  "av\_config":  [  {  "channel":0, "video\_codec":"H264", "audio\_codec":"G711alaw", "audio\_sampling\_rate": "8",  "audio\_bitwidth": "16",  "audio\_channels": "1" | |

}

]

}

If the parameters of the playback video are inconsistent with the parameters of the current response (for example, video\_codec), the device will send a notification message. The following is an example of notification.

{

"type":"notification", "params":

{

"event\_type":"channel\_preview\_params", "channels":[0],

"resolutions":["HD"],

"audio":["enable"], "av\_config":

[

{

"channel":0, "video\_codec":"H264", "audio\_codec": "G711alaw", "audio\_sampling\_rate": "8",

"audio\_bitwidth": "16"

}

]

}

}

## download

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | download | |
| **Description** | You need to use the searchVideoList interface to obtain related information before downloading.  (If the parameters of the download video are inconsistent with the parameters of  the current response, the device will send a notification message.) | |
| **Request** | client\_id | int, range[1,32]. |
| file\_id | Optional field that uniquely identifies a media file, but can be corroborated by start\_time,end\_time, and event\_type. Available |

|  |  |  |
| --- | --- | --- |
|  |  | at getMediaList |
| event\_type | string[]. The Client is used to request the type of event that needs to be downloaded.  ["MotionDetection"] type value:  Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection AreaEntryDetection AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection  AudioAnomalyDetection |
| media\_type | string.  Value: "video"  (Currently, the download interface only supports media\_type with a value of "video") |
| start\_time | Time Stamp, Start time, the number of seconds corresponding to the time point since 1970.1.1 |
| end\_time | String. End time of playback, number of seconds since 1970.1.1, mandatory field. |
| **Response** | range | String, Optional field to control the range of content to be transmitted (breakpoint resumable function is enabled)  **Response:** The format is X-y /n, meaning that the transmission is from x Byte to y Byte, and the total transmission content is n bytes. The y and n here can also be missing. If request does not carry this field, response does not need to carry this field either. If the request contains this field but does not support this function, 0-y/n is returned. If y and n are unknown, 0- is  returned. The client must also save the file from scratch. |
| interleaved | Table[].  ‘a-b’: occupies the id segment from a to b. Generally, two adjacent ids, the former for video transmission and the latter for audio transmission.  ‘a’: Occupied id a. |
| av\_config | Audio and video configuration |

|  |  |  |
| --- | --- | --- |
|  | error\_code | Integer[]. The error code corresponding to the error occurs in the sequence corresponding to the channel array. |
| **Example** | **request:**  {  "method":"get", "download":  {  "client\_id":0, "start\_time":"123123123", "end\_time":"1231231231", "file\_id":"01230123", "event\_type":[ "MotionDetection"],  "media\_type":"video",  }  } | |
| **response:**  {  "error\_code":0, "session\_id": "xxx",  "range":"x-y/n", "interleaved":  [  {  "channel": 0,  "interleaved\_id": "0-1"  },  ] ,  "av\_config":  [  {  "channel":0, "video\_codec":"H264", "audio\_codec": "G711alaw", "audio\_sampling\_rate": "8",  "audio\_bitwidth": "16",  "audio\_channels": "1"  }  ]  }  If the parameters of the download video are inconsistent with the parameters of the current response (for example, video\_codec), the device will send a notification message. The following is an example of notification. | |

{

"type":"notification", "params":

{

"event\_type":"channel\_preview\_params", "channels":[0],

"resolutions":["HD"],

"audio":["enable"], "av\_config":

[

{

"channel":0, "video\_codec":"H264", "audio\_codec": "G711alaw", "audio\_sampling\_rate": "8",

"audio\_bitwidth": "16"

}

]

}

}

## stop

|  |  |
| --- | --- |
| **Name** | **Content** |
| **Command** | stop |
| **Description** | Stop obtaining stream data |
| **Request** | null |
| **Response** | null |
| **Example** | **request:**  {  "method":"do",  "stop":"null"  } |

|  |  |
| --- | --- |
|  | **response:**  {  "error\_code":0  } |

## play

### Modify the parameters for obtaining data

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | Play | |
| **Description** | Change the start and end time and change rate of obtaining data | |
| **Request** | start\_time | String. Time stamp, the number of seconds since 1970.1.1. **Request:** Indicates the start time to be set. This is an optional field  **Response:** Indicates the actual start time. This is an optional  field. If this function is not supported, no reply is required |
| end\_time | String. Time stamp, the number of seconds since 1970.1.1. **Request:** Indicates the end time to be set. This field is optional. If it is not included, it does not change.  **Response:** indicates the actual end time. Optional field. If the corresponding field is not included in the request, it is not included in the reply. If this feature is included in the request  but is not supported, no reply is required. |
| scale | String. For playback services, the score format indicates the playback rate.  Playback rate and direction, use +n/m format. Positive numbers represent forward play. 1/1 means normal speed. Currently, only ‘+1/1’ is supported  **Request:** Indicates the rate to be set. If it is missing, the rate is not changed.  **Response:** Indicates the actual rate. This is an optional field. |
| event\_type | String[]. An optional field that is changed to the type of the specified event. If it is not carried, it indicates that the event is not modified. At present, the values are:  Timing MotionDetection TamperDetection CrossLineDetection InvasionDetection  AreaEntryDetection |

|  |  |  |
| --- | --- | --- |
|  |  | AreaLeaveDetection PeopleDetection VehicleDetection DropAndTakeDetection LoiterDetection SceneChangeDetection AudioAnomalyDetection |
| event\_type\_exclude | String[]. Optional field that specifies the type of the event to be excluded. If not carried, it means that the event is not modified. event\_type and event\_type\_exclude can contain only one. An empty array indicates that all events are retrieved. The value meaning of the elements in the array is  the same as that of event\_type. |
| **Response** | Null | |
| **Example** | **request:**  {  "method":"do", "play":  {  "start\_time":"123123123", "end\_time":"123123123", "scale":"+n/m", "event\_type":["PeopleDetection"],  }  } | |
| **response:**  {  "error\_code":0  } | |

## video

### force\_iframe

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | force\_iframe | |
| **Description** | Force the device to generate an I-frame | |
| **Request** | stream\_type | String. The stream type of the I-frame needs to be enforced Value range:  main：Main stream |

|  |  |  |
| --- | --- | --- |
|  |  | minor：substream  default: If the current video stream is not played using the standard  RTSP protocol, default indicates main |
| **Response** | null | |
| **Example** | **request:**  {  "method": "do", "video": {  "force\_iframe": { "stream\_type": "main"  }  }  } | |
| **response:**  {  "error\_code":0, "session\_id":" xxx "  } | |

## talk

|  |  |  |
| --- | --- | --- |
| **Name** | **Content** | |
| **Command** | talk | |
| **Description** | This API is used by the client to initiate an audio session. Then, the client can send audio data to the IPC.  (IPC sends audio to the client through the preview stream.) | |
| **Request** | mode | String, talk mode, mandatory field. Value: half\_duplex：Half-duplex mode  aec：AEC Full-duplex mode |
| **Response** | Null | |

|  |  |
| --- | --- |
| **Example** | **request:**  {  "method":"get"， "talk":  {  "mode":"half\_duplex",  }  } |
| **response:**  {  "error\_code":0, "session\_id":"xxx"  } |
| **Once the client receives the correct reply, it can send the audio data to IPC. Audio data is transmitted using the RTP over TCP. Currently, only the G711 format is supported.**  **The RTP over TCP packet format is as follows:**  $(1B) Chn ID(1B) Length(2B) RTP Header RTP Payload  **The RTP Header format is as follows:**  +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+  |V |P |X| CC |M| PT | sequence number |  +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+  |TimeStamp |  +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+  |SSRC |  +-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+  Important field descriptions:  V : The version number of the RTP protocol, accounting for 2 digits, and the current protocol version number is 2.  P: Padding the flag, which occupies 1 bit, and if P=1, padding one or more additional octets at the tail of the packet, which are not part of the payload.  X: Extended flag, 1 bit, if X=1, there is an extended header followed by the RTP header. CC : A 4-bit CSRC counter that indicates the number of CSRC identifiers.  M: Marker, occupies 1 bit, different payloads have different meanings, for video, marks the end of a frame; For audio, mark the start of the session.  PT: The payload type, which occupies 7 bits, is used to describe the type of payload in RTP  packets, such as H264/H265 and G711A/U, which is mostly used to distinguish between audio |

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| --- | --- | --- | --- | --- |
|  |  |  |  |  |

and video streams in streaming media, so that it is easy for clients to parse them. For the value of PT, see RFC3551 and Appendix Ⅱ (this document).

Sequence number: occupies 16 digits and identifies the sequence number of the RTP message sent by the sender, with the sequence number incrementing for each packet sent. This field can be used to check packet loss when the bearer protocol of the lower layer uses UDP, and when the network condition is bad. Simultaneous network jitter can be used to reorder the data, starting at 0 on the Helix server, and counting the audio and video packets separately.

Timestamp: 32 bits, timestamp indicates the time when the first byte of the RTP packet was sampled. The receiver uses timestamps to calculate delay and delay jitter and synchronize control.

Synchronous Source (SSRC) Identifier: 32 bits and is used to identify the synchronous source. The identifier is chosen randomly, and two simultaneous sources participating in the same video conference cannot have the same SSRC.

### RTP Payload is the G711 payload.

Generally, different voices have different packaging cycles, and different packaging cycles correspond to different timestamps. Take G711 with a packaging period of 10ms as an example, the sample rate is 8000, the frame rate is 100, and the increment of RTP timestamp between two frames =8000/100=80, which is also the g711 data size of each rtp packet.

# Appendix Payload Type

For the value of PT in RTP packets, see RFC3551.

PT of RTP, 96-127 is dynamic. There is no universal definition for dynamic PT except that 96 is conventionally used for H264/H265. Therefore, in this document, some dynamic PT types are used as auxiliary data types for events transmission and other functions. GB28181 provides suggestions for the Payload Type of RTP. The value of the audio part is the same as that of RFC3551. This document adopts the recommended dynamic PT value of the video part, as shown in the following table.

Table 4 - 1 GB28181 Video section Payload Type

|  |  |  |
| --- | --- | --- |
| **Type value** | **Type of payload** | **Reference format** |
| 97 | MPEG-4, Video | RFC 3016 |
| 98 | H.264, Video | RFC 3984 |
| 99 | SVAC, Video | RFC 3984 |
| 8 | G711A/PCMA, Audio | RFC 3551 |
| 20 | SVACA, Audio | RFC 3551 |
| 4 | G723, Audio | RFC 3551 |
| 18 | G729, Audio | RFC 3551 |
| 9 | G722, Audio | RFC 3551 |

Dynamic PT=96, still reserved for H.264 for compatibility. That is, the PT value of H.264 can be 96 or 98.

# Appendix area about ‘setTimeZone’

|  |
| --- |
| **AREA** |
| Pacific/Wake |
| Pacific/Midway |
| Pacific/Honolulu |
| America/Anchorage |
| America/Los\_Angeles |
| America/Phoenix |
| America/Chihuahua |
| America/Denver |
| America/Tegucigalpa |
| America/Chicago |
| America/Mexico\_City |
| Canada/Saskatchewan |
| America/Bogota |
| America/New\_York |
| America/Indiana/Indianapolis |
| America/Caracas |
| America/Asuncion |
| America/Halifax |
| America/Cuiaba |
| America/La\_Paz |
| America/Santiago |
| Canada/Newfoundland |
| America/Sao\_Paulo |
| America/Buenos\_Aires |
| America/Cayenne |
| America/Godthab |
| America/Montevideo |
| Atlantic/South\_Georgia |
| Atlantic/Azores |
| Atlantic/Cape\_Verde |
| Africa/Casablanca |
| UTC |
| Europe/London |
| Atlantic/Reykjavik |
| Europe/Amsterdam |
| Europe/Belgrade |
| Europe/Brussels |
| Europe/Sarajevo |
| Africa/Algiers |

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| Europe/Athens |
| Asia/Beirut |
| Africa/Cairo |
| Asia/Damascus |
| Africa/Harare |
| Europe/Vilnius |
| Asia/Jerusalem |
| Asia/Amman |
| Asia/Baghdad |
| Europe/Minsk |
| Asia/Kuwait |
| Africa/Nairobi |
| Asia/Istanbul |
| Europe/Moscow |
| Asia/Tehran |
| Asia/Muscat |
| Asia/Baku |
| Asia/Tbilisi |
| Asia/Yerevan |
| Asia/Kabul |
| Asia/Karachi |
| Asia/Yekaterinburg |
| Asia/Tashkent |
| Asia/Kolkata |
| Asia/Colombo |
| Asia/Katmandu |
| Asia/Dhaka |
| Asia/Rangoon |
| Asia/Bangkok |
| Asia/Novosibirsk |
| Asia/Krasnoyarsk |
| Asia/Hong\_Kong |
| Asia/Kuala\_Lumpur |
| Australia/Perth |
| Asia/Taipei |
| Asia/Ulaanbaatar |
| Asia/Irkutsk |
| Asia/Tokyo |
| Asia/Seoul |
| Asia/Yakutsk |
| Australia/Adelaide |
| Australia/Darwin |

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| Australia/Brisbane |
| Australia/Canberra |
| Pacific/Guam |
| Australia/Hobart |
| Asia/Vladivostok |
| Pacific/Noumea |
| Asia/Magadan |
| Pacific/Auckland |
| Pacific/Fiji |
| Asia/Kamchatka |
| Pacific/Tongatapu |