

UC9040 RESTful API

User Guide

Introduction

The information enclosed defines ATEN’s RESTful APIs — RESTlink. Each authorized client can configure and control ATEN devices via these APIs, with all request and response messages encoded in JSON.

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API Request Methods

The following methods are used to access server for a client's requests.

1 GET

- List all resource information
- Retrieve one resource data

2 POST

- Create a new entry of resource
- Upload resources
- Perform a specific action provided by resources

3 PATCH

- Update one resource data
- Replace entire resource and its elements

4 DELETE

- Delete a specific resource entry

APIs Request Header Authentication

To access APIs, a credential is required in the http header of each API request.

```
Authorization: {credential}
```

1 Response

1.1 Status Codes

For every RESTful request sent to an ATEN device, it shall respond with an HTTP status code.

The request results corresponding to each status code are described as follows.

- Success
 - 200 OK
 - 201 Created
 - 202 Accepted
 - 204 No content
- Client errors
 - 400 Bad request
 - 401 Unauthorized
 - 403 Forbidden
 - 404 Not found
 - 405 Method not allowed
 - 406 Not acceptable
 - 408 Request timeout
 - 409 Conflict
- Server errors
 - 500 Internal server error
 - 501 Not implemented
 - 503 Service unavailable

API Response Error Handling

When an error occurs, an error message of the following format is returned.

```
{
  "code": 2030103,
  "message": "The server has not found anything matching the Request-URI."
}
```

APIs Server Alive Testing

Testing Path: `https://{device_address}/api/v1.0/ping`

Response Messages

In addition to status codes, ATEN devices also enclose the related detailed descriptions within the HTTP message body, in the following format.

```
{
  "code" : {error code},
  "message" : "{error description}"
}
```

Status Code	<code>	<message>
200 OK		
201 Created		
202 Accepted		
204 No content		
Controller		
500 Internal server error	2010001	"Failed."
	2010002	"DBus error."
	2010003	"Invalid Json."
	2010004	"Invalid parameter."
	2010005	"Database error."
	2010006	"Not allowed situation."
	2010007	"Firmware is upgrading."
	2010100	"Operation not allowed - transition busy."
	2010101	"Transition not allowed - not supported scene setting."
	2010102	"Transition not allowed - transition busy – manual."
	2010103	"Set channel scene not allowed – PRV and PGM should not use same scene."
	2010104	"Set channel scene not allowed – channel is in transition."
	2010105	"Please un-pause live streaming."
	2010150	"GoLive not allowed – Ethernet cable is unplugged."
	2010151	"Cannot enable more than 2 live/recording streams."
	2010152	"GoLive not allowed – no enabled stream."
	2010153	"GoLive not allowed – storage not usable."
	2010154	"GoLive not allowed – must disable DHCP."
	2010200	"Asset ID not found."
	2010201	"Not supported file format for background image."
	2010202	"Import asset not allowed – Asset ID already exist."
	2010250	"Network setting not allowed – IP and gateway isn't in the same subnet."
	2010251	"Import project timeout."
	2010252	"Export project timeout."
	2010253	"Export default project timeout."
	2010254	"User data is corrupted. It will be removed now."
	2010255	"Please turn off live-streaming."
	2010256	"Please turn off USB recording."
2010257	"No USB drive found."	
2010258	"USB drive is busy."	

Web API		
400 Bad request	2030100	"The request could not be understood by the server due to malformed syntax."
	2030230	"Missing required parameter."
	2030231	"Input incorrect parameter format."
401 Unauthorized	2030101	"The request has not been applied because it lacks valid authentication credentials for the target resource."
	2030200	"The request needs to be authorized."
	2030400	"Incorrect username or password."
403 Forbidden	2030102	"The server understood the request but refuses to authorize it."
	2030201	"The request is forbidden."
404 Not found	2030103	"The server has not found anything matching the Request-URI."
405 Method not allowed	2030104	"The method specified in the Request-Line is not allowed for the resource identified by the Request-URI."
	2030301	"Calling Dbus not supported."
	2030401	"Not allowed data modification."
	2030402	"Not acceptable data modification."
	2030403	"Only one user can be authenticated."
408 Request timeout	2030105	"The client did not produce a request within the time that the server was prepared to wait."
409 Conflict	2030106	"The request could not be completed due to a conflict with the current state of the resource."
	2030303	"DBus in busy state."
500 Internal server error	2030130	"The server encountered an unexpected condition that prevented it from fulfilling the request."
	2030300	"DBus connection failed."
	2030302	"DBus response incorrect data format."
	2032200	"Profile export error."
	2032201	"Profile import error."
	2032202	"Profile import asset error."
	2032203	"Profile import pause image error."
	2032204	"Profile export conflict, system in busy status."
2032205	"Profile import conflict, system in busy status."	
501 Not implemented	2030131	"The server encountered an unexpected condition that prevented it from fulfilling the request."

2 Authentication

Authentication group APIs are for handling API access control management.

2.1 User Login

API

/api/v1.0/auth/login

Request

- POST: logs in for API access control management.

Body

Field	Type	Description
Authorization	String	Authentication code and encoded by "username:password" in base64.

```
{
  "authorization": "<base64("username:password")>"
}
```

Response

- Success

200 OK

Field	Type	Description
id	String	This user's ID.
name	String	This user's name.
role	String	Role of this user.
isModified	Boolean	The user's password has been modified or not.

```
{
  "id": 1,
  "name": "administrator",
  "role": "administrator",
  "isModified": false
}
```

- Error

401 Unauthorized

Name	Description
Unauthorized	Incorrect username or password.

```
{
  "code": 2030400,
  "message": "Incorrect username or password."
}
```

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

```
{
  "code": 50000,
  "message": "System error."
}
```

2.2 User Logout

API

/api/v1.0/auth/logout

Request

- POST: logs out of API access control management.

Response

- Success

204 No content

Field	Description
null	No content response.

```
""
```

- Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

```
{
  "code": 50000,
  "message": "System error."
}
```

2.3 Modify Authorization

API

/api/v1.0/auth/login/authorization

Request

- PATCH: Modifies the login authorization for API access control management.

Header

Field	Type	Description
Authorization	String	The special credential value.

```
Authorization: {credential}
```

Body

Field	Type	Description
Authorization	String	Authentication code and encoded by "username:password" in base64.

```
{  
  "authorization": "<base64("username:password")>"  
}
```

Response

- Success

200 OK

Field	Type	Description
id	String	This user's ID.
name	String	This user's name.
role	String	Role of this user.
isModified	Boolean	The user's password had been modified or not.

```
{  
  "id": 1,  
  "name": "administrator",  
  "role": "administrator",  
  "isModified": false  
}
```

- Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

```
{  
  "code": 50000,  
  "message": "System error."  
}
```

3 Audio

Audio group APIs are for handling audio I/O control management.

P.S.

The names of audio inputs are fixed as { "Mic. In 1", "Mic. In 2", "HDMI1 Audio", "HDMI2 Audio" }

The names of audio outputs are fixed as { "Line-Out", "DisplayA Audio", "Stream Out Audio" }

3.1 Get All Audio

Get all contains the entire audio's configurations.

API

/api/v1.0/audio

Request

- GET: get the entire audio's configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

- Success

200 OK

Field	Type	Description
audio	Object	All audio information.
input	Object[]	Input audio data list. <more.>
output	Object[]	Output audio data list. <more.>

Response 200

```
{
  "audio": {
    "input": [...],
    "output": [...]
  }
}
```

- Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

10

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

3.2 List All Input

List all input contains the entire audio input's configurations.

API

/api/v1.0/audio/input

Request

- GET: get the entire audio input's configurations.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

- Success

200 OK

Field	Type	Description
input	Object[]	Input audio data list. <more.>

Response 200

```
{
  "input": [
    {
      "id": 1,
      "name": "Line-In",
      "type": "analog",
      "pan": 100,
      "gain": 100,
      "isMute": true,
      "capability": {
        "gain": {
          "max": 2000,
          "min": -8000,
          "step": 50
        },
        "pan": {
          "max": 10000,
          "min": -10000,
          "step": 100
        }
      }
    },
    ...
  ]
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

3.3 Get One Input

Get one input contains a specified audio input's configurations.

API

/api/v1.0/audio/input/:id

Request

■ GET: get a specified audio input's configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

URL

Field	Type	Description
id	Integer	Access data index number.

Response

■ Success

200 OK

Field	Type	Description
id	Integer	The unique index number.
name	String	The audio interface name.
type	String	The audio interface type.
gain	Integer	The volume setting. Unit is db * 100.
pan	Integer	Balance sound setting between left and right channel. Unit is percentage * 100.
isMute	Boolean	The mute turn on or not.
analogLevel	String	Selecting microphone / line setting. This work within the mic/line inputs. Allowed values: ["mic", "line"].
micBoost	Integer	The microphone boost setting. This work within the analog level "mic".
lineBoost	Integer	The line in boost setting. This work within the analog level "line".
isMicTrackMono	Boolean	The microphone has turned on mono track or not. This work within microphone.
isFollowVideo	Boolean	The sound follows the videos to connected displays. This work within HDMI audio.
capability	Object	Settings scope and limit.

```
{
  "id": 1,
  "name": "Audio Name",
  "type": "analog",
  "pan": 100,
  "gain": 100,
  "isMute": true,
  "micBoost": 0,
  "isMicTrackMono": true,
  "isFollowVideo": true,
  "capability": {
    "gain": {
      "max": 2000,
      "min": -8000,
      "step": 50
    },
    "pan": {
      "max": 10000,
      "min": -10000,
      "step": 100
    },
    "micBoost": {
      "max": 3000,
      "step": 1000,
      "min": 0
    }
  }
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

3.4 Set One Input

Set one input sets a specified audio input's configurations.

This is an asynchronous setting function.

API

/api/v1.0/audio/input/:id

Request

■ PATCH: set a specified audio input's configurations.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

URL

Field	Type	Description
id	Integer	Access data index number.

Request

Field	Type	Description
gain (optional)	Integer	The volume setting. Unit is db * 100.
pan (optional)	Integer	Balance sound setting between left and right channel. Unit is percentage * 100.
isMute (optional)	Boolean	The mute turned on or not.
analogLevel (optional)	String	Selecting microphone / line setting. This work within the analog inputs. Allowed values: ["mic", "line"].
micBoost (optional)	Integer	The microphone boost setting. This work within the analog level "mic".
lineBoost (optional)	Integer	The line in boost setting. This work within the analog level "line".
isMicTrackMono (optional)	Boolean	The microphone has turned on mono track or not. This work within microphone.
isFollowVideo (optional)	Boolean	The sound follows the videos to connected displays. This work within HDMI audio.
sender (optional)	String	For event information. Default value: web.

```

{
  "gain": 100,
  "pan": 100,
  "isMute": false,
  "analogLevel": "mic",
  "micBoost": 0,
  "lineBoost": 0,
  "isMicTrackMono": false,
  "isFollowVideo": false,
  "sender": "web"
}

```

Response

■ Success

204 No contents

Field	Description
null	No content response.

Response 204

```

"""

```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```

{
  "code": 50000,
  "message": "System error."
}

```

3.5 List All Output

List all output contains the entire audio output's configurations.

API

/api/v1.0/audio/output

Request

■ GET: get the entire audio output's configurations.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

Authorization: {credential}

Response

■ Success

200 OK

Field	Type	Description
output	Object[]	Output audio data list. <more>

Response 200

```
{
  "output": [
    {
      "id": 1,
      "name": "Line-Out",
      "type": "analog",
      "pan": 100,
      "gain": 100,
      "isMute": true,
      "isCompressorEnabled": true,
      "inputThreshold": -1200,
      "capability": {
        "gain": {
          "max": 2000,
          "min": -8000,
          "step": 50
        },
        "pan": {
          "max": 10000,
          "min": -10000,
          "step": 100
        },
        "inputThreshold": {
          "max": 2400,
          "min": -13500,
          "step": 300
        }
      }
    },
    ...
  ]
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

3.6 Get One Output

Get one output contains a specified audio output's configurations.

API

/api/v1.0/audio/output/:id

Request

- GET: get a specified audio output's configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

URL

Field	Type	Description
id	Integer	Access data index number.

Response

- Success

200 OK

Field	Type	Description
id	Integer	The unique index number.
name	String	The audio interface name.
type	String	The audio interface type.
gain	Integer	The volume setting. Unit is db * 100.
pan	Integer	Balance sound setting between left and right channel. Unit is percentage * 100.
isMute	Boolean	The mute turn on or not.
isCompressorEnabled	Boolean	Whether enable compressor function.
inputThreshold	Integer	Input audio gain threshold for trigger compressor working.
capability	Object	Settings scope and limit.

Response 200

```
{
  "id": 1,
  "name": "Audio Name",
  "type": "analog"
  "pan": 100,
  "gain": 100,
  "isMute": true,
  "isCompressorEnabled": true,
  "inputThreshold": -1200,
  "capability": {
    "gain": {
      "max": 2000,
      "min": -8000,
      "step": 50
    },
    "pan": {
      "max": 10000,
      "min": -10000,
      "step": 100
    },
    "inputThreshold": {
      "max": 2400,
      "min": -13500,
      "step": 300
    }
  }
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

3.7 Set One Output

Set one output sets a specified audio output's configurations.

This is an asynchronous setting function.

API

/api/v1.0/audio/output/:id

Request

- PATCH: set a specified audio output's configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

URL

Field	Type	Description
id	Integer	Access data index number.

Request

Field	Type	Description
gain (optional)	Integer	The volume setting. Unit is db * 100.
pan (optional)	Integer	Balance sound setting between left and right channel. Unit is percentage * 100.
isMute (optional)	Boolean	The mute turn on or not.
isCompressorEnabled (optional)	Boolean	Whether enable compressor function.
inputThreshold (optional)	Integer	Input audio gain threshold for trigger compressor working.
sender (optional)	String	For event information. Default value: web

Request Body

```
{
  "gain": 100,
  "pan": 100,
  "isMute": false,
  "isCompressorEnabled": true,
  "inputThreshold": -1200,
  "sender": "web"
}
```

Response

- Success

204 No contents

Field	Description
null	No content response.

Response 204

```
""
```

- Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

4 Transition

Transition group APIs are for handling video transition control management.

4.1 Transition Status

Transition status contains all video transition information.

API

/api/v1.0/transition/status

Request

- GET: get the video transition information.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

- Success

200 OK

Field	Type	Description
direction	Integer	Special value, represent change direction. Allowed values: -1, 1
position	Integer	Special value, represent absolute position. Size range: 0-255

Response 200

```
{
  "direction": -1,
  "position": 100
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

4.2 Start Transition

Start transition starts the video transition.

API

/api/v1.0/transition

Request

■ POST: start the video transition.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Request

Field	Type	Description
mode	String	Transition mode defined. Allowed values: "cut", "auto", "manual"
Duration (optional)	Integer	Special value, represent position change duration, when mode == "auto", and it defined in millisecond
Position (optional)	Integer	Special value, represent absolute position, when mode == "manual". Size range: 0-255
Sender (optional)	String	For event information. Default value: web

Request Body

```
{
  "mode": "auto",
  "duration": 500,
  "sender": "web"
}
```

Response

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

4.3 Get Transition

Get transition contains the video transition information.

API

/api/v1.0/transition

Request

■ GET: get the video transition information.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

■ Success

200 OK

Field	Type	Description																				
duration	Integer	Special default value, represent position change duration, when transition mode == "auto", and defined in millisecond.																				
quickSwitch	Boolean	Special value, to open quick switch setting.																				
effect	Integer	Special default value, representing transition change effect, when transition mode == "auto".																				
		<table border="1"><thead><tr><th>Effect</th><th>Description</th></tr></thead><tbody><tr><td>0</td><td>Quick Switch</td></tr><tr><td>1</td><td>Circle Crop</td></tr><tr><td>2</td><td>Window Slice</td></tr><tr><td>3</td><td>Polka Dots</td></tr><tr><td>4</td><td>Circle Open</td></tr><tr><td>5</td><td>Fade (default)</td></tr><tr><td>6</td><td>Heart</td></tr><tr><td>7</td><td>Cross Hatch</td></tr><tr><td>8</td><td>Random Squares</td></tr></tbody></table>	Effect	Description	0	Quick Switch	1	Circle Crop	2	Window Slice	3	Polka Dots	4	Circle Open	5	Fade (default)	6	Heart	7	Cross Hatch	8	Random Squares
		Effect	Description																			
		0	Quick Switch																			
		1	Circle Crop																			
		2	Window Slice																			
		3	Polka Dots																			
		4	Circle Open																			
		5	Fade (default)																			
		6	Heart																			
7	Cross Hatch																					
8	Random Squares																					

```
{
  "effect": 5,
  "duration": 100,
  "quickSwitch": false
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

4.4 Set Transition

Set transition sets the video transition.

API

/api/v1.0/transition

Request

■ PATCH: set the video transition.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Request

Field	Type	Description	
duration (optional)	Integer	Special default value, represent position change duration, when transition mode == "auto", and defined in millisecond.	
quickSwitch (optional)	Boolean	Special value, to open quick switch setting.	
effect (optional)	Integer	Special default value, representing transition change effect, when transition mode == "auto". Limitation: When effect = 0, must set quickSwitch = true together.	
		Effect	Description
		0	Quick Switch
		1	Circle Crop
		2	Window Slice
		3	Polka Dots

		4	Circle Open
		5	Fade (default)
		6	Heart
		7	Cross Hatch
		8	Random Squares
sender (optional)	String	For event information. Default value: web	

```
{
  "effect": 5,
  "duration": 100,
  "quickSwitch": false,
  "sender": "web"
}
```

Response

■ Success

200 OK

Field	Type	Description	
duration	Integer	Special default value, represent position change duration, when transition mode == "auto", and defined in millisecond.	
quickSwitch	Boolean	Special value, to open quick switch setting.	
effect	Integer	Special default value, representing transition change effect, when transition mode == "auto".	
		Effect	Description
		0	Quick Switch
		1	Circle Crop
		2	Window Slice
		3	Polka Dots
		4	Circle Open
		5	Fade (default)
		6	Heart
		7	Cross Hatch
8	Random Squares		

```
{
  "effect": 5,
  "duration": 100,
  "quickSwitch": false
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

5 Streamer

Streamer group APIs are special-purpose APIs, for handling program streaming control management.

5.1 Get Status

Get status contains the entire program's streaming configurations.

API

/api/v1.0/streamer/status

Request

- GET: get the entire program's streaming configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

- Success

200 OK

Field	Type	Description																		
egnId	Integer	The streaming engine ID.																		
egnStatus	String	The streaming engine status. Allowed values: "start", "stop"																		
time	Integer	The streaming duration time.																		
overallStatusIdx	Integer	The overall streaming status index.																		
overallStatusMsg	String	The overall streaming status message. <table border="1"><thead><tr><th>overallStatusIdx</th><th>overallStatusMsg</th></tr></thead><tbody><tr><td>0</td><td>not connected</td></tr><tr><td>1</td><td>disconnecting</td></tr><tr><td>2</td><td>connecting</td></tr><tr><td>3</td><td>connecting failed</td></tr><tr><td>4</td><td>streaming</td></tr><tr><td>5</td><td>pausing</td></tr><tr><td>6</td><td>paused</td></tr><tr><td>7</td><td>resuming</td></tr></tbody></table>	overallStatusIdx	overallStatusMsg	0	not connected	1	disconnecting	2	connecting	3	connecting failed	4	streaming	5	pausing	6	paused	7	resuming
overallStatusIdx	overallStatusMsg																			
0	not connected																			
1	disconnecting																			
2	connecting																			
3	connecting failed																			
4	streaming																			
5	pausing																			
6	paused																			
7	resuming																			
stream	Object[]	The streaming task information list.																		
obj	Object	The streaming information object.																		
id	Integer	The stream data index number.																		
name	String	The stream data name.																		
category	String	The stream category. Allowed values: "streaming", "recording"																		
type	String	The stream type. For streaming : rtp / rtmp For recording : usb / cloud Allowed values: rtp, rtmp, usb, cloud																		
bitrate	Integer	The streaming bitrate.																		
connQuality	Integer	The streaming connection quality. { -1: null, 0: Good, 1: Ok, 2: Bad }																		

statusIdx	Integer	Streaming status index number.																														
recStatusIdx	Integer	Recording status index number.																														
statusMsg	String	<p>Message content decide by stream category</p> <p>Streaming status description messages.</p> <table border="1"> <thead> <tr> <th>statusIdx</th> <th>statusMsg</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>not connected</td> </tr> <tr> <td>1</td> <td>disconnecting</td> </tr> <tr> <td>2</td> <td>connecting</td> </tr> <tr> <td>3</td> <td>connecting failed</td> </tr> <tr> <td>4</td> <td>streaming</td> </tr> <tr> <td>5</td> <td>pausing</td> </tr> <tr> <td>6</td> <td>paused</td> </tr> <tr> <td>7</td> <td>resuming</td> </tr> </tbody> </table> <p>Recording status description messages..</p> <table border="1"> <thead> <tr> <th>recStatusIdx</th> <th>statusMsg</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>recording</td> </tr> <tr> <td>1</td> <td>file splitting</td> </tr> <tr> <td>2</td> <td>recording failed</td> </tr> <tr> <td>3</td> <td>recording stopped</td> </tr> <tr> <td>4</td> <td>storage is full, recording is going to stop now</td> </tr> </tbody> </table>	statusIdx	statusMsg	0	not connected	1	disconnecting	2	connecting	3	connecting failed	4	streaming	5	pausing	6	paused	7	resuming	recStatusIdx	statusMsg	0	recording	1	file splitting	2	recording failed	3	recording stopped	4	storage is full, recording is going to stop now
statusIdx	statusMsg																															
0	not connected																															
1	disconnecting																															
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3	connecting failed																															
4	streaming																															
5	pausing																															
6	paused																															
7	resuming																															
recStatusIdx	statusMsg																															
0	recording																															
1	file splitting																															
2	recording failed																															
3	recording stopped																															
4	storage is full, recording is going to stop now																															
remainingRecTime	Integer	USB remaining record time.																														

Response 200

```
{
  "egnId": 1,
  "egnStatus": "stop",
  "time": 0,
  "overallStatusIdx": 0,
  "overallStatusMsg": "not connected",
  "stream": [
    {
      "id": 2,
      "name": "RTMP Stream 1",
      "category": "streaming",
      "type": "rtmp",
      "bitrate": 0,
      "connQuality": -1,
      "statusIdx": 0,
      "recStatusIdx": 3,
      "statusMsg": "not connected",
      "remainingRecTime": -1
    },
    ...
  ]
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

5.2 Start Streaming

Start streaming starts the program streaming.

API

/api/v1.0/streamer/start

Request

- POST: start the program streaming.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Request

Field	Type	Description
toggle	Boolean	Enable or disable toggle function. Default value: false

Request Body

```
{
  "toggle": true
}
```

Response

- Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

5.3 Stop Streaming

Stop streaming stops the program streaming.

API

/api/v1.0/streamer/stop

Request

- POST: stop the program streaming.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

- Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{  
  "code": 50000,  
  "message": "System error."  
}
```

5.4 Pause Streaming

Pause streaming pauses the program streaming.

API

/api/v1.0/streamer/pause

Request

- POST: pause the program streaming.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Request

Field	Type	Description
toggle	Boolean	Enable or disable toggle function. Default value: false

Request Body

```
{
  "toggle": true
}
```

Response

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

5.5 Resume Streaming

Resume streaming resumes the program streaming.

API

/api/v1.0/streamer/resume

Request

■ POST: resume the program streaming.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

6 Source

Source group APIs are for handling video and audio source configuration management.

P.S.

The name of video are fixed as { "HDMI1 Video", "HDMI2 Video", "WriteBack", "Preview" }

The name of audio are fixed as { "Line-In", "Mic. In", "HDMI2 Audio", "HDMI1 Audio" }

6.1 Get All

Get all contains the entire video and audio configurations.

API

/api/v1.0/source

Request

■ GET: get the entire video and audio configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

■ Success

200 OK

Field	Type	Description
source	Object	Source data.
video	Object[]	All video sources. <more.>
audio	Object[]	All audio sources. <more.>

Response 200

```
{
  "source": {
    "video": [...],
    "audio": [...]
  }
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

6.2 List All Videos

List all videos contains the entire video configuration.

API

/api/v1.0/source/video

Request

■ GET: get the entire video configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

■ Success

200 OK

Field	Type	Description
video	Object[]	Video Source data list. <more.>

Response 200

```
{
  "video": [
    {
      "id": 2,
      "name": "HDMI2",
      "type": "video",
      "category": "capture",
      "address": "port://video/0",
      "isEditable": true,
      "isForPad": false,
      "isForPgm": false,
      "isForPrv": false,
      "snapshot": "http://127.0.0.1/static/snapshots/HDMI2A.png",
      "altSnapshot": "http://127.0.0.1/static/snapshots/HDMI2B.png"
    },
    ...
  ]
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

6.3 Get Video

Get video contains the video configurations.

API

/api/v1.0/source/video/:id

Request

■ GET: get the video configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

URL

Field	Type	Description
id	Integer	Access data index number.

Response

■ Success

200 OK

Field	Type	Description
id	Integer	The unique index number.
name	String	The source's name.
type	String	The type of source type. Allowed values: "video"
category	String	The category of source come from where. Allowed values: "capture"
address	String	The URI of source address. Read from device port, used address like "port://video/{parameter}"
isEditable	Boolean	Is this config editable?
isForPad	Boolean	Is this config used for Pad's layout settings?
isForPgm	Boolean	Is this config used for Program's layout settings?
isForPrv	Boolean	Is this config used for Preview's layout settings?
snapshot	String	This video snapshot download path. If snapshot not exist, then will not shown.
altSnapshot	String	Alternative video snapshot download path. If altSnapshot not exist, then will not shown.

Response 200

```
{
  "id": 2,
  "name": "HDMI1",
  "type": "capture",
  "category": "capture",
  "address": "port://video/0/0",
  "isEditable": true,
  "isForPad": false,
  "isForPgm": false,
  "isForPrv": false,
  // If snapshot exist.
  "snapshot": "http://127.0.0.1/static/snapshots/HDMI2A.png"
  "altSnapshot": "http://127.0.0.1/static/snapshots/HDMI2B.png"
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

7 Channel

Channel group APIs are for handling API access control management.

P.S.

Only by setting channels can the contents shown be changed on displays relative to the configuration; meaning this will invoke configuration.

The name of channel are fixed as { "Preview", "Program", "iPad" }

7.1 List All Channels

List all channels contains the entire channel configurations.

API

/api/v1.0/channels

Permission: admin

Request

■ GET: get the entire channels configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Response

■ Success

200 OK

Field	Type	Description								
switchMode	Integer	The channel switch mode. Switch mode description. <table border="1"><thead><tr><th>switchMode</th><th>description</th></tr></thead><tbody><tr><td>0</td><td>Switch Preview channel</td></tr><tr><td>1</td><td>Switch Program channel, then will trigger cut switch effect.</td></tr><tr><td>2</td><td>Switch Program channel, then will trigger auto switch effect.</td></tr></tbody></table> <p>Allowed values: 0, 1, 2</p>	switchMode	description	0	Switch Preview channel	1	Switch Program channel, then will trigger cut switch effect.	2	Switch Program channel, then will trigger auto switch effect.
switchMode	description									
0	Switch Preview channel									
1	Switch Program channel, then will trigger cut switch effect.									
2	Switch Program channel, then will trigger auto switch effect.									
channels	Object[]	The channel data list. <more.>								

Response 200

```
{
  "switchMode": 0,
  "channels": [
    {
      "id": 1,
      "name": "Preview",
      "sceneId": 1
    },
    ...
  ]
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

7.2 Get Channel

Get channel contains a specified channel's configurations.

API

/api/v1.0/channels/:id

Request

■ GET: get a specified channel's configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

URL

Field	Type	Description
id	Integer	Access data index number.

Response

■ Success

200 OK

Field	Type	Description
id	Integer	The unique index number.
name	String	The channel's name.
sceneId	Integer	The source's data index number.

Response 200

```
{
  "id": 1,
  "name": "Preview",
  "sceneId": 1
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

7.3 Set Switch Mode

Set switch mode sets the switch mode.

API

/api/v1.0/channels

Request

■ PATCH: set the switch mode.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

Request

Field	Type	Description								
sender (optional)	String	For event information. Default value: web								
switchMode	Integer	The channel switch mode. Switch mode description. <table border="1"><thead><tr><th>switchMode</th><th>description</th></tr></thead><tbody><tr><td>0</td><td>Switch Preview channel</td></tr><tr><td>1</td><td>Switch Program channel, then will trigger cut switch effect.</td></tr><tr><td>2</td><td>Switch Program channel, then will trigger auto switch effect.</td></tr></tbody></table> <p>Allowed values: 0, 1, 2</p>	switchMode	description	0	Switch Preview channel	1	Switch Program channel, then will trigger cut switch effect.	2	Switch Program channel, then will trigger auto switch effect.
switchMode	description									
0	Switch Preview channel									
1	Switch Program channel, then will trigger cut switch effect.									
2	Switch Program channel, then will trigger auto switch effect.									

Request Body

```
{
  "sender": "web",
  "sceneId": 1
}
```

Response

■ Success

200 OK

Field	Type	Description								
switchMode	Integer	The channel switch mode. Switch mode description. <table border="1"><thead><tr><th>switchMode</th><th>description</th></tr></thead><tbody><tr><td>0</td><td>Switch Preview channel</td></tr><tr><td>1</td><td>Switch Program channel, then will trigger cut switch effect.</td></tr><tr><td>2</td><td>Switch Program channel, then will trigger auto switch effect.</td></tr></tbody></table> <p>Allowed values: 0, 1, 2</p>	switchMode	description	0	Switch Preview channel	1	Switch Program channel, then will trigger cut switch effect.	2	Switch Program channel, then will trigger auto switch effect.
switchMode	description									
0	Switch Preview channel									
1	Switch Program channel, then will trigger cut switch effect.									
2	Switch Program channel, then will trigger auto switch effect.									

Response 200

```
{
  "switchMode": 0
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{
  "code": 50000,
  "message": "System error."
}
```

7.4 Set Channel

Set channel sets a specified channel's configurations.

API

/api/v1.0/channels/:id

Request

- PATCH: set a specified channel's configuration.

Header

Field	Type	Description
Authorization	String	The special credential value.

Request Header

```
Authorization: {credential}
```

URL

Field	Type	Description
id	Integer	Access data index number.

Request

Field	Type	Description
sceneId	Integer	The scene's data index number.
sender (optional)	String	For event information. Default value: web

Request Body

```
{
  "sceneId": 1,
  "sender": "web"
}
```

Response

- Success

200 OK

Field	Type	Description
id	Integer	The unique index number.
name	String	The channel's name.
sceneId	Integer	The source's data index number.

Response 200

```
{
  "id": 1,
  "name": "Preview",
  "sceneId": 1
}
```

■ Error

500 Internal server error

Name	Description
InternalServerError	Internal server error occurred.

Response 500

```
{  
  "code": 50000,  
  "message": "System error."  
}
```