MG300V2 Gateway Decoder API Documentation V1.0.0

Document Version	Compatible Firmware
1.0.0	2.20.0132

Disclaimer

- This document is written based on the MG300V2 Gateway & Decoder firmware 2.20.0132. Subsequent firmware updates may add new interfaces; refer to the latest documentation.
- When calling the API, hardware performance limits must be observed; excessive calls may cause device response delays or crashes.
- Unauthorized API calls (e.g. tampering with authentication information, privilege escalation) may cause device malfunctions.

MG300V2 Series Gateway & Decoder Interfaces

Welcome to the Device HTTP API!

The Device HTTP API is the software development programming interface for network decoding of this model. The Device HTTP API aims to achieve control of various device functions through a simple HTTP request/response mechanism. By using the Device HTTP API, software developers can remotely manage and control the device.

Each API function corresponds to an HTTP request path. In the current API version, the path format is: http://[:]/api/[module name]/[method] (http://ip:port/api/xxx)

This document lists the filename corresponding to each API function and its function description. In addition, each API document includes a test interface: you can fill in the request parameters you want to test, following the request parameter descriptions, execute the test, and verify the API function online, which is very convenient.

API requests follow the standard HTTP protocol. Developers can use any tool or software development library that complies with the HTTP standard to complete API calls (e.g. Web browsers, JavaScript libraries, C/C++ HTTP protocol libraries, JAVA, .NET, etc.). Parameter submission may be POST or GET, or both, depending on the interface requirements of each API; see the API descriptions for details. API responses are in JSON format; for the meaning of each parameter in the JSON object, see the documentation of each API.

We strive to keep the product API interfaces consistent, but differences between products may result in partial differences in the API interfaces due to product feature differences. Therefore, developers should follow the official guidance to distinguish and handle these detail differences.

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1. API Invocation Guide

Unified interface prefix:

Base URLs: http://ip:port/api/xxx

The return format of all interfaces is unified as:

- Success return `{"result": "ok","data": data of some type, such as string, number, array, object, etc.; this field may be absent}` example without the data field: `{"result": "ok"}`

- Error return `{"result": "error","msg": "errCode"}`

About Error Returns (Important):

- All interfaces return the unified structure `{"result": "error", "msg": "<error code>"}` on failure, where `msg` is the **string** form of the numeric error code in the "Error Codes" table (e.g. `"result":"error","msg":"100"`). The "Response Example" of each interface in the body of this document usually only shows the success (`result:"ok"`) structure and does not enumerate error branches one by one. When integrating, handle uniformly according to the error structure above and refer to the "Error Codes" table below to determine the specific cause.
- The error structure of a small number of internal/klnk interfaces may carry an additional `code` field (`{"result":"error","msg":...,"code":...}`); these are not the standard interfaces targeted by this document and can be ignored.

About HTTP Methods: The GET/POST labels in this document represent the **semantic convention** of the interface; the server currently does not enforce validation of the request method (both GET/POST are reachable). Please still call with the labeled method; in particular `/sys/reboot`, `/sys/reset`, `/sys/restore`, etc. will reboot/reset the device, so trigger them with caution.

1.1 Authentication

The device API adopts a token-based authentication mechanism. Except for the login interface, all API requests must carry authentication information in the HTTP request header.

Authentication Flow:

1. **Obtain the token:** The client calls the `/users/login` interface and authenticates with the username and password; on success, the server returns a session token (token).
2. **Carry the token:** In all subsequent API requests, put the token into the HTTP request header named `app` as a JSON string.
3. **Token invalidation:** After calling `/users/logout` to log out, the token becomes invalid immediately. Device reboot or prolonged inactivity may also cause the token to expire; in that case, log in again to obtain a new token.

Request Header Format:

Parameter	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	JSON string in the format `{"token":"xxx"}`. The login interface does not need this header

app Header JSON Format Details:

```
{
  "token": "3515d2e8d3615fc68c84f00b361c5d8c"
}
```

- `token`: the session token returned by the server after successful login (a 32-character hexadecimal string). The server determines session validity based on this field.

- The entire JSON object must be placed as a string value in the `app` request header. Note that the double quotes in the JSON string need to be escaped or passed directly as the HTTP header value (most HTTP clients handle this automatically).
- If `token` is missing or invalid, an authentication error (error code 2) is returned.

Interfaces That Do Not Require Authentication:

The following interfaces do not need `app` in the request header:

- `POST /users/login` (the login interface itself)
- `GET /info/get` (get basic device information, usually used to obtain device identity during initialization)

1.2 Examples

(1) API Authentication Principle

(2) Log in to Obtain the Token

When calling the login API (via GET/POST), the response includes a token. This token serves as the authentication credential for subsequent API requests.

(3) Using the Token in Requests

For any other API endpoint, an authentication field named `app` must be added to the HTTP request header, with a JSON string value in the following format:

```
{
  "token": "3515d2e8d3615fc68c84f00b361c5d8c"
}
```

curl example:

```
curl -X GET "http://ip:port/api/info/get" \
  -H 'app: {"token":"3515d2e8d3615fc68c84f00b361c5d8c"}'
```

The purpose of the token is to prove to the server that authentication has passed; the principle is similar to how a Web GUI maintains session state via Cookies.

(4) Local Demo Steps (including Postman operations)

Step 1: Log in to obtain the token

• Open Postman and create a new POST request.

• Request URL: https://192.168.28.30/api/users/login

• Request body (JSON format): { "username": "admin", "password": "your-device-password" }

(Note: if the device password has not been changed, the default password is admin.)

• Send the request: click Send and extract the token field from the response (e.g. 3515d2e8d3615fc68c84f00b361c5d8c).

Step 2: Add the authentication header to the request

• Create the target API request (e.g. info/get.json for getting information).

• Set the request header:

• Switch to the Headers tab and add the following key-value pair:

• Key: app

• Value: {"token":"your-obtained-token"}
(Note: replace your-obtained-token with the token actually obtained in Step 1.)

• Send the request: click Send; after the server verifies the identity via the token, it returns the data.

(5) Obtain the Token via Browser Developer Tools (alternative method)

• Press F12 in the browser to open Developer Tools and switch to the Network tab.

• Perform the login operation, find the login request (e.g. `/users/login`), and copy the token from the `data.token` field in the response body. On successful login, the response looks like:

```
{
  "data": {
    "username": "admin",
    "token": "3515d2e8d3615fc68c84f00b361c5d8c",
    "role": "admin",
    "alias": "Super Admin"
  },
  "result": "ok"
}
```

• Fill `token` into the `app` header of subsequent requests.

(6) Troubleshooting Tips

• Password verification: make sure the device password is correct (the default password is admin if not changed).

• Token validity: check that the token was copied correctly and has not expired (if expired, log in again to obtain one).

• Request header format: confirm the JSON format of the app header is correct and the token field has no spelling errors (e.g. token must match the server's requirement).

1.3 Error Codes

Error Code	Error Description	Enum Name (Code)
0	Request succeeded	ERR_OK
1	Parameter error	ERR_PARAMS
2	Authentication error (invalid token)	ERR_USER_TOKEN_INVALID
100	Output not found	ERR_OUTPUT_NOT_FOUND

Error Code	Error Description	Enum Name (Code)
101	Video source not found	ERR_VIDEO_NOT_FOUND
102	Audio source not found	ERR_AUDIO_NOT_FOUND
103	Output interface not found	ERR_INTERFACE_NOT_FOUND
104	Layout template not found	ERR_TEMPLATE_NOT_FOUND
105	Layout not found	ERR_LAYOUT_NOT_FOUND
106	Preview position error	ERR_PREVIEW_POSITION
107	Layout exceeds the limit	ERR_LAYOUT_EXCEEDS_LIMIT
200	Group not found	ERR_GROUP_NOT_FOUND
201	Stream not found	ERR_STREAM_NOT_FOUND
202	Stream does not exist	ERR_STREAM_NOT_EXIST
203	Duplicate NDI server	ERR_REPEAT_NDI_SERVER
204	Duplicate stream	ERR_REPEAT_STREAM
205	Unsupported protocol	ERR_NOT_SUPPORT_PROTOCOL
206	Group already exists	ERR_GROUP_NAME_DUPLICATION
207	NDI buffer exceeds the maximum limit	ERR_NDI_BUFF_NOT_SUPPORT_LIMIT
300	User not found	ERR_USER_NOT_FOUND
301	Password mismatch	ERR_PASSWORD_MISMATCH
302	Incorrect username or password	ERR_PWD_FAIL
400	Unreachable (ping failed)	ERR_IP_UNREACHABLE
401	Failed to modify network configuration	ERR_MODIFY_NET
402	Duplicate route	ERR_REPEAT_ROUTE
403	Route not found	ERR_ROUTE_NOT_FOUND
404	Route does not exist	ERR_ROUTE_NOT_EXIST
405	Port already occupied	ERR_PORT_ALREADY_OCCUPIED
500	Duplicate name	ERR_REPEAT_NAME
501	In use	ERR_IN_USE
502	Failed to save configuration	ERR_SAVE_FILE
503	Failed to set time/time zone	ERR_TIME_ZONE

Error Code	Error Description	Enum Name (Code)
504	Invalid VO output	ERR_INVALID_VO
505	Mixer supports only four audio channels	ERR_INVALID_AUDIO_MIXER
506	Target already exists	ERR_TARGET_EXIST
507	File does not exist	ERR_FILE_NOT_EXIST
508	Failed to set PTZ	ERR_PTZ_SET_FAILED
509	Insufficient device performance	ERR_PERFORMANCE_LIMIT_DEVICE
510	Device performance back to normal	ERR_PERFORMANCE_NORMAL
511	Preview count exceeds the limit	ERR_PREVIEW_OVER_NUMBER
608	Gateway port occupied	ERR_GATEWAY_PORT_ALREADY_OCCUPIED
609	Gateway stream information not found	ERR_GATEWAY_STREAM_NOT_FOUND
610	Gateway push not bound to a source	ERR_GATEWAY_STREAM_NOT_BIND_SRC
611	A single source allows up to 4 pushed outputs	ERR_GATEWAY_STREAM_MAX_4_OUTS_1_SRC
612	Up to 36 pushed outputs are allowed	ERR_GATEWAY_STREAM_MAX_36_OUTS_9_SRCS
613	Up to 9 sources are allowed	ERR_GATEWAY_STREAM_MAX_9_SRCS
614	Duplicate NDI_HX channel name	ERR_GATEWAY_NDI_CHANNEL_EXISTS
615	Duplicate HLS session ID	ERR_GATEWAY_HLS_SESSION_EXISTS
616	Failed to bind multiview preview	ERR_GATEWAY_BIND_MULTIVIEW_FAILED
617	Invalid multiview encoding parameters	ERR_MULTIVIEW_ENCODE_ARGS_INVALID
800	Pull-stream connection failed	ERR_PULL_STREAM_CONNECT_FAILED
801	Pull-stream authentication failed	ERR_PULL_STREAM_AUTH_FAILED
802	Failed to get stream information	ERR_PULL_STREAM_FIND_INFO_FAILED
803	Audio or video track not found in stream information	ERR_PULL_STREAM_NOT_FOUND_TRACK
804	Resolution not supported	ERR_PULL_STREAM_RESOLUTION_NOT_SUPPORT
805	Connection attempts exceeded the maximum	ERR_PULL_STREAM_TRY_REACH_MAX_TIMES
1000	Video decoding failed	ERR_VIDEO_DECODE_ERROR

Error Code	Error Description	Enum Name (Code)
-1000	10-bit H264/H265/HX decoding not supported	ERR_PULL_STREAM_NOT_SUPPORT_10BIT_VIDEO

2. INFO Module

The INFO (device information) module is used to get the device's basic information, including device name, firmware version, hardware version, serial number, and software version. It is usually called during client initialization to confirm device identity and firmware version compatibility.

2.1 GET /info/get

Function Description

Get the device's basic information, including device name, firmware version, hardware version, serial number, and software version. Used to query device identity and version information; usually called during client initialization. This interface can be accessed without an authentication token.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	The current user's authentication token, in the JSON string format `{"token":"xxx"}`. It can be omitted for this interface

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Device basic information object
»» device_name	string	true	none	Device Name	Custom name of the device
»» firmware_version	string	true	none	Firmware Version	Version number of the currently running firmware
»» hardware_version	string	true	none	Hardware Version	Device hardware version identifier
»» serial_number	string	true	none	Device Serial Number	Unique factory serial number of the device

Name	Type	Required	Constraint	Display Name	Description
»» software_version	string	true	none	Software Version	Application software version number
» result	string	true	none	Return Result	Fixed return of `"ok"` indicating the request succeeded

3. USER Module

Permission tiering module, managing user accounts and role permissions.

Preset Role Definitions

The system has 5 built-in preset roles; `role_id` is fixed and immutable:

role_id	Role Identifier	Role Name	Description
1	admin	Super Admin	System super administrator with all permissions; manages all roles and users
2	admin_regular	Regular Admin	Created by the super administrator; can manage regular users but not other administrators
3	General Role 1	General Role 1	Fixed role; permissions configured item by item by the administrator
4	General Role 2	General Role 2	Fixed role; permissions configured item by item by the administrator
5	General Role 3	General Role 3	Fixed role; permissions configured item by item by the administrator

Preset Permission Definitions

Permission nodes use a tree hierarchy; `id` is fixed and immutable. Nodes with `is_group` set to `true` are group containers, containing `children` child nodes underneath.

id	Permission Identifier	Display Name	Parent Group	is_group
1	ID_PERM_HOME	Home	—	true
2	ID_PERM_SOURCE	Source List	Home	false
3	ID_PERM_PREVIEW	Preview List	Home	true
4	ID_PERM_ENCODE	Encode Settings	Preview List	false
5	ID_PERM_PREVIEW_MANAGE	Preview Management	Preview List	false

id	Permission Identifier	Display Name	Parent Group	is_group
6	ID_PERM_OUTPUT_IF	Physical Interface Output Configuration	Home	true
7	ID_PERM_RESOLUTION	Resolution & Frame Rate	Physical Interface Output Configuration	false
8	ID_PERM_AUDIOMIX	Audio Mixer	Physical Interface Output Configuration	false
9	ID_PERM_AUDIO_OUT_EDIT	Audio Output Editing	Physical Interface Output Configuration	false
10	ID_PERM_VIDEO_OUT_EDIT	Video Output Editing	Physical Interface Output Configuration	false
11	ID_PERM_LAYOUT	Multiview Display Configuration	Home	true
12	ID_PERM_LAYOUT_SELECT	Layout Selection	Multiview Display Configuration	false
13	ID_PERM_LAYOUT_EDITOR	Layout Editor	Multiview Display Configuration	false
14	ID_PERM_LAYOUT_TOOLS	Other Tools	Multiview Display Configuration	false
15	ID_PERM_LAYOUT_OVERLAY	Overlay Editor	Multiview Display Configuration	false
16	ID_PERM_GATE_SERVICE	Stream Service	—	true
17	ID_PERM_GATE_STREAM	Stream Service View Permission	Stream Service	false
18	ID_PERM_GATE_BATCH	Stream Service Start/Stop	Stream Service View Permission	false
19	ID_PERM_GATE_BIND_SRC	Stream Service Push Source Configuration	Stream Service View Permission	false
20	ID_PERM_SETTINGS	Settings	—	true
21	ID_PERM_SYS_DEVICE	General Settings	Settings	false
22	ID_PERM_NETWORK	Network Settings	Settings	false
23	ID_PERM_USERS	User List	Settings	false
24	ID_PERM_FIRMWARE	Firmware Upgrade	Settings	false
25	ID_PERM_MAINTENANCE	Advanced Settings	Settings	false

id	Permission Identifier	Display Name	Parent Group	is_group
26	ID_PERM_SYS_PRESET	Preset Configuration	Settings	false
27	ID_PERM_SYS_RESET_GROUP	System Reset	Settings	true
28	ID_PERM_SYS_RESET	Factory Reset	System Reset	false
29	ID_PERM_SYS_REBOOT	Device Reboot	System Reset	false
30	ID_PERM_LOG	System Log	Settings	false
31	ID_PERM_ROLES	Role & Permission Management	Settings	false
32	ID_PERM_USERS_EDIT	User Editing	Settings	false

Permission Error Code Definitions

Error codes returned on permission check failure. Enum `PermErrorCode`, auto-incrementing from 2000, corresponding to the `msg` field.

Value	Enum Name	Chinese	English	Korean
2000	PERM_ERR_USERNAME_INVALID	用户名格式不合法	Invalid username format	유효하지 않은 사용자 이름 형식
2001	PERM_ERR_ROLE_NOT_FOUND	角色不存在	Role not found	역할을 찾을 수 없음
2002	PERM_ERR_DENIED	权限校验失败	Permission denied	권한 거부됨
2003	PERM_ERR_CANNOT_DELETE_SELF	不能删除自己	Cannot delete self	자신을 삭제할 수 없음
2004	PERM_ERR_CANNOT_MODIFY_PRESET	不能修改预置角色/权限	Cannot modify preset role/permission	사전 설정된 역할/권한을 수정할 수 없음
2005	PERM_ERR_USER_LIMIT_REACHED	用户数达上限（32）	User limit reached (32)	사용자 한도 도달 (32)
2006	PERM_ERR_HOME	主页	Home	홈
2007	PERM_ERR_SOURCE	无源列表管理权限	No source list permission	소스 목록 관리 권한 없음
2008	PERM_ERR_PREVIEW	无预览列表管理权限	No preview list permission	미리보기 목록 관리 권한 없음
2009	PERM_ERR_ENCODE	无编码设置权限	No encode settings permission	인코딩 설정 권한 없음
2010	PERM_ERR_OUTPUT_IF	无物理接口输出配置权限	No output interface permission	물리적 인터페이스 출력 구성 권한 없음
2011	PERM_ERR_RESOLUTION	无分辨率、帧率设置权限	No resolution/framerate permission	해상도/프레임 속도 설정 권한 없음

Value	Enum Name	Chinese	English	Korean
2012	PERM_ERR_AUDIOMIX	无调音台权限	No audio mixer permission	오디오 믹서 권한 없음
2013	PERM_ERR_AUDIO_OUT_EDIT	无音频输出设置权限	No audio output settings permission	오디오 출력 설정 권한 없음
2017	PERM_ERR_VIDEO_OUT_EDIT	无视频输出设置权限	No video output settings permission	비디오 출력 설정 권한 없음
2019	PERM_ERR_LAYOUT	无多画面显示配置权限	No layout configuration permission	멀티뷰 레이아웃 구성 권한 없음
2020	PERM_ERR_LAYOUT_SELECT	无布局选择权限	No layout selection permission	레이아웃 선택 권한 없음
2021	PERM_ERR_LAYOUT_EDITOR	无布局管理权限	No layout editor permission	레이아웃 편집기 권한 없음
2027	PERM_ERR_LAYOUT_TOOLS	无其它工具使用权限	No tools permission	기타 도구 사용 권한 없음
2034	PERM_ERR_LAYOUT_OVERLAY	无叠层编辑器权限	No overlay editor permission	오버레이 편집기 권한 없음
2035	PERM_ERR_GATE_SERVICE	无流服务管理权限	No streaming service permission	스트리밍 서비스 관리 권한 없음
2036	PERM_ERR_GATE_STREAM	无流服务查看权限	No stream view permission	스트림 보기 권한 없음
2037	PERM_ERR_GATE_BATCH	无流服务启停权限	No stream start/stop permission	스트림 시작/중지 권한 없음
2038	PERM_ERR_GATE_BIND_SRC	无推流源配置权限	No stream source binding permission	스트림 소스 바인딩 권한 없음
2039	PERM_ERR_SETTINGS	无系统设置权限	No system settings permission	시스템 설정 권한 없음
2040	PERM_ERR_SYS_DEVICE	无通用设置权限	No device settings permission	장치 설정 권한 없음
2041	PERM_ERR_NETWORK	无网络设置权限	No network settings permission	네트워크 설정 권한 없음
2042	PERM_ERR_USERS	无用户列表管理权限	No user management permission	사용자 관리 권한 없음
2043	PERM_ERR_FIRMWARE	无固件升级权限	No firmware upgrade permission	펌웨어 업그레이드 권한 없음
2044	PERM_ERR_MAINTENANCE	无高级设置权限	No maintenance settings permission	고급 설정 권한 없음
2045	PERM_ERR_SYS_PRESET	无预设配置权限	No preset configuration permission	사전 설정 구성 권한 없음
2046	PERM_ERR_SYS_RESET_GROUP	无系统重置权限	No system reset permission	시스템 재설정 권한 없음

Value	Enum Name	Chinese	English	Korean
2047	PERM_ERR_SYS_RESET	无恢复出厂权限	No factory reset permission	공장 초기화 권한 없음
2048	PERM_ERR_SYS_REBOOT	无设备重启权限	No device reboot permission	장치 재부팅 권한 없음
2049	PERM_ERR_LOG	无系统日志管理权限	No system log permission	시스템 로그 관리 권한 없음
2050	PERM_ERR_ROLES	无角色管理权限	No role management permission	역할 관리 권한 없음
2051	PERM_ERR_USERS_EDIT	无用户编辑权限	No user edit permission	사용자 편집 권한 없음

Response Example

```
{
  "data": {
    "device_name": "xxx",
    "firmware_version": "xxx",
    "hardware_version": "xxx",
    "serial_number": "xxx",
    "software_version": "2.0.0"
  },
  "result": "ok"
}
```

3.1 POST /users/login

Function Description

User login interface. Authenticates with username and password; on success returns the session token and the complete user information. This token must be carried in the `app` header of all subsequent API requests, in the format `{"token":"xxx"}`. The token has a session lifetime; device reboot or prolonged inactivity will invalidate it, requiring re-login to obtain a new token. The system supports five preset roles: super administrator (admin), regular administrator (admin_regular), and three general roles (gen_role_1/2/3).

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	The login interface does not need a token; this header can be omitted
body	body	object	No	Request Body	JSON object containing login credentials

Name	Location	Type	Required	Display Name	Description
» username	body	string	Yes	Username	Login username
» password	body	string	Yes	Password	Login password

Body Request Parameters

> Super Admin

```
{
  "username": "admin",
  "password": "admin"
}
```

> Regular Admin

```
{
  "username": "admin1",
  "password": "admin1"
}
```

> Regular User

```
{
  "username": "gen1",
  "password": "gen1"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Complete user information returned on successful login
»» alias	string	true	none	Alias	User alias
»» changed	boolean	true	none	Password Status	Whether the password has been changed; true indicates the default password has been changed
»» create_time	string	true	none	Create Time	User creation timestamp (Unix timestamp string)
»» result	string	true	none	Return Result	Fixed return of `"ok"` indicating login succeeded

Name	Type	Required	Constraint	Display Name	Description
»» role	string	true	none	Role Identifier	Identifier name of the user's role, e.g. admin / admin_regular / gen_role_1, etc.
»» role_id	integer	true	none	Role ID	Unique identifier linking to the role permission table
»» token	string	true	none	Verification token	Session token; must be carried in the app header of subsequent requests, in the format `{"token":"xxx"}`
»» user_id	integer	true	none	User ID	Unique user identifier
»» username	string	true	none	Account Name	Login username
» result	string	true	none	Return Result	Fixed return of `"ok"` indicating the request succeeded

> For the user role mapping, see Preset Role Definitions.

Response Example

> Super Admin

```
{
  "data": {
    "alias": "Super Admin",
    "changed": true,
    "create_time": "169665313",
    "result": "ok",
    "role": "admin",
    "role_id": 1,
    "token": "901fcecb0640576e2002e52e32eb8022",
    "user_id": 1,
    "username": "admin"
  },
  "result": "ok"
}
```

> Regular Admin

```
{
  "data": {
    "alias": "test1",
    "changed": true,
    "create_time": "169733754",
    "result": "ok",
```

```
    "role": "admin_regular",
    "role_id": 2,
    "token": "9b8b92fb007a86dee14f5d89bf0c4d2a",
    "user_id": 2,
    "username": "admin1"
  },
  "result": "ok"
}
```


> Regular User


```
{
  "data": {
    "alias": "test1",
    "changed": true,
    "create_time": "84917946",
    "result": "ok",
    "role": "gen_role_1",
    "role_id": 3,
    "token": "973429fbd838ccabef4bc76631eab332",
    "user_id": 3,
    "username": "gen1"
  },
  "result": "ok"
}
```


3.2 GET /users/list

Function Description

Get the list of all users and the available role information. Returns the detailed information of all users in the system (username, alias, role, creation time, phone, etc.), and also returns the list of all available roles in the system. Supports filtering queries by username, alias, or role name via the `search` parameter, making it easy to quickly locate a user when there are many users.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the JSON string format `{"token":"xxx"}`
search	body/query	string	No	Search Keyword	Optional; filter the results by username, alias, or role name

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
result	string	true	none	Return Result	Fixed return of `"ok"` indicating the request succeeded
» data	object	true	none	Return Data	Data object containing the user list and role list
»» count	integer	true	none	Total Users	Total number of users in the current system
»» list	[object]	true	none	User List	List of detailed user information
»»» alias	string	false	none	Alias	User alias
»»» changed	boolean	false	none	Password Status	Whether the password has been changed; true indicates the default password has been changed
»»» create_time	string	false	none	Create Time	User creation timestamp (Unix timestamp string)
»»» created_by	integer	false	none	Creator ID	user_id of the user who created this user
»»» descript	string	false	none	Description	Detailed user description
»»» id	integer	false	none	User ID	Unique user identifier
»»» is_self	boolean	false	none	Is Self	Whether it is the currently logged-in user
»»» is_system	boolean	false	none	System Role	Whether it is a system administrator role (admin or admin_regular)
»»» phone	string	false	none	Phone	User contact phone number
»»» role_id	integer	false	none	Role ID	Unique identifier linking to the role permission table
»»» role_name	string	false	none	Role Name	Identifier name of the user's role
»»» status	integer	false	none	Status	User status; 1 indicates enabled
»»» token	string	false	none	Token	The user's current session token value
»»» updated_at	string	false	none	Update Time	Most recent update time of the user information
»»» username	string	false	none	Username	User login username

Name	Type	Required	Constraint	Display Name	Description
»» roles	[object]	true	none	Role List	Information of all available roles in the system
»»» created_by	integer	false	none	Creator ID	user_id of the user who created this role
»»» description	string	false	none	Description	Role description information
»»» id	integer	false	none	Role ID	Unique role identifier
»»» is_system	boolean	false	none	System Role	Whether it is a system fixed role
»»» label	string	false	none	Role Label	Role display label/name
»»» name	string	false	none	Role Name	Role identifier name
»»» status	integer	false	none	Status	Role status; 1 indicates enabled

Response Example


```
{
  "data": {
    "count": 3,
    "list": [
      {
        "alias": "test1",
        "changed": true,
        "create_time": "169733754",
        "created_by": 1,
        "descript": "",
        "id": 2,
        "is_self": false,
        "is_system": true,
        "phone": "",
        "role_id": 2,
        "role_name": "admin_regular",
        "status": 1,
        "token": "9b8b92fb007a86dee14f5d89bf0c4d2a",
        "updated_at": "1970-01-03T07:08:53",
        "username": "admin1"
      },
      {
        "alias": "test1",
        "changed": true,
        "create_time": "169788417",
        "created_by": 2,
        "descript": "",
        "id": 3,
```

```
        "is_self": false,
        "is_system": false,
        "phone": "",
        "role_id": 3,
        "role_name": "gen_role_1",
        "status": 1,
        "token": "e5d25b942c969c1697f57c8777c440bf",
        "updated_at": "1970-01-03T07:09:48",
        "username": "gen1"
      },
      {
        "alias": "test2",
        "changed": true,
        "create_time": "169793362",
        "created_by": 2,
        "descript": "",
        "id": 4,
        "is_self": false,
        "is_system": false,
        "phone": "",
        "role_id": 5,
        "role_name": "gen_role_3",
        "status": 1,
        "token": "",
        "updated_at": "1970-01-03T07:09:53",
        "username": "gen2"
      }
    ],
    "roles": [
      {
        "created_by": 2,
        "description": "Fixed role; permissions configured item by item by the
administrator",
        "id": 3,
        "is_system": false,
        "label": "gen_role_1",
        "name": "gen_role_1",
        "status": 1
      },
      {
        "created_by": 2,
        "description": "Fixed role; permissions configured item by item by the
administrator",
        "id": 4,
        "is_system": false,
        "label": "General Role 2",
        "name": "gen_role_2",
        "status": 1
      },
      {
        "created_by": 2,
        "description": "Fixed role; permissions configured item by item by the
administrator",
```

```
        "id": 5,
        "is_system": false,
        "label": "General Role 3",
        "name": "gen_role_3",
        "status": 1
      }
    ]
  },
  "result": "ok"
}
```


3.3 POST /users/add

Function Description

Add a new user. Specify the user's role via `role_id` (see the Preset Role Definitions table); the username, password, and alias are required. Optionally provide the contact phone and description. Only administrator roles or above can perform this operation, and the total user count is subject to the system limit (32).

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the JSON string format `{"token":"xxx"}`
body	body	object	No	Request Body	JSON object containing the new user's information
» username	body	string	Yes	Username	Login username of the new user
» password	body	string	Yes	Password	Login password of the new user
» alias	body	string	Yes	Alias	Display alias of the new user
» role_id	body	integer	Yes	Role ID	The role_id in the role permission table (1-5)
» phone	body	string	No	Contact Phone	Contact phone of the new user
» descript	body	string	No	Description	Description of the new user

Body Request Parameters

> Regular Admin

```
{
  "username": "admin1",
  "password": "admin1",
  "alias": "test1",
  "role_id": 2,
  "phone": "",
  "descript": ""
}
```

> Regular User 1

```
{
  "username": "gen1",
  "password": "gen1",
  "alias": "test1",
  "role_id": 3,
  "phone": "",
  "descript": ""
}
```

> Regular User 2

```
{
  "username": "gen2",
  "password": "gen2",
  "alias": "test2",
  "role_id": 5,
  "phone": "",
  "descript": ""
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed return of `"ok"` indicating the user was added successfully

Response Example

```
{
  "result": "ok"
}
```

3.4 POST /users/remove

Function Description

Delete the specified user. This operation is irreversible; the session token of the deleted user becomes invalid immediately. The admin user (super administrator) cannot be deleted. Only administrator roles or above can perform this operation, and the current user cannot delete themselves.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the JSON string format `{"token":"xxx"}`
body	body	object	No	Request Body	JSON object containing the ID of the user to delete
» id	body	integer	Yes	User ID	Unique identifier of the user to delete

Body Request Parameters

```
{
  "id": 3
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed return of `"ok"` indicating the user was deleted successfully

---

Response Example

```
{
  "result": "ok"
}
```

3.5 POST /users/modify

Function Description

Modify user information. The server locates the target user by `id` and only updates the fields passed in the request. All fields except `id` are optional; only the fields that are passed get updated, and the fields that are not passed remain unchanged. The username, password, alias, role, phone, and description can be modified.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the JSON string format `{"token":"xxx"}`
body	body	object	No	Request Body	JSON object containing the fields to modify
» id	body	integer	Yes	User ID	Unique identifier of the user to modify
» username	body	string	No	Username	New login username; not changed if not passed
» password	body	string	No	Password	New login password; not changed if not passed
» alias	body	string	No	Alias	New user alias; not changed if not passed
» role_id	body	integer	No	Role ID	New role ID; links to the role permission table; not changed if not passed
» phone	body	string	No	Phone	New contact phone; not changed if not passed
» descript	body	string	No	Description	New user description; not changed if not passed

Body Request Parameters

```
{
  "id": 3,
  "username": "gen1",
  "password": "gen1",
  "alias": "gen1",
  "role_id": 3,
  "phone": "124666",
  "descript": "12312321323"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed return of `"ok"` indicating the user information was modified successfully

---

Response Example

```
{
  "result": "ok"
}
```

3.6 GET /roles/permissions

Function Description

Get all roles and their permission lists. Returns the detailed information of each role, including the hierarchical permission tree structure. In the permission tree, nodes with `is_group` set to `true` are group container nodes, and their `children` array contains the lower-level permission nodes; nodes with `is_group` set to `false` are leaf permission nodes. The `checked` field marks whether that permission item is currently enabled. This interface is used for data queries on the role permission management page.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the JSON string format `{"token":"xxx"}`

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed return of `"ok"` indicating the request succeeded
» data	[object]	true	none	Role List	Array of all roles and their permissions

Name	Type	Required	Constraint	Display Name	Description
»» created_by	integer	false	none	Creator ID	user_id of the user who created this role
»» description	string	false	none	Description	Role description information
»» id	integer	true	none	Role ID	Unique role identifier
»» is_self	boolean	true	none	Own Role	Whether it is the role of the currently logged-in user
»» is_system	boolean	true	none	System Role	Whether it is a system fixed role (cannot be deleted)
»» label	string	true	none	Display Name	Role display name
»» name	string	true	none	Role Name	Role identifier name
»» permissions	[object]	true	none	Permission Tree	List of hierarchical permission nodes
»»» children	[object]	false	none	Children	Array of lower-level permission nodes
»»»» checked	boolean	false	none	Checked	Whether that permission item is enabled
»»»» id	integer	false	none	Permission ID	Unique identifier of the permission item
»»»» is_group	boolean	false	none	Group Node	true indicates a group container; false indicates a leaf permission node
»»»» label	string	false	none	Permission Name	Display name of the permission item
»»»» multiple_selected	boolean	false	none	Partially Selected	true when some child nodes under the group node are selected
»»»» translate_name	string	false	none	Permission Identifier	English identifier name of the permission
»»» checked	boolean	false	none	Checked	Not present on top-level group nodes; child nodes mark whether they are enabled
»»» id	integer	true	none	Permission ID	Unique identifier of the permission item

Name	Type	Required	Constraint	Display Name	Description
»»» is_group	boolean	true	none	Group Node	true indicates a group container; false indicates a leaf permission node
»»» label	string	true	none	Permission Name	Display name of the permission item
»»» multiple_selected	boolean	false	none	Partially Selected	true when some child nodes under the group node are selected
»»» translate_name	string	false	none	Permission Identifier	English identifier name of the permission
»» status	integer	true	none	Status	Role status; 1 indicates enabled

Response Example


```
{
    "data": [
        {
            "created_by": 0,
            "description": "Created by the super administrator; can manage regular users but not other administrators",
            "id": 2,
            "is_self": true,
            "is_system": true,
            "label": "Regular Admin",
            "name": "admin_regular",
            "permissions": [],
            "status": 1
        },
        {
            "created_by": 2,
            "description": "Fixed role; permissions configured item by item by the administrator",
            "id": 3,
            "is_self": false,
            "is_system": false,
            "label": "gen_role_1",
            "name": "gen_role_1",
            "permissions": [
                {
                    "children": [
                        {
                            "checked": true,
                            "id": 2,
                            "is_group": false,
```

```
            "label": "Source List"
        },
        {
            "checked": true,
            "children": [
                {
                    "checked": true,
                    "id": 4,
                    "is_group": false,
                    "label": "Encode Settings"
                }
            ],
            "id": 3,
            "is_group": false,
            "label": "Preview List"
        },
        {
            "checked": false,
            "children": [
                {
                    "checked": true,
                    "id": 6,
                    "is_group": false,
                    "label": "Resolution & Frame Rate"
                },
                {
                    "checked": true,
                    "id": 7,
                    "is_group": false,
                    "label": "Audio Mixer"
                },
                {
                    "checked": true,
                    "children": [
                        {
                            "checked": false,
                            "id": 9,
                            "is_group": false,
                            "label": "Audio Output"
                        },
                        {
                            "checked": false,
                            "id": 10,
                            "is_group": false,
                            "label": "Mute Control"
                        },
                        {
                            "checked": false,
                            "id": 11,
                            "is_group": false,
                            "label": "HDMI audio enable"
                        }
                    ],
```

```
                        "id": 8,
                        "is_group": true,
                        "label": "Audio Output Editing"
                    },
                    {
                        "checked": false,
                        "children": [
                            {
                                "checked": false,
                                "id": 13,
                                "is_group": false,
                                "label": "HDMI video enable"
                            }
                        ],
                        "id": 12,
                        "is_group": true,
                        "label": "Video Output Editing"
                    }
                ],
                "id": 5,
                "is_group": false,
                "label": "Physical Interface Output Configuration"
            },
            {
                "checked": false,
                "children": [
                    {
                        "checked": false,
                        "id": 15,
                        "is_group": false,
                        "label": "Layout Selection"
                    },
                    {
                        "checked": false,
                        "children": [
                            {
                                "checked": false,
                                "id": 17,
                                "is_group": false,
                                "label": "Layout Add"
                            },
                            {
                                "checked": false,
                                "id": 18,
                                "is_group": false,
                                "label": "Layout Delete"
                            },
                            {
                                "checked": false,
                                "id": 19,
                                "is_group": false,
                                "label": "Layout Modify"
                            },
```

```
                        {
                            "checked": false,
                            "id": 20,
                            "is_group": false,
                            "label": "Layout Rename"
                        },
                        {
                            "checked": false,
                            "id": 21,
                            "is_group": false,
                            "label": "Layout Save"
                        }
                    ],
                    "id": 16,
                    "is_group": true,
                    "label": "Layout Editor"
                },
                {
                    "checked": false,
                    "children": [
                        {
                            "checked": false,
                            "id": 23,
                            "is_group": false,
                            "label": "VU Meter"
                        },
                        {
                            "checked": false,
                            "id": 24,
                            "is_group": false,
                            "label": "Video Output Background"
                        },
                        {
                            "checked": false,
                            "id": 25,
                            "is_group": false,
                            "label": "Border Overlay"
                        },
                        {
                            "checked": false,
                            "id": 26,
                            "is_group": false,
                            "label": "Overlay Template"
                        },
                        {
                            "checked": false,
                            "id": 27,
                            "is_group": false,
                            "label": "PTZ Control"
                        },
                        {
                            "checked": false,
                            "id": 28,
```

```
                                "is_group": false,
                                "label": "MPEG-TS Program"
                            }
                        ],
                        "id": 22,
                        "is_group": true,
                        "label": "Other Tools"
                    },
                    {
                        "checked": false,
                        "id": 29,
                        "is_group": false,
                        "label": "Overlay Editor"
                    }
                ],
                "id": 14,
                "is_group": false,
                "label": "Multiview Display Configuration"
            }
        ],
        "id": 1,
        "is_group": true,
        "label": "Home"
    },
    {
        "children": [
            {
                "checked": false,
                "children": [
                    {
                        "checked": false,
                        "id": 32,
                        "is_group": false,
                        "label": "Stream Service Start/Stop"
                    },
                    {
                        "checked": false,
                        "id": 33,
                        "is_group": false,
                        "label": "Stream Service Push Source Configuration"
                    }
                ],
                "id": 31,
                "is_group": false,
                "label": "Stream Service View Permission"
            }
        ],
        "id": 30,
        "is_group": true,
        "label": "Stream Service"
    },
    {
        "children": [
```

```
                {
                    "checked": false,
                    "id": 31,
                    "is_group": false,
                    "label": "General Settings"
                },
                {
                    "checked": false,
                    "id": 32,
                    "is_group": false,
                    "label": "Network Settings"
                },
                {
                    "checked": false,
                    "id": 33,
                    "is_group": false,
                    "label": "User List"
                },
                {
                    "checked": false,
                    "id": 38,
                    "is_group": false,
                    "label": "Firmware Upgrade"
                },
                {
                    "checked": false,
                    "id": 39,
                    "is_group": false,
                    "label": "Advanced Settings"
                },
                {
                    "checked": false,
                    "id": 40,
                    "is_group": false,
                    "label": "Preset Configuration"
                },
                {
                    "children": [
                        {
                            "checked": false,
                            "id": 42,
                            "is_group": false,
                            "label": "Factory Reset"
                        },
                        {
                            "checked": false,
                            "id": 43,
                            "is_group": false,
                            "label": "Device Reboot"
                        }
                    ],
                    "id": 41,
                    "is_group": true,
```

```
                            "label": "System Reset"
                        },
                        {
                            "checked": false,
                            "id": 44,
                            "is_group": false,
                            "label": "System Log"
                        },
                        {
                            "checked": false,
                            "id": 45,
                            "is_group": false,
                            "label": "Role & Permission Management"
                        }
                    ],
                    "id": 34,
                    "is_group": true,
                    "label": "Settings"
                }
            ],
            "status": 1
        },
        {
            "created_by": 2,
            "description": "Fixed role; permissions configured item by item by the
administrator",
            "id": 4,
            "is_self": false,
            "is_system": false,
            "label": "General Role 2",
            "name": "gen_role_2",
            "permissions": [
                {
                    "children": [
                        {
                            "checked": false,
                            "id": 2,
                            "is_group": false,
                            "label": "Source List"
                        },
                        {
                            "checked": false,
                            "children": [
                                {
                                    "checked": false,
                                    "id": 4,
                                    "is_group": false,
                                    "label": "Encode Settings"
                                }
                            ],
                            "id": 3,
                            "is_group": false,
                            "label": "Preview List"
```

```
                },
                {
                    "checked": false,
                    "children": [
                        {
                            "checked": false,
                            "id": 6,
                            "is_group": false,
                            "label": "Resolution & Frame Rate"
                        },
                        {
                            "checked": false,
                            "id": 7,
                            "is_group": false,
                            "label": "Audio Mixer"
                        },
                        {
                            "checked": false,
                            "children": [
                                {
                                    "checked": false,
                                    "id": 9,
                                    "is_group": false,
                                    "label": "Audio Output"
                                },
                                {
                                    "checked": false,
                                    "id": 10,
                                    "is_group": false,
                                    "label": "Mute Control"
                                },
                                {
                                    "checked": false,
                                    "id": 11,
                                    "is_group": false,
                                    "label": "HDMI audio enable"
                                }
                            ],
                            "id": 8,
                            "is_group": true,
                            "label": "Audio Output Editing"
                        },
                        {
                            "checked": false,
                            "children": [
                                {
                                    "checked": false,
                                    "id": 13,
                                    "is_group": false,
                                    "label": "HDMI video enable"
                                }
                            ],
                            "id": 12,
```

```
                        "is_group": true,
                        "label": "Video Output Editing"
                    }
                ],
                "id": 5,
                "is_group": false,
                "label": "Physical Interface Output Configuration"
            },
            {
                "checked": false,
                "children": [
                    {
                        "checked": false,
                        "id": 15,
                        "is_group": false,
                        "label": "Layout Selection"
                    },
                    {
                        "checked": false,
                        "children": [
                            {
                                "checked": false,
                                "id": 17,
                                "is_group": false,
                                "label": "Layout Add"
                            },
                            {
                                "checked": false,
                                "id": 18,
                                "is_group": false,
                                "label": "Layout Delete"
                            },
                            {
                                "checked": false,
                                "id": 19,
                                "is_group": false,
                                "label": "Layout Modify"
                            },
                            {
                                "checked": false,
                                "id": 20,
                                "is_group": false,
                                "label": "Layout Rename"
                            },
                            {
                                "checked": false,
                                "id": 21,
                                "is_group": false,
                                "label": "Layout Save"
                            }
                        ],
                        "id": 16,
                        "is_group": true,
```

```
                "label": "Layout Editor"
            },
            {
                "checked": false,
                "children": [
                    {
                        "checked": false,
                        "id": 23,
                        "is_group": false,
                        "label": "VU Meter"
                    },
                    {
                        "checked": false,
                        "id": 24,
                        "is_group": false,
                        "label": "Video Output Background"
                    },
                    {
                        "checked": false,
                        "id": 25,
                        "is_group": false,
                        "label": "Border Overlay"
                    },
                    {
                        "checked": false,
                        "id": 26,
                        "is_group": false,
                        "label": "Overlay Template"
                    },
                    {
                        "checked": false,
                        "id": 27,
                        "is_group": false,
                        "label": "PTZ Control"
                    },
                    {
                        "checked": false,
                        "id": 28,
                        "is_group": false,
                        "label": "MPEG-TS Program"
                    }
                ],
                "id": 22,
                "is_group": true,
                "label": "Other Tools"
            },
            {
                "checked": false,
                "id": 29,
                "is_group": false,
                "label": "Overlay Editor"
            }
        ],
```

```
                        "id": 14,
                        "is_group": false,
                        "label": "Multiview Display Configuration"
                    }
                ],
                "id": 1,
                "is_group": true,
                "label": "Home"
            },
            {
                "children": [
                    {
                        "checked": false,
                        "children": [
                            {
                                "checked": false,
                                "id": 32,
                                "is_group": false,
                                "label": "Stream Service Start/Stop"
                            },
                            {
                                "checked": false,
                                "id": 33,
                                "is_group": false,
                                "label": "Stream Service Push Source Configuration"
                            }
                        ],
                        "id": 31,
                        "is_group": false,
                        "label": "Stream Service View Permission"
                    }
                ],
                "id": 30,
                "is_group": true,
                "label": "Stream Service"
            },
            {
                "children": [
                    {
                        "checked": false,
                        "id": 31,
                        "is_group": false,
                        "label": "General Settings"
                    },
                    {
                        "checked": false,
                        "id": 32,
                        "is_group": false,
                        "label": "Network Settings"
                    },
                    {
                        "checked": false,
                        "id": 33,
```

```
                "is_group": false,
                "label": "User List"
            },
            {
                "checked": false,
                "id": 38,
                "is_group": false,
                "label": "Firmware Upgrade"
            },
            {
                "checked": false,
                "id": 39,
                "is_group": false,
                "label": "Advanced Settings"
            },
            {
                "checked": false,
                "id": 40,
                "is_group": false,
                "label": "Preset Configuration"
            },
            {
                "children": [
                    {
                        "checked": false,
                        "id": 42,
                        "is_group": false,
                        "label": "Factory Reset"
                    },
                    {
                        "checked": false,
                        "id": 43,
                        "is_group": false,
                        "label": "Device Reboot"
                    }
                ],
                "id": 41,
                "is_group": true,
                "label": "System Reset"
            },
            {
                "checked": false,
                "id": 44,
                "is_group": false,
                "label": "System Log"
            },
            {
                "checked": false,
                "id": 45,
                "is_group": false,
                "label": "Role & Permission Management"
            }
        ],
```

```
                    "id": 34,
                    "is_group": true,
                    "label": "Settings"
                }
            ],
            "status": 1
        },
        {
            "created_by": 2,
            "description": "Fixed role; permissions configured item by item by the
administrator",
            "id": 5,
            "is_self": false,
            "is_system": false,
            "label": "General Role 3",
            "name": "gen_role_3",
            "permissions": [
                {
                    "children": [
                        {
                            "checked": false,
                            "id": 2,
                            "is_group": false,
                            "label": "Source List"
                        },
                        {
                            "checked": false,
                            "children": [
                                {
                                    "checked": false,
                                    "id": 4,
                                    "is_group": false,
                                    "label": "Encode Settings"
                                }
                            ],
                            "id": 3,
                            "is_group": false,
                            "label": "Preview List"
                        },
                        {
                            "checked": false,
                            "children": [
                                {
                                    "checked": false,
                                    "id": 6,
                                    "is_group": false,
                                    "label": "Resolution & Frame Rate"
                                },
                                {
                                    "checked": false,
                                    "id": 7,
                                    "is_group": false,
                                    "label": "Audio Mixer"
```

```
                    },
                    {
                        "checked": false,
                        "children": [
                            {
                                "checked": false,
                                "id": 9,
                                "is_group": false,
                                "label": "Audio Output"
                            },
                            {
                                "checked": false,
                                "id": 10,
                                "is_group": false,
                                "label": "Mute Control"
                            },
                            {
                                "checked": false,
                                "id": 11,
                                "is_group": false,
                                "label": "HDMI audio enable"
                            }
                        ],
                        "id": 8,
                        "is_group": true,
                        "label": "Audio Output Editing"
                    },
                    {
                        "checked": false,
                        "children": [
                            {
                                "checked": false,
                                "id": 13,
                                "is_group": false,
                                "label": "HDMI video enable"
                            }
                        ],
                        "id": 12,
                        "is_group": true,
                        "label": "Video Output Editing"
                    }
                ],
                "id": 5,
                "is_group": false,
                "label": "Physical Interface Output Configuration"
            },
            {
                "checked": false,
                "children": [
                    {
                        "checked": false,
                        "id": 15,
                        "is_group": false,
```

```
            "label": "Layout Selection"
        },
        {
            "checked": false,
            "children": [
                {
                    "checked": false,
                    "id": 17,
                    "is_group": false,
                    "label": "Layout Add"
                },
                {
                    "checked": false,
                    "id": 18,
                    "is_group": false,
                    "label": "Layout Delete"
                },
                {
                    "checked": false,
                    "id": 19,
                    "is_group": false,
                    "label": "Layout Modify"
                },
                {
                    "checked": false,
                    "id": 20,
                    "is_group": false,
                    "label": "Layout Rename"
                },
                {
                    "checked": false,
                    "id": 21,
                    "is_group": false,
                    "label": "Layout Save"
                }
            ],
            "id": 16,
            "is_group": true,
            "label": "Layout Editor"
        },
        {
            "checked": false,
            "children": [
                {
                    "checked": false,
                    "id": 23,
                    "is_group": false,
                    "label": "VU Meter"
                },
                {
                    "checked": false,
                    "id": 24,
                    "is_group": false,
```

```
                                "label": "Video Output Background"
                            },
                            {
                                "checked": false,
                                "id": 25,
                                "is_group": false,
                                "label": "Border Overlay"
                            },
                            {
                                "checked": false,
                                "id": 26,
                                "is_group": false,
                                "label": "Overlay Template"
                            },
                            {
                                "checked": false,
                                "id": 27,
                                "is_group": false,
                                "label": "PTZ Control"
                            },
                            {
                                "checked": false,
                                "id": 28,
                                "is_group": false,
                                "label": "MPEG-TS Program"
                            }
                        ],
                        "id": 22,
                        "is_group": true,
                        "label": "Other Tools"
                    },
                    {
                        "checked": false,
                        "id": 29,
                        "is_group": false,
                        "label": "Overlay Editor"
                    }
                ],
                "id": 14,
                "is_group": false,
                "label": "Multiview Display Configuration"
            }
        ],
        "id": 1,
        "is_group": true,
        "label": "Home"
    },
    {
        "children": [
            {
                "checked": false,
                "children": [
                    {
```

```
                            "checked": false,
                            "id": 32,
                            "is_group": false,
                            "label": "Stream Service Start/Stop"
                        },
                        {
                            "checked": false,
                            "id": 33,
                            "is_group": false,
                            "label": "Stream Service Push Source Configuration"
                        }
                    ],
                    "id": 31,
                    "is_group": false,
                    "label": "Stream Service View Permission"
                }
            ],
            "id": 30,
            "is_group": true,
            "label": "Stream Service"
        },
        {
            "children": [
                {
                    "checked": false,
                    "id": 31,
                    "is_group": false,
                    "label": "General Settings"
                },
                {
                    "checked": false,
                    "id": 32,
                    "is_group": false,
                    "label": "Network Settings"
                },
                {
                    "checked": false,
                    "id": 33,
                    "is_group": false,
                    "label": "User List"
                },
                {
                    "checked": false,
                    "id": 38,
                    "is_group": false,
                    "label": "Firmware Upgrade"
                },
                {
                    "checked": false,
                    "id": 39,
                    "is_group": false,
                    "label": "Advanced Settings"
                },
```

```
                        {
                            "checked": false,
                            "id": 40,
                            "is_group": false,
                            "label": "Preset Configuration"
                        },
                        {
                            "children": [
                                {
                                    "checked": false,
                                    "id": 42,
                                    "is_group": false,
                                    "label": "Factory Reset"
                                },
                                {
                                    "checked": false,
                                    "id": 43,
                                    "is_group": false,
                                    "label": "Device Reboot"
                                }
                            ],
                            "id": 41,
                            "is_group": true,
                            "label": "System Reset"
                        },
                        {
                            "checked": false,
                            "id": 44,
                            "is_group": false,
                            "label": "System Log"
                        },
                        {
                            "checked": false,
                            "id": 45,
                            "is_group": false,
                            "label": "Role & Permission Management"
                        }
                    ],
                    "id": 34,
                    "is_group": true,
                    "label": "Settings"
                }
            ],
            "status": 1
        }
    ],
    "result": "ok"
}
```

3.7 POST /roles/permupdate

Function Description

Update role information and permissions. Specify the target role via `role_id`; the role name, description, and permission node ID list can be updated at the same time. `name`, `description`, and `permission_ids` are all optional fields; only submit the content that needs to be updated. The preset system roles (admin, admin_regular) cannot have their permissions modified. Only administrators can perform this operation.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the JSON string format `{"token":"xxx"}`
body	body	object	No	Request Body	JSON object containing the role update information
» role_id	body	integer	Yes	Role ID	The role ID whose permissions are to be modified
» name	body	string	No	Role Name	Role identifier name; not updated if not passed
» description	body	string	No	Description	Role description information; not updated if not passed
» permission_ids	body	[integer]	No	Permission ID List	List of permission node IDs owned by that role; not updated if not passed

Body Request Parameters

```
{
  "role_id": 3,
  "name": "gen_role_1",
  "description": "Custom description",
  "permission_ids": [2, 3, 4, 5, 6, 7, 8]
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed return of `"ok"` indicating the role permissions were updated successfully

Response Example

```
{
  "result": "ok"
}
```

3.8 POST /users/logout

Function Description

The logout endpoint. After calling, the current session token is immediately invalidated, and all subsequent requests using this token will be rejected. The client must call the login endpoint again to obtain a new token before it can continue accessing other APIs.

> **Note:** The token to be invalidated is retrieved from the `app` request header (or Cookie), **not read from the body**. Placing `token` only in the body will not take effect; carry the token in the `app` header consistently with other endpoints.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the format of JSON string `{"token":"xxx"}`. The server extracts the token from this header for invalidation

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed value `"ok"` indicating successful logout
» data	object	false	none	Return Data	Returns an empty object after successful logout

---

Response Example

```
{
  "result": "ok",
  "data": {}
}
```

3.9 POST /users/auth_info_get

Function Description

Retrieves the authentication configuration. Returns whether the current system has the Token authentication mechanism enabled (`enable`), and whether the currently logged-in user has permission to modify the authentication switch (`canModify`; only administrators return true). Can be used by the front-end to determine whether to display the authentication settings option.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the format of JSON string `{"token":"xxx"}`

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed value `"ok"` indicating successful request
» data	object	true	none	Return Data	Authentication configuration information object
»» enable	boolean	true	none	Authentication Enabled	Whether the Token authentication mechanism is enabled
»» canModify	boolean	true	none	Modifiable	Whether the current user is an administrator, i.e., has permission to modify the authentication switch

Status Code 200

Response Example

```
{
  "result": "ok",
  "data": {
    "enable": true,
    "canModify": true
  }
}
```

3.10 POST /users/auth_info_set

Function Description

Sets the authentication switch. Administrators can enable or disable the system's Token authentication mechanism. After disabling, all API requests will no longer validate the token in the `app` header. However, it is strongly recommended to keep it enabled in production environments to ensure device security.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the format of JSON string `{"token":"xxx"}`
enable	body	boolean	Yes	Enable Authentication	Whether to enable Token authentication; must be a boolean (true/false)

Body Request Parameters

```
{
  "enable": false
}
```

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Fixed value `"ok"` indicating successful configuration
» data	object	true	none	Return Data	Configuration result object
»» enable	boolean	true	none	Enabled Status	The authentication enabled status after modification

Status Code 200

Response Example

```
{
  "result": "ok",
  "data": {
    "enable": false
  }
}
```

3.11 GET /users/info

Function Description

Queries the detailed information of a specified user by username. Returns complete fields including user ID, alias, role, creation time, password (plaintext), contact phone, and description.

> **Important Note:** Although this endpoint is labeled as a GET method, the query parameter (`username`) must be passed in the request body in JSON format, rather than as a URL query parameter. This is a non-standard REST-style implementation. When integrating, please note to send `username` in the JSON request body.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the format of JSON string `{"token":"xxx"}`
body	body	object	No	Request Body	JSON object containing the query conditions (Note: GET method uses body for parameters)
» username	body	string	Yes	Username	The login username of the user to query

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
result	string	true	none	Return Result	Fixed value `"ok"` indicating successful query
» data	object	true	none	Return Data	Complete user information (see all UserEntity fields)

Response Example

```
{
  "data": {
    "alias": "test1",
    "changed": true,
    "create_time": "169733754",
    "created_by": 1,
    "descript": "",
    "id": 2,
    "password": "admin1",
    "phone": "",
    "role_id": 2,
    "status": 1,
    "token": "9b8b92fb007a86dee14f5d89bf0c4d2a",
    "updated_at": "1970-01-03T07:08:53",
    "username": "admin1"
  },
  "result": "ok"
}
```


3.12 POST /users/session/check

Function Description

Validates whether the current session token is valid. Send the token in the `app` request header; after server-side verification, returns the basic information of the corresponding user (username and alias). Commonly used when the client starts to check whether the locally cached token is still valid, avoiding unnecessary re-login flows.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the format of JSON string `{"token":"xxx"}`. The server will validate the validity of this token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
result	string	true	none	Return Result	Returns `"ok"` on successful validation; returns `"error"` on validation failure

Name	Type	Required	Constraint	Display Name	Description
» data	object	false	none	Return Data	Returns basic user information on successful validation; this field is not returned on validation failure
»» alias	string	true	none	Alias	The user's alias
»» username	string	true	none	Username	The user's login username

Response Example

> Validation passed

```
{
  "result": "ok",
  "data": {
    "alias": "admin",
    "username": "admin"
  }
}
```

> Validation failed

```
{
  "result": "error",
  "msg": "300"
}
```

3.13 POST /auth/check

Function Description

Validates the current user's identity authentication information and returns the overlay editor cross-process permission check result (`perm_ck`). This endpoint is primarily used by the overlay editor (overlayprocess) subprocess to verify whether the current operating user has the corresponding operation permissions. When a request triggers the overlay permission path check, the response will additionally include the `perm_ck` object.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token, in the format of JSON string `{"token":"xxx"}`

Name	Location	Type	Required	Display Name	Description
body	body	object	No	Request Body	Contains the method and URL information of the overlayprocess proxy

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
result	string	true	none	Return Result	Fixed value `"ok"` indicating authentication passed
perm_ck	object	false	none	Permission Check Result	This field is only returned when the overlay permission check path is triggered
» result	string	true	none	Return Result	Permission check result; `"ok"` indicates passed, `"error"` indicates insufficient permissions
» msg	string	false	none	Error Code	The error code string returned when permissions are insufficient
» permission_id	integer	false	none	Permission ID	The ID of the denied permission item
» translate_name	string	false	none	Permission Identifier	The English identifier name of the denied permission

Status Code 200

Response Example

```
{
  "result": "ok",
  "perm_ck": {
    "result": "ok"
  }
}
```

4. OVERLAY Module

The OVERLAY (overlay) module is used to manage overlay templates (OSD overlays) on video outputs. Each overlay template can contain image and text elements, supports editing operations such as adding, removing, and adjusting position/size/layer of elements, as well as template save, preview, copy, and export functions. Overlays are commonly used to superimpose auxiliary information such as station logos, clocks, dates, and text on the video picture.

4.1 GET /overlay/list

Function Description

Retrieves the list of all overlay templates. Returns basic template information and the current editing/selected status.

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	string	No	Output ID	Filters overlay templates by the specified output channel
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Template List	Overlay template array
»» background	string	false	none	Background Color	Template background color, e.g. "transparent", "output1", "output2"
»» editing	boolean	false	none	Editing Status	Whether the template is currently being edited
»» id	integer	false	none	Template ID	Unique template identifier
»» img_path	string	false	none	Preview Image Path	Local path of the template preview image
»» modified	boolean	false	none	Modified	Whether the template has unsaved modifications since the last save
»» name	string	false	none	Template Name	User-defined template name
»» selected	boolean	false	none	Selected Status	Whether the template is selected (checked) for output overlay
»» status	integer	false	none	Status	Current template status; 0 indicates normal
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{
  "data": [
    {
      "background": "transparent",
      "editing": true,
      "id": 1,
      "img_path": "./data/decoder_config/overlay/preview/overlay_1.png",
      "modified": false,
      "name": "template_1",
      "selected": false,
      "status": 0
    }
  ],
  "result": "ok"
}
```


4.2 POST /overlay/add

Function Description

Adds a blank template to the overlay template list. The default name of the new template is "new_template" and the default background is "transparent".

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{"result":"ok"}
```


4.3 POST /overlay/remove

Function Description

Deletes the specified overlay template. The deletion operation is irreversible; templates bound to an output cannot be deleted.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Overlay Template ID	Unique identifier of the overlay template to delete
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "overlay_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.4 POST /overlay/copy

Function Description

Copies the specified overlay template, generating a new template with the same element content. The new template name is the original name with "_copy" appended.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Source Template ID	Identifier of the overlay template to copy
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "overlay_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.5 POST /overlay/rename

Function Description

Renames the specified overlay template.

Request Parameters

Name	Location	Type	Required	Display Name	Description
id	body	integer	Yes	Template ID	Identifier of the template to rename
name	body	string	Yes	New Name	The new name string for the template
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "id": 1,
  "name": "template_1"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.6 POST /overlay/save

Function Description

Persistently saves all modifications to the current overlay template, including element position and property changes. Modifications to a template being edited will not take effect on the output picture until saved.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Overlay Template ID	Identifier of the overlay template to save
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "overlay_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.7 POST /overlay/cancel

Function Description

Reverts all unsaved modifications to the overlay template currently being edited, restoring it to the state of the last save. Only affects element positions and properties; does not delete the template itself.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Overlay Template ID	Identifier of the overlay template to cancel editing
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "overlay_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.8 POST /overlay/select

Function Description

Selects (checks) an overlay template and binds it to the specified output channel. The selected template will be overlaid and displayed on the video picture of the corresponding output channel.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» overlay_id	body	integer	Yes	Overlay Template ID	Identifier of the overlay template to select
» output_id	body	integer	Yes	Output ID	Identifier of the target output channel

Body Request Parameters

```
{
  "overlay_id": 1,
  "output_id": 0
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

4.9 POST /overlay/items/set

Function Description

Sets all properties of image and text elements in the overlay template currently being edited. Supports full replacement of all elements in the template (including order, position, style, etc.). Each call should pass the complete list array.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Overlay Template ID	Unique identifier of the target overlay template
mode	body	string	No	Editing Mode	Operation mode, e.g. "z_index" indicates adjusting only the layer
list	body	[object]	Yes	Element List	Array of all elements contained in the template
» id	body	integer	No	Element ID	Unique identifier of the element; can be omitted for new elements
» img_id	body	string | null	No	Image ID	Image ID associated with the element; only valid when type="image"
» width	body	integer	No	Width	Element width, expressed as a percentage (1-1000, 1000=100%)

Name	Location	Type	Required	Display Name	Description
» height	body	integer	No	Height	Element height, expressed as a percentage (1-1000, 1000=100%)
» x	body	integer	No	Horizontal Position	X coordinate of the element's top-left corner, expressed as a percentage
» y	body	integer	No	Vertical Position	Y coordinate of the element's top-left corner, expressed as a percentage
» z_index	body	integer	No	Layer	Z-axis layer of the element; larger values display in front
» type	body	string	No	Element Type	Overlay type: "image" or "text"
» opacity	body	number	No	Opacity	Element opacity; range 0.0 (fully transparent) to 1.0 (fully opaque)
» text_type	body	string	No	Text Type	Text source type: "custom", "time", "date"
» font_color	body	string	No	Font Color	Text color; format "0xRRGGBB", e.g. "0xffffff"
» stroke_enable	body	boolean	No	Stroke Enable	Whether to enable the text stroke effect
» stroke_color	body	string	No	Stroke Color	Stroke color; same format as font_color
» stroke_size	body	integer	No	Stroke Width	Stroke line width, in pixels
» content	body	string	No	Text Content	Custom text content; only valid when text_type="custom"
» format	body	string	No	Date Format	Time/date format string; only valid when text_type is "time" or "date"
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters


```
{
  "overlay_id": 1,
  "mode": "z_index",
  "list": [
    {
      "id": 1,
      "img_id": 1,
      "img_path": "/data/decoder_config/overlay/img/1.png",
      "width": 1000,
```

```
      "height": 500,
      "x": 10,
      "y": 0,
      "z_index": 0,
      "type": "image",
      "opacity": 1.0
    },
    {
      "id": 2,
      "x": 0,
      "y": 0,
      "z_index": 0,
      "width": 100,
      "height": 100,
      "text_type": "",
      "font_color": "0xffffff",
      "opacity": 0,
      "stroke_enable": false,
      "stroke_color": "0xffffff",
      "stroke_size": 18,
      "content": "",
      "type": "text",
      "format": ""
    }
  ]
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{"result":"ok"}
```


4.10 GET /overlay/items/get

Function Description

Retrieves all element information of the specified overlay template, including basic template information and the complete property list of image and text elements.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	query	string	No	Overlay Template ID	Unique identifier of the target overlay template
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Template Details	Complete information object of a single template
»» background	string	false	none	Background Color	Template background; can be "transparent", "output1", "output2"
»» name	string	false	none	Template Name	Template name string
»» id	integer	false	none	Template ID	Unique template identifier
»» list	[object]	true	none	Element List	Array of all elements contained in the template
»»» id	integer	false	none	Element ID	Unique identifier of the component
»»» img_url	string	false	none	Image URL	Access URL of the uploaded image
»»» img_id	integer	false	none	Image ID	Unique identifier of the uploaded image
»»» width	integer	false	none	Width	Element width, percentage value
»»» height	integer	false	none	Height	Element height, percentage value
»»» x	integer	false	none	X Coordinate	X coordinate of the element's top-left corner, percentage value
»»» y	integer	false	none	Y Coordinate	Y coordinate of the element's top-left corner, percentage value
»»» z_index	integer	false	none	Layer	Z-axis layer of the element; larger values appear in front

Name	Type	Required	Constraint	Display Name	Description
»»» type	string	false	none	Element Type	Component type: "image" or "text"
»»» opacity	number	false	none	Opacity	Element opacity; range 0.0~1.0
»»» path	string	false	none	Image Path	Local storage path of the image
»»» text_type	string	false	none	Text Type	Text source: "custom", "time", "date"
»»» font_color	string	false	none	Font Color	Text color; format "0xRRGGBB"
»»» stroke_enable	boolean	false	none	Stroke Enable	Whether text stroke is enabled
»»» stroke_color	string	false	none	Stroke Color	Stroke color; same format as font_color
»»» stroke_size	integer	false	none	Stroke Width	Stroke line width, in pixels
»»» content	string	false	none	Text Content	The actual content of the custom text
»»» format	string	false	none	Date Format	Time/date format string
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{
  "result": "ok",
  "data": {
    "id": 1,
    "name": "overlay1",
    "background": "transparent",
    "list": [
      {
        "id": 1,
        "width": 100,
        "height": 100,
        "x": 10,
        "y": 0,
        "z_index": 0,
        "type": "image",
        "opacity": 0,
        "img_id": 2
      },
      {
        "id": 2,
        "x": 0,
```

```
        "y": 0,
        "z_index": 0,
        "width": 100,
        "height": 100,
        "text_type": "custom",
        "font_color": "0xffffff",
        "opacity": 0,
        "stroke_enable": false,
        "stroke_color": "0xffffff",
        "stroke_size": 18,
        "content": "",
        "type": "text"
      },
      {
        "id": 3,
        "x": 0,
        "y": 0,
        "z_index": 0,
        "width": 100,
        "height": 100,
        "text_type": "time",
        "format": "hh:mm:ss",
        "font_color": "0xffffff",
        "opacity": 0,
        "stroke_enable": false,
        "stroke_color": "0xffffff",
        "stroke_size": 18,
        "content": "",
        "type": "text"
      },
      {
        "id": 4,
        "x": 0,
        "y": 0,
        "z_index": 0,
        "width": 100,
        "height": 100,
        "text_type": "date",
        "format": "yyyy/MM/dd",
        "font_color": "0xffffff",
        "opacity": 0,
        "stroke_enable": false,
        "stroke_color": "0xffffff",
        "stroke_size": 18,
        "content": "",
        "type": "text"
      }
    ]
  }
}
```

> Note: The `background` field can take values "transparent", "output1", "output2", representing transparent background, output 1 picture as background, and output 2 picture as background respectively.

4.11 POST /overlay/items/add

Function Description

Adds a new image or text element to the specified overlay template. The element ID is returned after successful addition.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Overlay Template ID	Unique identifier of the target overlay template
type	body	string	Yes	Element Type	Element type: "image" or "text"
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "overlay_id": 1,
  "type": "image"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.12 POST /overlay/items/remove

Function Description

Deletes an image or text element from the specified overlay template.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Overlay Template ID	Unique identifier of the target overlay template
item_id	body	integer	Yes	Element ID	ID of the image or text element to delete
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "overlay_id": 1,
  "item_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.13 GET /overlay/images/list

Function Description

Retrieves the list of image resources uploaded to the device, including the image ID, local path, and dimension information.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Image List	Image resource array
»» id	integer	false	none	Image ID	Unique identifier of the image
»» img_path	string	false	none	Image Path	Local storage path of the image
»» width	integer	false	none	Width	Original image width, in pixels
»» height	integer	false	none	Height	Original image height, in pixels
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{
  "data": [
    {
      "id": 1,
      "img_path": "./test1.png",
      "width": 1920,
      "height": 1080
    },
    {
      "id": 2,
      "img_path": "./test2.png",
      "width": 1920,
      "height": 1080
    }
  ],
  "result": "ok"
}
```


4.14 POST /overlay/images/remove

Function Description

Deletes the uploaded image resource with the specified ID from the device.

Request Parameters

Name	Location	Type	Required	Display Name	Description
img_id	body	integer	Yes	Image ID	Unique identifier of the image to delete

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "img_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.15 POST /overlay/images/add

Function Description

Uploads an image file to the device for use by overlay templates. The request body should be in multipart/form-data format, using the `img_url` field to carry the file.

Request Parameters

Name	Location	Type	Required	Display Name	Description
img_url	body	file	Yes	Image File	The image file to upload
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

This endpoint uses multipart/form-data format; the file field name is `img_url`.

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{"result":"ok"}
```

4.16 GET /overlay/editing/get

Function Description

Retrieves the information of the overlay template currently being edited and its preview image path. Editing mode is used to preview the template effect in real-time in the editor.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Editing Template ID	ID of the overlay template currently being edited
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "overlay_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success
» data	object	true	none	Editing Template Information	Details of the template being edited
»» overlay_id	integer	false	none	Editing Template ID	ID of the overlay template currently being edited
»» editing_path	string	false	none	Editing Path	Local path of the editing preview image

Response Example


```
{
  "data": {
    "overlay_id": 1,
    "editing_path": ""
  },
  "result": "ok"
}
```


4.17 POST /overlay/editing/select

Function Description

Sets the specified overlay template as the currently editing template. Only one template can be in editing state at a time.

Request Parameters

Name	Location	Type	Required	Display Name	Description
overlay_id	body	integer	Yes	Editing Template ID	ID of the overlay template to enter editing mode
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters


```
{
  "overlay_id": 1
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{"result":"ok"}
```

4.18 GET /overlay/preview/get

Function Description

Retrieves the preview image path of the template selected and overlaid on the video of the specified output channel.

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	body	integer	Yes	Output ID	Identifier of the target output channel
app	header	string	Yes	Application Identifier	Application identifier of the request source

Body Request Parameters

```
{
  "output_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success
» data	object	true	none	Preview Information	Preview template details
»» overlay_id	integer	false	none	Template ID	ID of the template overlaid on the current output
»» preview_path	string	false	none	Preview Path	Local path of the overlay preview image

Response Example

```
{
  "data": {
    "overlay_id": 1,
    "preview_path": ""
  },
  "result": "ok"
}
```

4.19 GET /overlay/datetime/format/list

Function Description

Retrieves the list of date and time format options supported by overlay text. Each format provides a label (display example) and the corresponding format string.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success
» data	object	true	none	Format Options	Date and time format groups
»» date	[object]	true	none	Date Format	Date format option list
»»» id	integer	false	none	Format ID	Unique identifier of the date format
»»» label	string	false	none	Date Example	Display example corresponding to the format
»»» format	string	false	none	Date Format	Date format string
»» time	[object]	true	none	Time Format	Time format option list
»»» id	integer	false	none	Format ID	Unique identifier of the time format
»»» label	string	false	none	Time Example	Display example corresponding to the format
»»» format	string	false	none	Time Format	Time format string

Response Example

```
{
  "data": {
```

```
  "date": [
    {
      "id": 1,
      "label": "*3/14/2012",
      "format": "*M/dd/yyyy"
    },
    {
      "id": 2,
      "label": "*March 14, 2012",
      "format": "*MMMM dd, yyyy"
    },
    {
      "id": 3,
      "label": "03-14-2012",
      "format": "MM-dd-yyyy"
    },
    {
      "id": 4,
      "label": "March 14, 2012",
      "format": "MMMMM dd, yyyy"
    },
    {
      "id": 5,
      "label": "*March 14, 2012",
      "format": "*MMMM dd, yyyy"
    },
    {
      "id": 6,
      "label": "March 2012",
      "format": "MMMMM yyyy"
    },
    {
      "id": 7,
      "label": "March 14",
      "format": "MMMM dd"
    }
  ],
  "time": [
    {
      "id": 1,
      "label": "*1:30:55 PM",
      "format": "*h:mm:ss A"
    },
    {
      "id": 2,
      "label": "1:30 PM",
      "format": "h:mm A"
    },
    {
      "id": 3,
      "label": "1:30:55 PM",
      "format": "h:mm:ss A"
    },
```

```
      {
        "id": 4,
        "label": "3/14/12 1:30 PM",
        "format": "M/dd/yy h:mm A"
      },
      {
        "id": 5,
        "label": "3/14/12 1:30:55 PM",
        "format": "M/dd/yy h:mm:ss A"
      }
    ]
  },
  "result": "ok"
}
```

4.20 GET /overlay/font/list

Function Description

Retrieves the list of fonts supported by overlay text. Returns font ID, display label, and font name (value) for front-end selection.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success
» data	[object]	true	none	Font List	Font option array
»» id	integer	false	none	Font ID	Unique identifier of the font
»» label	string	false	none	Font Label	Font display name
»» value	string	false	none	Font Value	Font file name

Response Example

```
{
  "data": [
    {
      "id": 1,
```

```
      "label": "",
      "value": ""
    },
    {
      "id": 2,
      "label": "",
      "value": ""
    }
  ],
  "result": "ok"
}
```

---

5. SOURCE Module

The SOURCE (video source) module is used to manage video source groups and the video streams under each group. Video sources are organized by groups; multiple protocol types (RTSP / RTMP / RTMPS / SRT / RTP / UDP / HTTP / HTTPS / NDI / ZIXI / RTMP_SERVER, etc.) of stream pull configurations can be added within a group, for use by layout panes and outputs.

5.1 GET /source/groups/list

Function Description

Retrieves all video source groups and stream information within each group. Supports the `is_need_stream` parameter to control whether to return the stream list for each group.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» is_need_stream	body	boolean	No	Include Stream Info	When set to true, returns the stream list within each group; when false, returns only basic group information

Body Request Parameters

```
{
  "is_need_stream": true
}
```

Response Data Structure

Status Code 200

Common Fields (returned for all stream types)

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Group List	Video source group array
»» id	string	true	none	Group ID	Unique identifier of the group (MD5 hash value)
»» name	string	true	none	Group Name	Display name of the group
»» streams	[object]	true	none	Stream List	Array of video streams within the group (returned when is_need_stream=true)

> The following are protocol-specific fields within `streams[]`. All stream objects include common basic fields such as `id`, `name`, `type`, `url`, `status`, `buffer`, `enable`, `preview_mode`.

RTSP Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream (MD5 hash value)
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (rtsp)
»»» url	string	true	none	Stream URL	RTSP stream pull address
»»» status	integer	true	none	Status	Stream status: 0=disconnected, 1=connecting, 2=connected, 3=connection failed, 4=stopped due to performance limitation
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode: Auto, Full, Preview
»»» trans_mode	string	true	none	Transport Mode	RTSP underlying transport protocol: "tcp" or "udp"
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)
»»» user	string	true	none	Authentication Account	RTSP authentication username

Name	Type	Required	Constraint	Display Name	Description
»»» password	string	true	none	Authentication Password	RTSP authentication password

RTMP Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (rtmp)
»»» url	string	true	none	Stream URL	RTMP stream pull address
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)
»»» user	string	true	none	Authentication Account	RTMP authentication username
»»» password	string	true	none	Authentication Password	RTMP authentication password

RTMPS Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (rtmps)
»»» url	string	true	none	Stream URL	RTMPS stream pull address
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string

Name	Type	Required	Constraint	Display Name	Description
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)
»»» user	string	true	none	Authentication Account	RTMPS authentication username
»»» password	string	true	none	Authentication Password	RTMPS authentication password

SRT Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (srt)
»»» url	string	true	none	Stream URL	SRT stream pull address
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» connection_mode	string	true	none	Connection Mode	Listener, Caller, or Rendezvous
»»» latency	integer	true	none	Latency	SRT data packet transmission latency (ms); -1 indicates not set
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)
»»» address	string	true	none	Remote IP	Remote IP address
»»» listener_port	integer	true	none	Listener Port	Listener port number; -1 indicates not set
»»» srt_id	string	true	none	SRT Stream ID	SRT custom stream identifier

Name	Type	Required	Constraint	Display Name	Description
»»» encryption	string	true	none	Encryption	"none", "AES-128", "AES-192", or "AES-256"
»»» passphrase	string	true	none	Passphrase	Encryption passphrase string
»»» bandwidth	integer	true	none	Bandwidth Overhead	Recovery bandwidth overhead percentage; -1 indicates not set
»»» payload_size	integer	true	none	Payload Size	SRT payload size (bytes); -1 indicates not set
»»» show_advanced	string	true	none	Show Advanced	Whether to show advanced settings

RTMP Server Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (rtmp_server)
»»» url	string	true	none	Stream URL	RTMP Server push address
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» address	string	true	none	Public IP	Public IP address
»»» application	string	true	none	Application Name	RTMP application name
»»» session	string	true	none	Session Name	RTMP session identifier
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)
»»» security	string	true	none	Security Mode	"none" or "token"
»»» token	string	true	none	Authentication Token	Authentication token when security=token
»»» rtmp_server_port	integer	true	none	RTMP Port	RTMP Server listener port number

RTP Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (rtp)
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» sdp_content	string	true	none	SDP Content	SDP description content of the RTP session
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)

UDP Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (udp)
»»» url	string	true	none	Stream URL	UDP stream pull address
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)

Zixi Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (zixi)
»»» url	string	true	none	Stream URL	Zixi stream pull address
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)
»»» user	string	true	none	Authentication Account	Zixi authentication username
»»» password	string	true	none	Authentication Password	Zixi authentication password

HTTP / HTTPS Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	Display name of the stream
»»» type	string	true	none	Protocol Type	Stream protocol type (http/https)
»»» url	string	true	none	Stream URL	HTTP/HTTPS stream pull address
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode

Name	Type	Required	Constraint	Display Name	Description
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)

NDI Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»»» id	string	true	none	Stream ID	Unique identifier of the stream
»»» name	string	true	none	Stream Name	NDI source name
»»» type	string	true	none	Protocol Type	Stream protocol type (ndi)
»»» status	integer	true	none	Status	Stream status
»»» buffer	string	true	none	Buffer Policy	Buffer policy configuration string
»»» enable	integer	true	none	Enable Flag	Reserved field
»»» preview_mode	string	true	none	Load Mode	Decode mode
»»» ndi_name	string	true	none	NDI Full Name	Full name of the NDI source
»»» trans_mode	string	true	none	NDI Transport Mode	"multicast", "tcp", "unicast", or "rudp"
»»» connect_speed	integer	true	none	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	integer	true	none	Audio Sync Compensation	Audio sync compensation value (ms)
»»» dis_g_name	string	true	none	NDI Group Name	NDI discovery group name
»»» dis_g_ip	string	true	none	NDI Discovery IP	NDI discovery server IP

Common Constant Fields (returned for all stream types)

Name	Type	Required	Constraint	Display Name	Description
»»» audio_track_mode	integer	true	none	Audio Track Mode	Audio track selection mode
»»» audio_track_indices	[integer]	true	none	Audio Track Indices	Array of selected audio track indices

Name	Type	Required	Constraint	Display Name	Description
»»» audio_track_pids	[integer]	true	none	Audio Track PIDs	Array of selected audio track PIDs
»»» ts_program_num	integer	true	none	TS Program Number	TS stream program number; -1 if none
» result	string	true	none	Return Result	Request result; "ok" indicates success

Response Example


```
{
  "data": [
    {
      "id": "2ed1f7150cf235e8662d73ac58b925b1",
      "name": "NDI",
      "streams": [
        {
          "address": "192.168.36.238",
          "application": "",
          "audio_sync_compst": 0,
          "bandwidth": -1,
          "buffer": "live:0:0:0:0:0",
          "connect_speed": 0,
          "connection_mode": "",
          "enable": 0,
          "encryption": "",
          "id": "0f79952dbc00505b2331b0bdb0c8ca0a",
          "latency": -1,
          "listener_port": -1,
          "name": "N60_238 (HX)",
          "ndi_name": "N60_238 (HX)",
          "passphrase": "",
          "password": "",
          "payload_size": -1,
          "preview_mode": "Auto",
          "rtmp_server_port": -1,
          "sdp_content": "",
          "security": "",
          "session": "public",
          "show_advanced": "",
          "srt_id": "",
          "status": 2,
          "token": "",
          "trans_mode": "tcp",
          "type": "ndi",
          "url": "192.168.36.238:5964",
          "user": ""
        },
        {
```

```
        "address": "192.168.36.238",
        "application": "",
        "audio_sync_compst": 0,
        "bandwidth": -1,
        "buffer": "live:0:0:0:0:0",
        "connect_speed": 0,
        "connection_mode": "",
        "enable": 0,
        "encryption": "",
        "id": "e893d03a94326b981fd3aa276f90183a",
        "latency": -1,
        "listener_port": -1,
        "name": "N60_238 (HB)",
        "ndi_name": "N60_238 (HB)",
        "passphrase": "",
        "password": "",
        "payload_size": -1,
        "preview_mode": "Auto",
        "rtmp_server_port": -1,
        "sdp_content": "",
        "security": "",
        "session": "public",
        "show_advanced": "",
        "srt_id": "",
        "status": 2,
        "token": "",
        "trans_mode": "tcp",
        "type": "ndi",
        "url": "192.168.36.238:5965",
        "user": ""
      }
    ]
  },
  {
    "id": "0093969758ac42c99245e89f9108ad08",
    "name": "Other",
    "streams": [
      {
        "address": "",
        "application": "",
        "audio_sync_compst": 0,
        "bandwidth": 0,
        "buffer": "live:200:200:500:0:0",
        "connect_speed": 0,
        "connection_mode": "",
        "enable": 0,
        "encryption": "",
        "id": "03db9d3284fd709f6bdd099c9a5f8778",
        "latency": 0,
        "listener_port": 0,
        "name": "RTMP",
        "ndi_name": "",
        "passphrase": "",
```

```
      "password": "",
      "payload_size": 0,
      "preview_mode": "Auto",
      "rtmp_server_port": 0,
      "sdp_content": "",
      "security": "",
      "session": "",
      "show_advanced": "",
      "srt_id": "",
      "status": 0,
      "token": "",
      "trans_mode": "",
      "type": "rtmp",
      "url": "rtmp://192.168.0.73:1935/live/vvv",
      "user": ""
    },
    {
      "address": "192.168.36.236",
      "application": "",
      "audio_sync_compst": 0,
      "bandwidth": 25,
      "buffer": "live:200:200:500:0:0",
      "connect_speed": 0,
      "connection_mode": "Caller",
      "enable": 0,
      "encryption": "none",
      "id": "834fd00666b91015b23ee336bc2d605a",
      "latency": 125,
      "listener_port": 1025,
      "name": "SRT_Caller",
      "ndi_name": "",
      "passphrase": "",
      "password": "",
      "payload_size": 1316,
      "preview_mode": "Auto",
      "rtmp_server_port": 0,
      "sdp_content": "",
      "security": "",
      "session": "",
      "show_advanced": "0",
      "srt_id": "",
      "status": 0,
      "token": "",
      "trans_mode": "",
      "type": "srt",
      "url": "srt://192.168.36.236:1025",
      "user": ""
    },
    {
      "address": "",
      "application": "",
      "audio_sync_compst": 0,
      "bandwidth": 0,
```

```
            "buffer": "live:200:200:500:0:0",
            "connect_speed": 0,
            "connection_mode": "",
            "enable": 0,
            "encryption": "",
            "id": "f63dda56f9891ed3b4a5677cf040a4f8",
            "latency": 0,
            "listener_port": 0,
            "name": "RTMP",
            "ndi_name": "",
            "passphrase": "",
            "password": "",
            "payload_size": 0,
            "preview_mode": "Auto",
            "rtmp_server_port": 0,
            "sdp_content": "",
            "security": "",
            "session": "",
            "show_advanced": "",
            "srt_id": "",
            "status": 0,
            "token": "",
            "trans_mode": "",
            "type": "rtmp",
            "url": "rtmp://192.168.0.73:1935/live/vvv",
            "user": ""
          }
        ]
      }
    ],
    "result": "ok"
}
```


5.2 POST /source/groups/add

Function Description

Creates a new video source group. The group name is required; the group ID is automatically generated by the system.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» name	body	string	Yes	Group Name	Display name of the new group

Body Request Parameters

```
{
  "name": "group1"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

5.3 POST /source/groups/streams/add

Function Description

Adds a video stream to the specified group. Different parameter fields are required depending on the protocol type (type). The server strictly validates `group_id` and `type`; `name` is also required when type≠ndi.

Common Request Parameters

All protocol types require the following common parameters:

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token
body	body	object	No	Request Body	Request body object
» group_id	body	string	Yes	Group ID	Unique identifier of the target group
» type	body	string	Yes	Protocol Type	Stream type: rtmp, rtmps, rtsp, udp, http, https, srt, rtp, ndi, zixi, rtmp_server
» name	body	string	Required when type≠ndi	Stream Name	Display name of the stream (can be empty for ndi type; the server will auto-fill it)

> Note: The server strictly validates the fields `group_id` and `type`; `name` is required when type≠ndi.

RTSP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	RTSP stream pull address; format: `rtsp://ip:port/path`
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string; format: `live:min:max:...`
» trans_mode	body	string	No	Transport Mode	RTSP underlying transport protocol: "tcp" or "udp"
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» user	body	string	No	Authentication Account	RTSP authentication username; leave empty when no authentication is required
» password	body	string	No	Authentication Password	RTSP authentication password; leave empty when no authentication is required

RTMP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	RTMP stream pull address; format: `rtmp://ip:port/app/stream`
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» user	body	string	No	Authentication Account	RTMP authentication username; leave empty when no authentication is required
» password	body	string	No	Authentication Password	RTMP authentication password; leave empty when no authentication is required

RTMPS Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	RTMPS stream pull address; format: `rtmps://ip:port/app/stream`
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» user	body	string	No	Authentication Account	RTMPS authentication username; leave empty when no authentication is required

Name	Location	Type	Required	Display Name	Description
» password	body	string	No	Authentication Password	RTMPS authentication password; leave empty when no authentication is required

SRT Protocol Parameters

SRT supports three connection modes, distinguished by `connection_mode`:

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	SRT stream pull address; Listener mode format: `srt://:port`, Caller/Rendezvous mode format: `srt://ip:port`
» connection_mode	body	string	Yes	Connection Mode	`Listener` (listener mode), `Caller` (caller mode), or `Rendezvous` (rendezvous mode)
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» latency	body	integer	No	Latency	SRT data packet transmission latency (ms)
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» address	body	string	No	Remote IP	Remote IP address in Caller/Rendezvous mode
» listener_port	body	integer	No	Listener Port	Local listener port number
» srt_id	body	string	No	SRT Stream ID	SRT protocol custom stream identifier
» encryption	body	string	No	Encryption	Encryption algorithm: "none", "AES-128", "AES-192", or "AES-256"
» passphrase	body	string	No	Passphrase	Encryption passphrase string; required when encryption≠none
» bandwidth	body	integer	No	Bandwidth Overhead	Recovery bandwidth overhead percentage
» payload_size	body	integer	No	Payload Size	SRT payload size (bytes)
» show_advanced	body	string	No	Show Advanced	Whether to show advanced settings: "0" or "1"

RTMP Server Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	RTMP Server push address; format: `rtmp://ip:port/app/xxx/stream`

Name	Location	Type	Required	Display Name	Description
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» application	body	string	No	Application Name	RTMP application name
» session	body	string	No	Session Name	RTMP session identifier
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» security	body	string	No	Security Mode	Security verification method: "none" or "token"
» token	body	string	No	Authentication Token	Authentication token when security=token
» enable	body	integer	No	Enable Flag	Reserved field
» rtmp_server_port	body	integer	No	RTMP Port	RTMP Server listener port number

RTP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» sdp_content	body	string	Yes	SDP Content	SDP description content of the RTP session
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

UDP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	UDP stream pull address; format: `udp://ip:port` or directly use an RTSP address
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

Zixi Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	Zixi stream pull address; format: `zixi://ip:port/stream_id`
» stream_id	body	string	No	Stream ID	Zixi custom stream identifier; returns 204 if duplicate
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» zixi_udp_out_port	body	integer	No	UDP Output Port	Zixi UDP output port number
» zixi_max_latency	body	integer	No	Max Latency	Zixi maximum latency (ms)
» encryption	body	string	No	Encryption	Encryption algorithm: "none", "AES-128", "AES-192", or "AES-256"
» passphrase	body	string	No	Passphrase	Encryption passphrase string
» zixi_stream_provider_id	body	string	No	Stream Provider ID	Zixi stream provider identifier
» zixi_back_url	body	string	No	Backup URL	Zixi backup stream pull address
» zixi_fec_overhead	body	integer	No	FEC Overhead	Forward error correction overhead percentage
» zixi_fec_block_ms	body	integer	No	FEC Block Size	Forward error correction block size (ms)
» user	body	string	No	Authentication Account	Zixi authentication username
» password	body	string	No	Authentication Password	Zixi authentication password

HTTP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	HTTP stream pull address; format: `http://ip:port/path`
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

HTTPS Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	Yes	Stream URL	HTTPS stream pull address; format: `https://ip:port/path`
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string

Name	Location	Type	Required	Display Name	Description
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

NDI Protocol Parameters

For NDI addition, use the `data` array to pass multiple NDI sources; url/name fields are not used. Parameters for each item in the `data` array are as follows:

Name	Location	Type	Required	Display Name	Description
»» data	body	`[object]`	Yes	NDI Source List	Array of NDI source information; each item is an NDI source
»»» channel	body	string	Yes	Channel	NDI channel identifier, e.g. "HB"
»»» group_name	body	string	Yes	Discovery Group	NDI discovery group name, e.g. "public"
»»» ip	body	string	Yes	IP Address	IP address of the NDI source
»»» name	body	string	Yes	Source Name	Name of the NDI source
»»» ndi_name	body	string	Yes	NDI Full Name	Full name of the NDI source
»»» port	body	integer	Yes	Port Number	Port number of the NDI source
»»» url	body	string	Yes	Connection Address	Connection address of the NDI source; format: `ip:port`
»»» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
»»» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

Body Request Parameters

RTSP addition:

```
{
  "group_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "rtsp1",
  "type": "rtsp",
  "url": "rtsp://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0",
  "trans_mode": "tcp",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "user": "",
  "password": ""
}
```


RTMP addition:


```
{
  "group_id": "d054f1d80ed71583392fada325a02823",
  "name": "rtmp1",
  "type": "rtmp",
  "url": "rtmp://192.168.0.73:1935/live/vv",
  "buffer": "live:0:0:0:0:0",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "user": "",
  "password": ""
}
```


RTMPS addition:


```
{
  "group_id": "d054f1d80ed71583392fada325a02823",
  "name": "rtmps",
  "type": "rtmps",
  "url": "rtmps://192.168.0.73:1935/live/vv",
  "buffer": "live:0:0:0:0:0",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "user": "",
  "password": ""
}
```


SRT Listener addition:


```
{
  "group_id": "8eca38e84020aba241ead45094c7dd24",
  "name": "srt_listener",
  "type": "srt",
  "url": "srt://:1025",
  "buffer": "live:0:0:0:0:0",
  "connection_mode": "Listener",
  "listener_port": 1025,
```

```
  "latency": 125,
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "show_advanced": "1",
  "srt_id": "111",
  "encryption": "none",
  "passphrase": "",
  "bandwidth": 25,
  "payload_size": 1316
}
```


SRT Rendezvous addition:


```
{
  "group_id": "52005872cd91b13767660d196c463879",
  "name": "srt3",
  "type": "srt",
  "url": "srt://192.168.36.51:1025",
  "buffer": "live:0:0:0:0:0",
  "connection_mode": "Rendezvous",
  "address": "192.168.36.51",
  "listener_port": 1025,
  "latency": 125,
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "show_advanced": "1",
  "srt_id": "111",
  "encryption": "none",
  "passphrase": "",
  "bandwidth": 25,
  "payload_size": 1316
}
```


SRT Caller addition:


```
{
  "group_id": "8eca38e84020aba241ead45094c7dd24",
  "name": "srt_caller",
  "type": "srt",
  "url": "srt://192.168.36.59:1025",
  "buffer": "live:0:0:0:0:0",
  "connection_mode": "Caller",
  "address": "192.168.36.51",
  "listener_port": 1025,
  "latency": 125,
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "show_advanced": "1",
  "srt_id": "111",
  "encryption": "none",
  "passphrase": "",
  "bandwidth": 25,
```

```
  "payload_size": 1316
}
```


RTMP Server addition:


```
{
  "group_id": "8eca38e84020aba241ead45094c7dd24",
  "name": "rtmp server1",
  "type": "rtmp_server",
  "url": "rtmp://192.168.36.59:1935/live/xxx/11111",
  "buffer": "live:0:0:0:0:0",
  "application": "live",
  "session": "11111",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "security": "token",
  "token": "xxx",
  "enable": 1,
  "rtmp_server_port": 1935
}
```


RTP addition:


```
{
  "group_id": "e64fbc915a0c34c85cb83bac1e1650fe",
  "name": "rtp_no_audio",
  "type": "rtp",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "buffer": "live:200:200:500:0:0",
  "sdp_content": "SDP:\nv=0\no=- 0 0 IN IP4 127.0.0.1\ns=No Name\nc=IN IP4
192.168.36.197\nt=0 0\na=tool:libavformat 61.1.100\nm=video 1234 RTP/AVP 96\na=rtpmap:96
H264/90000\na=fmtp:96 packetization-mode=1"
}
```


UDP addition:


```
{
  "group_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "udp",
  "type": "udp",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "url": "rtsp://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0"
}
```


Zixi addition:


```
{
  "group_id": "09c474c50c88be6458464870105a2ed7",
```

```
  "name": "zixi",
  "type": "zixi",
  "url": "zixi://demo.zixi.com:2077/clocks",
  "stream_id": "",
  "buffer": "live:200:200:500:0:0",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "zixi_udp_out_port": 2077,
  "zixi_max_latency": 500,
  "encryption": "none",
  "passphrase": "",
  "zixi_stream_provider_id": "clocks",
  "zixi_back_url": "",
  "zixi_fec_overhead": 30,
  "zixi_fec_block_ms": 50,
  "user": "",
  "password": "",
  "newUrl": "zixi://demo.zixi.com:2077/clocks"
}
```


HTTP addition:


```
{
  "group_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "http",
  "type": "http",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "url": "http://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0"
}
```


HTTPS addition:


```
{
  "group_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "https",
  "type": "https",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "url": "https://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0"
}
```


NDI addition:


```
{
  "group_id": "c719a3c5803d9434050f6ede09d29215",
  "type": "ndi",
  "data": [
    {
```

```
      "channel": "HB",
      "group_name": "public",
      "ip": "192.168.36.238",
      "name": "N60_238 ",
      "ndi_name": "N60_238 (HB)",
      "connect_speed": 5000,
      "audio_sync_compst": 0,
      "port": 5965,
      "url": "192.168.36.238:5965"
    }
  ]
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{
  "result": "ok"
}
```


5.4 POST /source/groups/rename

Function Description

Renames the specified video source group.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» group_id	body	string	Yes	Group ID	Unique identifier of the target group
» name	body	string	Yes	New Name	New display name of the group

Body Request Parameters

```
{
  "group_id": "1",
  "name": "new_group1"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

5.5 POST /source/groups/remove

Function Description

Deletes the specified video source group and all streams within it. The deletion operation is irreversible.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» group_id	body	string	Yes	Group ID	Unique identifier of the group to delete

Body Request Parameters

```
{
  "group_id": "string"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

5.6 POST /source/groups/reorder

Function Description

Adjusts the display order of video source groups.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» data	body	array	Yes	Group Order	Array of group IDs; the array order is the new display order; must include all existing groups
»» group_id	body	string	Yes	Group ID	Unique identifier of the group

Body Request Parameters

```
{
  "data": [
    {"group_id": "2"},
    {"group_id": "1"},
    {"group_id": "3"}
  ]
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

5.7 POST /source/groups/streams/modify

Function Description

Modifies the parameters of the specified video stream. The server globally locates the stream via `stream_id`; `type` is a strictly validated field, and other fields only need to be submitted as needed.

Common Request Parameters

All protocol types require the following common parameters:

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	The current user's authentication token
body	body	object	No	Request Body	Request body object
» stream_id	body	string	Yes	Stream ID	Unique identifier of the stream to modify
» type	body	string	Yes	Protocol Type	Stream type: rtmp, rtmps, rtsp, udp, http, https, srt, rtp, ndi, zixi, rtmp_server
» name	body	string	No	Stream Name	New display name of the stream

> Note: The server strictly validates the fields `stream_id` and `type`; other fields only need to be submitted as needed.

RTSP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	RTSP stream pull address
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string

Name	Location	Type	Required	Display Name	Description
» trans_mode	body	string	No	Transport Mode	RTSP underlying transport protocol: "tcp" or "udp"
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» user	body	string	No	Authentication Account	RTSP authentication username; leave empty when no authentication is required
» password	body	string	No	Authentication Password	RTSP authentication password; leave empty when no authentication is required

RTMP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	RTMP stream pull address
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» user	body	string	No	Authentication Account	RTMP authentication username; leave empty when no authentication is required
» password	body	string	No	Authentication Password	RTMP authentication password; leave empty when no authentication is required

RTMPS Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	RTMPS stream pull address
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)

Name	Location	Type	Required	Display Name	Description
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» user	body	string	No	Authentication Account	RTMPS authentication username; leave empty when no authentication is required
» password	body	string	No	Authentication Password	RTMPS authentication password; leave empty when no authentication is required

SRT Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	SRT stream pull address
» connection_mode	body	string	No	Connection Mode	`Listener`, `Caller`, or `Rendezvous`
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» latency	body	integer	No	Latency	SRT data packet transmission latency (ms)
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» address	body	string	No	Remote IP	Remote IP address in Caller/Rendezvous mode
» listener_port	body	integer	No	Listener Port	Local listener port number
» srt_id	body	string	No	SRT Stream ID	SRT protocol custom stream identifier
» encryption	body	string	No	Encryption	"none", "AES-128", "AES-192", or "AES-256"
» passphrase	body	string	No	Passphrase	Encryption passphrase string
» bandwidth	body	integer	No	Bandwidth Overhead	Recovery bandwidth overhead percentage
» payload_size	body	integer	No	Payload Size	SRT payload size (bytes)
» show_advanced	body	string	No	Show Advanced	Whether to show advanced settings: "0" or "1"

RTMP Server Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	RTMP Server push address

Name	Location	Type	Required	Display Name	Description
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» application	body	string	No	Application Name	RTMP application name
» session	body	string	No	Session Name	RTMP session identifier
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» security	body	string	No	Security Mode	"none" or "token"
» token	body	string	No	Authentication Token	Authentication token when security=token
» enable	body	integer	No	Enable Flag	Reserved field
» rtmp_server_port	body	integer	No	RTMP Port	RTMP Server listener port number

RTP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» sdp_content	body	string	No	SDP Content	SDP description content of the RTP session
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

UDP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	UDP stream pull address
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

Zixi Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	Zixi stream pull address
» stream_id	body	string	No	Stream ID	Zixi custom stream identifier
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)
» encryption	body	string	No	Encryption	"none", "AES-128", "AES-192", or "AES-256"
» passphrase	body	string	No	Passphrase	Encryption passphrase string
» user	body	string	No	Authentication Account	Zixi authentication username
» password	body	string	No	Authentication Password	Zixi authentication password

HTTP Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	HTTP stream pull address
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

HTTPS Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» url	body	string	No	Stream URL	HTTPS stream pull address
» buffer	body	string	No	Buffer Policy	Buffer policy configuration string
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)

Name	Location	Type	Required	Display Name	Description
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

NDI Protocol Parameters

Name	Location	Type	Required	Display Name	Description
» ndi_name	body	string	No	NDI Name	Full name of the NDI source
» trans_mode	body	string	No	NDI Transport Mode	NDI transport mode: "multicast", "tcp", "unicast", or "rudp"
» buffer	body	string	No	Buffer Policy	NDI buffer policy configuration (length exceeding 1000 will be rejected, returns 207)
» connect_speed	body	integer	No	Connection Timeout	Connection timeout duration (ms)
» audio_sync_compst	body	integer	No	Audio Sync Compensation	Audio sync compensation value (ms)

Body Request Parameters

Modify RTMP:

```
{
  "stream_id": "d054f1d80ed71583392fada325a02823",
  "name": "rtmp1",
  "type": "rtmp",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "url": "rtmp://192.168.0.73:1935/live/vv",
  "buffer": "live:0:0:0:0:0",
  "user": "",
  "password": ""
}
```

Modify RTMPS:

```
{
  "stream_id": "d054f1d80ed71583392fada325a02823",
  "name": "rtmps",
  "type": "rtmps",
  "url": "rtmps://192.168.0.73:1935/live/vv",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "buffer": "live:0:0:0:0:0",
  "user": "",
  "password": ""
}
```


Modify UDP:


```
{
  "stream_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "udp",
  "type": "udp",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "url": "udp://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0"
}
```


Modify HTTP:


```
{
  "stream_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "http",
  "type": "http",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "url": "http://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0"
}
```


Modify HTTPS:


```
{
  "stream_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "https",
  "type": "https",
  "url": "https://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "user": "",
  "password": ""
}
```


Modify RTSP:

```
{
  "stream_id": "05b8ba7a42f01af957d2e8483857962f",
  "name": "rtsp1",
  "type": "rtsp",
  "url": "rtsp://192.168.36.222:554/ch01",
  "buffer": "live:0:0:0:0:0",
  "trans_mode": "tcp",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "user": "",
  "password": ""
}
```


Modify RTP:


```
{
  "stream_id": "8ef8bd5971763f671d81efa994549764",
  "name": "rtp1",
  "type": "rtp",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "buffer": "live:0:0:0:0:0",
  "sdp_content": "SDP:\nv=0\no=- 0 0 IN IP4 127.0.0.1\ns=No Name\nc=IN IP4
192.168.36.197\nt=0 0\na=tool:libavformat 61.1.100\nm=audio 1236 RTP/AVP
97\nb=AS:768\na=rtpmap:97 PCMU/48000/2"
}
```


Modify SRT (Listener):


```
{
  "stream_id": "8eca38e84020aba241ead45094c7dd24",
  "name": "srt_listener",
  "type": "srt",
  "url": "srt://:1025",
  "buffer": "live:0:0:0:0:0",
  "connection_mode": "Listener",
  "listener_port": 1025,
  "latency": 125,
  "show_advanced": "1",
  "srt_id": "111",
  "encryption": "none",
  "passphrase": "",
  "bandwidth": 25,
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "payload_size": 1316
}
```


Modify SRT (Caller):


```
{
```

```
  "stream_id": "8eca38e84020aba241ead45094c7dd24",
  "name": "srt_caller",
  "type": "srt",
  "url": "srt://192.168.36.59:1025",
  "buffer": "live:0:0:0:0:0",
  "connection_mode": "Caller",
  "address": "192.168.36.51",
  "listener_port": 1025,
  "latency": 125,
  "show_advanced": "1",
  "srt_id": "111",
  "encryption": "none",
  "passphrase": "",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "bandwidth": 25,
  "payload_size": 1316
}
```


Modify SRT (Rendezvous):


```
{
  "stream_id": "52005872cd91b13767660d196c463879",
  "name": "srt3",
  "type": "srt",
  "url": "srt://192.168.36.51:1025",
  "buffer": "live:0:0:0:0:0",
  "connection_mode": "Rendezvous",
  "address": "192.168.36.51",
  "listener_port": 1025,
  "latency": 125,
  "show_advanced": "1",
  "srt_id": "111",
  "encryption": "none",
  "passphrase": "",
  "bandwidth": 25,
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "payload_size": 1316
}
```


Modify RTMP Server:


```
{
  "stream_id": "8eca38e84020aba241ead45094c7dd24",
  "name": "rtmp server1",
  "type": "rtmp_server",
  "url": "rtmp://192.168.36.59:1935/live/xxx/11111",
  "buffer": "live:0:0:0:0:0",
  "application": "live",
  "session": "11111",
  "security": "token",
```

```
  "token": "xxx",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "enable": 1,
  "rtmp_server_port": 1935
}
```

Modify NDI:

```
{
  "stream_id": "c0343e3a2fed40071b1b51a4af53f3c3",
  "type": "ndi",
  "url": "192.168.36.155:5963",
  "buffer": "live:1000:1000:1500:0:0",
  "trans_mode": "multicast",
  "ndi_name": "N6-21-1080P60 (Channel-NDI)",
  "connect_speed": 5000,
  "audio_sync_compst": 0,
  "name": "N6-21-1080P60",
  "preview_mode": "Full"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

5.8 POST /source/groups/streams/remove

Function Description

Deletes a specific video stream from the specified group.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object

Name	Location	Type	Required	Display Name	Description
» group_id	body	string	Yes	Group ID	Unique identifier of the group the stream belongs to
» stream_id	body	string	Yes	Stream ID	Unique identifier of the stream to delete

Body Request Parameters

```
{
  "group_id": "1",
  "stream_id": "1"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

5.9 POST /source/groups/streams/copy

Function Description

Copies the specified video stream from the source group to the target group. The new stream will get a new stream ID; the source stream remains unchanged.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» from_group_id	body	string	Yes	Source Group ID	Unique identifier of the source group to copy from
» from_stream_id	body	string	Yes	Source Stream ID	Unique identifier of the stream to copy

Name	Location	Type	Required	Display Name	Description
» to_group_id	body	string	Yes	Target Group ID	Unique identifier of the target group to copy to

Body Request Parameters

```
{
  "from_group_id": "83b50ca8e8af2ec13f35b251b50076dd",
  "from_stream_id": "17dd78a37db89a20eb4a11a7705dafb2",
  "to_group_id": "354ee7bf5984462d483151fcc98f74fb"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

5.10 POST /source/groups/streams/move

Function Description

Moves the specified video stream from the source group to the target group. After moving, the stream will belong to the target group; the source group will no longer contain this stream.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» from_group_id	body	string	Yes	Source Group ID	Unique identifier of the source group to move from
» from_stream_id	body	string	Yes	Source Stream ID	Unique identifier of the stream to move

Name	Location	Type	Required	Display Name	Description
» to_group_id	body	string	Yes	Target Group ID	Unique identifier of the target group to move to

Body Request Parameters

```
{
  "from_group_id": "83b50ca8e8af2ec13f35b251b50076dd",
  "from_stream_id": "17dd78a37db89a20eb4a11a7705dafb2",
  "to_group_id": "354ee7bf5984462d483151fcc98f74fb"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6. LAYOUT Module

The LAYOUT (layout) module is used to manage multi-picture layout templates. Layout templates define the pane division of the output picture (position, size, layer). Each pane can be bound to a video source stream. Supports operations such as creating, modifying, saving, and selecting preset layouts and custom layouts.

6.1 GET /layout/template/list

Function Description

Retrieves the list of system built-in layout templates. Each template defines the number, position, and size ratio of panes, serving as the basis for creating custom layouts.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» count	integer	true	none	Total Template Count	Total number of templates
» data	[object]	true	none	Template List	Layout template array
»» name	string	true	none	Layout Name	Name of the template, e.g. "Single", "PIP", "2x2", etc.
»» position	[object]	true	none	Pane Positions	Position and size information of each pane in the template
»»» height	number	true	none	Height	Pane height, expressed as a percentage (floating point, e.g. 33.33)
»»» id	integer	true	none	Pane ID	Unique identifier of the pane
»»» number	integer	true	none	Pane Number	Sequence number of the pane in the template
»»» stream_id	string	true	none	Bound Source ID	ID of the signal source currently bound to the pane (empty string in templates)
»»» width	number	true	none	Width	Pane width, expressed as a percentage (floating point)
»»» x	number	true	none	X Coordinate	X-axis position of the pane's top-left corner, expressed as a percentage (floating point)
»»» y	number	true	none	Y Coordinate	Y-axis position of the pane's top-left corner, expressed as a percentage (floating point)
»»» z_index	integer	true	none	Layer	Z-axis layer of the pane
»» template_count	integer	true	none	Template Pane Count	Total number of panes in the template
»» template_id	integer	true	none	Template ID	Unique identifier of the template
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
```

```
"count": 1000,
"data": [
  {
    "name": "Single",
    "position": [
      {
        "height": 100,
        "id": 1,
        "number": 1,
        "stream_id": "",
        "width": 100,
        "x": 0,
        "y": 0,
        "z_index": 0
      }
    ],
    "template_count": 1,
    "template_id": 1
  },
  {
    "name": "PIP",
    "position": [
      {
        "height": 100,
        "id": 1,
        "number": 1,
        "stream_id": "",
        "width": 100,
        "x": 0,
        "y": 0,
        "z_index": 0
      },
      {
        "height": 30,
        "id": 2,
        "number": 2,
        "stream_id": "",
        "width": 30,
        "x": 69,
        "y": 69,
        "z_index": 1
      }
    ],
    "template_count": 2,
    "template_id": 2
  },
  {
    "name": "2x2",
    "position": [
      {
        "height": 50,
        "id": 1,
        "number": 1,
```

```
        "stream_id": "",
        "width": 50,
        "x": 0,
        "y": 0,
        "z_index": 0
      },
      {
        "height": 50,
        "id": 2,
        "number": 2,
        "stream_id": "",
        "width": 50,
        "x": 50,
        "y": 0,
        "z_index": 1
      },
      {
        "height": 50,
        "id": 3,
        "number": 3,
        "stream_id": "",
        "width": 50,
        "x": 0,
        "y": 50,
        "z_index": 2
      },
      {
        "height": 50,
        "id": 4,
        "number": 4,
        "stream_id": "",
        "width": 50,
        "x": 50,
        "y": 50,
        "z_index": 3
      }
    ],
    "template_count": 4,
    "template_id": 3
  },
  {
    "name": "3x3",
    "position": [
      {
        "height": 33.33,
        "id": 1,
        "number": 1,
        "stream_id": "",
        "width": 33.33,
        "x": 0,
        "y": 0,
        "z_index": 0
      },
```

```
        {
          "height": 33.33,
          "id": 2,
          "number": 2,
          "stream_id": "",
          "width": 33.33,
          "x": 33.33,
          "y": 0,
          "z_index": 1
        },
        {
          "height": 33.33,
          "id": 3,
          "number": 3,
          "stream_id": "",
          "width": 33.33,
          "x": 66.67,
          "y": 0,
          "z_index": 2
        },
        {
          "height": 33.33,
          "id": 4,
          "number": 4,
          "stream_id": "",
          "width": 33.33,
          "x": 0,
          "y": 33.33,
          "z_index": 3
        },
        {
          "height": 33.33,
          "id": 5,
          "number": 5,
          "stream_id": "",
          "width": 33.33,
          "x": 33.33,
          "y": 33.33,
          "z_index": 4
        },
        {
          "height": 33.33,
          "id": 6,
          "number": 6,
          "stream_id": "",
          "width": 33.33,
          "x": 66.67,
          "y": 33.33,
          "z_index": 5
        },
        {
          "height": 33.33,
          "id": 7,
```

```
        "number": 7,
        "stream_id": "",
        "width": 33.33,
        "x": 0,
        "y": 66.67,
        "z_index": 6
      },
      {
        "height": 33.33,
        "id": 8,
        "number": 8,
        "stream_id": "",
        "width": 33.33,
        "x": 33.33,
        "y": 66.67,
        "z_index": 7
      },
      {
        "height": 33.33,
        "id": 9,
        "number": 9,
        "stream_id": "",
        "width": 33.33,
        "x": 66.67,
        "y": 66.67,
        "z_index": 8
      }
    ],
    "template_count": 9,
    "template_id": 4
  },
  {
    "name": "4x4",
    "position": [
      {
        "height": 25,
        "id": 1,
        "number": 1,
        "stream_id": "",
        "width": 25,
        "x": 0,
        "y": 0,
        "z_index": 0
      },
      {
        "height": 25,
        "id": 2,
        "number": 2,
        "stream_id": "",
        "width": 25,
        "x": 25,
        "y": 0,
        "z_index": 1
```

```
    },
    {
      "height": 25,
      "id": 3,
      "number": 3,
      "stream_id": "",
      "width": 25,
      "x": 50,
      "y": 0,
      "z_index": 2
    },
    {
      "height": 25,
      "id": 4,
      "number": 4,
      "stream_id": "",
      "width": 25,
      "x": 75,
      "y": 0,
      "z_index": 3
    },
    {
      "height": 25,
      "id": 5,
      "number": 5,
      "stream_id": "",
      "width": 25,
      "x": 0,
      "y": 25,
      "z_index": 4
    },
    {
      "height": 25,
      "id": 6,
      "number": 6,
      "stream_id": "",
      "width": 25,
      "x": 25,
      "y": 25,
      "z_index": 5
    },
    {
      "height": 25,
      "id": 7,
      "number": 7,
      "stream_id": "",
      "width": 25,
      "x": 50,
      "y": 25,
      "z_index": 6
    },
    {
      "height": 25,
```

```
      "id": 8,
      "number": 8,
      "stream_id": "",
      "width": 25,
      "x": 75,
      "y": 25,
      "z_index": 7
    },
    {
      "height": 25,
      "id": 9,
      "number": 9,
      "stream_id": "",
      "width": 25,
      "x": 0,
      "y": 50,
      "z_index": 8
    },
    {
      "height": 25,
      "id": 10,
      "number": 10,
      "stream_id": "",
      "width": 25,
      "x": 25,
      "y": 50,
      "z_index": 9
    },
    {
      "height": 25,
      "id": 11,
      "number": 11,
      "stream_id": "",
      "width": 25,
      "x": 50,
      "y": 50,
      "z_index": 10
    },
    {
      "height": 25,
      "id": 12,
      "number": 12,
      "stream_id": "",
      "width": 25,
      "x": 75,
      "y": 50,
      "z_index": 11
    },
    {
      "height": 25,
      "id": 13,
      "number": 13,
      "stream_id": "",
```

```
          "width": 25,
          "x": 0,
          "y": 75,
          "z_index": 12
        },
        {
          "height": 25,
          "id": 14,
          "number": 14,
          "stream_id": "",
          "width": 25,
          "x": 25,
          "y": 75,
          "z_index": 13
        },
        {
          "height": 25,
          "id": 15,
          "number": 15,
          "stream_id": "",
          "width": 25,
          "x": 50,
          "y": 75,
          "z_index": 14
        },
        {
          "height": 25,
          "id": 16,
          "number": 16,
          "stream_id": "",
          "width": 25,
          "x": 75,
          "y": 75,
          "z_index": 15
        }
      ],
      "template_count": 16,
      "template_id": 5
    }
  ],
  "result": "ok"
}
```


6.2 GET /layout/list

Function Description

Retrieves the list of all custom layouts created by the current user, including the pane configuration and signal source binding status of each layout.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Layout List	Custom layout array
»» layout_count	integer	true	none	Pane Count	Total number of panes in the layout
»» layout_id	integer	true	none	Layout ID	Unique identifier of the layout
»» name	string	true	none	Layout Name	User-defined name of the layout
»» position	[object]	true	none	Pane Positions	Position and size information of each pane in the layout
»»» height	number	true	none	Height	Pane height, expressed as a percentage (floating point, e.g. 33.33)
»»» id	integer	true	none	Pane ID	Unique identifier of the pane
»»» number	integer	true	none	Pane Number	Sequence number of the pane in the layout
»»» stream_id	string	true	none	Bound Source ID	ID of the signal source currently bound to the pane (empty string if not bound)
»»» width	number	true	none	Width	Pane width, expressed as a percentage (floating point)
»»» x	number	true	none	X Coordinate	X-axis position of the pane's top-left corner, expressed as a percentage (floating point)
»»» y	number	true	none	Y Coordinate	Y-axis position of the pane's top-left corner, expressed as a percentage (floating point)
»»» z_index	integer	true	none	Layer	Z-axis layer of the pane

Name	Type	Required	Constraint	Display Name	Description
»» used	boolean	true	none	In Use	Whether the layout is currently used by an output channel
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example


```
{
  "data": [
    {
      "layout_count": 1,
      "layout_id": 1,
      "name": "Single",
      "position": [
        {
          "height": 100,
          "id": 1,
          "number": 1,
          "stream_id": "",
          "width": 100,
          "x": 0,
          "y": 0,
          "z_index": 0
        }
      ],
      "used": false
    },
    {
      "layout_count": 2,
      "layout_id": 2,
      "name": "PIP",
      "position": [
        {
          "height": 100,
          "id": 1,
          "number": 1,
          "stream_id": "",
          "width": 100,
          "x": 0,
          "y": 0,
          "z_index": 0
        },
        {
          "height": 30,
          "id": 2,
          "number": 2,
          "stream_id": "",
```

```
        "width": 30,
        "x": 69,
        "y": 69,
        "z_index": 1
      }
    ],
    "used": false
  },
  {
    "layout_count": 4,
    "layout_id": 3,
    "name": "2x2",
    "position": [
      {
        "height": 50,
        "id": 1,
        "number": 1,
        "stream_id": "",
        "width": 50,
        "x": 0,
        "y": 0,
        "z_index": 0
      },
      {
        "height": 50,
        "id": 2,
        "number": 2,
        "stream_id": "",
        "width": 50,
        "x": 50,
        "y": 0,
        "z_index": 1
      },
      {
        "height": 50,
        "id": 3,
        "number": 3,
        "stream_id": "",
        "width": 50,
        "x": 0,
        "y": 50,
        "z_index": 2
      },
      {
        "height": 50,
        "id": 4,
        "number": 4,
        "stream_id": "",
        "width": 50,
        "x": 50,
        "y": 50,
        "z_index": 3
      }
```

```
      ],
      "used": false
    }
  ],
  "result": "ok"
}
```

6.3 POST /layout/add

Function Description

Creates a new custom layout based on a system template. The template ID and custom layout name are required.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» template_id	body	integer	Yes	Template ID	Unique identifier of the base template
» name	body	string	Yes	Layout Name	Custom name of the new layout

Body Request Parameters

```
{
  "template_id": 1,
  "name": "AddSingle2"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6.4 POST /layout/remove

Function Description

Deletes the specified custom layout preset. Layouts in use by an output channel may not be deletable.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» layout_id	body	integer	Yes	Layout ID	Unique identifier of the layout to delete

Body Request Parameters

```
{
  "layout_id": 7
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6.5 POST /layout/select

Function Description

Applies the specified layout to an output channel. After selection, the output will display the picture according to the layout's pane configuration.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source

Name	Location	Type	Required	Display Name	Description
body	body	object	No	Request Body	Request body object
» output_id	body	string	Yes	Output ID	Identifier of the target output channel
» layout_id	body	integer	Yes	Layout ID	Unique identifier of the layout to apply

Body Request Parameters

```
{
  "output_id": "1",
  "layout_id": 2
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6.6 POST /layout/modify

Function Description

Modifies the position and size parameters of a specific pane in the specified layout. The modification takes effect immediately on the output channel bound to the layout.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» layout_id	body	integer	Yes	Layout ID	Unique identifier of the target layout

Name	Location	Type	Required	Display Name	Description
» position	body	[object]	Yes	Pane Configuration	Array of pane configurations to modify
»» width	body	integer	No	Width	New pane width, expressed as a percentage
»» height	body	integer	No	Height	New pane height, expressed as a percentage
»» number	body	integer	No	Pane Number	Sequence number position of the pane
»» z_index	body	integer	No	Layer	New Z-axis layer of the pane
»» id	body	integer	No	Pane ID	Unique identifier of the target pane
»» x	body	integer	No	X Coordinate	New top-left X coordinate of the pane, expressed as a percentage
»» y	body	integer	No	Y Coordinate	New top-left Y coordinate of the pane, expressed as a percentage
» output_id	body	string	Yes	Output ID	Identifier of the associated output channel

Body Request Parameters


```
{
  "layout_id": 6,
  "position": [
    {
      "width": 30,
      "height": 30,
      "number": 2,
      "z_index": 1,
      "id": 2,
      "x": 0,
      "y": 0
    }
  ],
  "output_id": "1"
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6.7 POST /layout/save

Function Description

Saves the current layout pane modifications in the output channel (including position, size changes, and signal source bindings) to the specified layout preset, overwriting the original layout configuration.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» output_id	body	string	Yes	Output ID	Output channel identifier; supports "1" and "2" (two output channels total)
» layout_id	body	integer	Yes	Layout ID	Unique identifier of the layout to save to

Body Request Parameters

```
{
  "output_id": "1",
  "layout_id": 6
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6.8 POST /layout/resave

Function Description

Saves the current output channel's layout configuration as a brand-new layout preset. The new layout will get an independent layout_id; the original layout is not affected.

> Note: Save-as generates a brand-new layout ID; the server does not use the passed `layout_id` (even if provided, it will be ignored). Only `output_id` and `layout_name` are needed.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» output_id	body	string	Yes	Output ID	Identifier of the current output channel
» layout_name	body	string	Yes	Layout Name	New layout name after save-as

Body Request Parameters

```
{
  "output_id": "1",
  "layout_name": "Test"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6.9 POST /layout/reload

Function Description

Reloads the output channel's layout configuration from the specified layout preset, discarding all unsaved layout modifications on the current output channel.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» output_id	body	integer	Yes	Output ID	Identifier of the target output channel
» layout_id	body	integer	Yes	Layout ID	Unique identifier of the layout to reload
» layout_name	body	string	No	Layout Name	Layout name (optional; may be used by backend logic)

Body Request Parameters

```
{
  "output_id": 1,
  "layout_name": "5",
  "layout_id": 6
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

6.10 POST /layout/rename

Function Description

Modifies the name of the specified layout preset.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Application Identifier	Application identifier of the request source
body	body	object	No	Request Body	Request body object
» layout_id	body	integer	Yes	Layout ID	Unique identifier of the target layout
» name	body	string	Yes	New Name	New display name of the layout

Body Request Parameters

```
{
  "layout_id": 1,
  "name": ""
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

7. OUTPUT Module

The OUTPUT (video output) module is used to manage the device's video and audio output configurations. It covers output interface parameter settings, resolution and frame rate adjustments, audio mixing control, border and background configuration, encoding parameter management, TS stream program configuration, PTZ control, as well as output mute and volume indication features.

7.1 GET /output/interfaces/get

Function Description

Retrieves the list of output interface types

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	string	No	Output ID	Layout ID
type	query	string	No	Interface Type	Output type: video, audio
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Fields for each item in the data array when type=video:

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Return Data	Video output interface list
»» colorspace	string	true	none	Color Mode	Current output interface color mode
»» enable	boolean	true	none	Enabled Status	Whether enabled
»» id	integer	true	none	Output ID	Output interface ID
»» label	string	true	none	Label	Display name of the output interface
»» mode	string	true	none	Interface Type	Output interface type
»» support	boolean	true	none	Supported	Whether the current device supports the current interface
»» visible	boolean	true	none	Visible	Whether the output interface is visible
» result	string	true	none	Return Result	Request result status

Fields for each item in the data array when type=audio (no colorspace/mode/support):

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Return Data	Audio output interface list
»» id	integer	true	none	Audio Interface ID	Audio interface ID
»» label	string	true	none	Label	Display name of the audio interface
»» enable	boolean	true	none	Enabled Status	Whether enabled
»» samplerate	number	true	none	Sample Rate	Sample rate (kHz, e.g. 44.1/48)
»» channels	integer	true	none	Channel Count	Number of audio channels
»» volume	integer	true	none	Volume	Volume
»» mute	boolean	true	none	Mute	Whether muted
»» visible	boolean	true	none	Visible	Whether the interface is visible
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "data": [
    {
      "colorspace": "RGB444",
      "enable": false,
      "id": 1,
      "label": "HDMI1",
      "mode": "HDMI",
      "support": false,
      "visible": true
    },
    {
      "colorspace": "RGB444",
      "enable": false,
      "id": 2,
      "label": "HDMI2",
      "mode": "HDMI",
      "support": true,
      "visible": true
    },
    {
      "colorspace": "RGB444",
```

```
      "enable": false,
      "id": 3,
      "label": "SDI",
      "mode": "HDMI",
      "support": true,
      "visible": true
    }
  ],
  "result": "ok"
}
{
  "data": [
    {
      "id": 1,
      "label": "HDMI",
      "enable": false,
      "samplerate": 44.1,
      "channels": 2,
      "volume": 0,
      "mute": false,
      "visible": true
    },
    {
      "id": 2,
      "label": "HDMI1",
      "enable": false,
      "samplerate": 44.1,
      "channels": 2,
      "volume": 0,
      "mute": false,
      "visible": true
    },
    {
      "id": 3,
      "label": "SDI",
      "enable": false,
      "samplerate": 44.1,
      "channels": 2,
      "volume": 0,
      "mute": false,
      "visible": true
    },
    {
      "id": 4,
      "label": "LineOut",
      "enable": false,
      "samplerate": 44.1,
      "channels": 2,
      "volume": 0,
      "mute": false,
      "visible": true
    }
  ],
```

```
  "result": "ok"
}
```

7.2 POST /output/interfaces/set

Function Description

Sets output interface parameters

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Output ID
» type	body	string	Yes	Interface Type	Type: video or audio
» intf_id	body	integer	Yes	Interface ID	Interface ID (the interface is identified by intf_id)
» enable	body	boolean	Yes	Enabled Status	Whether enabled
» channels	body	integer	Required when type=audio	Channel Count	Channel count; intf_id 1/2/4 requires 2
» samplerate	body	integer	Required when type=audio	Sample Rate	Sample rate; intf_id 3 requires 48000
» volume	body	integer	No	Volume	Volume (effective when type=audio)
» mute	body	boolean	No	Mute	Whether muted (effective when type=audio)
» id	body	integer	No	Interface ID	Ignored (the interface is located by intf_id)
» label	body	string	No	Label	Ignored
» visible	body	boolean	No	Visible	Ignored

> Note: Audio interface constraints — when `intf_id` is 1/2/4, `channels` must be 2; when `intf_id` is 3, `samplerate` must be 48000; otherwise returns `{"result":"error","msg":"1"}` (parameter error).

Body Request Parameters

```
{
  "channels": 2,
  "enable": true,
  "id": 1,
  "label": "HDMI1",
  "mute": true,
  "samplerate": 48000,
  "visible": true,
  "volume": 14,
  "output_id": "1",
  "type": "audio",
  "intf_id": 1
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "result": "ok"
}
```


7.3 GET /output/list

Function Description

Retrieves the window list

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Return Data	Window list data
»» background	string	true	none	Background Color	Background color

Name	Type	Required	Constraint	Display Name	Description
»» bg_enable	boolean	true	none	Background Enable	Whether background is enabled
»» border	object	true	none	Border Parameters	Border parameters
»»» bottom_width	integer	true	none	Bottom Border Width	Border width
»»» color	string	true	none	Border Color	Border color
»»» enable	boolean	true	none	Border Enable	Whether border is enabled
»»» hex_color	integer	true	none	Hex Color Value	Hexadecimal numeric value of the border color
»»» left_width	integer	true	none	Left Border Width	Border width
»»» right_width	integer	true	none	Right Border Width	Border width
»»» top_width	integer	true	none	Top Border Width	Border width
»» id	string	true	none	Pane ID	Layout ID
»» layout_id	integer	true	none	Layout ID	Layout ID
»» modified	boolean	true	none	Modified	Whether the current layout has been modified
»» name	string	true	none	Name	Layout name
»» res_id	string	true	none	Resolution ID	Output resolution ID
»» res_name	string	true	none	Resolution Name	Output resolution name
»» vumeter	boolean	true	none	Volume Meter	Whether to display the volume meter
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "data": [
    {
      "background": "#000000",
      "bg_enable": false,
      "border": {
        "bottom_width": 2,
        "color": "#FF0000",
```

```
        "enable": false,
        "hex_color": 16711680,
        "left_width": 2,
        "right_width": 2,
        "top_width": 2
      },
      "id": "1",
      "layout_id": 2,
      "modified": false,
      "name": "output1",
      "res_id": "5",
      "res_name": "1920x1080P60",
      "vumeter": true
    },
    {
      "background": "#000000",
      "bg_enable": false,
      "border": {
        "bottom_width": 2,
        "color": "#FF0000",
        "enable": false,
        "hex_color": 16711680,
        "left_width": 2,
        "right_width": 2,
        "top_width": 2
      },
      "id": "2",
      "layout_id": 1,
      "modified": false,
      "name": "output2",
      "res_id": "5",
      "res_name": "1920x1080P60",
      "vumeter": true
    }
  ],
  "result": "ok"
}
```


7.4 GET /output/get

Function Description

Retrieves information of a specific window

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	string	Yes	Output ID	Layout ID
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Window data
»» layout_id	integer	true	none	Layout ID	Layout ID
»» name	string	true	none	Name	Output name
»» position	[object]	true	none	Pane Positions	Pane position list
»»» enable	boolean	true	none	Enabled Status	Whether stream pulling is enabled
»»» height	integer	true	none	Height	Height; unit: percentage
»»» id	integer	true	none	Pane ID	Position ID
»»» mute	boolean	true	none	Mute	Whether muted
»»» number	integer	true	none	Number	Index of the position
»»» resolution	string	true	none	Resolution	Output resolution
»»» status	integer	true	none	Stream Status	Stream status; refer to stream retrieval definition
»»» stream_id	string	true	none	Stream ID	Stream ID currently loading at this position
»»» stream_ip	string	true	none	Stream IP	Stream IP currently loading at this position
»»» stream_name	string	true	none	Stream Name	Stream name currently loading at this position
»»» type	string	true	none	Stream Type	Stream type currently loading at this position
»»» video_bitrate	string	true	none	Bitrate	Stream bitrate currently loading at this position
»»» video_format	string	true	none	Encoding Type	Stream encoding type currently loading at this position
»»» volume	integer	true	none	Volume	Volume
»»» vu_meter	boolean	true	none	Volume Meter	Whether to display the volume meter
»»» width	integer	true	none	Width	Width; unit: percentage

Name	Type	Required	Constraint	Display Name	Description
»»» x	integer	true	none	X-axis Position	X-axis position; unit: percentage
»»» y	integer	true	none	Y-axis Position	Y-axis position; unit: percentage
»»» z_index	integer	true	none	Z-axis Layer	Layer order
»» vumeter	boolean	true	none	Volume Meter	Whether to display the volume meter
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "data": {
    "layout_id": 2,
    "name": "output1",
    "position": [
      {
        "enable": true,
        "height": 30,
        "id": 1,
        "mute": false,
        "number": 1,
        "resolution": "1920x1080p60",
        "status": 2,
        "stream_id": "e893d03a94326b981fd3aa276f90183a",
        "stream_ip": "192.168.36.238:5965",
        "stream_name": "N60_238 (HB)",
        "type": "ndi",
        "video_bitrate": "55479.4",
        "video_format": "NDI | HB",
        "volume": 0,
        "vu_meter": true,
        "width": 30,
        "x": 0,
        "y": 0,
        "z_index": 0
      },
      {
        "enable": false,
        "height": 30,
        "id": 2,
        "mute": false,
        "number": 2,
        "resolution": "0x0p0",
        "status": 2,
```

```
        "stream_id": "",
        "stream_ip": "",
        "stream_name": "",
        "type": "",
        "video_bitrate": "0",
        "video_format": "",
        "volume": 0,
        "vu_meter": true,
        "width": 30,
        "x": 69,
        "y": 69,
        "z_index": 1
      }
    ],
    "vumeter": true
  },
  "result": "ok"
}
```


7.5 POST /output/source/set

Function Description

Sets a video source to a specific position in a window

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
from	body	object	Yes	Source	Information of the signal source to move
» type	body	string	Yes	Source Type	"source" = stream from the source list
» stream_id	body	string	Yes	Stream ID	Unique identifier of the stream; origin and dest must match
» stream_name	body	string	Yes	Stream Name	Stream name
» stream_url	body	string	Yes	Stream URL	Stream URL
» pos_id	body	string	No	Position ID	Empty string "" when source is "source"
» output_id	body	string	Yes	Output ID	"1"=Output1, "2"=Output2
» layout_id	body	string	No	Layout ID	Empty string "" when source is "source"

Name	Location	Type	Required	Display Name	Description
to	body	object	Yes	Destination	Layout information of the target position
» type	body	string	Yes	Target Type	"output" = output to a specified layout window
» stream_id	body	string	Yes	Stream ID	Same as from.stream_id
» stream_name	body	string	Yes	Stream Name	Stream name
» stream_url	body	string	Yes	Stream URL	Stream URL
» pos_id	body	integer	Yes	Position ID	Window position in the target layout; starts from 1
» output_id	body	string	Yes	Output ID	"1" / "2"
» layout_id	body	integer	Yes	Layout ID	Unique identifier of the target layout

Body Request Parameters

```
{
  "from": {
    "type": "source",
    "stream_id": "7faa9bc2bcd6962ce869323b0cb161b3",
    "stream_name": "df",
    "stream_url": "udp://172.30.47.230:2555",
    "pos_id": "",
    "output_id": "1",
    "layout_id": ""
  },
  "to": {
    "type": "output",
    "stream_id": "7faa9bc2bcd6962ce869323b0cb161b3",
    "stream_name": "df",
    "stream_url": "udp://172.30.47.230:2555",
    "pos_id": 1,
    "output_id": "1",
    "layout_id": 3
  }
}
```

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

7.6 POST /output/source/remove

Function Description

Removes the source information bound to a specific position in a window

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Layout ID (1, 2)
» pos_id	body	integer	Yes	Position ID	Position ID

Body Request Parameters

```
{
  "output_id": "1",
  "pos_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

7.7 GET /output/resolution/list

Function Description

Retrieves the resolution (timing) list

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Return Data	Resolution list data
»» id	string	true	none	Resolution ID	Output resolution ID
»» name	string	true	none	Resolution Name	Output resolution name
»» value	string	true	none	Resolution Value	Output resolution value
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "data": [
    {
      "id": "1",
      "name": "3840x2160P60(HDMI only)",
      "value": "3840x2160P60(HDMI only)"
    },
    {
      "id": "2",
      "name": "3840x2160P50(HDMI only)",
      "value": "3840x2160P50(HDMI only)"
    },
    {
      "id": "3",
      "name": "3840x2160P30(HDMI only)",
      "value": "3840x2160P30(HDMI only)"
    },
    {
      "id": "4",
      "name": "3840x2160P25(HDMI only)",
      "value": "3840x2160P25(HDMI only)"
    },
    {
      "id": "5",
      "name": "1920x1080P60",
      "value": "1920x1080P60"
    },
    {
      "id": "6",
      "name": "1920x1080P59.94(SDI only)",
      "value": "1920x1080P59.94(SDI only)"
    },
    {
      "id": "7",
      "name": "1920x1080P50",
      "value": "1920x1080P50"
    },
```

```
    {
      "id": "8",
      "name": "1920x1080p30",
      "value": "1920x1080p30"
    },
    {
      "id": "9",
      "name": "1920x1080p29.97(SDI only)",
      "value": "1920x1080p29.97(SDI only)"
    },
    {
      "id": "10",
      "name": "1920x1080p25",
      "value": "1920x1080p25"
    },
    {
      "id": "11",
      "name": "1920x1080p24",
      "value": "1920x1080p24"
    },
    {
      "id": "12",
      "name": "1920x1080p23.98(SDI only)",
      "value": "1920x1080p23.98(SDI only)"
    },
    {
      "id": "13",
      "name": "1920x1080i60",
      "value": "1920x1080i60"
    },
    {
      "id": "14",
      "name": "1920x1080i50",
      "value": "1920x1080i50"
    },
    {
      "id": "15",
      "name": "1920x1080i59.94(SDI only)",
      "value": "1920x1080i59.94(SDI only)"
    },
    {
      "id": "16",
      "name": "1280x720p60",
      "value": "1280x720p60"
    },
    {
      "id": "17",
      "name": "1280x720p59.94(SDI only)",
      "value": "1280x720p59.94(SDI only)"
    },
    {
      "id": "18",
      "name": "1280x720p50",
```

```
      "value": "1280x720P50"
    },
    {
      "id": "19",
      "name": "576i/625i 50Hz(SDI only)",
      "value": "576i/625i 50Hz(SDI only)"
    },
    {
      "id": "20",
      "name": "480i/525i 60Hz(SDI only)",
      "value": "480i/525i 60Hz(SDI only)"
    }
  ],
  "result": "ok"
}
```


7.8 POST /output/resolution/set

Function Description

Sets the resolution (timing)

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Output ID
» res_id	body	string	Yes	Resolution ID	Taken from the id in /output/resolution/list; must be a **string** (e.g. "14"); integers are not accepted

Body Request Parameters


```
{
  "output_id": "1",
  "res_id": "14"
}
```


Response Data Structure

Status Code 200

> Note: On success, this endpoint only returns `{"result":"ok"}`; no `data` is returned.

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	ok

Response Example

```
{
  "result": "ok"
}
```

7.9 GET /output/audiomix/get

Function Description

Retrieves the mixed audio status list of a specific window

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	string	No	Output ID	Layout ID
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Mixed audio data
»» output	[object]	true	none	Output Type	Current output audio source information. Two types: output type changes with layout switching; preview is shared by a single output
»»» enable	boolean	false	none	Enabled Status	Whether enabled
»»» mute	boolean	false	none	Mute	Whether muted
»»» name	string	false	none	Name	Name
»»» pos_id	integer	false	none	Position ID	Position ID
»»» stream_id	string	false	none	Stream ID	Stream ID
»»» type	string	false	none	Type	Type
»»» volume	integer	false	none	Volume	Gain dB value

Name	Type	Required	Constraint	Display Name	Description
»» preview	[object]	true	none	Preview Type	Current preview audio source information
»»» enable	boolean	false	none	Enabled Status	Whether enabled
»»» mute	boolean	false	none	Mute	Whether muted
»»» name	string	false	none	Name	Name
»»» stream_id	string	false	none	Stream ID	Stream ID
»»» type	string	false	none	Type	Type
»»» volume	integer	false	none	Volume	Gain dB value
» result	string	true	none	Return Result	Request result status

Response Example


```
{
    "data": {
        "output": [
            {
                "stream_id": "1",
                "name": "n60...",
                "enable": false,
                "volume": 0,
                "mute": false,
                "type": "output"
            },
            {
                "stream_id": "2",
                "name": "n50...",
                "enable": false,
                "volume": 0,
                "mute": false,
                "type": "output"
            }
        ],
        "preview": [
            {
                "stream_id": "1",
                "name": "n50...",
                "enable": false,
                "volume": 0,
                "mute": false,
```

```
                "type": "preview"
            }
        ]
    },
    "result": "ok"
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

7.10 POST /output/audiomix/set

Function Description

Sets the mixed audio status in a specific window

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Layout ID
» stream_id	body	string	Yes	Stream ID	Stream ID
» enable	body	boolean	Yes	Enabled Status	Whether enabled
» type	body	string	Yes	Type	Type; supports output/preview
» volume	body	integer	No	Volume	Gain dB value (will be read and applied)
» mute	body	boolean	No	Mute	Whether muted (will be read and applied)

Body Request Parameters

```
{
    "output_id": "1",
    "stream_id": "895a2714dc8e5197fb0491066be73f22",
    "enable": true,
    "volume": 0,
    "mute": false,
    "type": "output"
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "result": "ok"
}
```


7.11 POST /output/audiomix/remove

Function Description

Removes audio from the manually added audio list

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Layout ID
» stream_id	body	string	Yes	Stream ID	Stream ID
» type	body	string	Yes	Type	Type; supports output/preview

Body Request Parameters

```
{
  "output_id": "1",
  "stream_id": "e893d03a94326b981fd3aa276f90183a",
  "type": "preview"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

7.12 POST /output/audiomix/add

Function Description

Adds the audio from preview to the audio list

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Output ID
» stream_id	body	string	Yes	Stream ID	Stream ID

Body Request Parameters

```
{
  "output_id": "1",
  "stream_id": "895a2714dc8e5197fb0491066be73f22"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

7.13 POST /ptz/set

Function Description

Sets the PTZ of a stream (currently only supports NDI)

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Output ID
» pos_id	body	integer	Yes	Position ID	Position ID
» type	body	string	Yes	Type	Type; a single string (see the type value table below); arrays are not accepted
» data	body	object	Yes	Request Data	Specific values; only the fields required by the current type need to be included
»» zoom_value	body	number	No	Zoom Value	0.0 (zoomed in) ... 1.0 (zoomed out)
»» zoom_speed	body	number	No	Zoom Speed	-1.0 (zoom outwards) ... +1.0 (zoom inwards)
»» pan_value	body	number	No	Pan Value	-1.0 (left) ... 0.0 (centered) ... +1.0 (right)
»» tilt_value	body	number	No	Tilt Value	-1.0 (bottom) ... 0.0 (centered) ... +1.0 (top)
»» pan_speed	body	number	No	Pan Speed	-1.0 (moving right) ... 0.0 (stopped) ... +1.0 (moving left)
»» tilt_speed	body	number	No	Tilt Speed	-1.0 (down) ... 0.0 (stopped) ... +1.0 (moving up)
»» preset_no	body	integer	No	Preset Number	0 ... 99
»» speed	body	number	No	Speed	0.0 (as slow as possible) ... 1.0 (as fast as possible)

Name	Location	Type	Required	Display Name	Description
»» focus_value	body	number	No	Focus Value	0.0 (focused to infinity) … 1.0 (focused as close as possible)
»» focus_speed	body	number	No	Focus Speed	-1.0 (focus outwards) … +1.0 (focus inwards)
»» red	body	number	No	Red Gain	0.0 (not red) … 1.0 (very red)
»» blue	body	number	No	Blue Gain	0.0 (not blue) … 1.0 (very blue)
»» exposure_level	body	number	No	Exposure Level	0.0 (dark) … 1.0 (light)

The type field supports the following parameters:

Type Name	Function Description
`ptz_zoom`	Controls PTZ zoom operation; the data object must include the zoom_value field to set the zoom value
`ptz_zoom_speed`	Controls PTZ zoom speed; the data object must include the zoom_speed field to set the zoom speed value
`ptz_pan_tilt`	Controls PTZ horizontal (pan) and vertical (tilt) movement; the data object must include pan_value and tilt_value fields to set the horizontal and vertical movement values respectively
`ptz_pan_tilt_speed`	Controls PTZ horizontal and vertical movement speed; the data object must include pan_speed and tilt_speed fields to set the horizontal and vertical movement speed values respectively
`ptz_store_preset`	Stores a PTZ preset position; the data object must include the preset_no field to set the preset position number
`ptz_recall_preset`	Recalls a PTZ preset position; the data object must include preset_no and speed fields to set the preset position number and recall speed respectively
`ptz_auto_focus`	Enables auto-focus; no parameters required
`ptz_focus`	Controls PTZ focus operation; the data object must include the focus_value field to set the focus value
`ptz_focus_speed`	Controls PTZ focus speed; the data object must include the focus_speed field to set the focus speed value
`ptz_white_balance_auto`	Enables auto white balance; no parameters required
`ptz_white_balance_indoor`	Sets indoor white balance mode; no parameters required
`ptz_white_balance_outdoor`	Sets outdoor white balance mode; no parameters required

Type Name	Function Description
`ptz_white_balance_oneshot`	Performs a one-shot white balance adjustment; no parameters required
`ptz_white_balance_manual`	Sets manual white balance; the data object must include red (red gain) and blue (blue gain)
`ptz_exposure_auto`	Enables auto exposure; no parameters required
`ptz_exposure_manual`	Sets manual exposure level; the data object must include exposure_level
`ptz_is_supported`	Queries whether the device supports PTZ functionality; no parameters required. **If supported, returns `{"result":"ok"}`; if not supported, returns `{"result":"error","msg":"508"}` (no boolean field)**

Speed-control type must be reset > Example: Setting PTZ requires two steps: 1. Set the target type and target parameters step1:{"type": "ptz_focus_speed","data": {"focus_speed": 0.5},"pos_id": 1,"output_id": "1"} 2. Set the target type and reset parameters to original step2:{"type": "ptz_focus_speed","data": {"focus_speed": 0},"pos_id": 1,"output_id": "1"}

Absolute-position type interfaces do not require reset > Example: Set directly 1. Set the target type and target parameters step1:{"type": "ptz_recall_preset","data": {"preset_no": 1,"speed": 0.5},"pos_id": 1,"output_id": "1"}

Body Request Parameters

```
{
    "output_id": "1",
    "pos_id": 1,
    "type": "ptz_zoom",
    "data": {
        "zoom_value": 0.5,
        "zoom_speed": -1.0,
        "pan_value": -1.0,
        "tilt_value": -1.0,
        "pan_speed": -1.0,
        "tilt_speed": -1.0,
        "preset_no": 0,
        "speed": 0.0,
        "focus_value": 0.0,
        "focus_speed": -1.0,
        "red": 0.0,
        "blue": 0.0,
        "exposure_level": 0.0
    }
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "result": "ok"
}
```


7.14 GET /output/audio/sound

Function Description

Retrieves the audio level meter

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	string	Yes	Output ID	Output ID
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Return Data	Audio level meter data
»» dB	[number]	true	none	Audio dB Values	Audio dB values (floating-point array)
»» stream_id	string	true	none	Stream ID	Stream ID
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "data": [
    {
      "dB": [
        0,
        0,
        0,
        0
```

```
      ],
      "stream_id": "e893d03a94326b981fd3aa276f90183a"
    },
    {
      "dB": [
        0,
        0,
        0,
        0
      ],
      "stream_id": "e893d03a94326b981fd3aa276f90183a"
    }
  ],
  "result": "ok"
}
```


7.15 POST /output/border/set

Function Description

Sets the layout border

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Output ID
» enable	body	boolean	Yes	Enabled Status	Whether enabled
» color	body	string	Yes	Border Color	Border color

Body Request Parameters

```
{
  "output_id": "1",
  "enable": true,
  "color": "#FF0000"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

7.16 GET /output/border/get

Function Description

Retrieves the layout border configuration

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	integer	Yes	Output ID	Output ID
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Border configuration data
»» bottom_width	integer	true	none	Bottom Border Width	Border width
»» color	string	true	none	Border Color	Border color
»» enable	boolean	true	none	Enabled Status	Whether enabled
»» hex_color	integer	true	none	Hex Color Value	Hexadecimal numeric value of the border color
»» left_width	integer	true	none	Left Border Width	Border width
»» right_width	integer	true	none	Right Border Width	Border width
»» top_width	integer	true	none	Top Border Width	Border width
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "data": {
    "bottom_width": 2,
    "color": "#FF0000",
    "enable": true,
    "hex_color": 16711680,
    "left_width": 2,
    "right_width": 2,
    "top_width": 2
  },
  "result": "ok"
}
```


7.17 POST /output/background/set

Function Description

Sets the layout background

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» output_id	body	string	Yes	Output ID	Output ID
» enable	body	boolean	Yes	Enabled Status	Whether enabled
» background	body	string	Yes	Background Color	Background color

Body Request Parameters


```
{
  "output_id": "1",
  "enable": true,
  "background": "#000000"
}
```


Response Data Structure

Response Example


```
{
  "result": "ok"
}
```

7.18 GET /output/background/get

Function Description

Retrieves the layout background configuration

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	string	No	Output ID	Output ID
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Background configuration data
»» background	string	true	none	Background Color	Background color
»» enable	boolean	true	none	Enabled Status	Whether enabled
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "data": {
    "background": "",
    "enable": true
  },
  "result": "ok"
}
```

7.19 POST /output/audio/check

Function Description

Retrieves whether audio is selectable

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body

Name	Location	Type	Required	Display Name	Description
» id	body	string	Yes	Audio Device ID	Audio Device ID

Body Request Parameters

```
{
  "id": ""
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	boolean	true	none	Return Data	Whether it is allowed to be opened
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "data": true,
  "result": "ok"
}
```

7.20 POST /output/ts/program/set

Function Description

Multi-program multi-audio-track switching

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» stream_id	body	string	Yes	Video Source ID	Video Source ID
» selected_id	body	integer	Yes	Program ID	Program ID

Body Request Parameters

```
{
  "stream_id": "7faa9bc2bcd6962ce869323b0cb161b3",
  "selected_id": 3
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

7.21 GET /output/ts/program/get

Function Description

Retrieves the multi-program list

Request Parameters

Name	Location	Type	Required	Display Name	Description
stream_id	query	string	Yes	Video Source ID	Unique identifier of the video source
app	header	string	Yes	Authentication Token	Application Identifier

Body Request Parameters

```
{}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Program data
»» selected_id	integer	true	none	Selected Program ID	ID of the currently selected program/audio track

Name	Type	Required	Constraint	Display Name	Description
»» selection	[array]	true	none	Selection	[Program name, program/audio track ID]
»»» [0]	string	true	none	Program Name	Name of the selected item
»»» [1]	integer	true	none	Selected ID	ID of the selected item
»» supported	boolean	true	none	Supported	Whether multi-program selection is supported
»» tree	[object]	true	none	Program Tree	Tree structure of the program list
»»» children	[object]	true	none	Audio Children	List of audio stream child nodes under the program
»»»» id	integer	true	none	Audio ID	Audio stream ID
»»»» name	string	true	none	Audio Name	Display name of the audio stream
»»»» pid	integer	true	none	PID	Audio stream PID value
»»» id	string	true	none	Program ID	Program identifier
»»» name	string	true	none	Program Name	Display name of the program
» result	string	true	none	Return Result	Request result status ("ok")

Response Example


```
{
    "data": {
        "selected_id": 3,
        "selection": [
            "program_2",
            3
        ],
        "supported": true,
        "tree": [
            {
                "children": [
                    {
                        "id": 1,
                        "name": "Audio (stream 1)",
                        "pid": 257
                    }
                ],
```

```
                "id": "program_1",
                "name": "DSP Uy Premium"
            },
            {
                "children": [
                    {
                        "id": 3,
                        "name": "Audio (stream 3)",
                        "pid": 258
                    }
                ],
                "id": "program_2",
                "name": "DSP Uy Basico"
            }
        ]
    },
    "result": "ok"
}
```


7.22 GET /output/encode/get

Function Description

Retrieves encoding parameters

Request Parameters

Name	Location	Type	Required	Display Name	Description
output_id	query	integer	Yes	Output ID	1=Output1, 2=Output2
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status
» data	object	true	none	Return Data	Encoding parameter data
»» enable	boolean	true	none	Encoding Enabled	Whether encoding is enabled
»» main	object	true	none	Main Stream Parameters	Main stream parameters
»»» codec	string	true	none	Codec Type	"H264" / "H265"
»»» profile	integer	true	none	Codec Profile	0=High, 1=Main, 2=Baseline
»»» pic_width	integer	true	none	Encoding Width	1 when set_resolution_default=true; otherwise the actual pixel value
»»» pic_height	integer	true	none	Encoding Height	1 when set_resolution_default=true; otherwise the actual pixel value
»»» set_resolution_default	boolean	true	none	Use Default Resolution	When true, width and height use the output resolution
»»» grey	boolean	true	none	Grayscale	true=grayscale, false=color

Name	Type	Required	Constraint	Display Name	Description
»»» fps	string	true	none	Frame Rate	"auto"=automatic, "half"=half frame, number=fixed frame rate
»»» mode	string	true	none	Bitrate Mode	"CBR"=constant bitrate, "VBR"=variable bitrate
»»» bitrate	integer	true	none	Bitrate	kbps; 32~50000
»»» max_bitrate	integer	true	none	Max Bitrate	kbps; effective in VBR mode
»»» gop	integer	true	none	GOP Size	1/30/60/90/120/150/180/custom
»»» deinterlace_mode	string	true	none	Deinterlace	"weave"=default, "line_doubling"=field mode
»»» code_frame	integer	true	none	Reference Frames	0=single frame, non-zero=multiple frames
»»» out_mixer_fps	integer	true	none	Mixer Output Frame Rate	Hz
»» sub	object	true	none	Sub Stream Parameters	Sub stream parameters
»»» pic_width	integer	true	none	Width	Fixed 640
»»» pic_height	integer	true	none	Height	Fixed 360
»»» fps	integer	true	none	Frame Rate	Fixed 30
»»» bitrate	integer	true	none	Bitrate	Main bitrate / 2, kbps

Status Code 200

Response Example


```
{
  "result": "ok",
  "data": {
    "enable": false,
    "main": {
      "codec": "H264",
      "profile": 0,
      "pic_width": 1,
      "pic_height": 1,
      "set_resolution_default": true,
      "grey": false,
      "fps": "auto",
      "mode": "VBR",
      "bitrate": 6000,
      "max_bitrate": 20000,
      "gop": 60,
      "deinterlace_mode": "weave",
      "code_frame": 0,
      "out_mixer_fps": 60
    },
    "sub": {
      "pic_width": 640,
      "pic_height": 360,
      "fps": 30,
      "bitrate": 3000
    }
```

```
  }
}
```

7.23 POST /output/encode/set

Function Description

Sets encoding parameters

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
output_id	body	integer	Yes	Output ID	1 or 2
main	body	object	Yes	Main Stream Parameters	Main stream parameters
» codec	body	string	No	Codec Type	"H264" / "H265"
» grey	body	boolean	No	Grayscale	true=grayscale, false=color
» profile	body	integer	No	Codec Profile	0=High, 1=Main, 2=Baseline
» pic_width	body	integer	No	Encoding Width	When 1 is passed, uses the output resolution
» pic_height	body	integer	No	Encoding Height	When 1 is passed, uses the output resolution
» mode	body	string	No	Bitrate Mode	"CBR" / "VBR"
» gop	body	integer	No	GOP Size	1/30/60/90/120/150/180
» fps	body	string	No	Frame Rate	"auto" / "half" / numeric string
» bitrate	body	integer	No	Bitrate	kbps; 32~50000
» max_bitrate	body	integer	No	Max Bitrate	kbps; effective in VBR mode
» code_frame	body	integer	No	Reference Frames	0=single frame, non-zero=multiple frames
» deinterlace_mode	body	string	No	Deinterlace	"default" / "line_doubling"

Body Request Parameters

```
{
  "output_id": 1,
  "main": {
    "codec": "H265",
    "grey": false,
    "profile": 0,
    "pic_width": 1,
    "pic_height": 1,
    "mode": "VBR",
    "gop": 60,
    "fps": "auto",
```

```
    "bitrate": 6000,
    "max_bitrate": 20000,
    "code_frame": 0,
    "deinterlace_mode": "default"
  }
}
```

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Status Code 200

Response Example

```
{
  "result": "ok"
}
```

7.24 POST /output/vumeter/set

Function Description

Sets the volume meter toggle

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
enable	body	boolean	Yes	Enable Volume Meter	true=on, false=off
output_id	body	string	Yes	Output ID	"1"=Output1, "2"=Output2
pos_id	body	integer	Yes	Position ID	Pass -1 to set all positions

Body Request Parameters

```
{
  "enable": false,
  "output_id": "1",
  "pos_id": 2
}
```

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Status Code 200

Response Example

```
{
  "result": "ok"
}
```

7.25 POST /output/mute/set

Function Description

Sets mute

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
output_id	body	integer	Yes	Output ID	1 or 2
pos_id	body	integer	Yes	Position ID	Video position ID
mute	body	boolean	Yes	Mute	true=mute, false=unmute

Body Request Parameters

```
{
  "output_id": 1,
  "pos_id": 0,
  "mute": true
}
```

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Status Code 200

Response Example

```
{
  "result": "ok"
}
```

8. GATE Module

The GATE (gateway streaming) module is used to manage the configuration for the device to push local video streams to external servers. Supports multiple streaming protocols (RTMP / RTSP / RTP / TS / SRT / HLS / NDI_HX, etc.) and allows independent enable/disable of each stream, binding source video streams, batch operations, and multi-output management.

8.1 GET /gate/stream/list

Function Description

Retrieves the media gateway stream list information

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Common Fields (returned for all gateway streams)

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Stream List	Gateway stream object array
»» id	string	true	none	Stream ID	Unique ID in the gateway list
»» index	integer	true	none	Index	Stream index in the gateway list
»» name	string	true	none	Name	Gateway stream name
»» protocol	string	true	none	Protocol Type	Stream protocol type
»» is_enable	boolean	true	none	Enabled Status	Whether streaming is enabled
»» src_url	string	true	none	Source URL	Stream pull source address
»» stream_id	string	true	none	Stream ID	ID of the associated source stream
»» stream_name	string	true	none	Stream Name	Source stream name

Name	Type	Required	Constraint	Display Name	Description
»» error_code	integer	true	none	Error Code	Streaming error code; 0 indicates normal
»» error_msg	string	true	none	Error Description	Streaming error description
»» output_state	string	true	none	Output Status	Streaming output status
»» video_stream_info	object	true	none	Video Info	Video stream information
»»» codec_id	string	true	none	Codec Type	Video codec type
»»» format	string	true	none	Frame Type	P-frame or I-frame
»»» fps	integer	true	none	Frame Rate	Video frame rate
»»» height	integer	true	none	Height	Video height
»»» width	integer	true	none	Width	Video width
»» audio_stream_info	object	true	none	Audio Info	Audio stream information
»»» bits	integer	true	none	Bit Depth	Audio bit depth
»»» channels	integer	true	none	Channel Count	Audio channel count
»»» codec_id	string	true	none	Codec Type	Audio codec type
»»» sample_rate	integer	true	none	Sample Rate	Audio sample rate
»» net_statics	object	true	none	Network Statistics	Network transmission statistics
»»» down_kbps	integer	true	none	Downlink Rate	Downlink rate (kbps)
»»» up_kbps	integer	true	none	Uplink Rate	Uplink rate (kbps)
»» ts_program_num	integer	true	none	TS Program Number	TS stream program number; -1 if none

> The following are protocol-specific fields.

RTSP Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»» auth	boolean	true	none	Authentication Enabled	Whether authentication is enabled
»» user	string	true	none	Username	RTSP authentication username
»» pwd	string	true	none	Password	RTSP authentication password

Name	Type	Required	Constraint	Display Name	Description
»» session	string	true	none	Session Name	RTSP session name/channel number
»» dest_url	string	true	none	Destination URL	Target push address
»» port	integer	true	none	Port	RTSP stream transport port
»» http_tunnel_port	integer	true	none	HTTP Tunnel Port	HTTP tunnel port number
»» multicast_enable	boolean	true	none	Multicast Enable	Whether multicast is enabled
»» multicast_addr	string	true	none	Multicast Address	Multicast address
»» multicast_port_min	integer	true	none	Multicast Port Min	Lower bound of the multicast port range
»» multicast_port_max	integer	true	none	Multicast Port Max	Upper bound of the multicast port range
»» multicast_ttl	integer	true	none	Multicast TTL	Time-to-live of multicast data packets

RTP Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»» dest_url	string	true	none	Destination URL	Target push address
»» port	integer	true	none	Port	RTP transport port
»» load_type	string	false	none	Payload Type	RTP payload type (e.g. ts)
»» ttl	integer	true	none	TTL	Time-to-live of RTP data packets

TS Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»» dest_url	string	true	none	Destination URL	Target push address
»» port	integer	true	none	Port	TS transport port
»» ts_start_pid	integer	true	none	Start PID	Start PID of media data
»» ts_pmt_start_pid	integer	true	none	PMT Start PID	Start PID of the program map table
»» ts_service_name	string	true	none	Service Name	TS service name
»» ts_service_provider	string	true	none	Service Provider	TS service provider name

Name	Type	Required	Constraint	Display Name	Description
»» ts_tables_version	integer	true	none	Table Version Number	Version number of the TS table
»» ts_transport_stream_id	integer	true	none	Transport Stream ID	TS transport stream ID
»» ts_pcr_period	integer	true	none	PCR Clock Period	PCR clock period (ms)
»» ts_null_multiple	integer	true	none	Null Packet Multiple	TS null packet fill multiple
»» bind_port	integer	false	none	Bind Port	TS bind port; 0 indicates not bound
»» ts_pts_pcr_delay	integer	false	none	PTS/PCR Delay	PTS/PCR delay (ms)

SRT Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»» connection_mode	string	false	none	Connection Mode	Listener, Caller, or Rendezvous
»» encryption	string	false	none	Encryption Status	0=no encryption, 1=encryption enabled
»» latency	integer	false	none	Transmission Latency	SRT transmission latency (ms)
»» listener_port	integer	false	none	Listener Port	SRT listener port
»» passphrase	string	false	none	Encryption Passphrase	SRT encryption passphrase
»» srt_stream_id	string	false	none	SRT Stream ID	Unique identifier of the SRT stream

HLS Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»» mode	string	false	none	Running Mode	HLS running mode (e.g. server)
»» segment_time	integer	false	none	Segment Duration	HLS segment duration (seconds)
»» max_segments	integer	false	none	Max Segments	Number of HLS retained segments
»» media_playlist_url	string	false	none	Playlist URL	HLS playlist (m3u8)

NDI HX Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»» channel_name	string	false	none	Channel Name	NDI channel name
»» connection	string	false	none	Connection Method	NDI connection method
»» discovery_server	string	false	none	Discovery Server	NDI discovery server address
»» group	string	false	none	Discovery Group	NDI discovery group
»» netmask	string	false	none	Subnet Mask	NDI stream subnet mask
»» netprefix	string	false	none	Network Prefix	NDI stream network prefix

RTMP Protocol Fields

Name	Type	Required	Constraint	Display Name	Description
»» address	string	true	none	Push Address	RTMP push address
»» dest_url	string	true	none	Destination URL	Target push address
»» user	string	true	none	Username	RTMP authentication username
»» pwd	string	true	none	Password	RTMP authentication password
»» password	string	false	none	Password	Streaming password
»» conn_intv	integer	false	none	Reconnect Interval	Reconnect interval (seconds)
»» conn_timeout	integer	false	none	Connection Timeout	Connection timeout (seconds)
»» old_rtmp	boolean	false	none	Legacy RTMP	Whether legacy RTMP is enabled

Global Return Fields

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result; "ok" indicates success

Response Example


```
200 Response
{
    "data": [{
            "audio_stream_info": {
                "bits": 0,
                "channels": 2,
                "codec_id": "AAC",
                "sample_rate": 48000
            },
            "auth": false,
            "dest_url": "",
            "http_tunnel_port": 8554,
            "id": "f29fe5e3c92814a81def018fd6c980df",
            "index": 34,
            "is_enable": false,
            "multicast_addr": "224.0.1.0",
            "multicast_enable": false,
            "multicast_port_max": 31004,
            "multicast_port_min": 31000,
            "multicast_ttl": 127,
            "name": "RS96",
            "net_statics": {
                "down_kbps": 0,
                "up_kbps": 0
            },
            "output_state": "inactive",
            "port": 596,
            "protocol": "rtsp",
            "pwd": "",
            "session": "ch96",
            "src_url": "rtsp://172.30.48.227:596/ch96",
            "stream_id": "c9c7339a070aa9906b263994e5cbaf4e",
            "stream_name": "",
            "user": "",
            "video_stream_info": {
                "codec_id": "H.264",
                "format": "p",
                "fps": 60,
                "height": 1080,
                "width": 1920
            }
        }
    ],
    "result": "ok"
```

```
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

8.2 POST /gate/stream/add

Function Description

Adds a media gateway stream

Body Request Parameters

> RTMP example (see the protocol-specific parameter tables below for other protocols):

```
{
  "name": "推流1",
  "protocol": "rtmp",
  "is_enable": true,
  "address": "rtmp://192.168.1.100/live/stream",
  "user": "",
  "password": "",
  "conn_intv": 3,
  "conn_timeout": 10,
  "old_rtmp": false
}
```

Common Request Parameters (all protocols)

`protocol` determines the type of this gateway stream; values: `rtmp` / `rtsp` / `rtp` / `ts` / `srt` / `hls` / `ndi_hx` (`ndi_full` reserved). Different `protocol` values require **different** protocol-specific fields (see the protocol tables below); missing required fields for a protocol returns `1` (parameter error), causing the addition to fail.

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» name	body	string	Yes	Gateway Stream Name	Gateway stream name (non-empty)
» protocol	body	string	Yes	Protocol Type	Protocol type, see above
» is_enable	body	boolean	Yes	Enabled Status	Whether streaming is enabled
» stream_id	body	string	No	Stream ID	ID of the bound source stream; can also be bound later using /gate/stream/bind_src

Name	Location	Type	Required	Display Name	Description
» stream_name	body	string	No	Stream Name	Stream name

Protocol-Specific Parameters

Note: The following tables list the fields that are actually validated for each protocol **in addition to the common parameters**. The `ts_*` series are TS encapsulation parameters; fields with ranges will be rejected if out of range.

protocol = rtmp

Name	Type	Required	Display Name	Description
» address	string	Yes	Push Address	RTMP push address (non-empty)
» conn_intv	integer	Yes	Reconnect Interval	Reconnect interval (seconds); must be > 0
» conn_timeout	integer	Yes	Connection Timeout	Connection timeout (seconds); must be > 0
» old_rtmp	boolean	Yes	Legacy RTMP	Whether to enable legacy RTMP version
» user	string	No	Username	Username
» password	string	No	Password	Password

protocol = rtsp

Name	Type	Required	Display Name	Description
» session	string	Yes	Session Name	RTSP session name
» port	integer	Yes	Port	RTSP service port
» http_tunnel_port	integer	Yes	HTTP Tunnel Port	HTTP tunnel port
» auth	boolean	Yes	Whether Authenticated	Whether authentication is enabled
» user	string	Required when auth=true	Username	Username
» pwd	string	Required when auth=true	Password	Password
» multicast_enable	boolean	Yes	Multicast Enable	Whether multicast is enabled
» multicast_addr	string	Yes	Multicast Address	Multicast address

Name	Type	Required	Display Name	Description
» multicast_ttl	integer	Yes	Multicast TTL	Multicast TTL
» multicast_port_min	integer	Yes	Multicast Port Min	Lower bound of the multicast port range
» multicast_port_max	integer	Yes	Multicast Port Max	Upper bound of the multicast port range

protocol = rtp (RTP over UDP)

Name	Type	Required	Display Name	Description
» address	string	Yes	Destination URL	Destination address
» port	integer	Yes	Target Port	Target port
» load_type	integer	Yes	Payload Type	Payload type
» ttl	integer	Yes	TTL	TTL
» ts_service_name	string	Yes	Service Name	TS service name
» ts_service_provider	string	Yes	Service Provider	TS service provider
» ts_pcr_period	integer	Yes	PCR Period	PCR period; 1–100
» ts_transport_stream_id	integer	Yes	TS ID	TS ID; 1–65535
» ts_start_pid	integer	Yes	Start PID	Start PID; 32–3840
» ts_pmt_start_pid	integer	Yes	PMT Start PID	PMT start PID; 16–7936
» ts_tables_version	integer	Yes	Table Version	Table version; 0–31

protocol = ts (RTP over TS / UDP)

Name	Type	Required	Display Name	Description
» address	string	Yes	Destination URL	Destination address
» port	integer	Yes	Target Port	Target port
» bind_port	integer	Yes	Bind Port	Local bind port; 0–65535
» ttl	integer	Yes	TTL	TTL
» ts_pts_pcr_delay	integer	Yes	PTS/PCR Delay	PTS/PCR delay
» ts_service_name	string	Yes	Service Name	TS service name
» ts_service_provider	string	Yes	Service Provider	TS service provider
» ts_pcr_period	integer	Yes	PCR Period	PCR period; 1–100

Name	Type	Required	Display Name	Description
» ts_transport_stream_id	integer	Yes	TS ID	TS ID
» ts_start_pid	integer	Yes	Start PID	Start PID
» ts_pmt_start_pid	integer	Yes	PMT Start PID	PMT start PID
» ts_tables_version	integer	Yes	Table Version	Table version

protocol = srt

Name	Type	Required	Display Name	Description
» connection_mode	string	Yes	Connection Mode	Connection mode (Caller/Listener/Rendezvous)
» address	string	Required when not Listener	Destination URL	Destination address
» listener_port	integer	Yes	Listener Port	Listener/connection port; 1025–65535
» latency	integer	Yes	Latency	Latency (ms); 0–5000
» encryption	string	Yes	Encryption Method	Encryption method; "0" indicates no encryption
» passphrase	string	Required when encryption≠"0"	Passphrase	Passphrase; 10–79 characters
» ts_service_name	string	Yes	Service Name	TS service name
» ts_service_provider	string	Yes	Service Provider	TS service provider
» ts_pcr_period	integer	Yes	PCR Period	PCR period
» ts_start_pid	integer	Yes	Start PID	Start PID
» ts_pmt_start_pid	integer	Yes	PMT Start PID	PMT start PID
» ts_tables_version	integer	Yes	Table Version	Table version

protocol = hls

Name	Type	Required	Display Name	Description
» mode	string	Yes	Mode	Mode; when "server", session must also be filled
» session	string	Required when mode="server"	Session ID	Session ID (returns 615 if duplicate)
» segment_time	integer	Yes	Segment Duration	Segment duration; must be > 0

Name	Type	Required	Display Name	Description
» max_segments	integer	Yes	Max Segments	Max segments; must be > 0

protocol = ndi_hx

Name	Type	Required	Display Name	Description
» channel_name	string	Yes	NDI Channel Name	NDI channel name (returns 614 if duplicate)
» ttl	integer	Yes	TTL	TTL; must be > 0
» connection	string	Yes	Connection Method	Connection method; when "multicast", netmask/netprefix must also be filled
» netmask	string	Required when connection="multicast"	Subnet Mask	Multicast subnet mask
» netprefix	string	Required when connection="multicast"	Network Prefix	Multicast network prefix

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
200 Response
{
  "result": "ok"
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

8.3 POST /gate/stream/delete

Function Description

Deletes a media gateway stream

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» ids	body	[object]	Yes	Stream Array	Stream array
»» id	body	string	Yes	Stream ID	Unique ID in the gateway list

Body Request Parameters

```
{
  "ids": [
    {
      "id": "a808357e97d12ecce12f6e0537654a69"
    },
    {
      "id": "3cce25843301e212ce1dab5ebdc0ad91"
    },
    {
      "id": "f8e9900cc04a378eaa2b92d5dd4edf90"
    }
  ]
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
200 Response
{
  "result": "ok"
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

8.4 POST /gate/stream/update

Function Description

Modifies media gateway stream information

Request Parameters

> Note: update uses **incremental merging** — after locating the record by `id`, the fields submitted this time are merged into the original record. Therefore **only `id` is required**; only submit the fields that need to be modified. Fields not submitted retain their original values. `output_state` is a server-computed streaming status; it is not a valid input parameter and does not need to be submitted. When modifying protocol-specific fields, field meanings and value ranges are the same as the protocol tables in `/gate/stream/add`.

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» id	body	string	Yes	Stream ID	Unique ID in the gateway list (locates the record to modify)
» name	body	string	No	Gateway Stream Name	Gateway stream name
» stream_id	body	string	No	Stream ID	Stream ID
» stream_name	body	string	No	Stream Name	Stream name
» protocol	body	string	No	Protocol Type	Protocol type
» is_enable	body	boolean	No	Enabled Status	Whether streaming is enabled
» password	body	string	No	Password	Password
» address	body	string	No	Push Address	RTMP push address
» user	body	string	No	Username	Username
» conn_intv	body	integer	No	Reconnect Interval	Reconnect interval (seconds)
» conn_timeout	body	integer	No	Connection Timeout	Connection timeout (seconds)
» old_rtmp	body	boolean	No	Legacy RTMP	Enable legacy RTMP version
» (other protocol fields)	body	-	No	Other Fields	See the protocol parameter tables in /gate/stream/add

Body Request Parameters

```
{
  "address": "rtmp://172.30.227:1935/live/1",
  "user": "admin",
  "password": "Admin123",
  "conn_timeout": 15,
  "conn_intv": 3,
  "old_rtmp": false,
  "id": "82c83493f98abf452b7b6edccca98a52",
  "name": "rtmp0",
  "is_enable": false,
  "protocol": "rtmp",
  "stream_id": "c9c7339a070aa9906b263994e5cbaf4e"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
200 Response
{
  "result": "ok"
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

8.5 POST /gate/stream/bind_src

Function Description

Binds the media gateway streaming source

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body

Name	Location	Type	Required	Display Name	Description
» stream_id	body	string	Yes	Stream ID	Stream ID
» id	body	string	Yes	Gateway Stream ID	Unique ID in the gateway list

Body Request Parameters

```
{
  "id": "b316084c326e7166e2f9af51e4d2b9dc",
  "stream_id": "1feb0d043a38db99d212199942785289"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
200 Response
{
  "result": "ok"
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

8.6 POST /gate/stream/batch_enable

Function Description

Batch enables media gateway streaming

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body

Name	Location	Type	Required	Display Name	Description
» ids	body	[object]	Yes	Stream ID Array	Gateway stream ID list
»» id	body	string	Yes	Stream ID	Unique ID in the gateway list
» enable	body	boolean	Yes	Enabled Status	Whether to enable gateway streaming

Body Request Parameters

```
{
  "ids": [
    {
      "id": "afab531cee66302083f4966286652f56"
    }
  ],
  "enable": true
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
200 Response
{
  "result": "ok"
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

8.7 GET /gate/stream/multi_out_query

Function Description

Queries the enabled status of OUTPUT1/2 encoding output preview

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Encoding output preview configuration
»» enable	integer	true	none	Current Window	Switches the OUTPUT1/2 encoding output preview window
»» skip_switch_confirm	boolean	true	none	Skip Confirmation	Whether to skip the switch confirmation dialog
» result	string	true	none	Return Result	Call result

Response Example

```
200 Response
{
  "data": {
    "enable": 1,
    "skip_switch_confirm": false
  },
  "result": "ok"
}
```

Return Result

Status Code	Status Code Meaning	Description	Data Model
200	OK	Request successful	Inline

8.8 POST /gate/stream/multi_out_enable

Function Description

Switches the OUTPUT1/2 encoding output preview window

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	No	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body

Name	Location	Type	Required	Display Name	Description
» enable	body	integer	Yes	Target Window	Switches the OUTPUT1/2 encoding output preview window
» skip_switch_confirm	body	boolean	No	Skip Confirmation	Whether to skip the confirmation dialog; if not provided, retains the original value (backward compatible)

Body Request Parameters

```
{
  "enable": 2,
  "skip_switch_confirm": false
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

9. NETWORK Module

The NETWORK (network) module is used to manage the device's network configuration, including network port IP address and DHCP settings, DNS server configuration, HTTP service ports, static routing table management (add/delete/modify/enable), and network connectivity diagnostics (Ping).

9.1 GET /network/get

Function Description

Retrieves the network card list

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	none	Return Data	Network card list data

Name	Type	Required	Constraint	Display Name	Description
»» device	string	true	none	Network Port Name	Network port name
»» dns	string	true	none	DNS	DNS server address
»» dynamic	string	true	none	DHCP Status	Whether DHCP dynamic allocation
»» enable	integer	true	none	Enabled Status	Whether enabled
»» enable2	boolean	true	none	Maintenance Address Enable	Whether the maintenance address is enabled
»» gw	string	true	none	Gateway	Gateway address
»» gw2	string	true	none	Maintenance Address Gateway	Maintenance address gateway
»» ip	string	true	none	IP Address	IP address
»» ip2	string	true	none	Maintenance Address IP	Maintenance address IP
»» mac	string	true	none	MAC Address	MAC address
»» mask	string	true	none	Subnet Mask	Subnet mask
»» mask2	string	true	none	Maintenance Address Subnet Mask	Maintenance address subnet mask
»» state	string	true	none	Connection Status	Whether connected
» result	string	true	none	Return Result	Request result status

Response Example


```
{
    "data": [
        {
            "device": "eth0",
            "dns": "",
            "dynamic": "n",
            "enable": 1,
            "enable2": true,
            "gw": "192.168.36.254",
            "gw2": "",
            "ip": "192.168.36.6",
            "ip2": "192.168.1.163",
            "mac": "18:C3:F4:25:66:66",
            "mask": "255.255.255.0",
```

```
            "mask2": "255.255.255.0",
            "state": "up"
        },
        {
            "device": "eth1",
            "dns": "",
            "dynamic": "n",
            "enable": 1,
            "enable2": true,
            "gw": "192.168.36.254",
            "gw2": "",
            "ip": "192.168.36.16",
            "ip2": "192.168.2.161",
            "mac": "18:C3:F4:25:66:67",
            "mask": "255.255.255.0",
            "mask2": "255.255.255.0",
            "state": "down"
        }
    ],
    "result": "ok"
}
```


9.2 POST /network/routing/add

Function Description

Adds a route

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» device	body	string	Yes	Network Port Name	Network port name
» ip	body	string	Yes	Route IP	Route IP
» netmask	body	string	Yes	Subnet Mask	Subnet mask
» gw	body	string	Yes	Gateway	Gateway
» mtu	body	integer	Yes	MTU	MTU
» metric	body	integer	Yes	Metric	Metric

Body Request Parameters

```
{
  "device": "eth1",
  "ip": "192.168.1.1",
  "netmask": "255.255.255.255",
  "gw": "192.168.36.6",
  "mtu": 1500,
  "metric": 0
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

9.3 POST /network/http/set

Function Description

Sets the HTTP/HTTPS port

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» http	body	boolean	Yes	HTTP Enabled	Whether HTTP is enabled
» httpPort	body	integer	Yes	HTTP Port	HTTP port
» https	body	boolean	Yes	HTTPS Enabled	Whether HTTPS is enabled
» httpsPort	body	integer	Yes	HTTPS Port	HTTPS port
» authEnable	body	boolean	No	Authentication Enabled	Whether authentication is enabled

> Note: If the port conflicts with a system reserved port (99/100/102/6665/6666, RTMP, WebSocket, etc.), an error is returned `{"result":"error","msg":"405"}` (ERR_PORT_ALREADY_OCCUPIED).

Body Request Parameters

```
{
  "http": true,
  "httpPort": 80,
  "https": true,
  "httpsPort": 443
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

9.4 GET /network/http/get

Function Description

Retrieves the HTTP/HTTPS port

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	HTTP/HTTPS port data
»» http	boolean	true	none	HTTP Enabled	Whether HTTP is enabled
»» httpPort	integer	true	none	HTTP Port	HTTP port
»» https	boolean	true	none	HTTPS Enabled	Whether HTTPS is enabled
»» httpsPort	integer	true	none	HTTPS Port	HTTPS port
»» authEnable	boolean	true	none	Authentication Enabled	Whether authentication is enabled (always returned)
» result	string	true	none	Return Result	Request result status

Response Example


```
{
  "data": {
    "http": true,
    "httpPort": 80,
    "https": true,
    "httpsPort": 443,
    "authEnable": false
  },
  "result": "ok"
}
```


9.5 POST /network/ping

Function Description

Checks whether a specified address can be pinged

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» ip	body	string	Yes	Target IP	Target address

Body Request Parameters


```
{
  "ip": "192.168.36.124"
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true	none	Return Data	Ping result data
»» lossRate	integer	true	none	Packet Loss Rate	Packet loss rate
»» reachable	boolean	true	none	Reachable	Whether reachable; always true when the response is successful

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

> Note: The success structure above (with `reachable` always true) is only returned when reachable; **when unreachable, an error is returned** `{"result":"error","msg":"400"}` (ERR_IP_UNREACHABLE); `reachable:false` is never returned.

Response Example

```
{
  "data": {
    "lossRate": 0,
    "reachable": true
  },
  "result": "ok"
}
```

9.6 POST /network/routing/set

Function Description

Sets the routing status (whether enabled)

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» id	body	string	Yes	Route ID	Unique value
» status	body	integer	Yes	Enabled Status	Whether enabled; 1=enabled, 0=disabled

Body Request Parameters

```
{
  "id": "c26163a66109b6c1a717e7be658ab071",
  "status": 0
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	none	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

9.7 POST /network/routing/del

Function Description

Deletes a route

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» ids	body	string	Yes	Route ID	Unique id value

Body Request Parameters

```
{
    "ids":"e762817bb4e7d6889bc4cd09477672a2"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

9.8 POST /network/routing/modify

Function Description

Modifies a route

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» id	body	string	Yes	Route ID	Unique id value
» device	body	string	Yes	Network Port	Network Port
» ip	body	string	Yes	IP Address	IP Address
» netmask	body	string	Yes	Subnet Mask	Subnet Mask
» gw	body	string	Yes	Gateway	Gateway
» mtu	body	integer	Yes	MTU	MTU
» metric	body	integer	Yes	Metric	Metric

Body Request Parameters

```
{
  "id": "e762817bb4e7d6889bc4cd09477672a2",
  "device": "eth1",
  "ip": "192.168.1.2",
  "netmask": "255.255.255.255",
  "gw": "192.168.36.6",
  "mtu": 1500,
  "metric": 0
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

9.9 GET /network/routing/get

Function Description

Retrieves the routing list

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true	None	Return Data	Routing list data
»» device	string	false	None	Network Port	Network Port
»» gw	string	false	None	Gateway	Gateway
»» id	string	false	None	Route ID	Route ID
»» ip	string	false	None	IP Address	IP Address
»» metric	integer	false	None	Metric	Metric
»» mtu	integer	false	None	MTU	MTU
»» netmask	string	false	None	Subnet Mask	Subnet Mask
»» status	integer	false	None	Enabled Status	Status
» result	string	true	None	Return Result	Request result status

Response Example


```
{
    "result": "ok",
    "data": [
        {
            "id": 1,
            "device": "eth0",
            "ip": "192.168.38.12",
            "netmask": "255.255.255.0",
            "gw": "192.168.38.254",
            "mtu": 1500,
            "metric": 0,
            "status": 0
        }
    ]
```

```
}
```

9.10 POST /network/set

Function Description

Modifies network settings

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» dynamic	body	string	Yes	DHCP Status	Whether DHCP; "y"=DHCP, in which case no other fields are needed
» device	body	string	Required when dynamic≠"y"	Network Port	Network Port
» ip	body	string	Required when dynamic≠"y"	IP Address	IP Address
» mask	body	string	Required when dynamic≠"y"	Subnet Mask	Subnet Mask
» mac	body	string	Required when dynamic≠"y"	MAC Address	MAC Address
» gw	body	string	No	Gateway	Gateway (not validated)
» dns	body	string	No	DNS	DNS (not validated)

Body Request Parameters

```
{
  "device": "eth0",
  "dynamic": "n",
  "ip": "192.168.36.6",
  "mask": "255.255.255.0",
  "gw": "192.168.36.254",
  "dns": "",
  "mac": "18:C3:F4:25:66:66"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Return Result	Request result status

Response Example

```
{
  "result": "ok"
}
```

9.11 POST /network/modify

Function Description

Modifies the maintenance address

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Application Identifier
body	body	object	No	Request Body	Request Body
» device	body	string	Yes	Network Port	Network Port
» enable2	body	boolean	Yes	Maintenance Address Enabled	Whether enabled
» ip2	body	string	Yes	Maintenance Address IP	Maintenance Address IP
» mask2	body	string	Yes	Maintenance Address Subnet Mask	Maintenance Address Subnet Mask
» gw2	body	string	Yes	Maintenance Address Gateway	Maintenance Address Subnet Gateway

Body Request Parameters

```
{
  "device": "eth0",
  "enable2": true,
  "ip2": "192.168.1.168",
  "mask2": "255.255.255.0",
  "gw2": ""
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Return Result	Request result status

10. SYSTIME Module

System time and timezone management module, used to get and set the device system time, timezone, and NTP server configuration.

10.1 GET /timeregion/settings

Function Description

Retrieves timezone setting information

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true		Return Data	Return data object
»» ntp_servers	string	true		NTP Server	NTP server address
»» offset	integer	true		Timezone Offset	Timezone offset
»» time	string	true		System Time	Time string
»» timetype	string	true		Time Type	3 time types: ntp, pc, manual
»» timezone	string	true		Timezone Name	Timezone Name
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "data": {
    "ntp_servers": "ntp1.aliyun.com ntp2.aliyun.com ntp3.aliyun.com",
    "offset": 8,
    "time": "2024-09-09 10:40:46",
    "timetype": "pc",
    "timezone": "Asia/Shanghai"
  },
  "result": "ok"
}
```


10.2 POST /timeregion/time/set

Function Description

Time Setting

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» time	body	string	Yes	System Time	Time string format: "2024-09-09 09:20:46"
» timetype	body	string	Yes	Time Type	Three cases: ntp, pc, manual
» offset	body	integer	Yes	Timezone Offset	Timezone offset, e.g. 8
» ntp_servers	body	string	Yes	NTP Server	NTP server URL address; pass empty or omit when not ntp

Body Request Parameters


```
{
  "time": "2024-09-09 09:20:46",
  "timetype": "pc",
  "offset": 8,
  "ntp_servers": "ntp1.aliyun.com ntp2.aliyun.com ntp3.aliyun.com"
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

10.3 POST /timeregion/timezone/set

Function Description

Timezone Setting

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» timezone	body	string	Yes	Timezone Name	Timezone Name
» offset	body	integer	Yes	Timezone Offset	Timezone offset

Body Request Parameters

```
{
  "timezone": "Asia/Shanghai",
  "offset": 8
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

---

11. SYSTEM Module

System management module, providing device reboot, reset, restore factory settings, and management capabilities for device name and network configuration.

11.1 GET /sys/reboot

Function Description

System Reboot

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

11.2 GET /sys/reset

Function Description

System Reset

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

11.3 GET /sys/restore

Function Description

Restore Factory Settings

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

11.4 GET /sys/device/get

Function Description

Retrieves the device name

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true		Return Data	Return data object
»» device_name	string	true		Device Name	Device Name
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "data": {
    "device_name": "DECODER-D350159856666\n"
  },
  "result": "ok"
}
```

11.5 POST /sys/device/set

Function Description

Sets the device name

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» device_name	body	string	Yes	Device Name	Device Name

Body Request Parameters


```
{
  "device_name": "D350-211111"
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example


```
{
  "result": "ok"
}
```

11.6 GET /sys/ip/get

Function Description

Resolves the corresponding IP and port from a URL.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
url	query	string	Yes	Stream Address	Stream Address

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true		Return Data	Return data object
»» ip	string	true		IP Address	Resolved IP address
»» path	string	true		Path	Resolved path
»» port	integer	true		Port Number	Resolved port number
» result	string	true		Return Result	Operation Result

Response Example


```
{
  "data": {
    "ip": "10.20.30.21",
    "path": "",
    "port": 5961
  },
  "result": "ok"
}
```

11.7 POST /sys/ip/replace

Function Description

Replaces the IP and port in a stream address.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» url	body	string	Yes	Stream Address	Original stream address
» target_ip	body	string	Yes	Target IP	Target IP address
» target_port	body	string	Yes	Target Port	Target port number

Body Request Parameters

```
{
  "url": "srt://192.168.1.1:13?dddddd",
  "target_ip": "192.168.1.124",
  "target_port": "1234"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true		Return Data	Return data object
»» url	string	true		Stream Address	Replaced stream address
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "data": {
    "url": "srt://192.168.1.124:1234?dddddd"
  },
  "result": "ok"
}
```

11.8 GET /sys/config/export

Function Description

Exports device source configuration, returning a zip file binary stream. The archive contains kv_source.json (source group and stream configuration).

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request body object (optional)
» modules	body	array	No	Module List	Modules to export; currently only "source" is supported, default is ["source"]
» name	body	string	No	File Name	Export zip file name (without extension), default is "config"

Body Request Parameters (optional)

```
{
  "modules": ["source"],
  "name": "source_config"
}
```

Response Data Structure

Status Code 200

On success, returns a zip file binary stream (Content-Type: application/octet-stream); the response header carries Content-Disposition: attachment; filename=".zip". On failure, returns JSON: `{"result":"error","msg":"<error code>"}`.

11.9 POST /sys/config/import

Function Description

Imports device source configuration. Supports two methods: specify the absolute path of the zip file via JSON (klnk-app proxy scenario), or directly upload the zip file via multipart/form-data.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request body object
» path	body	string	No	File Path	Absolute path of the zip file (/tmp, /var/tmp only); choose one of this or the uploaded file
» upload	body	string(binary)	No	Config File	The zip file uploaded via multipart/form-data; choose one of this or path

Body Request Parameters

Method 1 (JSON-specified path):

```
{
  "path": "/tmp/source_config.zip"
}
```

Method 2 (multipart/form-data): The file field name is `upload`.

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Operation Result	Request result; "ok" indicates success

Response Example

```
{
  "result": "ok"
}
```

---

12. MAINTENANCE Module

Device maintenance module, used to retrieve device running status, including CPU and memory utilization, temperature, and other information.

12.1 GET /maintenance/usage_get

Function Description

Retrieves device utilization

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result
» data	object	true		Return Data	Return data object
»» cpu_precent	number	true		CPU Utilization	CPU utilization (%). Note: The field name is cpu_precent, not cpu_percent.
»» mem_precent	number	true		Memory Utilization	Memory utilization (%)
»» temperature	number	true		CPU Temperature	CPU temperature (Celsius); -1 indicates sensor unavailable

Status Code 200

Response Example

```
{
  "result": "ok",
  "data": {
    "cpu_precent": 0.74,
    "mem_precent": 23.02,
    "temperature": -1
  }
}
```

12.2 POST /sys/preset/set

Function Description

Sets the screen handling policy when a video source has no signal. When a video source loses its stream or has no signal input, the device uses this preset value to determine the output screen behavior. This setting takes effect globally and applies to all video source channels.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Current user's authentication token
» preset	body	integer	Yes	Preset Type	`0` — No-signal screen (displays the preset no-signal placeholder image); `1` — Black screen (outputs a pure black screen); `2` — Not preset (no screen processing, equivalent to no operation)

Body Request Parameters


```
{
  "preset": 1
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Return Result	`"ok"` indicates the setting was successful

Status Code 200 (Failure)

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Return Result	`"error"` indicates the setting failed
» msg	string	true	None	Error Code	`401` — Required parameter `preset` is missing

Response Example

```
{
  "result": "ok"
}
```

Error Response Example

```
{
  "result": "error",
  "msg": "401"
}
```

12.3 GET /sys/preset/get

Function Description

Retrieves the preset value for the screen handling policy when a video source has no signal.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Current user's authentication token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true	None	Return Result	`"ok"` indicates the request was successful

Name	Type	Required	Constraint	Display Name	Description
» data	integer	true	None	Preset Type	`0` — No-signal screen (displays the preset no-signal placeholder image); `1` — Black screen (outputs a pure black screen); `2` — Not preset (no screen processing)

Response Example

```
{
  "result": "ok",
  "data": 0
}
```

13. FIRMWARE Module

Firmware upgrade module, supporting device firmware upgrade by uploading firmware files via multipart/form-data.

13.1 POST /firmware/upgrade

Function Description

Firmware Upgrade

Request Parameters

Name	Location	Type	Required	Display Name	Description
Content-Type	header	string	Yes	Content Type	multipart/form-data
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» upload	body	string(binary)	Yes	Firmware File	Firmware file binary data
» path	body	string	No	File Path	File path (optional)
» size	body	integer	No	File Size	Firmware file size

Body Request Parameters (multipart/form-data)

```
upload: <firmware file binary>
size: file size
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

14. PREVIEW Module

Video preview management module, used to retrieve the list of video sources in the current preview pane, and to add or remove video sources from the preview pane.

14.1 GET /preview/get

Function Description

Retrieves the list of video sources in the preview

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true		Return Data	Return data object
»» position	[object]	true		Pane Information	Pane position information array
»»» height	integer	true		Height	Pane display height
»»» id	integer	true		Pane Position ID	Pane position ID
»»» resolution	string	true		Resolution	Resolution information
»»» status	integer	true		Stream Pull Status	Stream pull status
»»» stream_id	string	true		Source ID	Stream ID
»»» stream_name	string	true		Stream Name	Stream Name
»»» stream_url	string	true		Stream Address	Stream URL

Name	Type	Required	Constraint	Display Name	Description
»»» type	string	true		Stream Type	Stream Type
»»» width	integer	true		Width	Pane display width
»»» x	integer	true		X Coordinate	Image X coordinate position
»»» y	integer	true		Y Coordinate	Image Y coordinate position
» result	string	true		Return Result	Operation Result

Response Example


```
{
  "data": {
    "position": [
      {
        "height": 144,
        "id": 1,
        "resolution": "1920x1080p60",
        "status": 2,
        "stream_id": "e893d03a94326b981fd3aa276f90183a",
        "stream_name": "N60_238 (HB)",
        "stream_url": "192.168.36.238:5965",
        "type": "ndi",
        "width": 320,
        "x": 0,
        "y": 0
      },
      {
        "height": 144,
        "id": 2,
        "resolution": "640x360p30",
        "status": 2,
        "stream_id": "0f79952dbc00505b2331b0bdb0c8ca0a",
        "stream_name": "N60_238 (HX)",
        "stream_url": "192.168.36.238:5964",
        "type": "ndi",
        "width": 320,
        "x": 320,
        "y": 0
      }
    ]
  },
  "result": "ok"
}
```

14.2 POST /preview/source/modify

Function Description

Adds a video source to the preview

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» from	body	object	Yes	Source Information	Source information
»» pos_id	body	string	Yes	Pane Position ID	Source pane position ID (actually effective field)
»» type	body	string	No	Source Type	Source Type
»» stream_id	body	string	No	Source ID	Stream ID
»» stream_name	body	string	No	Stream Name	Stream Name
»» stream_url	body	string	No	Stream Address	Stream URL
»» output_id	body	string	No	Output ID	Output ID
»» layout_id	body	string	No	Layout ID	Layout ID
» to	body	object	Yes	Target Information	Target information
»» stream_id	body	string	Yes	Source ID	Target stream ID (actually effective field)
»» pos_id	body	string	Yes	Pane Position ID	Target pane position ID (actually effective field)
»» type	body	string	No	Target Type	Join type
»» stream_name	body	string	No	Stream Name	Stream Name
»» stream_url	body	string	No	Stream Address	Stream URL
»» output_id	body	string	No	Output ID	Output ID
»» layout_id	body	string	No	Layout ID	Layout ID

> Note: This API actually only uses the `from.pos_id`, `to.stream_id`, and `to.pos_id` fields; other fields can be omitted.

Body Request Parameters


```
{
  "from": {
    "type": "source",
    "stream_id": "0f79952dbc00505b2331b0bdb0c8ca0a",
    "stream_name": "N60_238 (HX)",
    "stream_url": "192.168.36.238:5964",
    "pos_id": "",
    "output_id": "1",
    "layout_id": ""
  },
  "to": {
    "type": "preview",
    "stream_id": "0f79952dbc00505b2331b0bdb0c8ca0a",
    "stream_name": "N60_238 (HX)",
    "stream_url": "192.168.36.238:5964",
    "output_id": "1",
    "layout_id": ""
  }
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example


```
{
  "result": "ok"
}
```


14.3 POST /preview/source/remove

Function Description

Removes a video source from the preview

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body

Name	Location	Type	Required	Display Name	Description
» pos_id	body	integer	Yes	Pane Position ID	Pane position ID (field name is pos_id, not id)

Body Request Parameters

```
{
  "pos_id": 1
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

15. NDI-Discovery Module

NDI discovery service management module, managing four discovery methods for NDI sources — automatic discovery, manual discovery, group-based automatic discovery, and server discovery — along with their corresponding configurations.

15.1 GET /ndi/discovery/all

Function Description

Retrieves all discovery types and configurations

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	object	true		Return Data	Return data object
»» auto_server	[object]	true		Automatic/Server Discovery	Automatic and server discovery list (contains items with dis_method=1/3/4)
»»» dis_d_ip	string	true		Manual Discovery IP	Manual discovery target IP

Name	Type	Required	Constraint	Display Name	Description
»»» dis_g_name	string	true		Group Name	Group Name
»»» dis_method	integer	true		Discovery Method	1=Automatic discovery, 2=Manual discovery, 3=Group-based automatic discovery, 4=Server discovery
»»» dis_s_ip	string	true		Discovery Server IP	Discovery server IP
»»» id	string	true		Configuration Item ID	Configuration item unique ID
»» manual	[object]	true		Manual Discovery	Manual discovery list (only items with dis_method=2)
»»» dis_d_ip	string	true		Manual Discovery IP	Manual discovery target IP
»»» dis_g_name	string	true		Group Name	Group Name
»»» dis_method	integer	true		Discovery Method	Discovery method; see the same-named field in auto_server for details
»»» dis_s_ip	string	true		Discovery Server IP	Discovery server IP
»»» id	string	true		Configuration Item ID	Configuration item unique ID
» result	string	true		Return Result	Operation Result

> Note: Under `data` there are only two arrays: `manual` and `auto_server` (dis_method=1 Automatic discovery, dis_method=3 Group-based automatic discovery, and dis_method=4 Server discovery are all grouped into `auto_server`), and each item contains an `id`. The keys `auto` / `discovery_server` / `public` do not exist.

Response Example


```
{
  "data": {
    "manual": [
      {
        "dis_d_ip": "192.168.43.141",
        "dis_g_name": "public",
        "dis_method": 2,
        "dis_s_ip": "",
        "id": "1"
      },
      {
        "dis_d_ip": "192.168.35.178",
        "dis_g_name": "mhb",
        "dis_method": 2,
        "dis_s_ip": "",
        "id": "2"
      }
```

```
    ],
    "auto_server": [
      {
        "dis_d_ip": "",
        "dis_g_name": "123",
        "dis_method": 3,
        "dis_s_ip": "",
        "id": "3"
      },
      {
        "dis_d_ip": "",
        "dis_g_name": "public",
        "dis_method": 4,
        "dis_s_ip": "192.168.43.141",
        "id": "4"
      }
    ]
  },
  "result": "ok"
}
```


15.2 POST /ndi/discovery/auto/del

Function Description

Deletes an automatic discovery item

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» id	body	string	Yes	Configuration Item ID	Unique ID (taken from the id of the returned items in /ndi/discovery/all; is a string)

Body Request Parameters


```
{
  "id": "1"
}
```


Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

15.3 GET /ndi/discovery/sources

Function Description

Retrieves the list of NDI sources discovered by the corresponding discovery method

Request Parameters

Name	Location	Type	Required	Display Name	Description
dis_method	query	integer	Yes	Discovery Method	1=Automatic discovery, 2=Manual discovery, 3=Group-based automatic discovery, 4=Server discovery (required; returns error code 1 if missing)
dis_g_name	query	string	No	Group Name	Group name; this parameter is required when dis_method=3 or 4
dis_s_ip	query	string	No	Discovery Server IP	Discovery server IP; this parameter is required when dis_method=4
group_id	query	string	No	Group ID	Group ID, used to filter the source list by group
app	header	string	Yes	Authentication Token	Authentication Token

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» data	[object]	true		Return Data	Return data array
»» channel	string	false		Channel Name	Channel Name

Name	Type	Required	Constraint	Display Name	Description
»» group_name	string	false		Group Name	Group Name
»» ip	string	false		IP Address	IP Address
»» name	string	false		Device Name	Device Name
»» ndi_name	string	false		NDI Full Name	Full name discovered by NDI
»» port	integer	false		Port Number	Port Number
»» url	string	false		Stream Address	Source URL
» result	string	true		Return Result	Operation Result

Response Example


```
{
  "data": [
    {
      "channel": "FULL",
      "group_name": "public",
      "ip": "192.168.35.178",
      "name": "N60-N6020240531 ",
      "ndi_name": "N60-N6020240531 (FULL)",
      "port": 5961,
      "url": "192.168.35.178:5961"
    }
  ],
  "result": "ok"
}
```


15.4 POST /ndi/discovery/manual/add

Function Description

Adds or updates manual discovery configuration items

> Note: This API also serves as the delete configuration item API — after the user deletes the corresponding IP/group on the page, simply pass the remaining configuration items as a whole to the backend, consistent with the matrix operation approach.

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token

Name	Location	Type	Required	Display Name	Description
body	body	object	No	Request Body	Request Body
» manuals	body	[object]	Yes	Manual Configuration List	Manual configuration item array
»» dis_d_ip	body	string	Yes	Discovery IP	Target discovery IP
»» dis_g_name	body	string	Yes	Group Name	Discovery group name

Body Request Parameters

```
{
  "manuals": [
    {
      "dis_d_ip": "192.168.43.141",
      "dis_g_name": "public"
    }
  ]
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

15.5 POST /ndi/discovery/auto/add

Function Description

Adds an automatic discovery item (dis_method=3, group-based automatic discovery)

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body

Name	Location	Type	Required	Display Name	Description
» dis_g_name	body	string	Yes	Group Name	Group Name

Body Request Parameters

```
{
  "dis_g_name": "123"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

15.6 POST /ndi/discovery/server/del

Function Description

Deletes a server discovery item

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» id	body	string	Yes	Configuration Item ID	Configuration item unique ID (taken from the id of the returned items in /ndi/discovery/all; is a string)

Body Request Parameters

```
{
  "id": "1"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```

15.7 POST /ndi/discovery/server/add

Function Description

Adds a server discovery item (dis_method=4, discovers sources by specifying an NDI discovery server)

Request Parameters

Name	Location	Type	Required	Display Name	Description
app	header	string	Yes	Authentication Token	Authentication Token
body	body	object	No	Request Body	Request Body
» dis_g_name	body	string	Yes	Group Name	Group Name
» dis_s_ip	body	string	Yes	Server IP	NDI discovery server IP

Body Request Parameters

```
{
  "dis_g_name": "public",
  "dis_s_ip": "192.168.43.141"
}
```

Response Data Structure

Status Code 200

Name	Type	Required	Constraint	Display Name	Description
» result	string	true		Return Result	Operation Result

Response Example

```
{
  "result": "ok"
}
```