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API references for Camera Remote API beta

Camera Remote API API Reference

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Preface

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About this document

The "Camera Remote API beta" will be referred to as the "Camera Remote API" in this document.
The purpose of this document is to list the API specifications for the Camera Remote API provided by Sony.

Document conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119.

HTTP	HyperText Transfer Protocol (RFC 2616)
JSON	JavaScript Object Notation (RFC 4627)
JSON-RPC	Remote Procedure Call encoded in JSON
SSDP	Simple Server Discovery Protocol

Document history

Change history		
2013-09-01	Version 1.0	First version
2013-09-25	Version 1.10	Added 6 compatible cameras to section 2.3. Modified "API name parameters" in section 3.11 to support more compatible cameras. Corrected some typographical errors.
2013-11-05	Version 1.20	Added 3 compatible cameras to section 2.3. Added 2 audio recording APIs. Added "audio" shoot mode parameter.
2013-12-01	Version 1.21	Updated to new template
2014-01-06	Version 1.30	Added 1 compatible camera. Added zoom support to the PlayMemories Camera Apps compatible cameras.
2014-02-18	Version 1.40	Added 4 compatible cameras.
2014-04-15	Version 1.50	Added 2 compatible cameras (the firmware update). Added the following API groups and related parameters. - Half-press shutter - Touch AF position - Exposure mode - Focus mode - Exposure compensation - F number - Shutter speed - ISO speed rate - White balance - Still size - Beep mode - Date/time setting ("system" API service) - Event notification (added "getEvent" ver.1.1) Modified the following API groups. - Event notification (added parameters of "getEvent" ver.1.0) - Server information (added "system" API service support)
2014-06-18	Version 1.60	Added 3 new compatible cameras. - ILCE-7S - DSC-RX100M3 - HDR-AS20 Added more API support to the following compatible cameras. - HDR-AS30V (firmware update) - HDR-AS100V (firmware update) - PlayMemories Camera Apps compatible cameras Added the following API groups and related parameters. - Interval still recording - Liveview size - Program shift - Flash mode - Movie quality - Steady mode - View angle Added some parameters to the following parameter group. - Shoot mode - Touch AF position

		- Exposure mode - White balance - Event
2014-09-01	Version 1.70	Added 4 new compatible cameras. - ILCE-QX1 - ILCE-5100 - DSC-QX30 - HDR-AZ1 Added the following API groups and related parameters. - Still capture (for continuous shooting) - Liveview frame - Zoom setting - Tracking focus - Continuous shooting mode - Continuous shooting speed - Still quality - Movie file format - Scene selection - Color setting - Interval time - Flip setting - TV color system - Camera function - Transferring images - Remote playback - Delete contents - IR remote control - Auto power off - Storage information - Event notification (added "getEvent" ver.1.2) Modified the following API groups. - Event notification (added parameters of "getEvent" ver.1.0) - Server information (added "avContent" API service support) Added some parameters to the following parameter group. - Event Added liveview frame to liveview data format. Added streaming data format for remote playback.
2014-10-30	Version 1.80	Added movie recording support to DSC-HX60/V and DSC-HX400/V. Added focus mode support to the PlayMemories Camera Apps compatible cameras. Added a parameter to Focus mode.
2014-12-01	Version 1.90	Added 1 new compatible camera. - ILCE-7M2
2015-01-12	Version 2.00	Added 2 new compatible cameras - FDR-X1000V - HDR-AS200V Added the following API groups and related parameters. - Loop recording - White balance (added "actWhiteBalanceOnePushCustom") - Loop recording time - Wind noise reduction - Audio recording setting - Event notification (added "getEvent" ver.1.3) Added some parameters to the following parameter group. - Shoot mode ("looprec")

		- Continuous shooting speed ("10fps 1sec ") - Movie file format ("XAVC S 4K") - Movie quality (added parameters for XAVC S) - Beep mode ("silent") - Event (camera status)
2015-06-15	Version 2.10	Added 5 new compatible cameras. - ILCE-7RM2 - DSC-RX10M2 - DSC-RX100M4 - DSC-HX90/V - DSC-WX500
2015-10-30	Version 2.20	Added 2 new compatible cameras. - ILCE-7SM2 - DSC-RX1RM2 Added the following API groups support to the PlayMemories Camera Apps compatible cameras. - Still capture (for continuous shooting) - Liveview frame - Zoom setting - Half-press shutter - Continuous shooting mode - Continuous shooting speed - Camera function - Transferring images - Remote playback - Delete contents - Storage information Added some parameters to the following parameter group. - Zoom setting
2016-03-01	Version 2.30	Added 1 new compatible camera. - HDR-AS50 - DSC-HX80 - ILCE-6300 Added the following API groups and related parameters. - Zoom setting - Still size
2017-02-01	Version 2.40	Added 5 new compatible cameras. - ILCE-6500 - DSC-RX10M3 - DSC-RX100M5 - HDR-AS300 - FDR-X3000

Contents

Introduction

The purpose of this document is to describe the API specifications for the Camera Remote API. If you want to get information about how to access camera functions and the procedure to establish connection to use the APIs, please see the Camera Remote API Development Guide available in the Camera Remote API SDK.

API versioning, supported and available APIs

Camera Remote API versioning

Camera Remote API includes versioning on two levels. The Camera Remote API itself has one version, and then each API has their own version. The client app may check those versions and change its behavior accordingly.

Camera Remote API version

Camera Remote API has its version defined by its specifying functions. The version will be changed if an API was added or deleted. The version also will be changed if a supporting function in any APIs was changed. The Camera Remote API version can be obtained by the "getApplicationInfo" API. For details, please see the "getApplicationInfo" API specification.

This document only cover Camera Remote API version 2.0.0 or greater. The client app should check whether the API version is "2.0.0" or greater to confirm the server function compatibility with this document.

Version for each API

Each API available in the Camera Remote API has its version also. This version is represented as two numbers separated by "."(dot), X.Y. Basically, every API will be defined from version "1.0". This number will be incremented when the definition of the API is changed.

The client app can get what versions a camera supports by using the "getVersions" API. The versions received from the "getVersions" API depend on what APIs are supported on an API service of that camera and depend on the camera's API capability. **The client app MUST set the "version" parameter in the request to specify the version of the API.** If you want to know what versions each API supports, please see each API specification.

Supported APIs and available APIs

The client app should check:

- Supported API list by using "getMethodTypes" API for all API services except "camera" API service.
- Available API list instead of supported API list when it uses APIs that belong to "camera" API service.

The camera features can vary between models. Therefore the APIs that each camera supports may vary by models. The camera provides its supported API list via the "getMethodTypes" API.

In addition, the camera status can be changed by user operations and calling APIs. Available APIs of "camera" API service in the camera will be changed by camera status. The camera also provides a list of available APIs via the "getAvailableApiList" API or the "availableApiList" object of the "getEvent" API callback for "camera" API service. For more information, please see API specification.

Supported API groups for each compatible cameras

	HDR-AS15 *2	HDR-AS20 HDR-AS30V *2 HDR-AS100V *2	HDR-AZ1 *2	HDR-AS200V FDR-X1000V	HDR-AS50 HDR-AS300 FDR-X3000	HDR-MV1	ILCE-7 *3 ILCE-7M2 *3 ILCE-7R *3 ILCE-7RM2 *3 ILCE-7S *3 ILCE-7SM2 *3 ILCE-5000 *3 ILCE-5100 *3 ILCE-6000 *3 ILCE-6300 *3 ILCE-6500 *3 NEX-5R *3 NEX-5T *3 NEX-6 *3 DSC-HX60/V *3 DSC-HX80 *3 DSC-HX90/V *3 DSC-HX400/V *3 DSC-WX500 *3 DSC-RX1RM2 *3 DSC-RX10M2 *3 DSC-RX10M3 *3DSC-RX100M3 *3 DSC-RX100M4 *3 DSC-RX100M5 *3	ILCE-QX1 DSC-QX30	DSC-QX10 *2 DSC-QX100 *2
Shoot mode	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Still capture	No	**Yes** *4	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**	**Yes**
Movie recording	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes** *5	**Yes**	**Yes**
Audio recording	No	No	No	No	No	**Yes**	No	No	No
Interval still recording	No	**Yes**	**Yes**	**Yes**	**Yes**	No	No	No	No
Loop recording	No	No	No	**Yes**	**Yes**	No	No	No	No
Liveview	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
Liveview size	No	No	No	No	No	No	**Yes**	No	No
Liveview frame	No	No	No	No	No	No	**Yes**	**Yes**	No
Zoom	No	No	No	No	**Yes**	No	**Yes**	**Yes**	**Yes**
Zoom setting	No	No	No	No	**Yes**	No	**Yes** *19	**Yes**	No
Half-press shutter	No	No	No	No	No	No	**Yes**	**Yes**	**Yes**
Touch AF position	No	No	No	No	No	No	**Yes**	**Yes**	**Yes**
Tracking focus	No	No	No	No	No	No	No	**Yes**	No
Continuous shooting mode	No	No	**Yes** *11	**Yes** *11	**Yes** *11	No	**Yes** *20	**Yes** *11	No
Continuous shooting speed	No	No	**Yes**	**Yes**	**Yes**	No	**Yes** *20	**Yes** *13	No
Self-timer	No	No	**Yes**	**Yes**	**Yes**	No	**Yes**	**Yes**	**Yes**
Exposure mode	No	No	No	No	No	No	**Yes** *6	**Yes**	**Yes**
Focus mode	No	No	No	No	No	No	**Yes** *15	**Yes** *12	**Yes** *7
Exposure compensation	No	No	No	**Yes**	**Yes**	No	**Yes**	**Yes**	**Yes**
F number	No	No	No	No	No	No	**Yes**	**Yes**	**Yes** *7
Shutter speed	No	No	No	No	No	No	**Yes**	**Yes**	**Yes** *7

ISO speed rate	No	No	No	No	No	No	**Yes**	**Yes**	**Yes**
White balance	No	No	No	**Yes** *16	**Yes** *16	No	**Yes** *16	**Yes** *16	**Yes** *16
Program shift	No	No	No	No	No	No	**Yes**	**Yes**	No
Flash mode	No	No	No	No	No	No	**Yes**	**Yes** *12	No
Still size	No	No	No	No	**Yes**	No	No	**Yes**	**Yes**
Still quality	No	No	No	No	No	No	No	**Yes**	No
Postview image size	No	No	**Yes**	**Yes**	No	No	**Yes**	**Yes**	**Yes**
Movie file format	No	No	**Yes**	**Yes**	**Yes**	No	No	No	No
Movie quality	No	**Yes**	**Yes**	**Yes**	**Yes**	No	No	**Yes** *13	No
Steady mode	No	**Yes**	**Yes**	**Yes**	**Yes**	No	No	No	No
View angle	No	**Yes** *8	No	**Yes** *17	No	No	No	No	No
Scene selection	No	No	**Yes**	**Yes**	**Yes**	No	No	No	No
Color setting	No	No	**Yes**	**Yes**	**Yes**	No	No	No	No
Interval time	No	No	**Yes**	**Yes**	**Yes**	No	No	No	No
Loop recording time	No	No	No	**Yes**	**Yes**	No	No	No	No
Wind noise reduction	No	No	No	**Yes**	**Yes**	No	No	No	No
Audio recording setting	No	No	No	**Yes**	**Yes**	No	No	No	No
Flip setting	No	No	**Yes**	**Yes**	**Yes**	No	No	No	No
TV color system	No	No	**Yes**	**Yes**	**Yes**	No	No	No	No
Camera setup *1	No	No	No	No	No	No	**Yes**	No	No
Camera function	No	No	**Yes**	**Yes**	**Yes**	No	**Yes** *21	**Yes**	No
Transferring images	No	No	**Yes**	**Yes**	**Yes**	No	**Yes** *21	**Yes**	No
Remote playback	No	No	**Yes**	**Yes**	**Yes**	No	**Yes** *21	**Yes** *14	No
Delete contents	No	No	**Yes**	**Yes**	**Yes**	No	**Yes** *21	**Yes**	No
IR remote control	No	No	**Yes**	**Yes**	No	No	No	No	No
Auto power off	No	No	**Yes**	**Yes**	**Yes**	No	No	No	No
Beep mode	No	No	**Yes**	**Yes**	**Yes**	No	No	**Yes**	**Yes**
Date/time setting	No	No	**Yes**	No	No	No	No	**Yes**	**Yes**
Storage information	No	No	**Yes**	**Yes**	**Yes**	No	**Yes** *21	**Yes**	No
Event notification	**Yes**	**Yes**	**Yes** *10	**Yes** *18	**Yes** *18	**Yes**	**Yes** *18	**Yes** *10	**Yes** *9
Server information	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**

API groups - Compatible cameras

*1: Some camera models need "Camera setup" API call before accessing shooting functions.
*2: The latest firmware update is needed.
*3: These cameras are compatible with the PlayMemories Camera Apps "Smart Remote Control" application.
The latest version of the application should be installed and started to use the APIs.
*4: These cameras support only "actTakePicture".
*5: ILCE-7M2, ILCE-7RM2, ILCE-7S, ILCE-7SM2, ILCE-5100, ILCE-6300, ILCE-6500, DSC-HX60/V, DSC-HX80, DSC-HX90/V, DSC-HX400/V, DSC-WX500, DSC-RX10M2, DSC-RX10M3, DSC-RX100M3, DSC-RX100M4 and DSC-RX100M5 support the APIs group.
*6: The setting in still mode is not available to cameras which have a hardware mode dial.

*7: Only DSC-QX100 supports the APIs group.
*8: Only HDR-AS30V supports the APIs group.
*9: These cameras support "getEvent (v1.1)" in addition to "getEvent (v1.0)".
*10: These cameras support "getEvent (v1.2)" in addition to "getEvent (v1.0)" and "getEvent (v1.1)".
*11: ILCE-QX1 and DSC-QX30 support continuous shooting mode. HDR-AZ1, HDR-AS50, HDR-AS200V, HDR-AS300 FDR-X1000V and FDR-X3000 support "Burst"/"MotionShot" shooting mode. Please see API specification to handle these types of continuous shooting mode.
*12: Only ILCE-QX1 supports the APIs group.
*13: Only DSC-QX30 supports the APIs group.
*14: These cameras don't support "seekStreamingPosition" API.
*15: The setting is not available to cameras which have a hardware focus mode switch.
*16: HDR-AS50, HDR-AS200V, HDR-AS300 FDR-X1000V and FDR-X3000 support "actWhiteBalanceOnePushCustom" API.
*17: The setting is available when shoot mode is "still" or "intervalstill".
*18: These cameras support "getEvent (v1.3)" in addition to "getEvent (v1.0)", "getEvent (v1.1)" and "getEvent (v1.2)".
*19: NEX-5R, NEX-5T and NEX-6 don't support the APIs group.
*20: ILCE-7, ILCE-7R, ILCE-7S, ILCE-5000, ILCE-5100, ILCE-6000, NEX-5R, NEX-5T, NEX-6, DSC-HX60/V, DSC-HX400/V and DSC-RX100M3 don't support the APIs group.
*21: ILCE-7, ILCE-7R, ILCE-5000, ILCE-5100, ILCE-6000, NEX-5R, NEX-5T, NEX-6, DSC-HX60/V and DSC-HX400/V don't support the APIs group. AVCHD movie is not supported. ILCE-7S and DSC-RX100M3 support only still images. ILCE-7M2 doesn't support remote playback API group.

API list

The APIs are listed below. There are three categories which are shooting function, transferring images function and general function.

Shooting function

API groups	APIs	API service
Shoot mode	setShootMode	camera
	getShootMode	camera
	getSupportedShootMode	camera
	getAvailableShootMode	camera
Still capture	actTakePicture	camera
	awaitTakePicture	camera
	startContShooting	camera
	stopContShooting	camera
Movie recording	startMovieRec	camera
	stopMovieRec	camera
Audio recording	startAudioRec	camera
	stopAudioRec	camera
Interval still recording	startIntervalStillRec	camera
	stopIntervalStillRec	camera
Loop recording	startLoopRec	camera
	stopLoopRec	camera
Liveview	startLiveview	camera
	stopLiveview	camera
Liveview size	startLiveviewWithSize	camera
	getLiveviewSize	camera
	getSupportedLiveviewSize	camera
	getAvailableLiveviewSize	camera
Liveview frame	setLiveviewFrameInfo	camera
	getLiveviewFrameInfo	camera
Zoom	actZoom	camera
Zoom setting	setZoomSetting	camera
	getZoomSetting	camera
	getSupportedZoomSetting	camera
	getAvailableZoomSetting	camera
Half-press shutter	actHalfPressShutter	camera
	cancelHalfPressShutter	camera
Touch AF position	setTouchAFPosition	camera
	getTouchAFPosition	camera
	cancelTouchAFPosition	camera
Tracking focus	actTrackingFocus	camera
	cancelTrackingFocus	camera
	setTrackingFocus	camera
	getTrackingFocus	camera

	getSupportedTrackingFocus	camera
	getAvailableTrackingFocus	camera
Continuous shooting mode	setContShootingMode	camera
	getContShootingMode	camera
	getSupportedContShootingMode	camera
	getAvailableContShootingMode	camera
Continuous shooting speed	setContShootingSpeed	camera
	getContShootingSpeed	camera
	getSupportedContShootingSpeed	camera
	getAvailableContShootingSpeed	camera
Self-timer	setSelfTimer	camera
	getSelfTimer	camera
	getSupportedSelfTimer	camera
	getAvailableSelfTimer	camera
Exposure mode	setExposureMode	camera
	getExposureMode	camera
	getSupportedExposureMode	camera
	getAvailableExposureMode	camera
Focus mode	setFocusMode	camera
	getFocusMode	camera
	getSupportedFocusMode	camera
	getAvailableFocusMode	camera
Exposure compensation	setExposureCompensation	camera
	getExposureCompensation	camera
	getSupportedExposureCompensation	camera
	getAvailableExposureCompensation	camera
F number	setFNumber	camera
	getFNumber	camera
	getSupportedFNumber	camera
	getAvailableFNumber	camera
Shutter speed	setShutterSpeed	camera
	getShutterSpeed	camera
	getSupportedShutterSpeed	camera
	getAvailableShutterSpeed	camera
ISO speed rate	setIsoSpeedRate	camera
	getIsoSpeedRate	camera
	getSupportedIsoSpeedRate	camera
	getAvailableIsoSpeedRate	camera
White balance	setWhiteBalance	camera
	getWhiteBalance	camera
	getSupportedWhiteBalance	camera
	getAvailableWhiteBalance	camera
	actWhiteBalanceOnePushCustom	camera
Program shift	setProgramShift	camera
	getSupportedProgramShift	camera

Flash mode	setFlashMode	camera
	getFlashMode	camera
	getSupportedFlashMode	camera
	getAvailableFlashMode	camera
Still size	setStillSize	camera
	getStillSize	camera
	getSupportedStillSize	camera
	getAvailableStillSize	camera
Still quality	setStillQuality	camera
	getStillQuality	camera
	getSupportedStillQuality	camera
	getAvailableStillQuality	camera
Postview image size	setPostviewImageSize	camera
	getPostviewImageSize	camera
	getSupportedPostviewImageSize	camera
	getAvailablePostviewImageSize	camera
Movie file format	setMovieFileFormat	camera
	getMovieFileFormat	camera
	getSupportedMovieFileFormat	camera
	getAvailableMovieFileFormat	camera
Movie quality	setMovieQuality	camera
	getMovieQuality	camera
	getSupportedMovieQuality	camera
	getAvailableMovieQuality	camera
Steady mode	setSteadyMode	camera
	getSteadyMode	camera
	getSupportedSteadyMode	camera
	getAvailableSteadyMode	camera
View angle	setViewAngle	camera
	getViewAngle	camera
	getSupportedViewAngle	camera
	getAvailableViewAngle	camera
Scene selection	setSceneSelection	camera
	getSceneSelection	camera
	getSupportedSceneSelection	camera
	getAvailableSceneSelection	camera
Color setting	setColorSetting	camera
	getColorSetting	camera
	getSupportedColorSetting	camera
	getAvailableColorSetting	camera
Interval time	setIntervalTime	camera
	getIntervalTime	camera
	getSupportedIntervalTime	camera
	getAvailableIntervalTime	camera
Loop recording time	setLoopRecTime	camera

	getLoopRecTime	camera
	getSupportedLoopRecTime	camera
	getAvailableLoopRecTime	camera
Wind noise reduction	setWindNoiseReduction	camera
	getWindNoiseReduction	camera
	getSupportedWindNoiseReduction	camera
	getAvailableWindNoiseReduction	camera
Audio recording setting	setAudioRecording	camera
	getAudioRecording	camera
	getSupportedAudioRecording	camera
	getAvailableAudioRecording	camera
Flip setting	setFlipSetting	camera
	getFlipSetting	camera
	getSupportedFlipSetting	camera
	getAvailableFlipSetting	camera
TV color system	setTvColorSystem	camera
	getTvColorSystem	camera
	getSupportedTvColorSystem	camera
	getAvailableTvColorSystem	camera
Camera setup	startRecMode	camera
	stopRecMode	camera

Transferring images function

API groups	APIs	API service
Camera function	setCameraFunction	camera
	getCameraFunction	camera
	getSupportedCameraFunction	camera
	getAvailableCameraFunction	camera
Transferring images	getSchemeList	avContent
	getSourceList	avContent
	getContentCount (v1.2)	avContent
	getContentList (v1.3)	avContent
Remote playback	setStreamingContent	avContent
	startStreaming	avContent
	pauseStreaming	avContent
	seekStreamingPosition	avContent
	stopStreaming	avContent
	requestToNotifyStreamingStatus	avContent
Delete contents	deleteContent (v1.1)	avContent

General function

API groups	APIs	API service
IR remote control	setInfraredRemoteControl	camera
	getInfraredRemoteControl	camera
	getSupportedInfraredRemoteControl	camera
	getAvailableInfraredRemoteControl	camera
Auto power off	setAutoPowerOff	camera
	getAutoPowerOff	camera
	getSupportedAutoPowerOff	camera
	getAvailableAutoPowerOff	camera
Beep mode	setBeepMode	camera
	getBeepMode	camera
	getSupportedBeepMode	camera
	getAvailableBeepMode	camera
Date/time setting	setCurrentTime	system
Storage Information	getStorageInformation	camera
Event notification	getEvent (v1.0)	camera
	getEvent (v1.1)	camera
	getEvent (v1.2)	camera
	getEvent (v1.3)	camera
Server information	getAvailableApiList	camera
	getApplicationInfo	camera
	getVersions	camera, system, avContent
	getMethodTypes	camera, system, avContent

Shooting and transferring images

Camera Remote API provides two main functions. One is shooting function, and the other is transferring images function.

Shooting function

In shooting function, the client can take pictures and record movie via APIs. Changing camera settings such as F number, shutter speed and ISO speed rate is available for some cameras. APIs of shooting function belong to "camera" API service basically. To use shooting function APIs, the client should change camera function to "Remote Shooting" via "setCameraFunction". "Remote Shooting" is default function after the camera connects with the client via Wi-Fi.

Transferring images function

In transferring images function, the client can retrieve list of stored still images and movies from camera. Also, the client can download the contents and play movie remotely via APIs. APIs of transferring images belong to "avContent" API service. To use transferring images function APIs, the client should change camera function to "Contents Transfer" via "setCameraFunction". The transferring images function is supported by specific camera models.

Checking availability of transferring images function

Device Description

The functionalities are defined in the Device Description which can be found via the Device Discovery (SSDP). When the client calls the APIs to use shooting function, the client checks the presence or absence of **"camera" API service** in Device Description. When the client uses transferring images APIs, the client should check the presence or absence of **"avContent" API service** in Device Description in the same way as "camera" API service. Please refer to "Development Guide" for details about the Device Description and Device Discovery (SSDP).

Availability of changing camera function

The client can change camera function between "Remote Shooting" and "Contents Transfer" via "setCameraFunction" API. This API belongs to "camera" API service and the client can check the availability of calling this API at the moment via the "getAvailableApiList" API or the "availableApiList" object of the "getEvent" API callback for "camera" API service.

Supported features of transferring images

The transferring images function allows the client to download the contents from the camera, play movie remotely and deleting contents. To use the features, the client should call the APIs in "avContent" API service. The camera features can vary between models. Therefore the APIs that each camera supports may vary by models. Regarding APIs in "avContent" API service, the client should check if the camera supports APIs via "getVersions" and "getMethodTypes" APIs of "avContent". Note that APIs in "avContent" have various API versions (not only ver.1.0 but also ver.1.1, ver.1.2, ver.1.3).

Related APIs and sample sequences

The following API groups are related to transferring images function.

- Camera function APIs
- Transferring images APIs
- Remote playback APIs
- Delete contents API

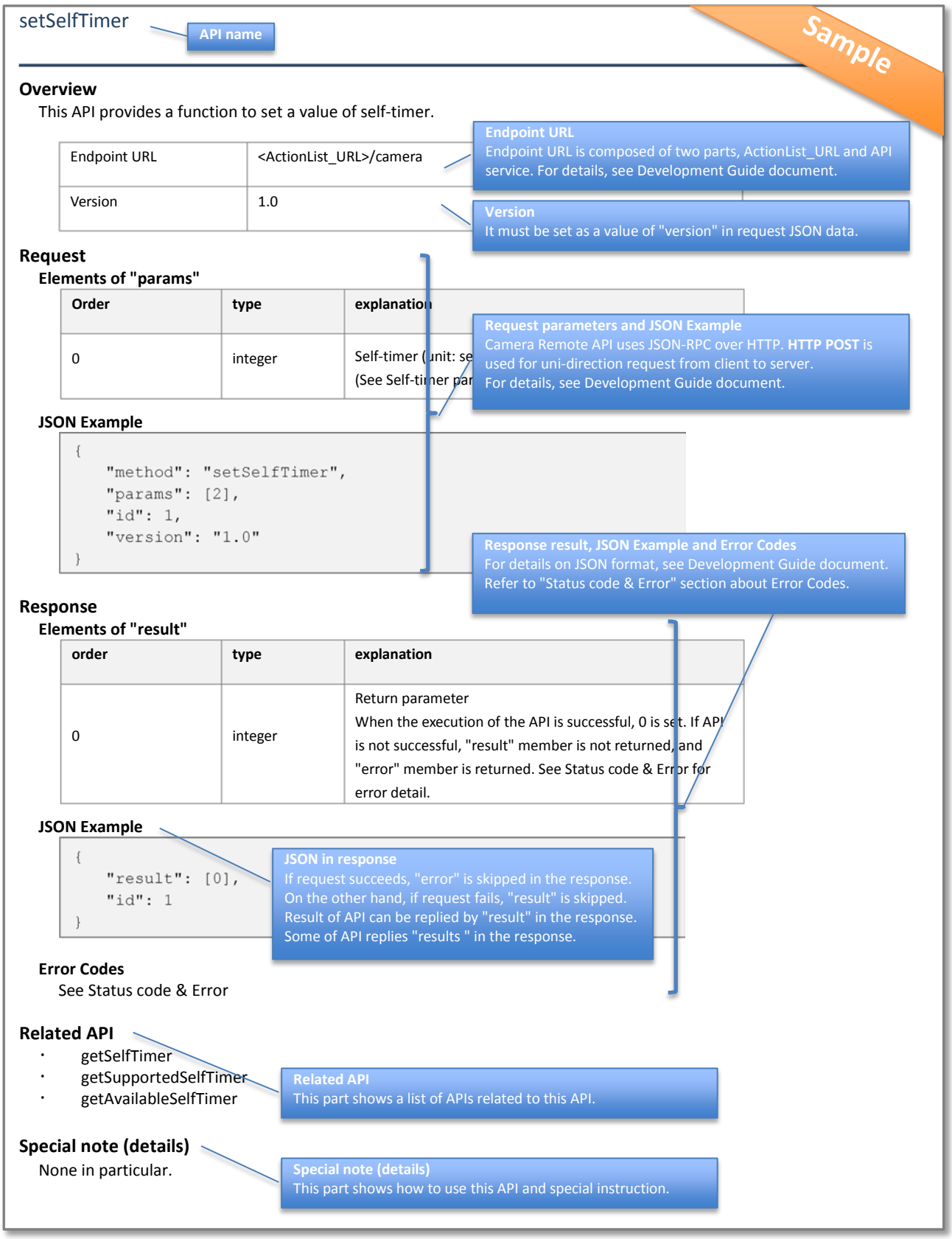
And, please refer to following sample sequences to build client application.

- Changing camera function
- Transferring images (Date view)
- Transferring images (Flat view)
- Remote playback

For details please see the sample code included in the Camera Remote API SDK.

API Reference

This chapter provides the detailed API specification of Camera Remote API using the below format.



Shoot mode

setShootMode

Overview

This API provides a function to set a value of shooting mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Shoot mode (See Shoot mode parameters of Parameter description)

JSON Example

```
{
    "method": "setShootMode",
    "params": ["movie"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getShootMode
- getSupportedShootMode
- getAvailableShootMode

Special note (details)

The camera has the concept of shoot mode. Some of APIs are only available on specific shoot mode. For details, see "Supported APIs and available APIs".

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "shootMode" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

Some camera models need "startRecMode" API call before accessing camera settings. See "startRecMode" for details.

getShootMode

Overview

This API provides a function to get current camera shooting mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getShootMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current shoot mode (See Shoot mode parameters of Parameter description)

JSON Example

```
{
    "result": ["still"],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setShootMode
- getSupportedShootMode
- getAvailableShootMode

Special note (details)

None in particular.

getSupportedShootMode

Overview

This API provides a function to get the supported shoot modes.
The client should use "getAvailableShootMode" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedShootMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported shoot modes (See Shoot mode parameters of Parameter description)

JSON Example

```
{
    "result": [
        ["still","movie"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setShootMode
- getShootMode
- getAvailableShootMode

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableShootMode

Overview

This API provides a function to get current shoot mode and the available shoot modes at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableShootMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

Order	type	explanation
0	string	Current shoot mode (See Shoot mode parameters of Parameter description)
1	string-array	A list of available shoot modes (See Shoot mode parameters of Parameter description)

JSON Example

```
{
    "result": [
        "still",
        ["still","movie"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setShootMode
- getShootMode
- getSupportedShootMode

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "shootMode" object in "getEvent" callback.

Still capture

actTakePicture

Overview

This API provides a function to take picture.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "actTakePicture",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	Array of URLs of postview. The postview is captured image data by camera. The postview image can be used for storing it as the taken picture, and showing it to the client display.

JSON Example

```
{
    "result": [
        ["http://ip:port/postview/postview.jpg"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- awaitTakePicture
- getEvent

Special note (details)

This API instructs the server side to shoot still image. When this API is called and the server starts shooting still image, the camera status will change as follows. The camera status can be obtained by "getEvent".

Camera status: "IDLE" -> "StillCapturing" -> "StillSaving" -> "IDLE"

Note that this sequence is the example of typical case.

The client should check the "getEvent" parameter ("cameraStatus") and check if it is "IDLE" before calling this API. The camera needs to prepare for the next shot, therefore it may take time to start next capturing after changing to "IDLE". The camera will start capturing as soon as possible.

In case of long exposure, the server will return "40403" error ("Still Capturing Not Finished") within several tens of seconds. If status code "40403" is received, capturing is not completed. Use the "awaitTakePicture" API to receive status on capture. If status code "40403" is received for "awaitTakePicture" again, the client can call "awaitTakePicture" until the capture is done.

This API is only available when the shoot mode is "still".

Some camera models need "startRecMode" API call before capturing still image. See "startRecMode" for details.

awaitTakePicture

Overview

This API provides a function to wait while the camera is taking the picture.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "awaitTakePicture",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	Array of URLs of postview. The postview is captured image data by camera. The postview image can be used for storing it as the taken picture, and showing it to the client display.

JSON Example

```
{
    "result": [
        ["http://ip:port/postview/postview.jpg"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- actTakePicture
- getEvent

Special note (details)

Please see "actTakePicture".

startContShooting

Overview

This API provides a function to start continuous shooting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "startContShooting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- stopContShooting
- getEvent (v1.2)

Special note (details)

The continuous shooting mode and speed should be set properly via "setContShootingMode" and "setContShootingSpeed" to use this API. This API is only available when the shoot mode is "still".

This API instructs the server side to start continuous shooting. When this API is called and the server starts continuous shooting, the camera status will change as follows. The camera status will be notified by "getEvent (v1.2)".

[Client calls "startContShooting"]

Camera status: "IDLE" -> "StillCapturing".

After the shooting has started, the client may stop the shooting. To stop the shooting, "stopContShooting" must be called, and the camera status will change as follows.

[Client calls "stopContShooting"]

Camera status: "StillCapturing" -> "StillSaving" -> "IDLE".

Note that this sequence is the example of typical case.

The client should check the "getEvent (v1.2)" parameter ("cameraStatus") and check if it is "IDLE" before calling "startContShooting". The camera needs to prepare for the next shot, therefore it may take time to start next capturing after changing to "IDLE". The camera will start capturing as soon as possible.

The client can get the list of postviews after the shooting via "getEvent (v1.2)" parameter ("contShooting").

stopContShooting

Overview

This API provides a function to stop continuous shooting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "stopContShooting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

None

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startContShooting
- getEvent (v1.2)

Special note (details)

The continuous shooting mode and speed should be set properly via "setContShootingMode" and "setContShootingSpeed" to use this API.

This API is only available when the shoot mode is "still".

Even if this API is successful, the server may not be ready to start the next shooting. The next shooting is prohibited until the client could make sure, that the server is ready to start the next shooting, through the "getEvent (v1.2)" callback parameter "cameraStatus". See "startContShooting" API specification for the detail.

The client can get the postview images via "contShooting" object of "getEvent (v1.2)" callback parameter if the server supports.

Movie recording

startMovieRec

Overview

This API provides a function to start recording movie.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "startMovieRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- stopMovieRec
- getEvent

Special note (details)

This API instructs the server side to start recording movie. When this API is called and the server starts recording movie, the camera status will change as follows. The camera status can be obtained by "getEvent".

[Client calls "startMovieRec"]

Camera status: "IDLE" -> "MovieWaitRecStart" -> "MovieRecording".

After the recording has started, the client may stop the recording. To stop the recording, "stopMovieRec" must be called, and the camera status will change as follows.

[Client calls "stopMovieRec"]

Camera status: "MovieRecording" -> "MovieWaitRecStop" -> "MovieSaving" -> "IDLE".

Note that this sequence is the example of typical case. For example, some servers may skip "MovieWaitRecStop".

The client should check the "getEvent" parameter ("cameraStatus") and check if it is "IDLE" before calling "startMovieRec".

This API is only available when the shoot mode is "movie".
Some camera models need "startRecMode" API call before recording movie. See "startRecMode" for details.

stopMovieRec

Overview

This API provides a function to stop recording movie.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "stopMovieRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Reserved. Empty string will be set.

JSON Example

```
{
    "result": [
        ""
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startMovieRec

Special note (details)

This API is only available when the shoot mode is "movie".

Even if this API is successful, the server may not be ready to start the next shot. The next shot is prohibited until the client could make sure, that the server is ready to start the next shot, through the "getEvent" callback parameter "cameraStatus". See "startMovieRec" API specification for the detail.

Audio recording

startAudioRec

Overview

This API provides a function to start audio recording.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "startAudioRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- stopAudioRec
- getEvent

Special note (details)

This API instructs the server side to start audio recording. When this API is called and the server starts audio recording, the camera status will change as follows. The camera status can be obtained by "getEvent".

[Client calls “startAudioRec"]

Camera status: "IDLE" -> "AudioWaitRecStart" -> "AudioRecording".

After the recording has started, the client may stop the recording. To stop the recording, "stopAudioRec" must be called, and the camera status will change as follows.

[Client calls "stopAudioRec"]

Camera status: "AudioRecording" -> "AudioWaitRecStop" -> "AudioSaving" -> "IDLE".

Note that this sequence is the example of typical case.

The client should check the "getEvent" parameter ("cameraStatus") and check if it is "IDLE" before calling "startAudioRec".

This API is only available when the shoot mode is "audio".

Note that the server may disable the liveview function when the shoot mode is "audio". The client should check liveview availability by "liveviewStatus" of "getEvent". The APIs availability will also be changed. The client should check the APIs availability by available API list. When the client switches the shoot mode from "audio" to others, the client can restart the liveview by calling "startLiveview".

stopAudioRec

Overview

This API provides a function to stop audio recording.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "stopAudioRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, “result” member is not returned, and “error” member is return. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0]
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startAudioRec

Special note (details)

This API is only available when the shoot mode is "audio".

Even if this API is successful, the server may not be ready to start the next recording. The next recording is prohibited until the client could make sure, that the server is ready to start the next recording, through the "getEvent" callback parameter "cameraStatus".

Interval still recording

startIntervalStillRec

Overview

This API provides a function to start interval still recording.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "startIntervalStillRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- stopIntervalStillRec
- getEvent

Special note (details)

This API instructs the server side to start interval still recording. When this API is called and the server starts interval still recording, the camera status will change as follows. The camera status will be notified by "getEvent".

[Client calls "startIntervalStillRec"]
Camera status: "IDLE" -> "IntervalWaitRecStart" -> "IntervalRecording".

After the recording has started, the client may stop the recording. To stop the recording, "stopIntervalStillRec" must be called, and the camera status will change as follows.

[Client calls "stopIntervalStillRec"]
Camera status: "IntervalRecording" -> "IntervalWaitRecStop" -> "IDLE".

Note that this sequence is the example of typical case.

The client should check the "getEvent" parameter ("cameraStatus") and check if it is "IDLE" before calling "startIntervalStillRec".

This API is only available when the shoot mode is "intervalstill".

stopIntervalStillRec

Overview

This API provides a function to stop interval still recording.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "stopIntervalStillRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startIntervalStillRec

Special note (details)

This API is only available when the shoot mode is "intervalstill".

Even if this API is successful, the server may not be ready to start the next shot. The next shot is prohibited until the client could make sure, that the server is ready to start the next shot, through the "getEvent" callback parameter "cameraStatus". See "startIntervalStillRec" API specification for the detail.

Loop recording

startLoopRec

Overview

This API provides a function to start loop recording.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "startLoopRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- stopLoopRec
- getEvent

Special note (details)

This API instructs the server side to start loop recording. When this API is called and the server starts loop recording, the camera status will change as follows. The camera status can be obtained by "getEvent".

[Client calls "startLoopRec"]

Camera status: "IDLE" -> "LoopWaitRecStart" -> "LoopRecording".

After the recording has started, the client may stop the recording. To stop the recording, "stopLoopRec" must be called, and the camera status will change as follows.

[Client calls "stopLoopRec"]

Camera status: "LoopRecording" -> "LoopWaitRecStop" -> "LoopSaving" -> "IDLE".

Note that this sequence is the example of typical case. For example, some servers may skip "LoopWaitRecStop" and "LoopSaving".

The client should check the "getEvent" parameter ("cameraStatus") and check if it is "IDLE" before calling "startLoopRec".

This API is only available when the shoot mode is "looprec".

stopLoopRec

Overview

This API provides a function to stop loop recording.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "stopLoopRec",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startLoopRec

Special note (details)

This API is only available when the shoot mode is "looprec".

Even if this API is successful, the server may not be ready to start the next shot. The next shot is prohibited until the client could make sure, that the server is ready to start the next shot, through the "getEvent" callback parameter "cameraStatus". See "startLoopRec" API specification for the detail.

Liveview

startLiveview

Overview

This API provides a function to start liveview.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "startLiveview",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	URL of liveview

JSON Example

```
{
    "result": [
        "http://ip:port/liveview/liveviewstream"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- stopLiveview

Special note (details)

This API commands the server to start the liveview function. When this API is successful, the client can obtain the URL for downloading the liveview data. The method to obtain liveview is HTTP GET. The liveview comes in one data stream. Refer to Liveview Data Format.

The server may stop liveview by itself. The client should check the status of the liveview, which can be obtained by "getEvent" callback parameter "liveviewStatus". When this API is called and the server cannot start liveview, this API returns the callback with error. The client should wait for an appropriate interval, and then recall this API and restart. Some camera models need "startRecMode" API call before starting the liveview. See "startRecMode" for details.

Please see Sample Sequence for more information about the procedure of calling APIs.

stopLiveview

Overview

This API provides a function to stop liveview.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "stopLiveview",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startLiveview

Special note (details)

This API instructs the server side to stop the liveview function.

After calling this API, the client should not access the URL obtained in "startLiveview" before. If the client would like to start liveview again, it should obtain the liveview URL again by calling "startLiveview".

Liveview size

startLiveviewWithSize

Overview

This API provides a function to start liveview with specific liveview size.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Liveview size (See Liveview size parameter of Parameter description)

JSON Example

```
{
    "method": "startLiveviewWithSize",
    "params": ["M"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
string	1	URL of liveview

JSON Example

```
{
    "result": [
        "http://ip:port/liveview/liveviewstream"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startLiveview
- stopLiveview

Special note (details)

The basic concepts are common with "startLiveview". This API allows the client to set specific liveview size in addition when it starts liveview. The client can get the server's supported sizes using "getSupportedLiveviewSize" and "getAvailableLiveviewSize". The actual liveview size depends on the server and the client can get the actual size by decoding liveview data. Some camera models change the liveview quality instead of making the size larger when the client sets larger size parameter.
Note that the client should call "stopLiveview" to change the liveview size before calling this API.

getLiveviewSize

Overview

This API provides a function to get current liveview size.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getLiveviewSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current liveview size (See Liveview size parameter of Parameter description)

JSON Example

```
{
    "result": [
        "M"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getSupportedLiveviewSize
- getAvailableLiveviewSize
- startLiveviewWithSize

Special note (details)

None in particular.

getSupportedLiveviewSize

Overview

This API provides a function to get the supported liveview sizes.
The client should use "getAvailableLiveviewSize" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedLiveviewSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported liveview sizes (See Liveview size parameter of Parameter description)

JSON Example

```
{
    "result": [
        ["L","M"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getLiveviewSize
- getAvailableLiveviewSize
- startLiveviewWithSize

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableLiveviewSize

Overview

This API provides a function to get current liveview size and the available liveview sizes at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableLiveviewSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current liveview size (See Liveview size parameter of Parameter description)
1	string-array	A list of available liveview sizes (See Liveview size parameter of Parameter description)

JSON Example

```
{
    "result": [
        "M",
        ["L","M"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getLiveviewSize
- getSupportedLiveviewSize
- startLiveviewWithSize

Special note (details)

This API returns current set value and available values at the moment.

Liveview frame

setLiveviewFrameInfo

Overview

This API provides a function to switch the liveview frame information transferring. The liveview frame information includes focus frames, face detection frames and tracking frames on the liveview.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"frameInfo"	boolean	true - Transfer the liveview frame information false - Not transfer

JSON Example

```
{
    "method": "setLiveviewFrameInfo",
    "params": [
        {
            "frameInfo": true
        }
    ],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getLiveviewFrameInfo

Special note (details)

If the parameter is true, the liveview frame information will be transferred on the liveview data. Please refer to Liveview Data Format for details.

getLiveviewFrameInfo

Overview

This API provides a function to get current setting of the liveview frame information transferring.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getLiveviewFrameInfo",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"frameInfo"	boolean	true - Transfer the liveview frame information false - Not transfer

JSON Example

```
{
    "result": [
        {
            "frameInfo": true
        }
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setLiveviewFrameInfo

Special note (details)

None in particular.

Zoom

actZoom

Overview

This API provides a function to zoom.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Direction (See Zoom parameters of Parameter description)
1	string	Movement (See Zoom parameters of Parameter description)

JSON Example

```
{
    "method": "actZoom",
    "params": ["in","start"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getEvent

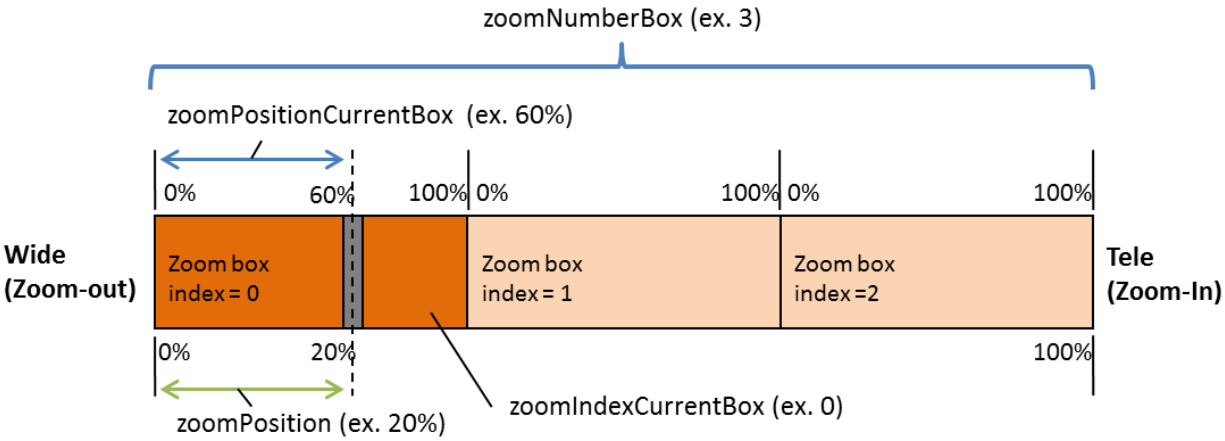
Special note (details)

When the client set "stop" as movement parameter, the direction should be the same as the last "start". For example, if the client set "in"-"start" at the beginning, "in"-"stop" are necessary. If the client set "in"-"start", and set "out"-"stop" later, then the callback will include error.

When the client set "start" as movement parameter, zoom operation will be continued until "stop" or reaching the termination. When "1shot" is set, zoom operation will be stopped after a certain position.

The client can check the zoom information using "getEvent". The zoom information consists of four parameters, "zoomPosition", "zoomNumberBox", "zoomIndexCurrentBox", and

"zoomPositionCurrentBox" as follows. "Zoom box" represents the type of zoom such as optical and digital.



type	name	explanation
integer	zoomPosition	Zoom position to the whole (0 - 100, unit: percentage)
integer	zoomNumberBox	Number of zoom box
integer	zoomIndexCurrentBox	Index of current zoom box (starts from 0)
integer	zoomPositionCurrentBox	Zoom position in the current zoom box (0 - 100, unit: percentage)

Zoom setting

setZoomSetting

Overview

This API provides a function to set a value of zoom setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"zoom"	string	Zoom setting (See Zoom parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setZoomSetting",
    "params": [
        {
            "zoom": "Optical Zoom Only"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getZoomSetting
- getSupportedZoomSetting
- getAvailableZoomSetting

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "zoomSetting" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getZoomSetting

Overview

This API provides a function to get current zoom setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getZoomSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"zoom"	string	Current zoom setting (See Zoom parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "zoom": "Optical Zoom Only"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setZoomSetting
- getSupportedZoomSetting
- getAvailableZoomSetting

Special note (details)

None in particular.

getSupportedZoomSetting

Overview

This API provides a function to get the supported zoom settings.
The client should use "getAvailableZoomSetting" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedZoomSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported zoom settings (See Zoom parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "Optical Zoom Only",
                "On:Clear Image Zoom"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setZoomSetting
- getZoomSetting
- getAvailableZoomSetting

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableZoomSetting

Overview

This API provides a function to get current zoom setting and the available zoom settings at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableZoomSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"zoom"	string	Current zoom setting (See Zoom parameters of Parameter description)
"candidate"	string-array	A list of available zoom settings (See Zoom parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "zoom": "Optical Zoom Only",
            "candidate": [
                "Optical Zoom Only",
                "On:Clear Image Zoom"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setZoomSetting
- getZoomSetting
- getSupportedZoomSetting

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "zoomSetting" object in "getEvent (v1.2)" callback.

Half-press shutter

actHalfPressShutter

Overview

This API provides a function to half-press shutter.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "actHalfPressShutter",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- cancelHalfPressShutter
- getEvent (v1.1)

Special note (details)

This API starts camera auto adjustment function like pressing the shutter button halfway down. After calling this API, the server will start auto focus and auto exposure mainly depending on the camera settings. The client should cancel the function using "cancelHalfPressShutter" API. The client can get the focus status by checking "focusStatus" object in the response of "getEvent (v1.1)" API.

cancelHalfPressShutter

Overview

This API provides a function to cancel half-press shutter.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "cancelHalfPressShutter",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

None

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- actHalfPressShutter
- getEvent (v1.1)

Special note (details)

None in particular.

Touch AF position

setTouchAFPosition

Overview

This API provides a function to enable touch AF and the position.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	double	X-axis position
1	double	Y-axis position

JSON Example

```
{
    "method": "setTouchAFPosition",
    "params": [23.4, 45.6],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.
1		object	The result of touch AF
	"AFResult"	boolean	AF result true: AF is done successfully. false: Failure to AF
	"AFType"	string	AF type (See Touch AF position parameter of Parameter description

JSON Example

```
{
    "result": [
        0,
        {
            "AFResult": true,
            "AFType": "Touch"
        }
    ],
   "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getTouchAFPosition
- cancelTouchAFPosition

Special note (details)

The X-axis and Y-axis position are expressed in percentage. The origin of coordinates is upper left of the liveview which is transferred from the server.

The server may fail to touch AF. It also may take time to focus and response time-out error. Even if time-out error occurs, the server will continue to focus. The client should cancel touch AF using "cancelTouchAFPosition" and get current status of touch AF using "getEvent".

getTouchAFPosition

Overview

This API provides a function to get current touch AF position.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getTouchAFPosition",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

Following object.

order	key	type	explanation
0		object	Current touch AF position
	"set"	boolean	Set or not. true: Touch AF is set and focused successfully. false: Touch AF is not set or failed to focus.
	"touchCoordinates"	double-array	Touch coordinates. This parameter is reserved and the camera will return empty array.

JSON Example

```
{
    "result": [
        { "set": true, "touchCoordinates":[] }
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setTouchAFPosition
- cancelTouchAFPosition

Special note (details)

None in particular.

cancelTouchAFPosition

Overview

This API provides a function to cancel Touch AF.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "cancelTouchAFPosition",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

None

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setTouchAFPosition
- getTouchAFPosition

Special note (details)

None in particular.

Tracking focus

actTrackingFocus

Overview

This API provides a function to start tracking focus.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"xPosition"	double	X-axis position
"yPosition"	double	Y-axis position

JSON Example

```
{
    "id": 1,
    "method": "actTrackingFocus",
    "params": [
        {
            "xPosition": 23.4,
            "yPosition": 45.6
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- cancelTrackingFocus
- getEvent (v1.2)

Special note (details)

The X-axis and Y-axis position are expressed in percentage. The origin of coordinates is upper left of liveview which is transferred from the server. The tracking focus function may not operate well in some situations. The client can cancel tracking focus by using "cancelTrackingFocus" API. The server may cancel tracking focus function by itself. The client can check if the tracking focus is operating or not by using "trackingFocusStatus" object of "getEvent (v1.2)".

cancelTrackingFocus

Overview

This API provides a function to cancel tracking focus.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "cancelTrackingFocus",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

None

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- actTrackingFocus
- getEvent (v1.2)

Special note (details)

The server may cancel tracking focus function by itself. The client can check if the tracking focus is operating or not by using "trackingFocusStatus" object of "getEvent (v1.2)".

setTrackingFocus

Overview

This API provides a function to set a value of tracking focus setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"trackingFocus"	string	Tracking focus setting (See Tracking focus parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setTrackingFocus",
    "params": [
        {
            "trackingFocus": "On"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getTrackingFocus
- getSupportedTrackingFocus
- getAvailableTrackingFocus

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "trackingFocus" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getTrackingFocus

Overview

This API provides a function to get current tracking focus setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getTrackingFocus",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"trackingFocus"	string	Current tracking focus setting (See Tracking focus parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "trackingFocus": "On"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setTrackingFocus
- getSupportedTrackingFocus
- getAvailableTrackingFocus

Special note (details)

None in particular.

getSupportedTrackingFocus

Overview

This API provides a function to get the supported tracking focus settings.
The client should use "getAvailableTrackingFocus" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedTrackingFocus",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported tracking focus settings (See Tracking focus parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setTrackingFocus
- getTrackingFocus
- getAvailableTrackingFocus

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableTrackingFocus

Overview

This API provides a function to get current tracking focus setting and the available tracking focus settings at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableTrackingFocus",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"trackingFocus"	string	Current tracking focus setting (See Tracking focus parameters of Parameter description)
"candidate"	string-array	A list of available tracking focus settings (See Tracking focus parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "trackingFocus": "On",
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setTrackingFocus
- getTrackingFocus
- getSupportedTrackingFocus

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "trackingFocus" object in "getEvent (v1.2)" callback.

Continuous shooting mode

setContShootingMode

Overview

This API provides a function to set a value of continuous shooting mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"contShootingMode"	string	Continuous shooting mode (See Continuous shooting mode parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setContShootingMode",
    "params": [
        {
            "contShootingMode": "Spd Priority Cont."
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getContShootingMode
- getSupportedContShootingMode
- getAvailableContShootingMode

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "contShootingMode" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

The client should call appropriate APIs according to the continuous shooting mode. When the continuous shooting mode is "Single", "Burst" or "MotionShot", the client should call "actTakePicture" API to take still image. When the mode is "Continuous" or "Spd Priority Cont.", the client can call "startContShooting" and "stopContShooting" APIs. The client can check the API availability using "getAvailableApiList" or "availableApiList" object of "getEvent (v1.2)" API.

getContShootingMode

Overview

This API provides a function to get current continuous shooting mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getContShootingMode",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"contShootingMode"	string	Current continuous shooting mode (See Continuous shooting mode parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "contShootingMode": "Spd Priority Cont."
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setContShootingMode
- getSupportedContShootingMode
- getAvailableContShootingMode

Special note (details)

None in particular.

getSupportedContShootingMode

Overview

This API provides a function to get the supported continuous shooting modes.
The client should use "getAvailableContShootingMode" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedContShootingMode",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported continuous shooting modes (See Continuous shooting mode parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "Single",
                "Continuous",
                "Spd Priority Cont."
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setContShootingMode
- getContShootingMode
- getAvailableContShootingMode

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableContShootingMode

Overview

This API provides a function to get current continuous shooting mode and the available continuous shooting modes at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableContShootingMode",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"contShootingMode"	string	Current continuous shooting mode (See Continuous shooting mode parameters of Parameter description)
"candidate"	string-array	A list of available continuous shooting modes (See Continuous shooting mode parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "contShootingMode": "Spd Priority Cont.",
            "candidate": [
                "Single",
                "Continuous",
                "Spd Priority Cont."
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setContShootingMode
- getContShootingMode
- getSupportedContShootingMode

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "contShootingMode" object in "getEvent (v1.2)" callback.

Continuous shooting speed

setContShootingSpeed

Overview

This API provides a function to set a value of continuous shooting speed.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"contShootingSpeed"	string	Continuous shooting speed (See Continuous shooting speed parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setContShootingSpeed",
    "params": [
        {
            "contShootingSpeed": "Hi"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getContShootingSpeed
- getSupportedContShootingSpeed
- getAvailableContShootingSpeed

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "contShootingSpeed" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getContShootingSpeed

Overview

This API provides a function to get current continuous shooting speed.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getContShootingSpeed",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"contShootingSpeed"	string	Current continuous shooting speed (See Continuous shooting speed parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "contShootingSpeed": "Hi"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setContShootingSpeed
- getSupportedContShootingSpeed
- getAvailableContShootingSpeed

Special note (details)

None in particular.

getSupportedContShootingSpeed

Overview

This API provides a function to get the supported continuous shooting speeds.
The client should use "getAvailableContShootingSpeed" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedContShootingSpeed",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported continuous shooting speeds (See Continuous shooting speed parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "Hi",
                "Low"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setContShootingSpeed
- getContShootingSpeed
- getAvailableContShootingSpeed

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableContShootingSpeed

Overview

This API provides a function to get current continuous shooting speed and the available continuous shooting speeds at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableContShootingSpeed",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"contShootingSpeed"	string	Current continuous shooting speed (See Continuous shooting speed parameters of Parameter description)
"candidate"	string-array	A list of available continuous shooting speeds (See Continuous shooting speed parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "contShootingSpeed": "Hi",
            "candidate": [
                "Hi",
                "Low"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setContShootingSpeed
- getContShootingSpeed
- getSupportedContShootingSpeed

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "contShootingSpeed" object in "getEvent (v1.2)" callback.

Self-timer

setSelfTimer

Overview

This API provides a function to set a value of self-timer.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	integer	Self-timer (unit: second) (See Self-timer parameters of Parameter description)

JSON Example

```
{
    "method": "setSelfTimer",
    "params": [2],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getSelfTimer
- getSupportedSelfTimer
- getAvailableSelfTimer

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "selfTimer" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

Some camera models need "startRecMode" API call before accessing camera settings. See "startRecMode" for details.

getSelfTimer

Overview

This API provides a function to get current self-timer setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSelfTimer",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Current self-timer setting (unit: second) (See Self-timer parameters of Parameter description)

JSON Example

```
{
    "result": [2],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setSelfTimer
- getSupportedSelfTimer
- getAvailableSelfTimer

Special note (details)

None in particular.

getSupportedSelfTimer

Overview

This API provides a function to get the supported self-timer settings.
The client should use "getAvailableSelfTimer" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedSelfTimer",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer-array	A list of supported self-timer settings (unit: second) (See Self-timer parameters of Parameter description)

JSON Example

```
{
    "result": [
        [0,2,10]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setSelfTimer
- getSelfTimer
- getAvailableSelfTimer

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableSelfTimer

Overview

This API provides a function to get current self-timer setting and the available self-timer settings at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableSelfTimer",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Current self-timer setting (unit: second) (See Self-timer parameters of Parameter description)
1	integer-array	A list of available self-timer settings (unit: second) (See Self-timer parameters of Parameter description)

JSON Example

```
{
    "result": [
        0,
        [0,2,10]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setSelfTimer
- getSelfTimer
- getSupportedSelfTimer

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "selfTimer" object in "getEvent" callback.

Exposure mode

setExposureMode

Overview

This API provides a function to set a value of exposure mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Exposure mode (See Exposure mode parameter of Parameter description)

JSON Example

```
{
    "method": "setExposureMode",
    "params": ["Intelligent Auto"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getExposureMode
- getSupportedExposureMode
- getAvailableExposureMode

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "exposureMode" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getExposureMode

Overview

This API provides a function to get current exposure mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getExposureMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current exposure mode (See Exposure mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "Intelligent Auto"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setExposureMode
- getSupportedExposureMode
- getAvailableExposureMode

Special note (details)

None in particular.

getSupportedExposureMode

Overview

This API provides a function to get the supported exposure modes.
The client should use "getAvailableExposureMode" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedExposureMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported exposure modes (See Exposure mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        ["Intelligent Auto","Superior Auto"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setExposureMode
- getExposureMode
- getAvailableExposureMode

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableExposureMode

Overview

This API provides a function to get current exposure mode and the available exposure modes at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableExposureMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current exposure mode (See Exposure mode parameter of Parameter description)
1	string-array	A list of available exposure modes (See Exposure mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "Intelligent Auto",
        ["Intelligent Auto","Superior Auto"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setExposureMode
- getExposureMode
- getSupportedExposureMode

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "exposureMode" object in "getEvent" callback.

Focus mode

setFocusMode

Overview

This API provides a function to set a value of focus mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Focus mode (See Focus mode parameter of Parameter description)

JSON Example

```
{
    "method": "setFocusMode",
    "params": ["MF"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getFocusMode
- getSupportedFocusMode
- getAvailableFocusMode

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "focusMode" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getFocusMode

Overview

This API provides a function to get current focus mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getFocusMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current focus mode (See Focus mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "MF"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFocusMode
- getSupportedFocusMode
- getAvailableFocusMode

Special note (details)

None in particular.

getSupportedFocusMode

Overview

This API provides a function to get the supported focus modes.
The client should use "getAvailableFocusMode" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedFocusMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	Supported focus modes (See Focus mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        ["AF-S","MF"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFocusMode
- getFocusMode
- getAvailableFocusMode

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableFocusMode

Overview

This API provides a function to get current focus mode and the available focus modes at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableFocusMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current focus mode (See Focus mode parameter of Parameter description)
1	string-array	A list of available focus modes (See Focus mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "MF",
        ["AF-S","MF"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFocusMode
- getFocusMode
- getSupportedFocusMode

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "focusMode" object in "getEvent" callback.

Exposure compensation

setExposureCompensation

Overview

This API provides a function to set a value of exposure compensation.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	integer	Index value of exposure compensation (See getSupportedExposureCompensation)

JSON Example

```
{
    "method": "setExposureCompensation",
    "params": [2],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getExposureCompensation
- getSupportedExposureCompensation
- getAvailableExposureCompensation

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "exposureCompensation" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.
See getSupportedExposureCompensation for details of the request parameter.

getExposureCompensation

Overview

This API provides a function to get current exposure compensation value.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getExposureCompensation",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Current index value of exposure compensation (See getSupportedExposureCompensation)

JSON Example

```
{
    "result": [
        2
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setExposureCompensation
- getSupportedExposureCompensation
- getAvailableExposureCompensation

Special note (details)

See getSupportedExposureCompensation.

getSupportedExposureCompensation

Overview

This API provides a function to get the supported exposure compensation values.
The client should use "getAvailableExposureCompensation" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedExposureCompensation",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer-array	Upper limit of exposure compensation index values list that supported by the server.
1	integer-array	Lower limit of exposure compensation index values list that supported by the server.
2	integer-array	Exposure compensation index step list of values that supported by the server. 1: 1/3 EV 2: 1/2 EV 0: invalid

JSON Example

```
{
    "result": [
        [6,6],
        [-6,-6],
        [1,2]
    ],
```

Error Codes

See Status code & Error

Related API

- setExposureCompensation
- getExposureCompensation
- getAvailableExposureCompensation

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

The callback parameter "Upper limit", "Lower limit" and "index step" of this API will be expanded (Declared in the list in order to handle multiple values). For example, in case that Upper limit[0]=6, Lower limit[0]=-6, index step[0]=1(1/3EV) or index step[0]=2(1/2EV), correspondence between exposure index value and UI value is below.

Exposure index value	**UI [EV]**	
	index step[0] =1(1/3EV)	index step[0] =2(1/2EV)
6	2.0	3.0
5	1.7	2.5
4	1.3	2.0
3	1.0	1.5
2	0.7	1.0
1	0.3	0.5
0	0.0	0.0
-1	-0.3	-0.5
-2	-0.7	-1.0
-3	-1.0	-1.5
-4	-1.3	-2.0
-5	-1.7	-2.5
-6	-2.0	-3.0

Example: Upper limit[0]=6, Lower limit[0]=-6

getAvailableExposureCompensation

Overview

This API provides a function to get current exposure compensation value and the available exposure compensation values at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableExposureCompensation",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Current exposure compensation index value
1	integer	Upper limit of available exposure compensation index value.
2	integer	Lower limit of available exposure compensation index value.
3	integer	Exposure compensation index step value

JSON Example

```
{
    "result": [
        0,
        6,
        -6,
        1
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setExposureCompensation
- getExposureCompensation
- getSupportedExposureCompensation

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "exposureCompensation" object in "getEvent" callback. See getSupportedExposureCompensation.

F number

setFNumber

Overview

This API provides a function to set a value of F number.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	F number

JSON Example

```
{
    "method": "setFNumber",
    "params": ["5.4"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getFNumber
- getSupportedFNumber
- getAvailableFNumber

Special note (details)

The parameter "F number" can be set in the range of supported F numbers. The client can get available F numbers at the moment using "getAvailableFNumber". Note that available F numbers often may vary on lenses.

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "fNumber" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getFNumber

Overview

This API provides a function to get current F number.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getFNumber",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current F number (See setFNumber)

JSON Example

```
{
    "result": [
        "5.4"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFNumber
- getSupportedFNumber
- getAvailableFNumber

Special note (details)

None in particular.

getSupportedFNumber

Overview

This API provides a function to get the supported F numbers.
The client should use "getAvailableFNumber" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedFNumber",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported F numbers (See setFNumber)

JSON Example

```
{
    "result": [
        ["1.4","2.0","2.8","4.0","5.6"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFNumber
- getFNumber
- getAvailableFNumber

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableFNumber

Overview

This API provides a function to get current F number and the available F numbers at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableFNumber",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current F number (See setFNumber)
1	string-array	A list of available F numbers (See setFNumber)

JSON Example

```
{
    "result": [
        "1.4",
        ["1.4","2.0","2.8","4.0"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFNumber
- getFNumber
- getSupportedFNumber

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "fNumber" object in "getEvent" callback.

Shutter speed

setShutterSpeed

Overview

This API provides a function to set a value of shutter speed.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Shutter speed

JSON Example

```
{
    "method": "setShutterSpeed",
    "params": ["1/2"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getShutterSpeed
- getSupportedShutterSpeed
- getAvailableShutterSpeed

Special note (details)

The parameter "Shutter speed" can be set in the range of supported shutter speeds. The client can get available shutter speeds at the moment using "getAvailableShutterSpeed".

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "shutterSpeed" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getShutterSpeed

Overview

This API provides a function to get current shutter speed.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getShutterSpeed",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current shutter speed (See setShutterSpeed)

JSON Example

```
{
    "result": [
        "1/2"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setShutterSpeed
- getSupportedShutterSpeed
- getAvailableShutterSpeed

Special note (details)

None in particular.

getSupportedShutterSpeed

Overview

This API provides a function to get the supported shutter speeds.
The client should use "getAvailableShutterSpeed" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedShutterSpeed",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported shutter speeds (See setShutterSpeed)

JSON Example

```
{
    "result": [
        ["30\"","1\"","1/2","1/30","1/250"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setShutterSpeed
- getShutterSpeed
- getAvailableShutterSpeed

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableShutterSpeed

Overview

This API provides a function to get current shutter speed and the available shutter speeds at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableShutterSpeed",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current shutter speed (See setShutterSpeed)
1	string-array	A list of available shutter speeds (See setShutterSpeed)

JSON Example

```
{
    "result": [
        "1/2",
        ["30\"","1\"","1/2","1/30","1/250"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setShutterSpeed
- getShutterSpeed
- getSupportedShutterSpeed

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "shutterSpeed" object in "getEvent" callback.

ISO speed rate

setIsoSpeedRate

Overview

This API provides a function to set a value of ISO speed rate.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	ISO speed rate

JSON Example

```
{
    "method": "setIsoSpeedRate",
    "params": ["400"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getIsoSpeedRate
- getSupportedIsoSpeedRate
- getAvailableIsoSpeedRate

Special note (details)

The parameter "ISO speed rate" can be set in the range of supported ISO speed rates. The client can get available ISO speed rates at the moment using "getAvailableIsoSpeedRate".

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "isoSpeedRate" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getIsoSpeedRate

Overview

This API provides a function to get current ISO speed rate value.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getIsoSpeedRate",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current ISO speed rate value (See setIsoSpeedRate)

JSON Example

```
{
    "result": [
        "400"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setIsoSpeedRate
- getSupportedIsoSpeedRate
- getAvailableIsoSpeedRate

Special note (details)

None in particular.

getSupportedIsoSpeedRate

Overview

This API provides a function to get the supported ISO speed rate values.
The client should use "getAvailableIsoSpeedRate" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedIsoSpeedRate",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported ISO speed rate values (See setIsoSpeedRate)

JSON Example

```
{
    "result": [
        ["100","400","3200"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setIsoSpeedRate
- getIsoSpeedRate
- getAvailableIsoSpeedRate

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableIsoSpeedRate

Overview

This API provides a function to get current ISO speed rate value and the available ISO speed rate values at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableIsoSpeedRate",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current ISO speed rate value (See setIsoSpeedRate)
1	string-array	A list of available ISO speed rate values (See setIsoSpeedRate)

JSON Example

```
{
    "result": [
        "400",
        ["100","400","3200"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setIsoSpeedRate
- getIsoSpeedRate
- getSupportedIsoSpeedRate

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "isoSpeedRate" object in "getEvent" callback.

White balance

setWhiteBalance

Overview

This API provides a function to set a value of white balance.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	White balance mode (See White balance parameter of Parameter description)
1	boolean	Color temperature enabled flag true: enabled false: not enabled
2	integer	Color temperature (See White balance parameter of Parameter description)

JSON Example

```
{
    "method": "setWhiteBalance",
    "params": ["Color Temperature", true, 2500],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getWhiteBalance
- getSupportedWhiteBalance
- getAvailableWhiteBalance

Special note (details)

The parameter "White balance mode" and "color temperature" can be set in the range of supported modes and temperatures. The client can get available range at the moment using "getAvailableWhiteBalance".

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "whiteBalance" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getWhiteBalance

Overview

This API provides a function to get current white balance.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getWhiteBalance",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

Following object.

order	key	type	explanation
0		object	Current white balance
	"whiteBalanceMode"	string	White balance mode (See White balance parameter of Parameter description)
	"colorTemperature"	integer	Color temperature (See White balance parameter of Parameter description)

JSON Example

```
{
    "result": [
        {"whiteBalanceMode":"Color Temperature", "colorTemperature":2500}
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setWhiteBalance
- getSupportedWhiteBalance
- getAvailableWhiteBalance

Special note (details)

None in particular.

getSupportedWhiteBalance

Overview

This API provides a function to get the supported white balances.
The client should use "getAvailableWhiteBalance" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedWhiteBalance",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object-array	A list of supported white balances
	"whiteBalanceMode"	string	White balance mode (See White balance parameter of Parameter description)
	"colorTemperatureRange"	integer-array	Color temperature range (See White balance parameter of Parameter description)

JSON Example

```
{
    "result": [
        [
            {"whiteBalanceMode":"Auto WB", "colorTemperatureRange":[]},
            {"whiteBalanceMode":"Daylight", "colorTemperatureRange":[]},
            {"whiteBalanceMode":"Color Temperature", "colorTemperatureRange":[9900, 2500, 100] }
        ]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setWhiteBalance
- getWhiteBalance
- getAvailableWhiteBalance

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableWhiteBalance

Overview

This API provides a function to get current white balance and the available white balances at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableWhiteBalance",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object	Current white balance
	"whiteBalanceMode"	string	White balance mode (See White balance parameter of Parameter description)
	"colorTemperature"	integer	Color temperature (See White balance parameter of Parameter description) (When -1 is set, this parameter is invalid.)
1		object-array	A list of available white balances
	"whiteBalanceMode"	string	White balance mode (See White balance parameter of Parameter description)
	"colorTemperatureRange"	integer-array	Color temperature range (See White balance parameter of Parameter description)

JSON Example

```
{
    "result": [
        {"whiteBalanceMode":"Color Temperature", "colorTemperature":2500 },
        [
            {"whiteBalanceMode":"Auto WB", "colorTemperatureRange":[] },
            {"whiteBalanceMode":"Daylight", "colorTemperatureRange":[]},
            {"whiteBalanceMode":"Color Temperature", "colorTemperatureRange":[9900, 2500, 100] }
        ]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setWhiteBalance
- getWhiteBalance
- getSupportedWhiteBalance

Special note (details)

This API returns current set value and available values at the moment.

actWhiteBalanceOnePushCustom

Overview

This API provides the function to execute white balance custom setup with one push.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "actWhiteBalanceOnePushCustom",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
" inRange "	boolean	The exposure of captured image is in range or not. true : In range. The capture is done successfully. false : Not in range. The capture is error but the value is registered.
"colorTemperature"	integer	Color temperature (unit: K). (When -1 is set, this parameter is invalid.)
"lightBalance"	integer	Light balancing value in A-B axis. The positive value is A direction and negative is B direction.
"colorCompensation"	integer	Color compensating value in G-M axis. The positive value is G direction and negative is M direction.

JSON Example

```
{
    "id": 1,
    "result": [{
        "colorCompensation": 2,
        "lightBalance": 0,
        "inRange": true,
        "colorTemperature": 7500
    }]
}
```

Error Codes

See Status code & Error

Related API

- setWhiteBalance
- getWhiteBalance
- getSupportedWhiteBalance
- getAvailableWhiteBalance

Special note (details)

When the client calls this API, the camera will capture the image for white balance custom setup and register the values.

When this API is called and the camera starts capturing, the camera status will change as follows. The camera status can be obtained by "getEvent(v1.3)".

Camera status: "IDLE" -> "WhiteBalanceOnePushCapturing" -> "IDLE"

The result of this API will be reflected in "Custom" white balance mode.

Program shift

setProgramShift

Overview

This API provides a function to set program shift. The client can change the aperture (F number) and shutter speed combination using this API.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	integer	Shift amount

JSON Example

```
{
    "method": "setProgramShift",
    "params": [1],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getSupportedProgramShift

Special note (details)

The parameter "Shift amount" can be set in the range of supported amounts. The client can get supported amounts using "getSupportedProgramShift". The client can check "programShift" object in "getEvent" callback to recognize the timing of a change of the server. When the "isShifted" parameter in "programShift" object in "getEvent" callback is false, it means that the program shift is canceled. The client also can check the changes of "fNumber" and "shutterSpeed" values after setting the program shift.

getSupportedProgramShift

Overview

This API provides a function to get the supported program shift amounts.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedProgramShift",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer-array	Range of supported shift amounts [<maximum value>, <minimum value>]

JSON Example

```
{
    "result": [
        [5, -5]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setProgramShift

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

For example, when the response is [2, -2], the client can set 2, 1, 0, -1 or -2 as the shift amount using "setProgramShift". Typically, the client can set -1 or 1 to shift the aperture and shutter speed combination step by step.

Flash mode

setFlashMode

Overview

This API provides a function to set a value of flash mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Flash mode (See Flash mode parameter of Parameter description)

JSON Example

```
{
    "method": "setFlashMode",
    "params": ["off"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getFlashMode
- getSupportedFlashMode
- getAvailableFlashMode

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "flashMode" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getFlashMode

Overview

This API provides a function to get current flash mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getFlashMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current flash mode (See Flash mode parameter of Parameter description)

JSON Example

```
{
    "result": ["off"],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFlashMode
- getSupportedFlashMode
- getAvailableFlashMode

Special note (details)

None in particular.

getSupportedFlashMode

Overview

This API provides a function to get the supported flash modes.
The client should use "getAvailableFlashMode" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedFlashMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported flash modes (See Flash mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        ["off", "on"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFlashMode
- getFlashMode
- getAvailableFlashMode

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableFlashMode

Overview

This API provides a function to get current flash mode and the available flash modes at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableFlashMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current flash mode (See Flash mode parameter of Parameter description)
1	string-array	A list of available flash modes (See Flash mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "off",
        ["off", "on"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setFlashMode
- getFlashMode
- getSupportedFlashMode

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "flashMode" object in "getEvent" callback.

Still size

setStillSize

Overview

This API provides a function to set a value of still size.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Still aspect (See Still size parameter of Parameter description)
1	string	Still size (See Still size parameter of Parameter description)

JSON Example

```
{
    "method": "setStillSize",
    "params": ["4:3","5M"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
integer	1	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getStillSize
- getSupportedStillSize
- getAvailableStillSize

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "stillSize" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getStillSize

Overview

This API provides a function to get current still size.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getStillSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object	Current still size
	"aspect"	string	still aspect (See Still size parameter of Parameter description)
	"size"	string	still size (See Still size parameter of Parameter description)

JSON Example

```
{
    "result": [
        {"aspect":"4:3", "size":"5M"}
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setStillSize
- getSupportedStillSize
- getAvailableStillSize

Special note (details)

None in particular.

getSupportedStillSize

Overview

This API provides a function to get the supported still sizes.
The client should use "getAvailableStillSize" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedStillSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object-array	A list of supported still sizes
	"aspect"	string	Still aspect (See Still size parameter of Parameter description)
	"size"	string	Still size (See Still size parameter of Parameter description)

JSON Example

```
{
    "result": [
        [
            { "aspect":"16:9", "size":"17M" },
            { "aspect":"16:9", "size":"7.5M"},
            { "aspect":"4:3",  "size":"18M" }
        ]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setStillSize
- getStillSize
- getAvailableStillSize

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableStillSize

Overview

This API provides a function to get current still size and the available still sizes at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableStillSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object	Current still size
	"aspect"	string	Still aspect (See Still size parameter of Parameter description)
	"size"	string	Still size (See Still size parameter of Parameter description)
1		object-array	A list of available still sizes
	"aspect"	string	Still aspect (See Still size parameter of Parameter description)
	"size"	string	Still size (See Still size parameter of Parameter description)

JSON Example

```
{
    "result": [
        { "aspect":"4:3",  "size":"5M"},
        [
            { "aspect":"16:9", "size":"17M" },
            { "aspect":"16:9", "size":"7.5M"},
            { "aspect":"4:3",  "size":"18M" }
        ]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setStillSize
- getStillSize
- getSupportedStillSize

Special note (details)

This API returns current set value and available values at the moment.

Still quality

setStillQuality

Overview

This API provides a function to set a value of still quality.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"stillQuality"	string	Still quality (See Still quality parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setStillQuality",
    "params": [
        {
            "stillQuality": "RAW+JPEG"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getStillQuality
- getSupportedStillQuality
- getAvailableStillQuality

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "stillQuality" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getStillQuality

Overview

This API provides a function to get current still quality.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getStillQuality",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"stillQuality"	string	Current still quality (See Still quality parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "stillQuality": "RAW+JPEG"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setStillQuality
- getSupportedStillQuality
- getAvailableStillQuality

Special note (details)

None in particular.

getSupportedStillQuality

Overview

This API provides a function to get the supported still quality.
The client should use "getAvailableStillQuality" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedStillQuality",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported still quality (See Still quality parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "RAW+JPEG",
                "Fine",
                "Standard"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setStillQuality
- getStillQuality
- getAvailableStillQuality

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableStillQuality

Overview

This API provides a function to get current still quality and the available still quality at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableStillQuality",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"stillQuality"	string	Current still quality (See Still quality parameters of Parameter description)
"candidate"	string-array	A list of available still quality (See Still quality parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "stillQuality": "Fine",
            "candidate": [
                "RAW+JPEG",
                "Fine",
                "Standard"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setStillQuality
- getStillQuality
- getSupportedStillQuality

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "stillQuality" object in "getEvent (v1.2)" callback.

Postview image size

setPostviewImageSize

Overview

This API provides a function to set a value of postview image size. The postview image can be used for storing it as the taken picture, and showing it to the client display.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Postview image size (See Postview image size parameters of Parameter description)

JSON Example

```
{
    "method": "setPostviewImageSize",
    "params": ["Original"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getPostviewImageSize
- getSupportedPostviewImageSize
- getAvailablePostviewImageSize

Special note (details)

The postview is the still image data that can be received as the response of "actTakePicture" and "awaitTakePicture".
Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "postviewImageSize" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

Some camera models need "startRecMode" API call before accessing camera settings. See "startRecMode" for details.

getPostviewImageSize

Overview

This API provides a function to get current postview image size.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getPostviewImageSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current postview image size (See Postview image size parameters of Parameter description)

JSON Example

```
{
    "result": [
        "Original"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setPostviewImageSize
- getSupportedPostviewImageSize
- getAvailablePostviewImageSize

Special note (details)

None in particular.

getSupportedPostviewImageSize

Overview

This API provides a function to get the supported postview image sizes.
The client should use "getAvailablePostviewImageSize" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedPostviewImageSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported postview image sizes (See Postview image size parameters of Parameter description)

JSON Example

```
{
    "result": [
        ["Original","2M"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setPostviewImageSize
- getPostviewImageSize
- getAvailablePostviewImageSize

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailablePostviewImageSize

Overview

This API provides a function to get current postview image size and the available postview image sizes at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailablePostviewImageSize",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current postview image size (See Postview image size parameters of Parameter description)
1	string-array	A list of available postview image sizes (See Postview image size parameters of Parameter description)

JSON Example

```
{
    "result": [
        "Original",
        ["Original","2M"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setPostviewImageSize
- getPostviewImageSize
- getSupportedPostviewImageSize

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "postviewImageSize" object in "getEvent" callback.

Movie file format

setMovieFileFormat

Overview

This API provides a function to set a value of movie file format.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"movieFileFormat"	string	Movie file format (See Movie file format parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setMovieFileFormat",
    "params": [
        {
            "movieFileFormat": "XAVC S"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getMovieFileFormat
- getSupportedMovieFileFormat
- getAvailableMovieFileFormat

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "movieFileFormat" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getMovieFileFormat

Overview

This API provides a function to get current movie file format.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getMovieFileFormat",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"movieFileFormat"	string	Current movie file format (See Movie file format parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "movieFileFormat": "XAVC S"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setMovieFileFormat
- getSupportedMovieFileFormat
- getAvailableMovieFileFormat

Special note (details)

None in particular.

getSupportedMovieFileFormat

Overview

This API provides a function to get the supported movie file formats.
The client should use "getAvailableMovieFileFormat" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedMovieFileFormat",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported movie file formats (See Movie file format parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "MP4",
                "XAVC S"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setMovieFileFormat
- getMovieFileFormat
- getAvailableMovieFileFormat

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableMovieFileFormat

Overview

This API provides a function to get current movie file format and the available movie file formats at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableMovieFileFormat",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"movieFileFormat"	string	Current movie file format (See Movie file format parameters of Parameter description)
"candidate"	string-array	A list of available movie file formats (See Movie file format parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "MP4",
                "XAVC S"
            ],
            "movieFileFormat": "XAVC S"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setMovieFileFormat
- getMovieFileFormat
- getSupportedMovieFileFormat

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "movieFileFormat" object in "getEvent (v1.2)" callback.

Movie quality

setMovieQuality

Overview

This API provides a function to set a value of movie quality.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Movie quality (See Movie quality parameter of Parameter description)

JSON Example

```
{
    "method": "setMovieQuality",
    "params": ["HQ"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getMovieQuality
- getSupportedMovieQuality
- getAvailableMovieQuality

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "movieQuality" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getMovieQuality

Overview

This API provides a function to get current movie quality.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getMovieQuality",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current movie quality (See Movie quality parameter of Parameter description)

JSON Example

```
{
    "result": [
        "HQ"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setMovieQuality
- getSupportedMovieQuality
- getAvailableMovieQuality

Special note (details)

None in particular.

getSupportedMovieQuality

Overview

This API provides a function to get the supported movie qualities.
The client should use "getAvailableMovieQuality" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedMovieQuality",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported movie qualities (See Movie quality parameter of Parameter description)

JSON Example

```
{
    "result": [
        ["HQ","STD","VGA","SLOW","SSLOW"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setMovieQuality
- getMovieQuality
- getAvailableMovieQuality

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableMovieQuality

Overview

This API provides a function to get current movie quality and the available movie qualities at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableMovieQuality",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current movie quality (See Movie quality parameter of Parameter description)
1	string-array	A list of available movie qualities (See Movie quality parameter of Parameter description)

JSON Example

```
{
    "result": [
        "HQ",
        ["HQ","STD","VGA","SLOW","SSLOW"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setMovieQuality
- getMovieQuality
- getSupportedMovieQuality

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "movieQuality" object in "getEvent" callback.

Steady mode

setSteadyMode

Overview

This API provides a function to set a value of steady mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Steady mode (See Steady mode parameter of Parameter description)

JSON Example

```
{
    "method": "setSteadyMode",
    "params": ["off"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getSteadyMode
- getSupportedSteadyMode
- getAvailableSteadyMode

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "steadyMode" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getSteadyMode

Overview

This API provides a function to get current steady mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSteadyMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current steady mode (See Steady mode parameter of Parameter description)

JSON Example

```
{
    "result": ["off"],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setSteadyMode
- getSupportedSteadyMode
- getAvailableSteadyMode

Special note (details)

None in particular.

getSupportedSteadyMode

Overview

This API provides a function to get the supported steady modes.
The client should use "getAvailableSteadyMode" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedSteadyMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported steady modes (See Steady mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        ["off", "on"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setSteadyMode
- getSteadyMode
- getAvailableSteadyMode

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableSteadyMode

Overview

This API provides a function to get current steady mode and the available steady modes at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableSteadyMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current steady mode (See Steady mode parameter of Parameter description)
1	string-array	A list of available steady modes (See Steady mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "off",
        ["off", "on"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setSteadyMode
- getSteadyMode
- getSupportedSteadyMode

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "steadyMode" object in "getEvent" callback.

View angle

setViewAngle

Overview

This API provides a function to set a value of view angle.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	integer	View angle (See View angle parameter of Parameter description)

JSON Example

```
{
    "method": "setViewAngle",
    "params": [120],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getViewAngle
- getSupportedViewAngle
- getAvailableViewAngle

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "viewAngle" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getViewAngle

Overview

This API provides a function to get current view angle.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getViewAngle",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Current view angle (See View angle parameter of Parameter description)

JSON Example

```
{
    "result": [
        120
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setViewAngle
- getSupportedViewAngle
- getAvailableViewAngle

Special note (details)

None in particular.

getSupportedViewAngle

Overview

This API provides a function to get the supported view angles.
The client should use "getAvailableViewAngle" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedViewAngle",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer-array	A list of supported view angles (See View angle parameter of Parameter description)

JSON Example

```
{
    "result": [
        [120,170]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setViewAngle
- getViewAngle
- getAvailableViewAngle

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableViewAngle

Overview

This API provides a function to get current view angle and the available view angles at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableViewAngle",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Current view angle (See View angle parameter of Parameter description)
1	integer-array	A list of available view angles (See View angle parameter of Parameter description)

JSON Example

```
{
    "result": [
        120,
        [120,170]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setViewAngle
- getViewAngle
- getSupportedViewAngle

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "viewAngle" object in "getEvent" callback.

Scene selection

setSceneSelection

Overview

This API provides a function to set a value of scene selection.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"scene"	string	Scene selection (See Scene selection parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setSceneSelection",
    "params": [
        {
            "scene": "Under Water"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getSceneSelection
- getSupportedSceneSelection
- getAvailableSceneSelection

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "sceneSelection" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getSceneSelection

Overview

This API provides a function to get current scene selection.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSceneSelection",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"scene"	string	Current scene selection (See Scene selection parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "scene": "Normal"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setSceneSelection
- getSupportedSceneSelection
- getAvailableSceneSelection

Special note (details)

None in particular.

getSupportedSceneSelection

Overview

This API provides a function to get the supported scene selections.
The client should use "getAvailableSceneSelection" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedSceneSelection",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported scene selections (See Scene selection parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "Normal",
                "Under Water"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setSceneSelection
- getSceneSelection
- getAvailableSceneSelection

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableSceneSelection

Overview

This API provides a function to get current scene selection and the available scene selections at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableSceneSelection",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"scene"	string	Current scene selection (See Scene selection parameters of Parameter description)
"candidate"	string-array	A list of available scene selections (See Scene selection parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "scene": "Under Water",
            "candidate": [
                "Normal",
                "Under Water"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setSceneSelection
- getSceneSelection
- getSupportedSceneSelection

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "sceneSelection" object in "getEvent (v1.2)" callback.

Color setting

setColorSetting

Overview

This API provides a function to set a value of color setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"colorSetting"	string	Color setting (See Color setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setColorSetting",
    "params": [
        {
            "colorSetting": "Vivid"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getColorSetting
- getSupportedColorSetting
- getAvailableColorSetting

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "colorSetting" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getColorSetting

Overview

This API provides a function to get current color setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getColorSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"colorSetting"	string	Current color setting (See Color setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "colorSetting": "Vivid"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setColorSetting
- getSupportedColorSetting
- getAvailableColorSetting

Special note (details)

None in particular.

getSupportedColorSetting

Overview

This API provides a function to get the supported color settings.
The client should use "getAvailableColorSetting" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedColorSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported color settings (See Color setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "Neutral",
                "Vivid"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setColorSetting
- getColorSetting
- getAvailableColorSetting

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableColorSetting

Overview

This API provides a function to get current color setting and the available color settings at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableColorSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"colorSetting"	string	Current color setting (See Color setting parameters of Parameter description)
"candidate"	string-array	A list of available color settings (See Color setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "colorSetting": "Vivid",
            "candidate": [
                "Neutral",
                "Vivid"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setColorSetting
- getColorSetting
- getSupportedColorSetting

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "colorSetting" object in "getEvent (v1.2)" callback.

Interval time

setIntervalTime

Overview

This API provides a function to set a value of interval time.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"intervalTimeSec"	string	Interval time (unit: second) (See Interval time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setIntervalTime",
    "params": [
        {
            "intervalTimeSec": "10"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getIntervalTime
- getSupportedIntervalTime
- getAvailableIntervalTime

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "intervalTime" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getIntervalTime

Overview

This API provides a function to get current interval time.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getIntervalTime",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"intervalTimeSec"	string	Current interval time (unit: second) (See Interval time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "intervalTimeSec": "10"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setIntervalTime
- getSupportedIntervalTime
- getAvailableIntervalTime

Special note (details)

None in particular.

getSupportedIntervalTime

Overview

This API provides a function to get the supported interval times.
The client should use "getAvailableColorSetting" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedIntervalTime",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported interval times (unit: second) (See Interval time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "1",
                "2",
                "5",
                "10",
                "30",
                "60"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setIntervalTime
- getIntervalTime
- getAvailableIntervalTime

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableIntervalTime

Overview

This API provides a function to get current interval time and the available interval times at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableIntervalTime",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"intervalTimeSec"	string	Current interval time (unit: second) (See Interval time parameters of Parameter description)
"candidate"	string-array	A list of available interval times (unit: second) (See Interval time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "intervalTimeSec": "10",
            "candidate": [
                "1",
                "2",
                "5",
                "10",
                "30",
                "60"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setIntervalTime
- getIntervalTime
- getSupportedIntervalTime

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "intervalTime" object in "getEvent (v1.2)" callback.

Loop recording time

setLoopRecTime

Overview

This API provides a function to set a value of loop recording time.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"loopRecTimeMin"	string	Loop recording time (unit: minute) (See Loop recording time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setLoopRecTime",
    "params": [
        {
            "loopRecTimeMin": "5"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getLoopRecTime
- getSupportedLoopRecTime
- getAvailableLoopRecTime

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "loopRecTime" object in "getEvent (v1.3)" callback to recognize the timing of a change in the parameter of the server.

getLoopRecTime

Overview

This API provides a function to get current loop recording time.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getLoopRecTime",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"loopRecTimeMin"	string	Current loop recording time (unit: minute) (See Loop recording time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "loopRecTimeMin": "60"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setLoopRecTime
- getSupportedLoopRecTime
- getAvailableLoopRecTime

Special note (details)

None in particular.

getSupportedLoopRecTime

Overview

This API provides a function to get the supported loop recording times.
The client should use "getAvailableLoopRecTime" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedLoopRecTime",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported loop recording times (unit: minute) (See Loop recording time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "5",
                "20",
                "60",
                "120",
                "unlimited"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setLoopRecTime
- getLoopRecTime
- getAvailableLoopRecTime

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableLoopRecTime

Overview

This API provides a function to get current loop recording time and the available loop recording times at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableLoopRecTime",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"loopRecTimeMin"	string	Current loop recording time (unit: minute) (See Loop recording time parameters of Parameter description)
"candidate"	string-array	A list of available loop recording times (unit: minute) (See Loop recording time parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "loopRecTimeMin": "60",
            "candidate": [
                "5",
                "20",
                "60",
                "120",
                "unlimited"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setLoopRecTime
- getLoopRecTime
- getSupportedLoopRecTime

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "loopRecTime" object in "getEvent (v1.3)" callback.

Wind noise reduction

setWindNoiseReduction

Overview

This API provides a function to set a value of wind noise reduction.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"windNoiseReduction"	string	Wind noise reduction (See Wind noise reduction parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setWindNoiseReduction",
    "params": [
        {
            "windNoiseReduction": "On"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getWindNoiseReduction
- getSupportedWindNoiseReduction
- getAvailableWindNoiseReduction

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "flipSetting" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getWindNoiseReduction

Overview

This API provides a function to get current wind noise reduction.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getFlipSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"windNoiseReduction"	string	Current wind noise reduction (See Wind noise reduction parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "windNoiseReduction": "On"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setWindNoiseReduction
- getSupportedWindNoiseReduction
- getAvailableWindNoiseReduction

Special note (details)

None in particular.

getSupportedWindNoiseReduction

Overview

This API provides a function to get the supported wind noise reduction.
The client should use "getAvailableWindNoiseReduction" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedWindNoiseReduction",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported wind noise reduction (See Wind noise reduction parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setWindNoiseReduction
- getWindNoiseReduction
- getAvailableWindNoiseReduction

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableWindNoiseReduction

Overview

This API provides a function to get current wind noise reduction and the available wind noise reduction at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableWindNoiseReduction",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"windNoiseReduction"	string	Current wind noise reduction (See Wind noise reduction parameters of Parameter description)
"candidate"	string-array	A list of available wind noise reduction (See Wind noise reduction parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "windNoiseReduction": "On",
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setWindNoiseReduction
- getWindNoiseReduction
- getSupportedWindNoiseReduction

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "windNoiseReduction" object in "getEvent (v1.3)" callback.

Audio recording setting

setAudioRecording

Overview

This API provides a function to set a value of audio recording setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"audioRecording"	string	Audio recording setting (See Audio recording setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setAudioRecording",
    "params": [
        {
            "audioRecording": "On"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getAudioRecording
- getSupportedAudioRecording
- getAvailableAudioRecording

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "audioRecording" object in "getEvent (v1.3)" callback to recognize the timing of a change in the parameter of the server.

getAudioRecording

Overview

This API provides a function to get current audio recording setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAudioRecording",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"audioRecording"	string	Current audio recording setting (See Audio recording setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "audioRecording": "On"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setAudioRecording
- getSupportedAudioRecording
- getAvailableAudioRecording

Special note (details)

None in particular.

getSupportedAudioRecording

Overview

This API provides a function to get the supported audio recording settings.
The client should use "getAvailableAudioRecording" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedAudioRecording",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported audio recording settings (See Audio recording setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setAudioRecording
- getAudioRecording
- getAvailableAudioRecording

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableAudioRecording

Overview

This API provides a function to get current audio recording setting and the available audio recording settings at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableAudioRecording",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"audioRecording"	string	Current audio recording setting (See Audio recording setting parameters of Parameter description)
"candidate"	string-array	A list of available audio recording settings (See Audio recording setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "audioRecording": "On",
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setAudioRecording
- getAudioRecording
- getSupportedAudioRecording

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "audioRecording" object in "getEvent (v1.3)" callback.

Flip setting

setFlipSetting

Overview

This API provides a function to set a value of flip setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"flip"	string	Flip setting (See Flip setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setFlipSetting",
    "params": [
        {
            "flip": "On"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getFlipSetting
- getSupportedFlipSetting
- getAvailableFlipSetting

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "flipSetting" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getFlipSetting

Overview

This API provides a function to get current flip setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getFlipSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"flip"	string	Current flip setting (See Flip setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "flip": "On"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setFlipSetting
- getSupportedFlipSetting
- getAvailableFlipSetting

Special note (details)

None in particular.

getSupportedFlipSetting

Overview

This API provides a function to get the supported flip settings.
The client should use "getAvailableFlipSetting" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedFlipSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported flip settings (See Flip setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setFlipSetting
- getFlipSetting
- getAvailableFlipSetting

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableFlipSetting

Overview

This API provides a function to get current flip setting and the available flip settings at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableFlipSetting",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"flip"	string	Current flip setting (See Flip setting parameters of Parameter description)
"candidate"	string-array	A list of available flip settings (See Flip setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "flip": "On",
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setFlipSetting
- getFlipSetting
- getSupportedFlipSetting

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "flipSetting" object in "getEvent (v1.2)" callback.

TV color system

setTvColorSystem

Overview

This API provides a function to set a value of TV color system.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"tvColorSystem"	string	TV color system (See TV color system parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setTvColorSystem",
    "params": [
        {
            "tvColorSystem": "NTSC"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getTvColorSystem
- getSupportedTvColorSystem
- getAvailableTvColorSystem

Special note (details)

Note that the server will restart after setting the TV color system via this API.

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "tvColorSystem" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getTvColorSystem

Overview

This API provides a function to get current TV color system.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getTvColorSystem",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"tvColorSystem"	string	Current TV color system (See TV color system parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "tvColorSystem": "NTSC"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setTvColorSystem
- getSupportedTvColorSystem
- getAvailableTvColorSystem

Special note (details)

None in particular.

getSupportedTvColorSystem

Overview

This API provides a function to get the supported TV color systems.
The client should use "getAvailableFlipSetting" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedTvColorSystem",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported TV color systems (See TV color system parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "NTSC",
                "PAL"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setTvColorSystem
- getTvColorSystem
- getAvailableTvColorSystem

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableTvColorSystem

Overview

This API provides a function to get current TV color system and the available TV color systems at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableTvColorSystem",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"tvColorSystem"	string	Current TV color system (See TV color system parameters of Parameter description)
"candidate"	string-array	A list of available TV color systems (See TV color system parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "tvColorSystem": "NTSC",
            "candidate": [
                "NTSC",
                "PAL"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setTvColorSystem
- getTvColorSystem
- getSupportedTvColorSystem

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "tvColorSystem" object in "getEvent (v1.2)" callback.

Camera setup

startRecMode

Overview

This API provides a function to set up camera for shooting function. Some camera models need this API call before starting liveview, capturing still image, recording movie, or accessing all other camera shooting functions.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "startRecMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- stopRecMode

Special note (details)

Some camera models need this API call before starting liveview, capturing still image, recording movie, or accessing all other camera shooting functions. The client must check if the server needs this API call. The check can be done by checking the availability of this API in "getAvailableApiList" or "getMethodTypes" callback. The client should call this API just once before accessing camera shooting functions if the server needs.

stopRecMode

Overview

This API provides a function to stop shooting functions.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "stopRecMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- startRecMode

Special note (details)

None in particular.

Camera function

setCameraFunction

Overview

This API provides a function to set a value of camera function.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Camera function (See Camera function parameter of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setCameraFunction",
    "params": [
        "Remote Shooting"
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getCameraFunction
- getSupportedCameraFunction
- getAvailableCameraFunction

Special note (details)

The execution of this API may take time. The client should check the parameter "cameraFunctionResult" of "getEvent (v1.0)" to get result of setting camera function. The callback of this API is for starting execution, not for getting result of setting.

When the client switches "Remote Shooting" to "Contents Transfer" via this API and switching is done successfully, the server status will change as follows.

Camera status : "IDLE" -> "ContentsTransfer"

The client should check the parameter "cameraStatus" of "getEvent" to get the camera status. The client should run initial sequence for transferring images after switching to "ContentsTransfer" status. The client should check if the media is inserted in the camera via "getStorageInformation" API.

When the client switches "Contents Transfer" to "Remote Shooting" via this API, the server status will change as follows. The client should restart the liveview after getting camera function back to "Remote Shooting".

Camera status : "ContentsTransfer" -> "IDLE"

Note that the server may take time to switch function and the client should monitor camera status.

The camera needs to prepare for the next shot, therefore it may take time to start capturing after changing to "IDLE". But the camera will start capturing as soon as possible.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

getCameraFunction

Overview

This API provides a function to get current camera function.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getCameraFunction",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current camera function (See Camera function parameter of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        "Remote Shooting"
    ]
}
```

Error Codes

See Status code & Error

Related API

- setCameraFunction
- getSupportedCameraFunction
- getAvailableCameraFunction

Special note (details)

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

getSupportedCameraFunction

Overview

This API provides a function to get the supported camera function s.
The client should use "getAvailableCameraFunction" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedCameraFunction",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported camera functions (See Camera function parameter of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        [
            "Remote Shooting",
            "Contents Transfer"
        ]
    ]
}
```

Error Codes

See Status code & Error

Related API

- setCameraFunction
- getCameraFunction
- getAvailableCameraFunction

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

getAvailableCameraFunction

Overview

This API provides a function to get current camera function and the available camera functions at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableCameraFunction",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current camera function (See Camera function parameter of Parameter description)
1	string-array	A list of available camera functions (See Camera function parameter of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        "Remote Shooting",
        [
            "Remote Shooting",
            "Contents Transfer"
        ]
    ]
}
```

Error Codes

See Status code & Error

Related API

- setCameraFunction
- getCameraFunction
- getSupportedCameraFunction

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "cameraFunction" object in "getEvent" callback.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

Transferring images

getSchemeList

Overview

This API provides the list of schemes that device can handle. In Camera Remote API, standard URI structure, as defined by RFC 3986, is used for representing device's resources. Schemes are used to refer to device resources. URI is provided from the server.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSchemeList",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object-array	A list of scheme names.
	"scheme"	string	Schema name.

JSON Example

```
{
  "result": [
    [
      {
        "scheme": "storage"
      }
    ]
  ],
  "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getSourceList
- getContentCount (v1.2)
- getContentList (v1.3)

Special note (details)

The camera supports only "storage" as a scheme.
Please see the sample code included in the Camera Remote API SDK and Sample Sequence about how to use this API.

getSourceList

Overview

This API provides the list of sources under the scheme. The source is included in URI to access stored contents in the camera. The camera supports specific source.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

key	type	explanation
"scheme"	string	Scheme name

JSON Example

```
{
  "method": "getSourceList",
  "params": [
    {
      "scheme": "storage"
    }
  ],
  "id": 1,
  "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object-array	A list of source names under specific scheme.
	"source"	string	Source name.

JSON Example

```
{
  "result": [
    [
      {
        "source": "storage:memoryCard1"
      }
    ]
  ],
  "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getSchemeList
- getContentCount (v1.2)
- getContentList (v1.3)

Special note (details)

The camera supports only "storage:memoryCard1" as a source.
Please see the sample code included in the Camera Remote API SDK and Sample Sequence about how to use this API.

getContentCount (v1.2)

Overview

This API provides a function to get content count under specific URI.

Endpoint URL	<ActionList_URL>/avContent
Version	1.2

Request

Elements of "params"

key	type	explanation
"uri"	string	URI to identify the content.
"type"	string-array	Optional parameter to narrow down result within specified URI in the request. Following values are defined. Only for "date" view. Not available if "target" parameter is "all". "still" - Still image. "movie_mp4" - MP4 movie. "movie_xavcs" - XAVC S movie. null - Not specified.
"target"	string	Optional parameter to widen result within specified URI in the request. Following values are defined. "all" - Return the number of all contents.
"view"	string	View type "date" - Date view "flat" - Flat view

JSON Example

```
{
  "method": "getContentCount",
  "params": [
    {
      "uri": "storage:memoryCard1",
      "target": "all",
      "view": "date"
    }
  ],
  "id": 1,
  "version": "1.2"
}
```

Response

Elements of "result"

key	type	explanation
"count"	string	The number of contents under the URI.

JSON Example

```
{
  "result": [
    {
      "count": 7
    }
  ],
  "id": 1
}
```

Error Codes

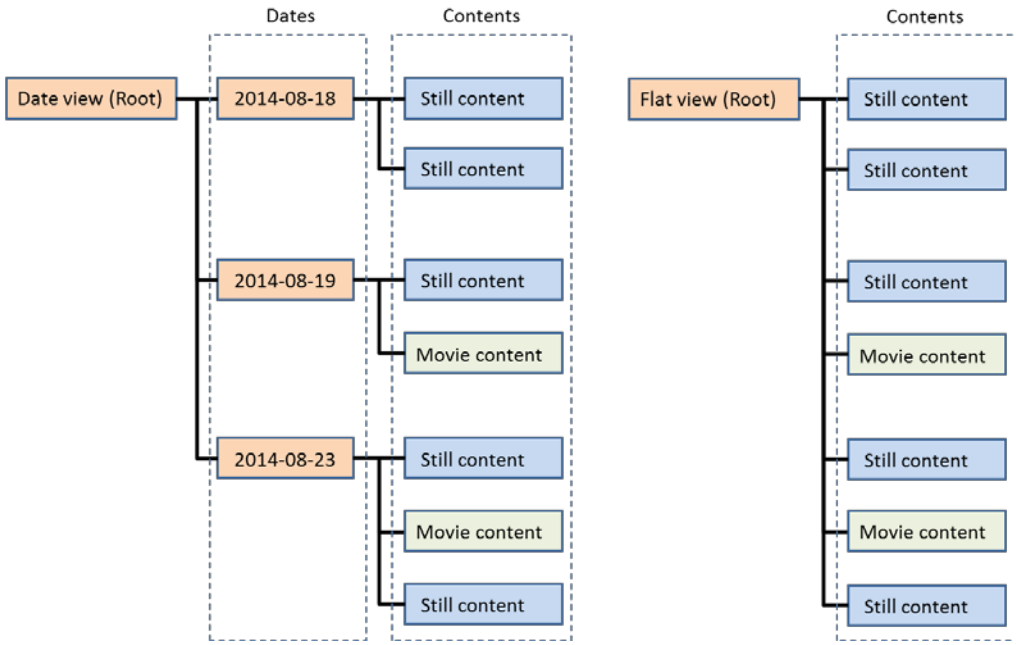
See Status code & Error

Related API

- getSchemeList
- getSourceList
- getContentList (v1.3)

Special note (details)

The transferring images function supports two types of view to retrieve count/list of contents. One in "date" view, the other is "flat" view. Please see following figure.



The "date" view has date folder structure and the contents belong to each date folder. The Camera Remote API handles date folder as the content and the client can get count of dates via "getContentCount (v1.2)" API as well. On the other hand, the "flat" view has no folder structure.

[Number of all contents in "date" view or "flat" view]

Request Parameters

key	comment	example
"uri"	Specify the response of "getSchemeList"	"storage:memoryCard1"
"type"	Not available	
"target"	Specify "all"	"all"
"view"	Specify view type	"date" or "flat"

Request JSON Example

```
{
  "method": "getContentCount",
  "params": [
    {
      "uri": "storage:memoryCard1",
      "target": "all",
      "view": "date"
    }
  ],
  "id": 1,
  "version": "1.2"
}
```

[Number of date folders in "date" view]

Request Parameters

key	comment	example
"uri"	Specify the response of "getSchemeList"	"storage:memoryCard1"
"type"	Not available	
"target"	Not specified	
"view"	Specify view type	"date" or "flat"

Request JSON Example

```
{
  "method": "getContentCount",
  "params": [
    {
      "uri": "storage:memoryCard1",
      "view": "date"
    }
  ],
  "id": 1,
  "version": "1.2"
}
```

[Number of contents in a date folder in "date" view]

Request Parameters

key	comment	example
"uri"	Specify the response of "getContentList (v1.3)" for date folder.	"storage:memoryCard1?path=2014-08-18"
"type"	Specify list of types if the client wants to filter.	["still", "movie_mp4", "movie_xavcs"], null ...
"target"	Not specified	
"view"	Specify view type	"date"

Request JSON Example

```
{
  "method": "getContentCount",
  "params": [
    {
      "uri": "storage:memoryCard1?path=2014-08-18",
      "type": [
        "still",
        "movie_mp4"
      ],
      "view": "date"
    }
  ],
  "id": 1,
  "version": "1.2"
}
```

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

getContentList (v1.3)

Overview

This API provides a function to get content list under specific URI.

Endpoint URL	<ActionList_URL>/avContent
Version	1.3

Request

Elements of "params"

key	type	explanation
"uri"	string	URI to identify the content.
"stIdx"	integer	Start index to get list items.
"cnt"	integer	Count of the maximum number of items that can be listed, starting from "stIdx". Maximum number is 100.
"type"	string-array	Optional parameter to narrow down result within specified URI in the request. Following values are defined. Only for "date" view. "still" - Still image. "movie_mp4" - MP4 movie. "movie_xavcs" - XAVC S movie. null - Not specified.
"view"	string	View type "date" - Date view "flat" - Flat view
"sort"	string	Sort type "ascending" - Ascending "descending" - Descending "" - Not specified

JSON Example

```
{
  "method": "getContentList",
  "params": [
    {
      "uri": "storage:memoryCard1",
      "stIdx": 0,
      "cnt": 50,
      "view": "date",
      "sort": ""
    }
  ],
  "id": 1,
  "version": "1.3"
}
```

Response

Elements of "result"

An array of objects composed by following pairs.

key	type	explanation
"uri"	string	URI to identify the content.
"title"	string	Title of this content to be recognized by user.
"content"	object	Content information
"original"	object-array	List of original content information
"url"	string	Original content URL
"fileName"	string	File name
"stillObject"	string	Still object type "jpeg" - jpeg image "raw" - raw image "mpo" - mpo image "" - Unknown
"largeUrl"	string	Resized content URL (2M pixel scale)
"smallUrl"	string	Resized content URL (VGA scale)
"thumbnailUrl"	string	Thumbnail URL
"createdTime"	string	Created Time (ISO8601)
"contentKind"	string	The kind of content "still" - Still image "movie_mp4" - MP4 movie "movie_xavcs" - XAVC S movie "directory" - directory "" - Unknown
"folderNo"	string	Folder number
"fileNo"	string	File number
"isPlayable"	string	Playable status on the camera display "true" - The content is playable "false" - The content is not playable "" - Unknown
"isBrowsable"	string	Browsable status "true" - The content is browsable "false" - The content is not browsable "" - Unknown
"isProtected"	string	Protect status "true" - The content is protected "false" - The content is not protected "" - Unknown
"remotePlayType"	string-array	Remote play type "simpleStreaming" - Simple streaming null - Unknown

JSON Example

```
{
  "result": [
    [
      {
        "uri": "storage:memoryCard1?path=2014-08-18",
        "title": "20140818",
        "content": null,
        "createdTime": "",
        "contentKind": "directory",
        "folderNo": "",
        "fileNo": "",
        "isPlayable": "false",
        "isBrowsable": "true",
        "isProtected": "",
        "remotePlayType": null
      }
    ]
  ],
  "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getSourceList
- getSchemeList
- getContentCount (v1.2)

Special note (details)

Please see "getContentCount (v1.2)" about basic conception of transferring images function and contents structure.

Regarding how to specify "uri", "type" and "view" in request parameters, please see "getContentCount (v1.2)".

When the client gets list of dates in "date" view, the camera returns the URI of date to specify date folder as "uri" of the response. When the client gets list of contents in a date folder in "date" view, the camera returns the URI of still or movie as "uri" of the response.

The client can download images via "url" in "original" object, "largeUrl", "smallUrl" and "thumbnailUrl". These URLs can be empty string ("") or the objects can be null if the content doesn't support the size.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence. And see following response parameters and JSON examples.

[List of date folders in "date" view]

Response Parameters

key	comment	example
"uri"	URI indicating a date folder	"storage:memoryCard1?path=2014-08-18"
"title"	Name of date folder (YYYYMMDD)	"20140818"
"content"	Not available	null
"createdTime"	Not available	""
"contentKind"	Date folder	"directory"
"folderNo"	Not available	""
"fileNo"	Not available	""
"isPlayable"	Not playable	"false"
"isBrowsable"	Browsable	"true"
"isProtected"	Unknown	""
"remotePlayType"	Not available	null

Response JSON Example

```
{
  "result": [
    [
      {
        "uri": "storage:memoryCard1?path=2014-08-18",
        "title": "20140818",
        "content": null,
        "createdTime": "",
        "contentKind": "directory",
        "folderNo": "",
        "fileNo": "",
        "isPlayable": "false",
        "isBrowsable": "true",
        "isProtected": "",
        "remotePlayType": null
      }
    ]
  ],
  "id": 1
}
```

[List of contents (still image)]

Response Parameters

key	comment	example
"uri"	URI indicating still image content	"image:content?contentId=XXXXXXXXXX"
"title"	Not available	""
"content"	Includes "original", "smallUrl", "largeUrl" and "thumbnailUrl" typically. Some cameras return not only "jpeg" but also "raw" in "original" object.	Please see JSON example.
"createdTime"	Created time of still image	"2014-08-18T12:34:56+09:00"
"contentKind"	Still image	"still"
"folderNo"	Indicates folder number in which still image file is stored. (Ex. 100MSDCF)	"100"
"fileNo"	Indicates file number of still image file in memory card. (Ex. DSC00001.JPG)	"0001"
"isPlayable"	Not playable (There is no way to play still image on the camera).	"false"
"isBrowsable"	Not browsable.	"false"
"isProtected"	Unknown	""
"remotePlayType"	Not available	null

Response JSON Example

```
{
  "result": [
    [
      {
        "uri": "image:content?contentId=XXXXXXXXXX",
        "title": "",
        "content": {
          "original": [
            {
              "fileName": "DSC00001.JPG",
              "stillObject": "jpeg",
              "url": "http://ip:port/contentstransfer/orgjpeg/xxxxxxxx-xxxxxxxx"
            }
          ],
          "smallUrl": "http://ip:port/contentstransfer/vga/xxxxxxxx-xxxxxxxx",
          "largeUrl": "http://ip:port/contentstransfer/scn/xxxxxxxx-xxxxxxxx",
          "thumbnailUrl": "http://ip:port/contentstransfer/thumb/xxxxxxxx-xxxxxxxx"
        },
        "createdTime": "2014-08-18T12:34:56+09:00",
        "contentKind": "still",
        "folderNo": "100",
        "fileNo": "0001",
        "isPlayable": "false",
        "isBrowsable": "false",
        "isProtected": "",
        "remotePlayType": null
      }
    ]
  ],
  "id": 1
}
```

[List of contents (movie)]

Response Parameters

key	comment	example
"uri"	URI indicating movie	"video:content?contentId=XXXXXXXXXX"
"title"	Not available	""
"content"	Includes "original" and "thumbnailUrl" typically.	Please see JSON example.
"createdTime"	Created time of movie	"2014-08-18T12:34:56+09:00"
"contentKind"	MP4 movie or XAVC S movie	"movie_mp4", "movie_xavcs"
"folderNo"	Indicates folder number in which movie file is stored. (Ex. 100ANV01)	"100"
"fileNo"	Indicates file number of movie file in memory card. (Ex. MAH00002.MP4)	"0002"
"isPlayable"	Not playable (There is no way to play movie on the camera. Remote playback is available.)	"false"
"isBrowsable"	Not browsable.	"false"
"isProtected"	Unknown	""
"remotePlayType"	Indicates remote playback if possible	["simpleStreaming"]

Response JSON Example

```
{
  "result": [
    [
      {
        "uri": "video:content?contentId=XXXXXXXXXX",
        "title": "",
        "content": {
          "original": [
            {
              "fileName": "MAH00002.MP4",
              "stillObject": "",
              "url": "http://ip:port/contentstransfer/org/xxxxxxxx-xxxxxxxx"
            }
          ],
          "smallUrl": "",
          "largeUrl": "",
          "thumbnailUrl": "http://ip:port/contentstransfer/thumb/xxxxxxxx-xxxxxxxx"
        },
        "createdTime": "2014-08-18T12:34:56+09:00",
        "contentKind": "movie_mp4",
        "folderNo": "100",
        "fileNo": "0002",
        "isPlayable": "false",
        "isBrowsable": "false",
        "isProtected": "",
        "remotePlayType": [
          "simpleStreaming"
        ]
      }
    ]
  ],
  "id": 1
}
```

Remote playback

setStreamingContent

Overview

This API provides a function to set streaming content for remote playback.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

key	type	explanation
"uri"	string	URI of content.
"remotePlayType"	string	Remote playback type. "simpleStreaming" - Simple streaming "" - unknown

JSON Example

```
{
    "id": 1,
    "method": "setStreamingContent",
    "params": [
        {
            "remotePlayType": "simpleStreaming",
            "uri": "video:content?contentId=XXXXXXXXXX"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"playbackUrl"	string	URL for streaming. Refer to Streaming data format.

JSON Example

```
{
  "result": [
    {
      "playbackUrl": "http://ip:port/streaming/playbackstream"
    }
  ],
  "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getContentList (v1.3)
- startStreaming
- pauseStreaming
- seekStreamingPosition
- stopStreaming
- requestToNotifyStreamingStatus

Special note (details)

The remote playback allows the client to play movie streaming from the camera and control streaming via APIs.

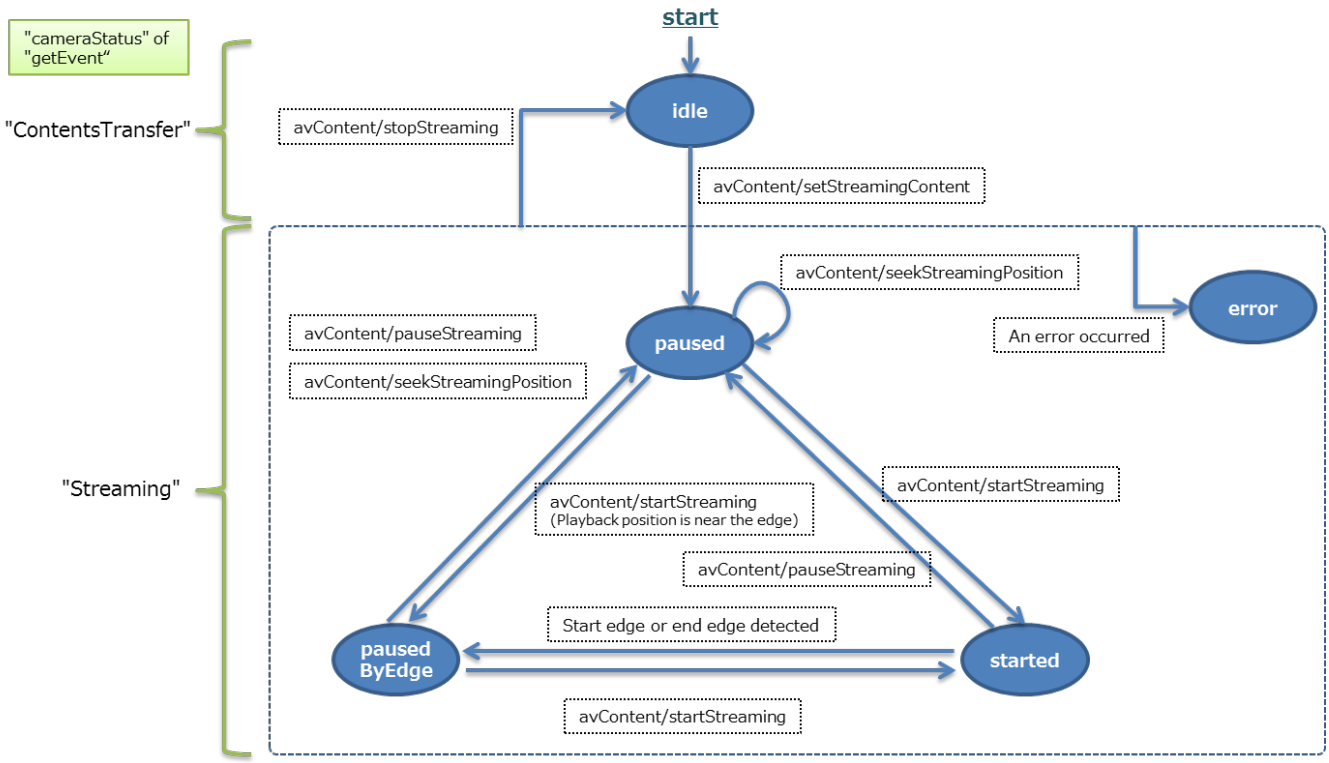
The camera supports only "simpleStreaming" as "remotePlayType". The client can get "remotePlayType" parameter from the response of "getContentList (v1.3)" and remote playback will be available if the response of "getContentList (v1.3)" for the content includes "simpleStreaming".

To download from the URL of streaming and parse the data stream, please refer to Streaming data format. The client can display the playback data and playback time position on its UI.

[Preparation]
The client should switch the camera function from "Remote Shooting" to "Contents Transfer" using "setCameraFunction" API. The client can check if the server supports the remote playback via "getMethodTypes" API of "avContent" API service.

[Status transition]
The client can check the camera status via "cameraStatus" object of "getEvent" API response. After calling "setStreamingContent" API, the camera status will be changed from "ContentsTransfer" to "Streaming".

The client can monitor transition of detailed status "streaming status" for remote playback via "requestToNotifyStreamingStatus" API. The "streaming status" will be changed based on following diagram and "streaming status" is sub-status for "cameraStatus" of "getEvent".



Streaming status transition for remote playback

The APIs related to remote playback are available only when "cameraStatus" of "getEvent" is "ContentsTransfer" or "Streaming". Please see each API specifications for details. This "setStreamingContent" API can be called in only "ContentsTransfer" camera status.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

startStreaming

Overview

This API provides a function to start streaming.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "startStreaming",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- setStreamingContent
- pauseStreaming
- seekStreamingPosition
- stopStreaming
- requestToNotifyStreamingStatus

Special note (details)

This API can be called only when "cameraStatus" of "getEvent" is "Streaming". This API is related to "Streaming status". See diagram of streaming status transition.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

pauseStreaming

Overview

This API provides a function to pause streaming.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "pauseStreaming",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- setStreamingContent
- startStreaming
- seekStreamingPosition
- stopStreaming
- requestToNotifyStreamingStatus

Special note (details)

This API can be called only when "cameraStatus" of "getEvent" is "Streaming". This API is related to "Streaming status". See diagram of streaming status transition.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

seekStreamingPosition

Overview

This API provides a function to seek streaming position while streaming content.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

key	type	explanation
"positionMsec"	integer	Seek position (unit: millisecond).

JSON Example

```
{
  "method": "seekStreamingPosition",
  "params": [
    {
      "positionMsec": 1500
    }
  ],
  "id": 1,
  "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- setStreamingContent
- startStreaming
- pauseStreaming
- stopStreaming
- requestToNotifyStreamingStatus

Special note (details)

Some camera models don't support this API, therefore the client should check supported APIs via "getMethodTypes" API of "avContent" API service.

This API can be called only when "cameraStatus" of "getEvent" is "Streaming". This API is related to "Streaming status". See diagram of streaming status transition.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

The client can get duration of movie via Streaming data format and specify seek position in millisecond within the duration.

stopStreaming

Overview

This API provides a function to stop streaming.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "stopStreaming",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- setStreamingContent
- startStreaming
- pauseStreaming
- seekStreamingPosition
- requestToNotifyStreamingStatus

Special note (details)

This API can be called only when "cameraStatus" of "getEvent" is "Streaming". When the client calls this API, the camera status will be changed from "Streaming" to "ContentsTransfer". It means that the server finishes the remote playback function.

This API is related to "Streaming status". See diagram of streaming status transition.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

requestToNotifyStreamingStatus

Overview

This API provides a function to get streaming status from the server.

Endpoint URL	<ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

key	type	explanation
"polling"	boolean	Long polling flag true: Callback when timeout or change point detection. false: Callback immediately.

JSON Example

```
{
  "method": "requestToNotifyStreamingStatus",
  "params": [
    {
      "polling": true
    }
  ],
  "id": 1,
  "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"status"	string	Streaming status "idle" - No playback content set "paused" - Paused "started" - Started "pausedByEdge" - Paused by start edge/end edge "error" - Error occurred "" - Empty string indicates invalid status
"factor"	string	Factor of streaming status "startEdge" - Paused by start edge. This parameter is only for "pausedByEdge" status. "endEdge" - Paused by end edge. This parameter is only for "pausedByEdge" status. "fileError" - Cannot play movie with file problem. This parameter is only for "error" status. "mediaError" - Cannot play movie with media problem. This parameter is only for "error" status. "otherError" - Other error. This parameter is only for "error" status. "" - Unknown

JSON Example

```
{
  "result": [
    {
      "status": "started",
      "factor": ""
    }
  ],
  "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setStreamingContent
- startStreaming
- pauseStreaming
- seekStreamingPosition
- stopStreaming

Special note (details)

The client can handle this API like "getEvent" API of "camera" API service. This API can be called only when "cameraStatus" of "getEvent" is "ContentsTransfer" or "Streaming". This API is related to "Streaming status". See diagram of streaming status transition.

The purpose of this API is sending the streaming status from the server actively. When the client calls some APIs, the client can monitor the status updates from the camera by using this API.

If this API is executed, the server times out or does not return a response until the parameter is updated. (If the input parameter "polling" is false, the server replies immediately.) If the client gets the response, the client should execute this API immediately. When the execution of this API is unsuccessful or timeout, the server will notify error in response.

In case this API is called with "polling=true", the server will not return a response until the server is ready, and streaming status has changed in the server. So, by calling with "polling=true", the client can recognize the timing of a change in the parameter of the server.

In case this API is called with "polling=false", the server will return a response immediately. So, by calling with "polling=false", the client can recognize the server state snapshot at the time. The client can call this API with "polling=false" at the beginning. (The information obtained in the response may be useful for the client to build UI layouts and so on.)

Delete contents

deleteContent (v1.1)

Overview

This API provides a function to delete contents.

Endpoint URL	<ActionList_URL>/avContent
Version	1.1

Request

Elements of "params"

key	type	explanation
"uri"	string-array	List of URI to delete. Maximum number is 100.

JSON Example

```
{
    "id": 1,
    "method": "deleteContent",
    "params": [
        {
            "uri": [
                "image:content?contentId=XXXXXXXXXX",
                "video:content?contentId=XXXXXXXXXX"
            ]
        }
    ],
    "version": "1.1"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getContentList (v1.3)

Special note (details)

This API can be called only when "cameraStatus" of "getEvent" is "ContentsTransfer". After calling this API, the camera status will be changed to "Deleting". And the status will be back to "ContentsTransfer" after deletion is done.

The client can specify the content URI (not URL) of still image or movie. The client gets the URIs from the response of "getContentList (v1.3)". If the camera cannot complete the deletion for some reason, for example some contents are protected, the response will return "41003" error (Some content could not be deleted.). When "41003" error is returned, the camera skips the contents the camera cannot delete.

IR remote control

setInfraredRemoteControl

Overview

This API provides a function to set a value of IR remote control setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"infraredRemoteControl"	string	IR remote control setting (See IR remote control setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "method": "setInfraredRemoteControl",
    "params": [
        {
            "infraredRemoteControl": "Off"
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getInfraredRemoteControl
- getSupportedInfraredRemoteControl
- getAvailableInfraredRemoteControl

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "infraredRemoteControl" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getInfraredRemoteControl

Overview

This API provides a function to get current IR remote control setting.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getInfraredRemoteControl",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"infraredRemoteControl"	string	Current IR remote control setting (See IR remote control setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "infraredRemoteControl": "Off"
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setInfraredRemoteControl
- getSupportedInfraredRemoteControl
- getAvailableInfraredRemoteControl

Special note (details)

None in particular.

getSupportedInfraredRemoteControl

Overview

This API provides a function to get the supported IR remote control settings.
The client should use "getAvailableFlipSetting" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedInfraredRemoteControl",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	string-array	A list of supported IR remote control settings (See IR remote control setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setInfraredRemoteControl
- getInfraredRemoteControl
- getAvailableInfraredRemoteControl

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableInfraredRemoteControl

Overview

This API provides a function to get current IR remote control setting and the available IR remote control settings at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableInfraredRemoteControl",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"infraredRemoteControl"	string	Current IR remote control setting (See IR remote control setting parameters of Parameter description)
"candidate"	string-array	A list of available IR remote control settings (See IR remote control setting parameters of Parameter description)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "infraredRemoteControl": "Off",
            "candidate": [
                "On",
                "Off"
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setInfraredRemoteControl
- getInfraredRemoteControl
- getSupportedInfraredRemoteControl

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "infraredRemoteControl" object in "getEvent (v1.2)" callback.

Auto power off

setAutoPowerOff

Overview

This API provides a function to set a value of auto power off time.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

key	type	explanation
"autoPowerOff"	integer	Auto power off time (unit: second) (0 means that the auto power off function does not activate.)

JSON Example

```
{
    "id": 1,
    "method": "setAutoPowerOff",
    "params": [
        {
            "autoPowerOff": 60
        }
    ],
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "id": 1,
    "result": []
}
```

Error Codes

See Status code & Error

Related API

- getAutoPowerOff
- getSupportedAutoPowerOff
- getAvailableAutoPowerOff

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "autoPowerOff" object in "getEvent (v1.2)" callback to recognize the timing of a change in the parameter of the server.

getAutoPowerOff

Overview

This API provides a function to get current auto power off time.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAutoPowerOff",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"autoPowerOff"	integer	Current auto power off time (unit: second) (0 means that the auto power off function does not activate.)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "autoPowerOff": 60
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setAutoPowerOff
- getSupportedAutoPowerOff
- getAvailableAutoPowerOff

Special note (details)

None in particular.

getSupportedAutoPowerOff

Overview

This API provides a function to get the supported auto power off times.
The client should use "getAvailableFlipSetting" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getSupportedAutoPowerOff",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"candidate"	integer-array	Auto power off times (unit: second) (0 means that the auto power off function does not activate.)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "candidate": [
                0,
                60
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setAutoPowerOff
- getAutoPowerOff
- getAvailableAutoPowerOff

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableAutoPowerOff

Overview

This API provides a function to get current auto power off time and the available auto power off times at the moment. The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getAvailableAutoPowerOff",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

key	type	explanation
"autoPowerOff"	integer	Current auto power off time (unit: second) (0 means that the auto power off function does not activate.)
"candidate"	integer-array	A list of available auto power off times (unit: second) (0 means that the auto power off function does not activate.)

JSON Example

```
{
    "id": 1,
    "result": [
        {
            "autoPowerOff": 60,
            "candidate": [
                0,
                60
            ]
        }
    ]
}
```

Error Codes

See Status code & Error

Related API

- setAutoPowerOff
- getAutoPowerOff
- getSupportedAutoPowerOff

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "autoPowerOff" object in "getEvent (v1.2)" callback.

Beep mode

setBeepMode

Overview

This API provides a function to set a value of beep mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Beep mode (See Beep mode parameter of Parameter description)

JSON Example

```
{
    "method": "setBeepMode",
    "params": ["On"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	integer	Return parameter When the execution of the API is successful, 0 is set. If API is not successful, "result" member is not returned, and "error" member is returned. See Status code & Error for error detail.

JSON Example

```
{
    "result": [0],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getBeepMode
- getSupportedBeepMode
- getAvailableBeepMode

Special note (details)

Even if the response is successful, the setting may not be finished on the server. Therefore, the client can check "beepMode" object in "getEvent" callback to recognize the timing of a change in the parameter of the server.

getBeepMode

Overview

This API provides a function to get current beep mode.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getBeepMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current beep mode (See Beep mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "On"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setBeepMode
- getSupportedBeepMode
- getAvailableBeepMode

Special note (details)

None in particular.

getSupportedBeepMode

Overview

This API provides a function to get the supported beep modes.
The client should use "getAvailableBeepMode" to get the available parameters at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getSupportedBeepMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of supported beep modes (See Beep mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        ["Off","On","Shutter Only"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setBeepMode
- getBeepMode
- getAvailableBeepMode

Special note (details)

This method returns the same value for the response parameter only when this method is successful and the function is available. The result of the response depends on camera models.

getAvailableBeepMode

Overview

This API provides a function to get current beep mode and the available beep modes at the moment.
The available parameters can be changed by user operations and calling APIs.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableBeepMode",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Current beep mode (See Beep mode parameter of Parameter description)
1	string-array	A list of available beep modes (See Beep mode parameter of Parameter description)

JSON Example

```
{
    "result": [
        "On",
        ["Off","On","Shutter Only"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- setBeepMode
- getBeepMode
- getSupportedBeepMode

Special note (details)

This API returns current set value and available values at the moment. The client can get the same response of this API via "beepMode" object in "getEvent" callback.

Date/time setting

setCurrentTime

Overview

This API provides a function to set current time with timezone information.

Endpoint URL	<ActionList_URL>/system
Version	1.0

Request

Elements of "params"

order	key	type	explanation
0		object	Current time
	"dateTime"	string	Data time (ISO8601)
	"timeZoneOffsetMinute"	integer	Timezone offset (unit: minute, range: ±(23*60+59))
	"dstOffsetMinute"	integer	DST offset (unit: minute, range: ±(23*60+59))

JSON Example

```
{
    "method": "setCurrentTime",
    "params": [
        {
            "dateTime": "2014-04-01T21:35:43Z",
            "timeZoneOffsetMinute": 540,
            "dstOffsetMinute": 0
        }
    ],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

None.

JSON Example

```
{
    "result": [],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

None.

Special note (details)

Only UTC time can apply to "Date time" parameter using YYYY-MM-DDTHH:mm:SSZ format. Please see also JSON example.

After the client set the date and time using this API, the date and time information on the camera will be set. The timing of adjusting the date and time depends on camera models.

Note that this API belongs to "system" API service. The client can check the availability of this API by checking if "system" API service is in the device description and by using "getMethodTypes" of "system" API service. See also "Development Guide" for more details.

Storage information

getStorageInformation

Overview

This API provides a function to get storage information.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "id": 1,
    "method": "getStorageInformation",
    "params": [],
    "version": "1.0"
}
```

Response

Elements of "result"

order	key	type	explanation
0		object-array	A list of storage information.
	"storageID"	string	Storage ID (See Storage parameter of Parameter description)
	"recordTarget"	string	Recording target (If true, the storage is recording target.)
	"numberOfRecordableImages"	string	Number of recordable images. (-1: undefined)
	"recordableTime"	string	Recordable time. (unit: minute) (-1: undefined)
	"storageDescription"	string	Description of the storage.

JSON Example

```
{
    "id": 1,
    "result": [
        [
            {
                "storageDescription": "",
                "numberOfRecordableImages": 100,
                "recordTarget": true,
                "storageID": "Memory Card 1",
                "recordableTime": -1
            }
        ]
    ]
}
```

Error Codes

See Status code & Error

Related API

- getEvent (v1.0)

Special note (details)

When no memory card is inserted, the API returns "No Media" as "storageID". The client can get the same response of this API via "storageInformation" object in "getEvent (v1.0)" callback.

For details please see the sample code included in the Camera Remote API SDK and Sample Sequence.

Event notification

getEvent (v1.0)

Overview

This API provides a function to get event from the server.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

order	type	explanation
0	boolean	Long polling flag true: Callback when timeout or change point detection. false: Callback immediately.

JSON Example

```
{
    "method": "getEvent",
    "params": [true],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	Key	type	explanation
0		object	Available API list
	"type"	string	Name of object type ("availableApiList")
	"names"	string-array	A list of available API names (See API name parameters and getAvailableApiList)
1		object	Camera status
	"type"	string	Name of object type ("cameraStatus")
	"cameraStatus"	string	Camera status (See Event parameters)
2		object	Zoom information
	"type"	string	Name of object type ("zoomInformation")
	"zoomPosition"	integer	Zoom position to the whole (See actZoom) (When -1 is set, this parameter is invalid.)
	"zoomNumberBox"	integer	Number of zoom box (See actZoom) (When -1 is set, this parameter is invalid.)
	"zoomIndexCurrentBox"	integer	Index of current zoom box (See actZoom) (When -1 is set, this parameter is invalid.)
	"zoomPositionCurrentBox"	integer	Zoom position in the current zoom box (See actZoom) (When -1 is set, this parameter is invalid.)

3		object	Liveview status
	"type"	string	Name of object type ("liveviewStatus")
	"liveviewStatus"	boolean	Liveview status true: Ready to transfer Liveview images. false: Not ready to transfer Liveview images.
4		object	Liveview orientation
	"type"	string	Name of object type ("liveviewOrientation")
	"liveviewOrientation"	string	Liveview orientation (See Event parameters)
5		object-array	Array of postview URLs taken by camera body
	"type"	string	Name of object type ("takePicture")
	"takePictureUrl"	string-array	Array of URLs of taken picture by camera body.
6 to 9		object/array	Reserved
10		object-array	Storage information
	"type"	string	Name of object type ("storageInformation")
	"storageID"	string	Storage ID (See Storage parameter of Parameter description)
	"recordTarget"	string	Recording target (If true, the storage is recording target.)
	"numberOfRecordableImages"	string	Number of recordable images. (-1: undefined)
	"recordableTime"	string	Recordable time. (unit: minute) (-1: undefined)
	"storageDescription"	string	Description of the storage.
11		object	Beep mode
	"type"	string	Name of object type ("beepMode")
	"currentBeepMode"	string	Current beep mode (See Beep mode parameter)
	"beepModeCandidates"	string-array	A list of available beep modes (See Beep mode parameter)
12		object	Camera function
	"type"	string	Name of object type ("cameraFunction")
	"currentCameraFunction"	string	Current camera function (See Camera function parameter)
	" cameraFunctionCandidates "	string-array	A list of available camera functions (See Camera function parameter)

13		object	Movie quality
	"type"	string	Name of object type ("movieQuality")
	"currentMovieQuality"	string	Current movie quality (See Movie quality parameter)
	"movieQualityCandidates"	string-array	A list of available movie qualities (See Movie quality parameter)
14		object	Still size
	"type"	string	Name of object type ("stillSize")
	"checkAvailability"	boolean	If true, the client should check the change of available parameters by calling "getAvailableStillSize".
	"currentAspect"	string	Current still aspect (See Still size parameter)
	"currentSize"	string	Current still size (See Still size parameter)
15		object	Result of setting camera function
	"type"	string	Name of object type ("cameraFunctionResult")
	"cameraFunctionResult"	string	Result of setting camera function. "Success" - Success. "Failure" - Failed to changing function.
16		object	Steady mode
	"type"	string	Name of object type ("steadyMode")
	"currentSteadyMode"	string	Current steady mode (See Steady mode parameter)
	"steadyModeCandidates"	string-array	A list of available steady modes (See Steady mode parameter)
17		object	View angle
	"type"	string	Name of object type ("viewAngle")
	"currentViewAngle"	string	Current view angle (See View angle parameter)
	"viewAngleCandidates"	string-array	A list of available view angles (See View angle parameter)
18		object	Exposure mode
	"type"	string	Name of object type ("exposureMode")
	"currentExposureMode"	string	Current exposure mode (See Exposure mode parameter)
	"exposureModeCandidates"	string-array	A list of available exposure modes (See Exposure mode parameter)
19		object	Postview image size
	"type"	string	Name of object type ("postviewImageSize")

	"currentPostviewImageSize"	string	Current postview image size (See Postview image size parameters)
	"postviewImageSizeCandidates"	string-array	A list of available postview image sizes (See Postview image size parameters)
20		object	Self-timer
	"type"	string	Name of object type ("selfTimer")
	"currentSelfTimer"	integer	Current self-timer setting (unit: second) (See Self-timer parameters) (When -1 is set, this parameter is invalid.)
	"selfTimerCandidates"	integer-array	A list of available self-timer settings (unit: second) (See Self-timer parameters)
21		object	Shoot mode
	"type"	string	Name of object type ("shootMode")
	"currentShootMode"	string	Current shoot mode (See Shoot mode parameters)
	"shootModeCandidates"	string-array	A list of available shoot modes (See Shoot mode parameters)
22 to 24		object/array	Reserved
25		object	Exposure compensation
	"type"	string	Name of object type ("exposureCompensation")
	"currentExposureCompensation"	integer	Current exposure compensation index value (See "getSupportedExposureCompensation")
	"maxExposureCompensation"	integer	Max value of exposure compensation index (See "getSupportedExposureCompensation")
	"minExposureCompensation"	integer	Min value exposure compensation index (See "getSupportedExposureCompensation")
	"stepIndexOfExposureCompensation"	integer	Exposure compensation step index (See "getSupportedExposureCompensation")
26		object	Flash mode
	"type"	string	Name of object type ("flashMode")
	"currentFlashMode"	string	Current flash mode (See Flash mode parameters)
	"flashModeCandidates"	string-array	A list of available flash modes (See Flash mode parameters)
27		object	F number
	"type"	string	Name of object type ("fNumber")
	"currentFNumber"	string	Current F number value (See setFNumber)
	"fNumberCandidates"	string-array	A list of available F number values (See setFNumber)
28		object	Focus mode

	"type"	string	Name of object type ("focusMode")
	"currentFocusMode"	string	Current focus mode (See Focus mode parameter)
	"focusModeCandidates"	string-array	A list of available focus modes (See Focus mode parameter)
29		object	ISO speed rate
	"type"	string	Name of object type ("isoSpeedRate")
	"currentIsoSpeedRate"	string	Current ISO speed rate value (See setIsoSpeedRate)
	"isoSpeedRateCandidates"	string-array	A list of available ISO speed rate values (See setIsoSpeedRate)
30		object	Reserved
31		object	Program shift
	"type"	string	Name of object type ("programShift")
	"isShifted"	boolean	Program shift status true: Shifted false: Not shifted
32		object	Shutter speed
	"type"	string	Name of object type ("shutterSpeed")
	"currentShutterSpeed"	string	Current shutter speed value (See setShutterSpeed)
	"shutterSpeedCandidates"	string-array	A list of available shutter speed values (See setShutterSpeed)
33		object	White balance
	"type"	string	Name of object type ("whiteBalance")
	"checkAvailability"	boolean	If true, the client should check the change of available parameters by calling "getAvailableWhiteBalance".
	"currentWhiteBalanceMode"	string	Current white balance mode (See White balance parameter)
	"currentColorTemperature"	integer	Current color temperature (See White balance parameter)
34		object	Touch AF position
	"type"	string	Name of object type ("touchAFPosition")
	"currentSet"	boolean	Set or not. true: Touch AF is set and focused successfully. false: Touch AF is not set or failed to focus.
	"currentTouchCoordinates"	double-array	Touch coordinates. This parameter is reserved and the camera will return empty array.

JSON Example


```
{
    "result": [
        {
            "type":"availableApiList",
            "names":["startLiveview","stopLiveview","setSelfTimer",...]
        },
        {
            "type":"cameraStatus",
            "cameraStatus":"IDLE"
        },
        {
            "type":"zoomInformation",
            "zoomPosition":0,
            "zoomNumberBox":1,
            "zoomIndexCurrentBox":0,
            "zoomPositionCurrentBox":0
        },
        {
            "type":"liveviewStatus",
            "liveviewStatus":true
        },
        {
            "type":"liveviewOrientation",
            "liveviewOrientation":"90"
        },
        [
            {
                "type":"takePicture",
                "takePictureUrl": [
                    "http://ip:port/postview/postview.jpg"
                ]
            }
        ],
        [],
        null,
        null,
        null,
        [
            {
                "storageDescription": "Storage Media",
                "numberOfRecordableImages": 123,
                "type": "storageInformation",
                "storageID": "Memory Card 1",
                "recordTarget": true,
                "recordableTime": 30
            }
        ],
        {
            "type":"beepMode",
            "currentBeepMode":"On",
            "beepModeCandidates":["Off","On","Shutter Only"]
        },
```

```
    {
        "type": "cameraFunction",
        "currentCameraFunction": "Remote Shooting",
        "cameraFunctionCandidates": [
            "Contents Transfer",
            "Remote Shooting"
        ]
    },
    {
        "type":"movieQuality",
        "currentMovieQuality":"HQ",
        "movieQualityCandidates":["HQ","STD","VGA","SSLOW"]
    },
    {
        "type":"stillSize",
        "checkAvailability":true,
        "currentAspect":"4:3",
        "currentSize":"18M"
    },
    {
        "type": "cameraFunctionResult",
        "cameraFunctionResult": "Success"
    },
    {
        "type":"steadyMode",
        "currentSteadyMode":"off",
        "steadyModeCandidates":["off","on"]
    },
    {
        "type":"viewAngle",
        "currentViewAngle":120,
        "viewAngleCandidates":[120,170]
    },
    {
        "type":"exposureMode",
        "currentExposureMode":"Intelligent Auto",
        "exposureModeCandidates":["Intelligent Auto","Aperture","Shutter"]
    },
    {
        "type":"postviewImageSize",
        "currentPostviewImageSize":"2M",
        "postviewImageSizeCandidates":["Original","2M"]
    },
    {
        "type":"selfTimer",
        "currentSelfTimer":0,
        "selfTimerCandidates":[0,2,10]
    },
    {
        "type":"shootMode",
        "currentShootMode":"still",
        "shootModeCandidates":["still","movie"]
    },
    null,
    null,
    null,
```

```
        {
            "type":"exposureCompensation",
            "currentExposureCompensation":1,
            "maxExposureCompensation":9,
            "minExposureCompensation":-9,
            "stepIndexOfExposureCompensation":1
        },
        {
            "type":"flashMode",
            "currentFlashMode":"auto",
            "flashModeCandidates":["off","auto","on"]
        },
        {
            "type":"fNumber",
            "currentFNumber":"2.8",
            "fNumberCandidates":["2.8","4.0","5.6","22.0","32.0"]
        },
        {
            "type":"focusMode",
            "currentFocusMode":"AF-S",
            "focusModeCandidates":["AF-S","MF"]
        },
        {
            "type":"isoSpeedRate",
            "currentIsoSpeedRate":"100",
            "isoSpeedRateCandidates":["AUTO","100","24000"]
        },
        null,
        {
            "type":"programShift",
            "isShifted":true
        },
        {
            "type":"shutterSpeed",
            "currentShutterSpeed":"1/2",
            "shutterSpeedCandidates":["2\"","1\"","1/2","1/3","1/4"]
        },
        {
            "type":"whiteBalance",
            "checkAvailability":true,
            "currentWhiteBalanceMode":"Color Temperature",
            "currentColorTemperature":2500
        },
        {
            "type":"touchAFPosition",
            "currentSet":true,
            "currentTouchCoordinates":[]
        }
    ],
    "id": 1
}
```


Error Codes

See Status code & Error

Related API

None.

Special note (details)

The purpose of this API is sending the event from the server actively. When the client calls some APIs and/or the user operates the camera directly, the client can get the parameter updates from the camera by using this API.
If getEvent is executed, the server times out or does not return a response until the parameter is updated. (If the input parameter "polling" is false, the server replies immediately.) If the client gets the response, the client should execute getEvent immediately. When the execution of this API is unsuccessful or timeout, the server will notify error in response.
When each object in the response is null or empty array as JSON, it means that no update was happened in the server for the object type or the server does not support the object type. In case of empty string or empty array in supported object, it means that the parameter is invalid. In regard to some objects related to getAvailableXXX API, the client can check if the object is valid via "getAvailableApiList" or "availableApiList" object.
The callback parameter value could be the same as the previous one, so the client should evaluate the value of callback. The client can detect each object in the callback using "Name of object type" which is in each object. The client must ignore objects which are not described in this document.
In case this API is called with "polling=true", the server will not return a response until the server is ready, and any value has changed in the server. So, by calling with polling=true, the client can recognize the timing of a change in the parameter of the server. For each parameter, if the current value or available candidates doesn't update, the parameter object including "type" will be null object or empty array. Otherwise, the object will be notified. This API with "polling=true" is a notifying type method and acts with other requiring type methods in parallel.
In case this API is called with "polling=false", the server will return a response immediately. So, by calling with polling=false, the client can recognize the server state snapshot at the time. The client can call this API with "polling=false" at the beginning. (The information obtained in the response may be useful for the client to build UI layouts and so on.)

For more information about how to use this API, see Sample Sequence.

getEvent (v1.1)

Overview

This API provides a function to get event from the server.

Endpoint URL	<ActionList_URL>/camera
Version	1.1

Request

Elements of "params"

order	type	explanation
0	boolean	Long polling flag true: Callback when timeout or change point detection. false: Callback immediately.

JSON Example

```
{
    "method": "getEvent",
    "params": [true],
    "id": 1,
    "version": "1.1"
}
```

Response

Elements of "result"

order	key	type	explanation
0 to 34		object/array	Same as v1.0. Please see "getEvent (v1.0)" for details.
35		object	Focus status
	"type"	string	Name of object type ("focusStatus")
	"focusStatus"	string	Focus status (See Event parameters)

JSON Example

```
{
    "result": [
        ...,
        {
            "type":"focusStatus",
            "focusStatus":"Focused"
        }
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getEvent (v1.0)

Special note (details)

Some camera models support version 1.1 of "getEvent" in addition to v1.0. The client can check if the server supports version 1.1 using "getVersions" and "getMethodTypes" for "camera" API service. The client app must set "1.1" as the "version" parameter in the request when it uses "getEvent" version 1.1 function.

The version 1.1 of the API supports "focusStatus" object as the response in addition to v1.0 of the API. Please see "getEvent (v1.0)" for more details.

getEvent (v1.2)

Overview

This API provides a function to get event from the server.

Endpoint URL	<ActionList_URL>/camera
Version	1.2

Request

Elements of "params"

order	type	explanation
0	boolean	Long polling flag true: Callback when timeout or change point detection. false: Callback immediately.

JSON Example

```
{
    "method": "getEvent",
    "params": [true],
    "id": 1,
    "version": "1.2"
}
```

Response

Elements of "result"

order	key	type	explanation
0 to 35		object/array	Same as v1.1. Please see "getEvent (v1.1)" for details.
36		object	Zoom setting
	"type"	string	Name of object type ("zoomSetting")
	"zoom"	string	Current zoom setting (See Zoom parameters)
	"candidate"	string-array	A list of available zoom settings (See Zoom parameters)
37		object	Still quality
	"type"	string	Name of object type ("stillQuality")
	"stillQuality"	string	Current still quality (See Still quality parameters)
	"candidate"	string-array	A list of available still qualities (See Still quality parameters)
38		object	Continuous shooting mode
	"type"	string	Name of object type ("contShootingMode")
	"contShootingMode"	string	Current continuous shooting mode (See Continuous shooting mode parameters)
	"candidate"	string-array	A list of available continuous shooting modes (See Continuous shooting mode parameters)

39		object	Continuous shooting speed
	"type"	string	Name of object type ("contShootingSpeed")
	"contShootingSpeed"	string	Current continuous shooting speed (See Continuous shooting speed parameters)
	"candidate"	string-array	A list of available continuous shooting speeds (See Continuous shooting speed parameters)
40		object	URLs of continuous shooting
	"type"	string	Name of object type ("contShooting")
	"contShootingUrl"	object-array	Array of URL of continuous shooting. When more than one URL notifies, the last one is the latest.
	"postviewUrl"	string	The URL of thumbnail of postview.
	"thumbnailUrl"	string	The URL of postview (the size depends on "postviewImageSize").
41		object	Flip setting
	"type"	string	Name of object type ("flipSetting")
	" flip"	string	Current flip setting (See Flip setting parameters)
	"candidate"	string-array	A list of available flip settings (See Flip setting parameters)
42		object	Scene selection
	"type"	string	Name of object type ("sceneSelection")
	"scene"	string	Current scene selection (See Scene selection parameters)
	"candidate"	string-array	A list of available scene selections (See Scene selection parameters)
43		object	Interval time
	"type"	string	Name of object type ("intervalTime")
	"intervalTimeSec"	string	Current interval time (unit: second) (See Interval time parameters)
	"candidate"	string-array	A list of available interval times (See Interval time parameters)
44		object	Color setting
	"type"	string	Name of object type ("colorSetting")
	"colorSetting"	string	Current color setting (See Color setting parameters)
	"candidate"	string-array	A list of available color settings (See Color setting parameters)

45		object	Movie file format
	"type"	string	Name of object type ("movieFileFormat")
	"movieFileFormat"	string	Current movie file format (See Movie file format parameters)
	"candidate"	string-array	A list of available movie file formats (See Movie file format parameters)
46 to 51		object	Reserved
52		object	IR remote control setting
	"type"	string	Name of object type ("infraredRemoteControl")
	"infraredRemoteControl"	string	Current IR remote control setting (See IR remote control setting parameters)
	"candidate"	string-array	A list of available IR remote control settings (See IR remote control setting parameters)
53		object	TV color system
	"type"	string	Name of object type ("tvColorSystem")
	"tvColorSystem"	string	Current TV color system (See TV color system parameters)
	"candidate"	string-array	A list of available TV color systems (See TV color system parameters)
54		object	Tracking focus status
	"type"	string	Name of object type ("trackingFocusStatus")
	"trackingFocusStatus"	string	Tracking focus status (See Tracking focus parameters)
55		object	Tracking focus setting
	"type"	string	Name of object type ("trackingFocus")
	"trackingFocus"	string	Current tracking focus setting (See Tracking focus parameters)
	"candidate"	string-array	A list of available tracking focus settings (See Tracking focus parameters)
56		object	Battery information
	"type"	string	Name of object type ("batteryInfo")
	"batteryInfo"	object-array	Array of URL of continuous shooting. When more than one URL notifies, the last one is the latest.
	"batteryID"	string	Battery ID (See Battery information parameters)
	"status"	string	Battery status (See Battery information parameters)
	"additionalStatus"	string	Additional battery status (See Battery information parameters)

		"levelNumer"	integer	Battery level (numerator). (When -1 is set, this parameter becomes invalid.)
		"levelDenom"	integer	Battery level (denominator). (When -1 is set, this parameter becomes invalid.)
		"description"	string	Description of the battery
57			object	Recording time
	"type"		string	Name of object type ("recordingTime")
	"recordingTime"		integer	Recording time of the movie. (unit: second) (When -1 is set, this parameter is invalid.)
58			object	Number of shots
	"type"		string	Name of object type ("numberOfShots")
	"numberOfShots"		integer	Number of shots. (When -1 is set, this parameter becomes invalid.) Supported only when the shoot mode is "intervalstill".
59			object	Auto power off time
	"type"		string	Name of object type ("autoPowerOff")
	"autoPowerOff"		integer	Auto power off time (unit: second) (0 means that the auto power off function does not activate.)
	"candidate"		integer-array	A list of available auto power off times

JSON Example

```
{
    "result": [
        ...,
        {
          "type": "zoomSetting",
          "candidate": [
            "Optical Zoom Only",
            "On:Clear Image Zoom"
          ],
          "zoom": "Optical Zoom Only"
        },
        {
          "stillQuality": "Fine",
          "type": "stillQuality",
          "candidate": [
            "Fine",
            "Standard"
          ]
        },
```

```
      {
        "type": "contShootingMode",
        "candidate": [
          "Single",
          "Continuous"
        ],
        "contShootingMode": "Single"
      },
      {
        "type": "contShootingSpeed",
        "contShootingSpeed": "Hi",
        "candidate": [
          "Hi",
          "Low"
        ]
      },
      {
        "type": "contShooting",
        "contShootingUrl": [
          {
            "postviewUrl": "http://ip:port/continuous/postview1.jpg",
            "thumbnailUrl": "http://ip:port/continuous/thumbnail1.jpg"
          },
          {
            "postviewUrl": "http://ip:port/continuous/postview2.jpg",
            "thumbnailUrl": "http://ip:port/continuous/thumbnail2.jpg"
          }
        ]
      },
      {
        "type": "flipSetting",
        "candidate": [
          "On",
          "Off"
        ],
        "flip": "Off"
      },
      {
        "type": "sceneSelection",
        "scene": "Normal",
        "candidate": [
          "Normal",
          "Under Water"
        ]
      },
      {
        "type": "intervalTime",
        "candidate": [
          "1",
          "2",
          "5",
          "10",
          "30",
          "60"
        ],
        "intervalTimeSec": "1"
      },
```

```
      {
        "type": "colorSetting",
        "candidate": [
          "Neutral",
          "Vivid"
        ],
        "colorSetting": "Vivid"
      },
      {
        "movieFileFormat": "MP4",
        "type": "movieFileFormat",
        "candidate": [
          "MP4",
          "XAVC S"
        ]
      },
      null,
      null,
      null,
      null,
      null,
      null,
      {
        "type": "infraredRemoteControl",
        "infraredRemoteControl": "On",
        "candidate": [
          "On",
          "Off"
        ]
      },
      {
        "type": "tvColorSystem",
        "tvColorSystem": "NTSC",
        "candidate": [
          "NTSC",
          "PAL"
        ]
      },
      {
        "type": "trackingFocusStatus",
        "trackingFocusStatus": "Not Tracking"
      },
      {
        "type": "trackingFocus",
        "candidate": [
          "Off",
          "On"
        ],
        "trackingFocus": "Off"
      },
```

```
        {
          "type": "batteryInfo",
          "batteryInfo": [
            {
              "levelDenom": 4,
              "levelNumer": 4,
              "status": "active",
              "description": "",
              "additionalStatus": "",
              "batteryID": "externalBattery1"
            }
          ]
        },
        {
          "type": "recordingTime",
          "recordingTime": 2
        },
        {
          "numberOfShots": 6,
          "type": "numberOfShots"
        },
        {
          "type": "autoPowerOff",
          "candidate": [
            60,
            0
          ],
          "autoPowerOff": 0
        }
    ],
    "id": 1
}
```


Error Codes

See Status code & Error

Related API

- getEvent (v1.0)
- getEvent (v1.1)

Special note (details)

Some camera models support version 1.2 of "getEvent" in addition to v1.0 and v1.1. The client can check if the server supports version 1.2 using "getVersions" and "getMethodTypes" for "camera" API service. The client app must set "1.2" as the "version" parameter in the request when it uses "getEvent" version 1.2 function.

Please see "getEvent (v1.0)" and "getEvent (v1.1)" for more details.

getEvent (v1.3)

Overview

This API provides a function to get event from the server.

Endpoint URL	<ActionList_URL>/camera
Version	1.3

Request

Elements of "params"

order	type	explanation
0	boolean	Long polling flag true: Callback when timeout or change point detection. false: Callback immediately.

JSON Example

```
{
    "method": "getEvent",
    "params": [true],
    "id": 1,
    "version": "1.3"
}
```

Response

Elements of "result"

order	key	type	explanation
0 to 59		object/array	Same as v1.2. Please see "getEvent (v1.2)" for details.
60		object	Loop recording time
	"type"	string	Name of object type ("loopRecTime")
	"loopRecTime"	string	Current loop recording time (See Loop recording time parameters)
	"candidate"	string-array	A list of available loop recording times (See Loop recording time parameters)
61		object	Audio recording setting
	"type"	string	Name of object type ("audioRecording")
	"audioRecording"	string	Current audio recording setting (See Audio recording setting parameters)
	"candidate"	string-array	A list of available audio recording settings (See Audio recording setting parameters)
62		object	Wind noise reduction
	"type"	string	Name of object type ("windNoiseReduction")
	"windNoiseReduction"	string	Current wind noise reduction (See Wind noise reduction parameters)
	"candidate"	string-array	A list of available wind noise reduction (See Wind noise reduction parameters)

JSON Example

```
{
    "result": [
        ...,
        {
            "type": "loopRecTime",
            "candidate": [
                "5",
                "20",
                "60",
                "120",
                "unlimited"
            ],
            "loopRecTime": "60"
        },
        {
            "type": "audioRecording",
            "candidate": [
                "On",
                "Off"
            ],
            "audioRecording": "On"
        },
        {
            "type": "windNoiseReduction",
            "candidate": [
                "On",
                "Off"
            ],
            "windNoiseReduction": "On"
        }
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getEvent (v1.0)
- getEvent (v1.1)
- getEvent (v1.2)

Special note (details)

Some camera models support version 1.3 of "getEvent" in addition to v1.0, v1.1 and v1.2. The client can check if the server supports version 1.3 using "getVersions" and "getMethodTypes" for "camera" API service. The client app must set "1.3" as the "version" parameter in the request when it uses "getEvent" version 1.3 function.

Please see "getEvent (v1.0)", "getEvent (v1.1)" and "getEvent (v1.2)" for more details.

Server information

getAvailableApiList

Overview

This API provides a function to get the available API names that the server supports at the moment.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getAvailableApiList",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	A list of available API names (See API name parameters of Parameter description)

JSON Example

```
{
    "result": [
        ["startLiveview","stopLiveview","setSelfTimer",...]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getMethodTypes

Special note (details)

The client gets the list of API names that can be executed at the moment from callback parameter.
The callback parameter "A list of available API names" varies depending on the camera status at the moment. For example, when the server is in "movie" mode, "setSelfTimer" will not be in the callback parameter.

The client should ignore API names which are not described in this document.

getApplicationInfo

Overview

This API provides a function to get name and "Camera Remote API" version of the server.

Endpoint URL	<ActionList_URL>/camera
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getApplicationInfo",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string	Application name of the server
1	string	"Camera Remote API" version of the server

JSON Example

```
{
    "result": [
        "Smart Remote Control",
        "2.0.0"
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getVersions

Special note (details)

The client should call this API during initialization sequence. The client can get the following "Camera Remote API" version of server. The version definition: "M.m.x".

[M]: Major number (Any number)
[m]: Minor number (Any number)
[x]: Server release number (Any number)

The client should check whether the API version is "2.x.x" ("2.0.0" or greater) to confirm the server function compatibility with this document.

getVersions

Overview

This API provides supported versions on the "API service". The client can get the list of API names for specific version using "getMethodTypes" API. The client can get list of versions, which the server supports, using this API.

Endpoint URL	<ActionList_URL>/camera <ActionList_URL>/system <ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

Empty.

JSON Example

```
{
    "method": "getVersions",
    "params": [],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "result"

order	type	explanation
0	string-array	Supported versions on the API service.

JSON Example

```
{
    "result": [
       ["1.0"]
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getMethodTypes

Special note (details)

The version in the response is defined for each API in the "API service". For more information about "API service", see Development Guide. When the client calls the APIs to use camera functionality, API service is basically "camera". If the server supports "system" API service, it can call this API for "system".

getMethodTypes

Overview

This API provides a function to get the supported APIs for the version. The client can get the list of API names for specific version using this API. The client can get list of versions, which the server supports, using "getVersions" API.

Endpoint URL	<ActionList_URL>/camera <ActionList_URL>/system <ActionList_URL>/avContent
Version	1.0

Request

Elements of "params"

order	type	explanation
0	string	Version for each API. In case this parameter is empty string, response includes methods of all versions supported in camera.

JSON Example

```
{
    "method": "getMethodTypes",
    "params": ["1.0"],
    "id": 1,
    "version": "1.0"
}
```

Response

Elements of "results"

order		type	explanation
0 to N		array	Array of elements
	0	string	API name
	1	string-array	Array of parameter types
	2	string-array	Array of response types
	3	string	Version for each API

JSON Example

```
{
    "results": [
        ["getAvailableApiList",[],["string*"],"1.0"],
        ["setShootMode",["string"],["int"],"1.0"],
        ...
    ],
    "id": 1
}
```

Error Codes

See Status code & Error

Related API

- getVersions

Special note (details)

The definition of "parameter types" is below.

value	explanation
"bool"	True or false value is stored.
"bool*"	Multiple true or false values are stored in an array.
"int"	Integer number.
"int*"	Multiple integer numbers are stored in an array.
"double"	Double number.
"double*"	Multiple double numbers are stored in an array.
"string"	String data is stored.
"string*"	Multiple string data are stored in an array.
"{"object name":"object type"}"	An Object is stored. Double quotes in object are escaped to store object structure into a string.
"{"object name":"object type"}*"	Multiple objects (of the same type) are stored in an array. Double quotes in object are escaped to store object structure into a string.

Most of APIs will be replied by "result" in those responses. Note that result of this API will be replied by "results" in the response.

The camera status can be changed by user operations and calling APIs. Available APIs in the camera will be changed by camera status. Therefore, the client should check available APIs at the moment via "getAvailableApiList" API or "availableApiList" object of "getEvent" API callback.

The client should ignore API names which are not described in this document.

Parameter description

API name parameters

The API names which belong to "camera" API service, for example "setSelfTimer" and "getSelfTimer", are listed as API name parameters for the response of "getAvailableApiList" and "availableApiList" object of "getEvent". Note that API names of other than "camera" API service are not included in the available API list.

Note that the client can check the availability of "actTakePicture", "awaitTakePicture", "startMovieRec", "stopMovieRec", "startAudioRec", "stopAudioRec", "startIntervalStillRec", and "stopIntervalStillRec" by checking current shooting mode. Current shooting mode can be obtained by "getShootMode", "getAvailableShootMode" or "getEvent".

Shoot mode parameters

value	explanation
"still"	Still image shoot mode
"movie"	Movie shoot mode
"audio"	Audio shoot mode
"intervalstill"	Interval still shoot mode
"looprec"	Loop recording shoot mode

Liveview size parameter

value	explanation
"L"	XGA size scale (the size varies depending on the camera models, and some camera models change the liveview quality instead of making the size larger.)
"M"	VGA size scale (the size varies depending on the camera models)

Zoom parameters

Zoom direction parameter

Value	explanation
"in"	Zoom-In
"out"	Zoom-Out

Zoom movement parameter

Value	explanation
"start"	Long push
"stop"	Stop
"1shot"	Short push

Zoom setting parameter

Value	explanation
"Optical Zoom Only"	Optical zoom only.
"Smart Zoom Only"	Smart zoom only.
"On:Clear Image Zoom"	On:Clear Image Zoom.
"On:Digital Zoom"	On:Digital Zoom.
"Off:Digital Zoom"	Off:Digital Zoom.

Touch AF position parameter

value	explanation
"Touch"	Focus on around touch area
"Wide"	Focus on over a wide range including touch area

Tracking focus parameter

Tracking focus setting parameter

value	explanation
"Off"	Does not track a subject to be focused on.
"On"	Tracks a subject to be focused on.

Tracking focus status parameter

value	explanation
"Tracking"	Tracking a subject
"Not Tracking"	Not tracking a subject

Continuous shooting mode parameter

value	explanation
"Single"	Single shooting
"Continuous"	Continuous shooting
"Spd Priority Cont."	Speed priority continuous shooing
"Burst"	Burst shooting
"MotionShot"	MotionShot

Continuous shooting speed parameter

value	explanation
"Hi"	Hi
"Low"	Low
"10fps 1sec"	10 frames in 1 second
"8fps 1sec"	10 frames in 1.25 seconds
"5fps 2sec"	10 frames in 2 seconds
"2fps 5sec"	10 frames in 5 seconds

Self-timer parameters

value	explanation
0	Off
2	2 seconds
10	10 seconds

Exposure mode parameter

value	explanation
"Program Auto"	Program Auto
"Aperture"	Aperture Priority
"Shutter"	Shutter Priority
"Manual"	Manual Exposure
"Intelligent Auto"	Intelligent Auto
"Superior Auto"	Superior Auto

Focus mode parameter

value	explanation
"AF-S"	Single AF
"AF-C"	Continuous AF
"DMF"	Direct Manual Focus
"MF"	Manual Focus

White balance parameter

White balance mode parameter

value	explanation
"Auto WB"	Auto WB
"Daylight"	Daylight
"Shade"	Shade
"Cloudy"	Cloudy
"Incandescent"	Incandescent
"Fluorescent: Warm White (-1)"	Fluorescent: Warm White (-1)
"Fluorescent: Cool White (0)"	Fluorescent: Cool White (0)
"Fluorescent: Day White (+1)"	Fluorescent: Day White (+1)
"Fluorescent: Daylight (+2)"	Fluorescent: Daylight (+2)
"Flash"	Flash
"Color Temperature"	Color Temperature
"Custom"	Custom
"Custom 1"	Custom 1
"Custom 2"	Custom 2
"Custom 3"	Custom 3

White balance color temperature parameter
When a value of color temperature is -1, the parameter is invalid.
The below is a sample of color temperature range.

value	explanation
[9900, 2500, 100]	[Maximum value, minimum value, step value] In this case, it means that from 2500K to 9900K with 100K increments in between.

Flash mode parameter

value	explanation
"off"	OFF
"auto"	Auto flash
"on"	Forced flash
"slowSync"	Slow synchro
"rearSync"	Rear synchro
"wireless"	Wireless

Still size parameter

Still aspect parameter

value	explanation
"16:9"	16:9
"4:3"	4:3
"3:2"	3:2
"1:1"	1:1

Still size parameter
Note that below is example and the supported parameters may vary depending on the servers.

value	explanation
"20M"	20M pixels
"18M"	18M pixels
"17M"	17M pixels
"13M"	13M pixels
"8.3M"	8.3M pixels
"7.5M"	7.5M pixels
"5M"	5M pixels
"4.2M"	4.2M pixels
"3.7M"	3.7M pixels
"2.1M"	2.1M pixels

Still quality parameters

value	explanation
"RAW+JPEG"	RAW+JPEG
"Fine"	JPEG (Fine)
"Standard"	JPEG (Standard)

Postview image size parameters

value	explanation
"Original"	Original size
"2M"	2M-pixel size (the actual size depends on camera models.)

Movie file format parameters

value	explanation

"MP4"	MP4
"XAVC S"	XAVC S
"XAVC S 4K"	XAVC S (4K)

Movie quality parameter

value	explanation
"PS"	MP4, 1920x1080 60p/50p
"HQ"	MP4, 1920x1080 30p/25p
"STD"	MP4, 1280x720 30p/25p
"VGA"	MP4, 640x480 30p/25p
"SLOW"	MP4, 1280x720 30p (Imaging frame rate: 60p)
"SSLOW"	MP4, 1280x720 30p/25p (Imaging frame rate: 120p/100p)
"HS120"	MP4, 1280x720 120p
"HS100"	MP4, 1280x720 100p
"HS240"	MP4, 800x480 240p
"HS200"	MP4, 800x480 200p
"50M 60p"	XAVC S, 1920x1080 60p 50Mbps
"50M 50p"	XAVC S, 1920x1080 50p 50Mbps
"50M 30p"	XAVC S, 1920x1080 30p 50Mbps
"50M 25p"	XAVC S, 1920x1080 25p 50Mbps
"50M 24p"	XAVC S, 1920x1080 24p 50Mbps
"100M 120p"	XAVC S, 1920x1080 120p 100Mbps
"100M 100p"	XAVC S, 1920x1080 100p 100Mbps
"60M 120p"	XAVC S, 1920x1080 120p 60Mbps
"60M 100p"	XAVC S, 1920x1080 100p 60Mbps
"100M 240p"	XAVC S, 1280x720 240p 100Mbps
"100M 200p"	XAVC S, 1280x720 200p 100Mbps
"60M 240p"	XAVC S, 1280x720 240p 60Mbps
"60M 200p"	XAVC S, 1280x720 200p 60Mbps
"100M 30p"	XAVC S, 3840x2160 30p 100Mbps
"100M 25p"	XAVC S, 3840x2160 25p 100Mbps
"100M 24p"	XAVC S, 3840x2160 24p 100Mbps
"60M 30p"	XAVC S, 3840x2160 30p 60Mbps
"60M 25p"	XAVC S, 3840x2160 25p 60Mbps
"60M 24p"	XAVC S, 3840x2160 24p 60Mbps

Steady mode parameter

value	explanation
"off"	Off
"on"	On

View angle parameter

Note that below is example and the supported parameters may vary depending on the servers.

value	explanation
120	120-degree angle
170	170-degree angle
-1	invalid

Scene selection parameter

value	explanation
"Normal"	Normal
"Under Water"	Under Water

Color setting parameter

value	explanation
"Neutral"	Neutral color
"Vivid"	Vivid color

Interval time parameter

value	explanation
"1"	1 second
"2"	2 seconds
"5"	5 seconds
"10"	10 seconds
"30"	30 seconds
"60"	60 seconds

Loop recording time parameter

value	explanation
"5"	5 minutes
"20"	20 minutes
"60"	60 minutes
"120"	120 minutes
"unlimited"	Does not set the limit of the loop recording time.

Wind noise reduction parameter

value	explanation
"On"	Reduces wind noise.
"Off"	Does not reduce wind noise.

Audio recording setting parameter

value	explanation
"On"	Records sound when shooting a movie.
"Off"	Does not record sound when shooting a movie.

Flip setting parameter

value	explanation
"On"	Flips the image vertically and swaps the left and right sound channels.
"Off"	Does not flip the image.

IR remote control setting parameter

value	explanation
"On"	Using IR remote controller.
"Off"	Not using IR remote controller.

TV color system parameter

value	explanation
"NTSC"	NTSC
"PAL"	PAL

Beep mode parameter

value	explanation
"Off"	Turns off the beep/shutter sound.
"On"	Turns on the beep/shutter sound.
"Shutter Only"	Turns on the shutter sound only.
"Silent" "Limited"	Beep sounds are emitted for the following operations only. - Power turned on - Recording started - Recording stopped - Shutter pressed - A disabled operation was selected or an error occurred - Wi-Fi connection confirmation beep

Storage parameter

value	explanation
"Memory Card 1"	Memory Card 1 (The card is inserted in the camera.)
"No Media"	No Media

Camera function parameter

value	explanation
"Remote Shooting"	Shooting function
"Contents Transfer"	Transferring images function

Battery information parameter

Battery ID parameter

value	explanation
"externalBattery1"	External battery 1 (The battery is inserted in the camera.)
"noBattery"	No battery

Battery status parameter

value	explanation
"active"	The battery is in use.
"inactive"	The battery is not in use.
"unknown"	The status is unknown

Additional battery status parameter

value	explanation
"batteryNearEnd"	The battery power will be discharged soon.
"charging"	The battery is charging.
""	Not set additional status.

Event parameters

Camera status parameters

value	explanation
"Error"	Error at the server (ex. high temperature, no memory card)
"NotReady"	The server cannot start recording (ex. during initialization, mode transitioning)
"IDLE"	Ready to record
"StillCapturing"	Capturing still images
"StillSaving"	Saving still images
"MovieWaitRecStart"	Preparing to start recording movie
"MovieRecording"	Recording movie
"MovieWaitRecStop"	Stopping the movie recording
"MovieSaving"	Saving movie
"AudioWaitRecStart"	Preparing to start recording audio
"AudioRecording"	Recording audio
"AudioWaitRecStop"	Stopping the audio recording
"AudioSaving"	Saving audio
"IntervalWaitRecStart"	Preparing to capture interval still images
"IntervalRecording"	Capturing interval still images
"IntervalWaitRecStop"	Stopping interval still images
"LoopWaitRecStart"	Preparing to start loop recording
"LoopRecording"	Running loop recording
"LoopWaitRecStop"	Stopping loop recording
"LoopSaving"	Saving loop recording movie
"WhiteBalanceOnePushCapturing"	Capturing the image for white balance custom setup
"ContentsTransfer"	The status ready to transferring images
"Streaming"	Streaming the movie
"Deleting"	Deleting the content

Liveview orientation parameter

value	explanation
"0"	Not rotated
"90"	Rotated 90 degrees clockwise
"180"	Rotated 180 degrees clockwise
"270"	Rotated 270 degrees clockwise

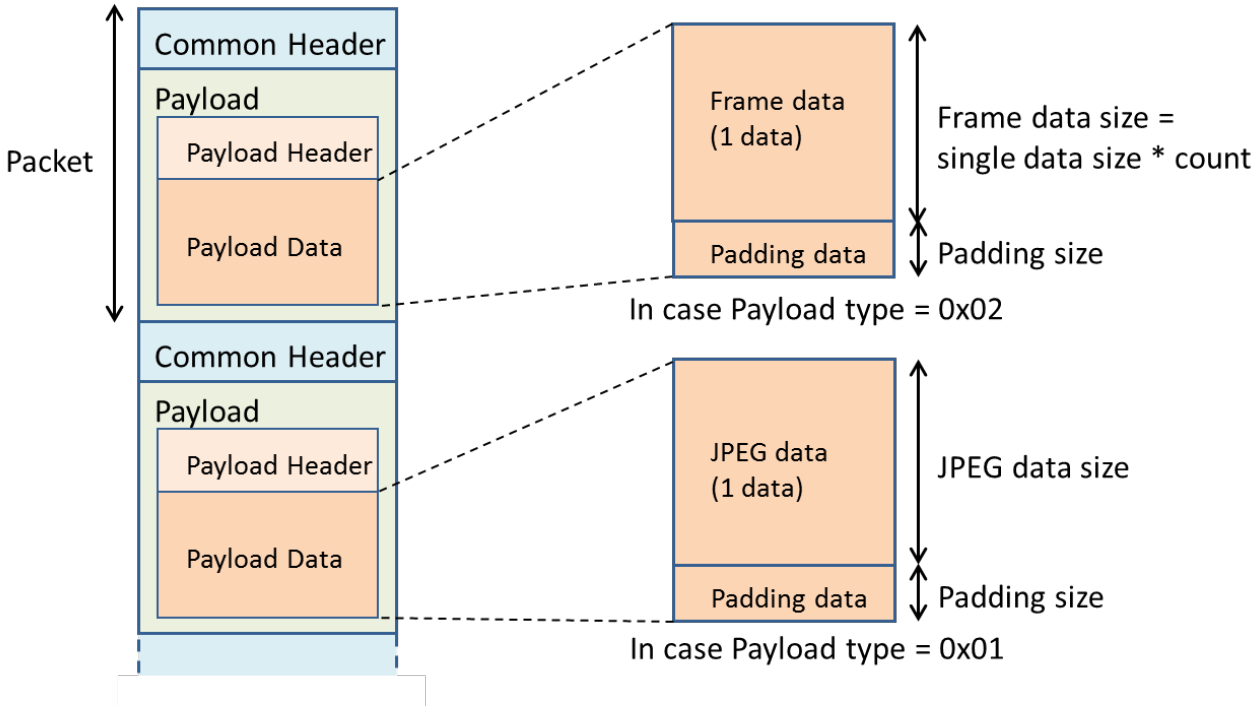
Focus status parameter

value	explanation
"Not Focusing"	The focus is not working.
"Focusing"	The focus is in progress.
"Focused"	The focus is locked.
"Failed"	The focus has failed.

Liveview data format

Format of the liveview data JPEG container

- ✓ The liveview data is downloaded as one data stream, by HTTP GET.
  - The smallest unit is called "Packet" as the diagram below indicates. During the download, this "Packet" will be repeated.
  - The client should keep on downloading the data of "Packet", and extract JPEG image from one "Packet", and decode it, and show it to the display.
  - The client may not display all the JPEG because of the decoding time. In that case, the client should skip some JPEG images.
- ✓ The endian of the data is network byte order.
- ✓ Refer to the following sections for more information about Common Header and Payload.



Common Header

Common Header is constructed of the following 8 Bytes.

- ✓ Start byte : 1 [B]
  - 0xFF, fixed
- ✓ Payload type : 1 [B]
  - indicates type of the Payload
  - **0x01 = For liveview images**
  - **0x02 = For Liveview Frame Information**
- ✓ Sequence number : 2 [B]
  - Frame No, 2 bytes integer and increments every frame
  - This frame no will be repeated.
- ✓ Time stamp : 4 [B]
  - 4 bytes integer, the unit will be indicated by Payload type
  - In case Payload type = 0x01, the unit of the Time stamp of the Common Header is milliseconds. The start time may not start from zero and depends on the server.

Payload Header

Payload header format will be as following 128 Bytes.

- ✓ Start code : 4[B]
  - fixed (0x24, 0x35, 0x68, 0x79)
  - This can be used for detection of the payload header.
- ✓ Payload data size without padding size : 3[B]
  - Bytes.
  - In case Payload Type = 0x01, the size indicates the size of JPEG in Payload data.
  - In case Payload Type = 0x02, the size indicates the size of Frame information data in Payload data.
- ✓ Padding size : 1[B]
  - Padding size of the Payload data after the JPEG data, Bytes.

In case Payload Type = 0x01, the header format will be as following.

- ✓ Reserved : 4[B]
- ✓ Flag : 1[B]
  - This value is set to 0x00
  - Other values is reserved
- ✓ Reserved : 115[B]
  - All fixed, 0x00

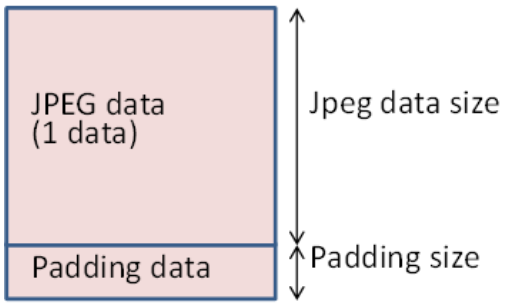
In case Payload Type = 0x02, the header format will be as following.

- ✓ Frame information data version: 2[B]
  - The data version of the frame information data.
  - The high order 1 byte indicates the major version and the low order 1 byte indicates the minor version.
  - 0x01, 0x00: version 1.0
  - The client should ignore the data that it does not understand by using the data version.
- ✓ Frame count : 2[B]
  - Number of the frame data.
- ✓ Single Frame data size: 2[B]
  - Single size of the frame data. In case the data version is 1.0, the data size is 16[B].
  - The client can read each frame by using the data size.
- ✓ Reserved : 114[B]
  - All fixed, 0x00

Payload Data

In case Payload type = 0x01

- ✓ JPEG data(1 data)
  - This size is indicated as "JPEG data size" in Payload Header.
- ✓ Padding data
  - This size is indicated as "Padding size" in Payload Header (No padding if 0 bytes was indicated).



In case Payload type = 0x02, single frame information data format is as following. The rectangular frame data will be repeated for the number of the frame information.

- ✓ Frame information data (single)
  - Top-left corner position of the frame : 4[B]
  - Bottom-right corner position of the frame : 4[B]
    The high order 16 bits: X-axis position, the low order 16 bits: Y-axis position.
    The corner position uses the upper left position of the liveview image as the coordinate origin.
    The position is expressed between 0-10000 (when the width/height of the liveview is assumed to be 10,000.)
  - category : 1[B]
    Refer to the following table for details.
  - status: 1[B]
    Refer to the following table for details.
  - additional status: 1[B]
    Refer to the following table for details.
  - Reserved : 5[B]
    All fixed, 0x00

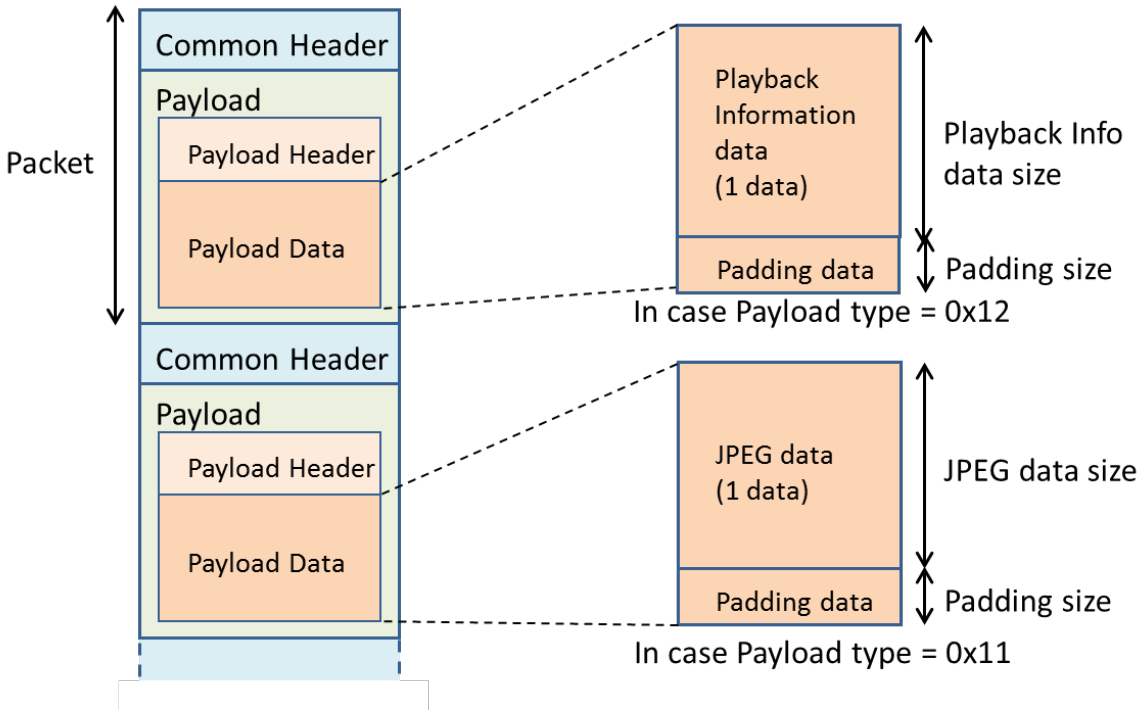
- ✓ Padding data
  - Byte size indicated as "Padding size" in Payload Header (No padding if 0[B] was indicated)

category	status	additional status
0x00: Invalid	0x00: Invalid	0x00: Invalid
0x01: Contrast AF	0x01: Normal	0x01: Selected
0x02: Phase Detection AF	0x02: Main	0x02: Large Frame
0x03: (Reserved)	0x03: Sub	
0x04: Face	0x04: Focused	
0x05: Tracking	0x05: (Reserved)	
	0x06: (Reserved)	
	0x07: (Reserved)	

Streaming data format

Format of the streaming data JPEG container

- ✓ Similar to Liveview data format.
- ✓ The streaming data is downloaded as one data stream, by HTTP GET.
  - The smallest unit is called "Packet" as the diagram below indicates. During the download, this "Packet" will be repeated.
  - The client should keep on downloading the data of "Packet", and extract JPEG image from one "Packet", and decode it, and show it to the display.
  - The client may not display all the JPEG because of the decoding time. In that case, the client should skip some JPEG images.
- ✓ The endian of the data is network byte order.
- ✓ Refer to the following sections for more information about Common Header and Payload.



Common Header

Common Header is constructed of the following 8 Bytes.

- ✓ Start byte : 1 [B]
  - 0xFF, fixed
- ✓ Payload type : 1 [B]
  - indicates type of the Payload
  - **0x11 = For Streaming Images**
  - **0x12 = For Streaming Playback Information**
- ✓ Sequence number : 2 [B]
  - Frame No, 2 bytes integer and increments every frame
  - This frame no will be repeated.
- ✓ Time stamp : 4 [B]
  - 4 bytes integer, the unit will be indicated by Payload type

Payload Header

Payload header format will be as following 128 Bytes.

- ✓ Start code : 4[B]
  - fixed (0x24, 0x35, 0x68, 0x79)
  - This can be used for detection of the payload header.
- ✓ JPEG data size : 3[B]
  - Size of JPEG in Payload data, Bytes.
- ✓ Padding size : 1[B]
  - Padding size of the Payload data after the JPEG data, Bytes.

In case Payload Type = 0x11, the header format after the padding size will be as following.

- ✓ Image width: 2[B]
- ✓ Image height: 2[B]
- ✓ Reserved : 116[B]
  - All fixed, 0x00

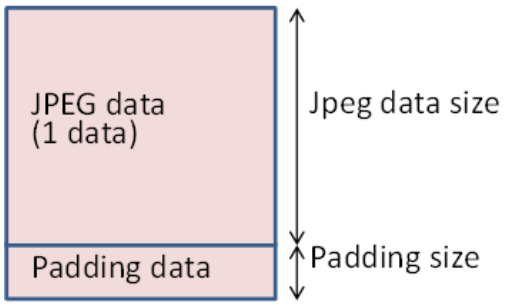
In case Payload Type = 0x12, the header format after the padding size will be as following.

- ✓ Playback information data version: 2[B]
  - The data version of the playback information data.
  - The high order 1 byte indicates the major version and the low order 1 byte indicates the minor version.
  - 0x01, 0x00: version 1.0
  - The client should ignore the data that it does not understand by using the data version.
- ✓ Reserved : 118[B]
  - All fixed, 0x00

Payload Data

In case Payload type = 0x11

- ✓ JPEG data(1 data)
  - This size is indicated as "JPEG data size" in Payload Header.
- ✓ Padding data
  - This size is indicated as "Padding size" in Payload Header (No padding if 0 bytes was indicated).



In case Payload type = 0x12

- ✓ Playback information data
  - Duration : 4[B]
    Unit: millisecond
  - Playback position : 4[B]
    Unit: millisecond
  - Reserved : 24[B]
    All fixed, 0x00
- ✓ Padding data
  - Byte size indicated as "Padding size" in Payload Header (No padding if 0[B] was indicated)

Status code & Error

Major status codes are below. The "error" member is defined as [error_code, error_message].
The error_message may vary depending on the camera models.

- OK
```
"error": [0, "OK"]
```
- Any
A generic error code which can be used with any error.
```
"error": [1, "Any"]
```
- Timeout
```
"error": [2, "Timeout"]
```
- Illegal Argument
Parameters in "params" are illegal.
```
"error": [3, "Illegal Argument"]
```
- Illegal Data Format
```
"error": [4, "Illegal Data Format"]
```
- Illegal Request
When request body is empty, has no id or invalid id, has no method, has no parameter, or when "params" is not an array.
```
"error": [5, "Illegal Request"]
```
- Illegal Response
```
"error": [6, "Illegal Response"]
```
- Illegal State
```
"error": [7, "Illegal State"]
```
- Illegal Type
```
"error": [8, "Illegal Type"]
```
- Index Out Of Bounds
```
"error": [9, "Index Out Of Bounds"]
```
- No Such Element
```
"error": [10, "No Such Element"]
```
- No Such Field
```
"error": [11, "No Such Field"]
```
- No Such Method
For cases method is unmatched.
```
"error": [12, "No Such Method"]
```
- NULL Pointer
```
"error": [13, "Null Pointer"]
```
- Unsupported Version
```
"error": [14, "Unsupported Version"]
```
- Unsupported Operation
```
"error": [15, "Unsupported Operation"]
```
- Shooting fail
```
"error": [40400, "Shooting fail"]
```
- Camera Not Ready
```
"error": [40401, "Camera Not Ready"]
```
- Already Running Polling API

```
"error": [40402, "Already Running Polling Api"]
```

- Still Capturing Not Finished

```
"error": [40403, "Still Capturing Not Finished"]
```

- Some content could not be deleted.

```
"error": [41003, "Some content could not be deleted"]
```

In case HTTP status code is other than 200 OK, the error_code will be same as HTTP status code.

Here, major status codes are listed up.

- 401 Unauthorized

```
"error": [401, "Unauthorized"]
```

- 403 Forbidden

```
"error": [403, "Forbidden"]
```

- 404 Not Found

```
"error": [404, "Not Found"]
```

- 406 Not Acceptable

```
"error": [406, "Not Acceptable"]
```

- 413 Request Entity Too Large

```
"error": [413, "Request Entity Too Large"]
```

- 414 Request-URI Too Long

```
"error": [414, "Request-URI Too Long"]
```

- 501 Not Implemented

```
"error": [501, "Not Implemented"]
```

- 503 Service Unavailable

```
"error": [503, "Service Unavailable"]
```

JSON data types

For basic information about JSON data types, refer to RFC 4627. Camera Remote API adapts some extensions to keep APIs simple and easy-to-use.

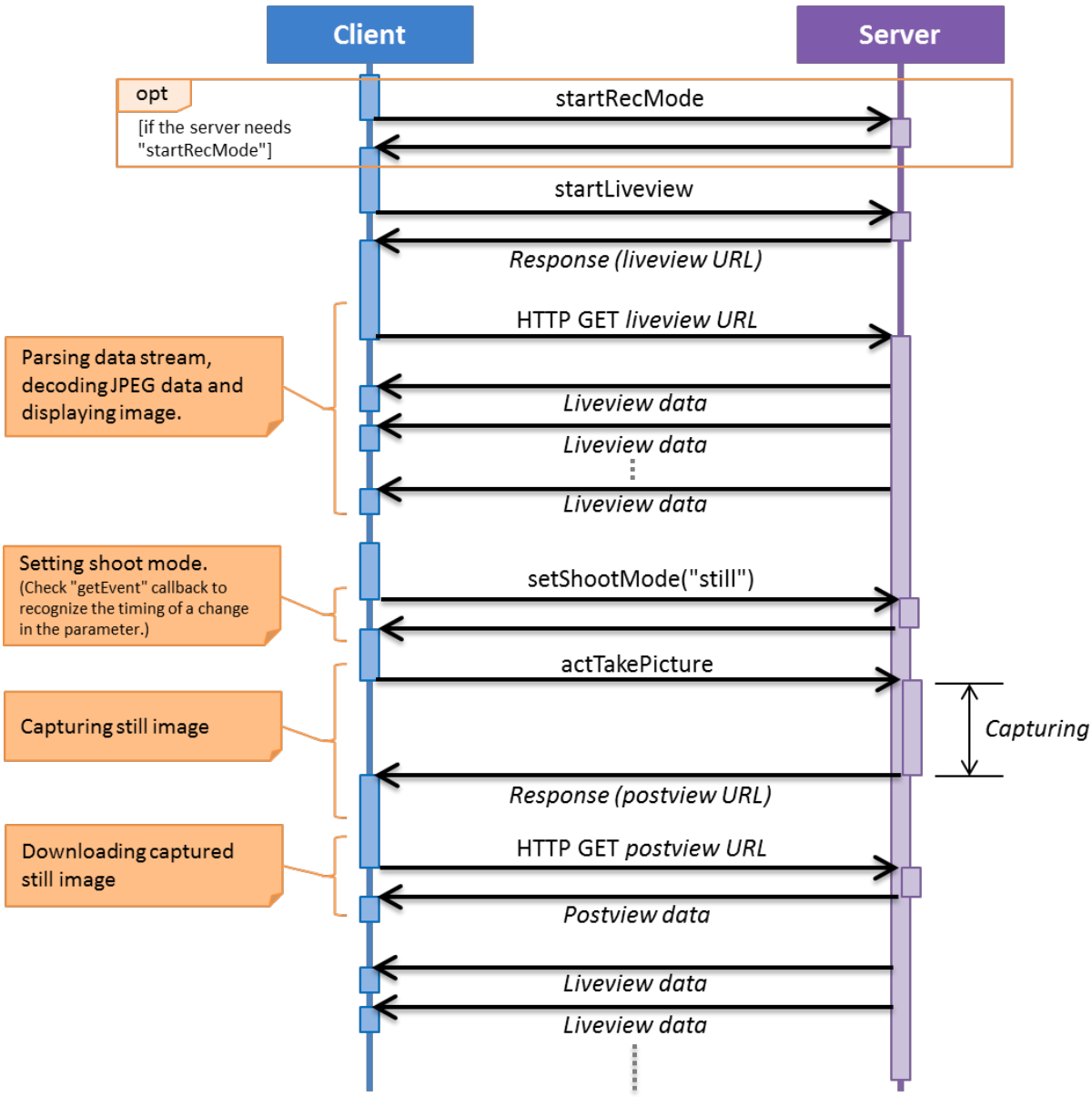
Camera Remote API defines custom data types as below.
[boolean]: true or false value.
[integer]: Integer number, ranging from -2147483648 to 2147483647.
[double]: Double number, ranging from 2.2250738585072014e-308 to 1.7976931348623157e+308.
These three data types, plus [string], are primitive data types.

Camera Remote API also defines custom array types which only contains each of the above data types.
[boolean-array]: Multiple true or false values are stored in an array.
[integer-array] : Multiple integer numbers are stored in an array.
[double-array] : Multiple double numbers are stored in an array.
[string-array] : Multiple string data are stored in an array.

Sample Sequence

Here are sample sequences for some use cases.

Displaying liveview and capturing picture

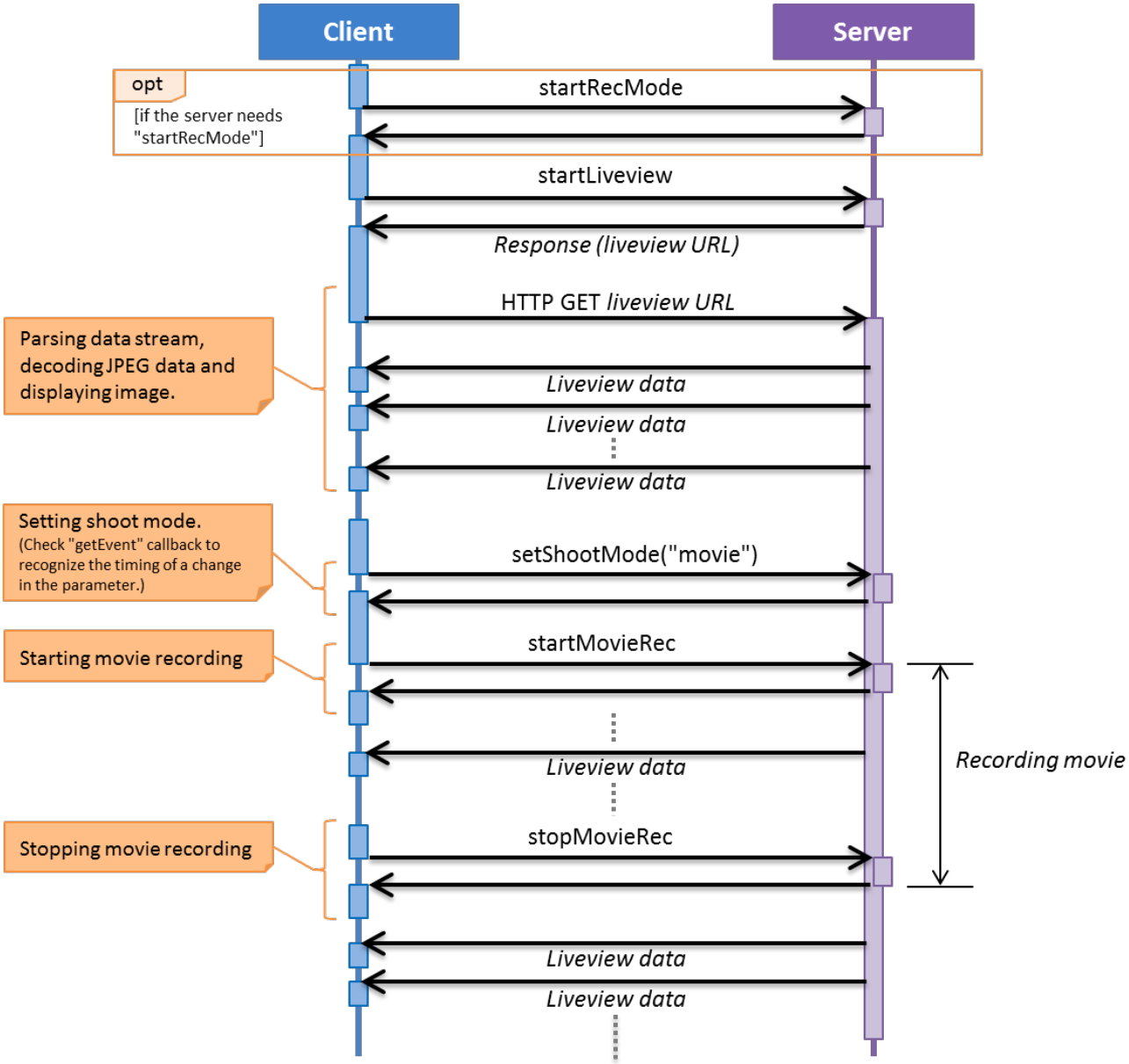


Some camera models need "startRecMode" API call before accessing camera shooting functions. The client must check if the server needs "startRecMode" API call. The check can be done by checking the availability of "startRecMode" API in "getAvailableApiList" or "getMethodTypes" callback.

To start liveview, the client should call "startLiveview" API and get liveview image data via the liveview URL in the response. The liveview data is kind of continuous images and the client can parse this data stream and decode each JPEG data. For more information about liveview data, see Liveview data format.

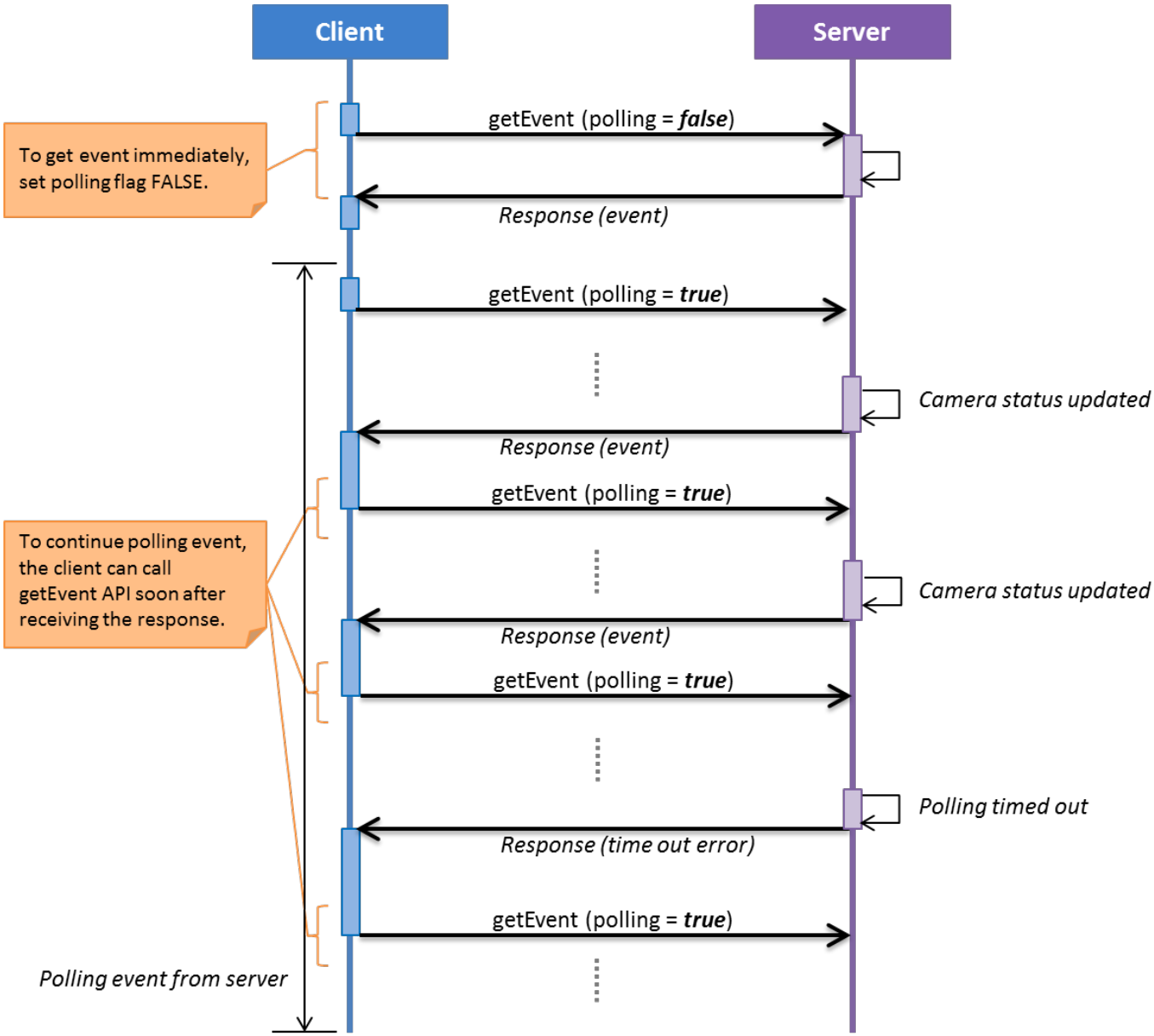
To capture still image, the client should call "actTakePicture" API in "still" shoot mode. The camera will provide the URL of postview in the response after capturing and the client can use it to display the postview image on the display and save it as the captured picture.

Recording movie



To record movie, the client should change shoot mode to "movie". The client should call "startMovieRec" API to start recording movie and call "stopMovieRec" API to stop.

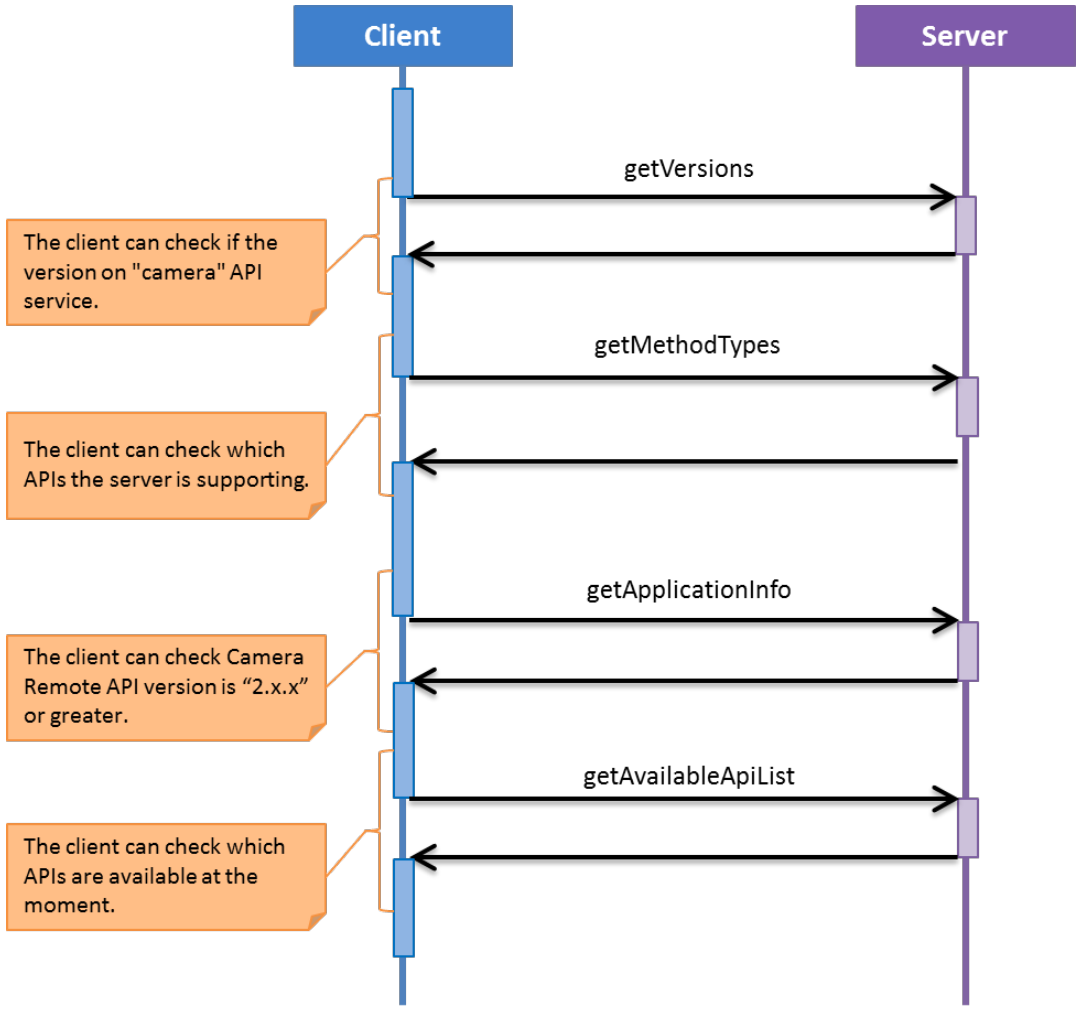
Getting event



The purpose of "getEvent" API is sending the event from the server actively. The client can recognize the current camera status. For example, when the client calls "Zoom" API, the server will send the event including the information about zoom position.

If "getEvent" is executed with "polling=false", the server replies immediately. If "getEvent" is executed with "polling=true", the server will response when one of server parameter is updated, or timed out.

Checking API version, supported APIs and available APIs

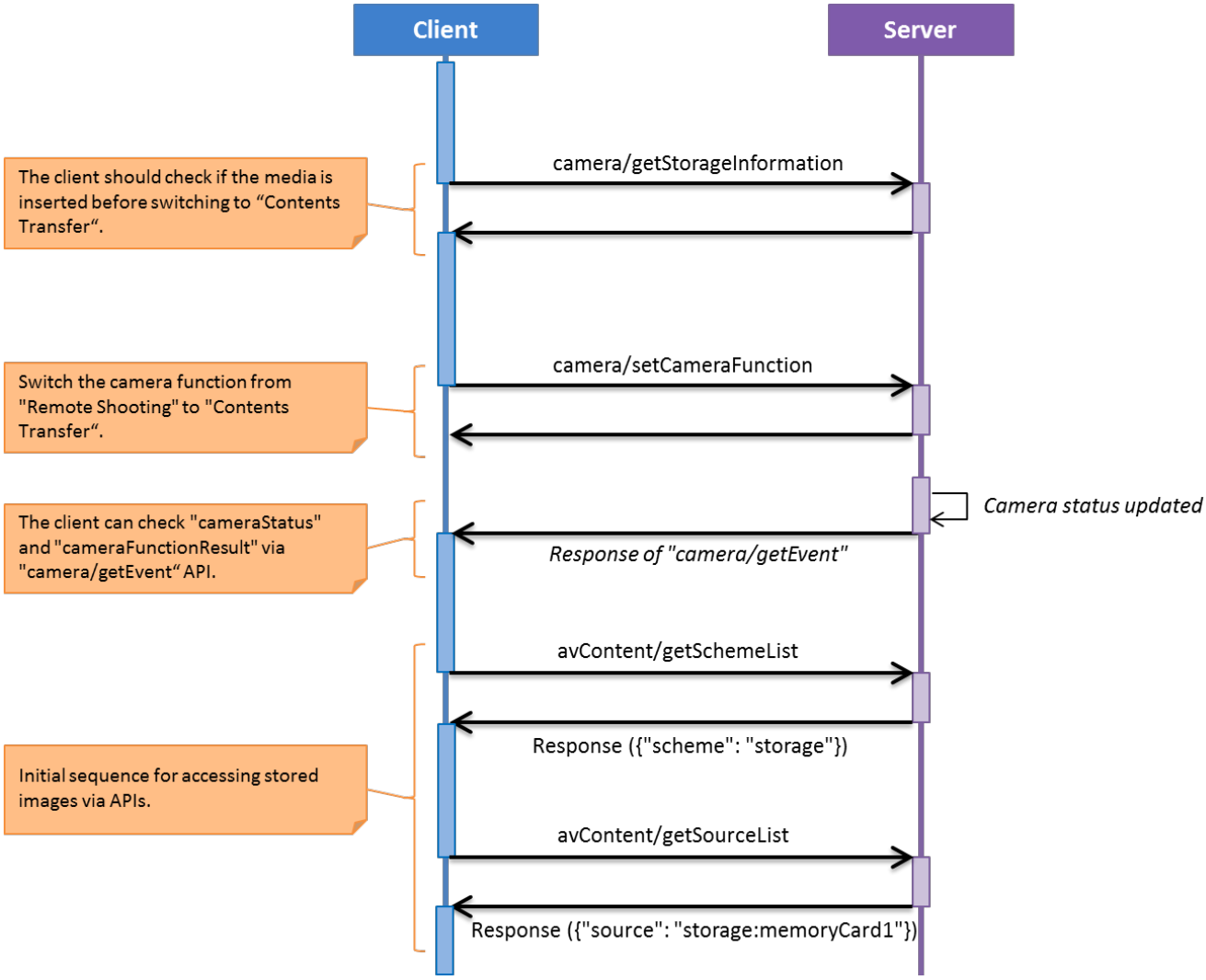


The "getApplicationInfo" API provides the Camera Remote API version which the camera supports. The client should check whether the API version is "2.x.x" ("2.0.0" or greater) to confirm the server function compatibility with this document.

The functions of camera vary by the model. Therefore the APIs that the camera supports vary by the model. The camera provides its supported API list via "getMethodTypes" API.

In addition, the camera status can be changed by user operations and calling APIs. Available APIs in the camera will be changed by camera status. The camera also provides available API list via "getAvailableApiList" API or "availableApiList" object of "getEvent" API callback. For more information, please see API specification.

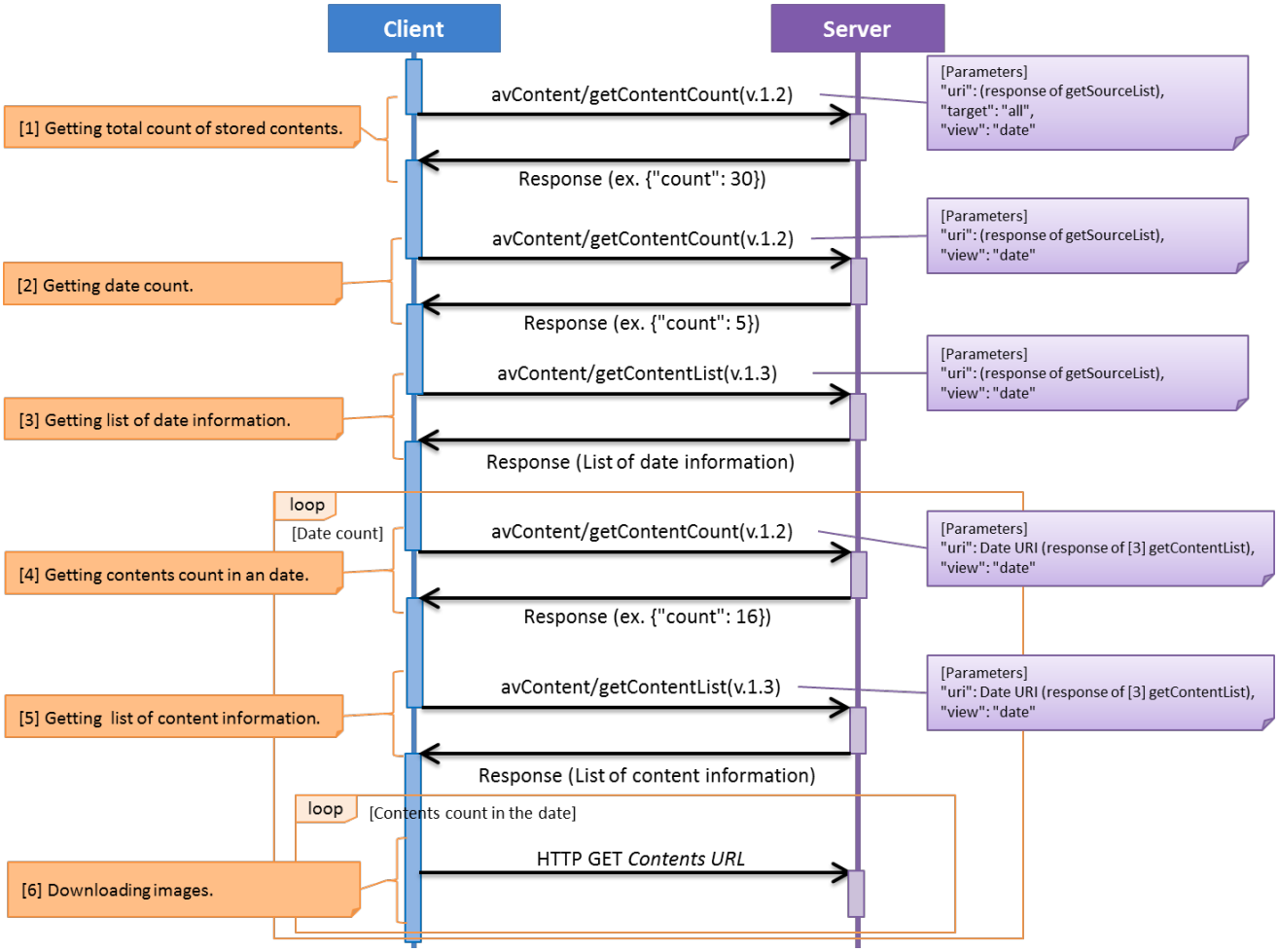
Changing camera function to transferring images



To access stored images, the client should change the camera function from "Remote Shooting" to "Contents Transfer" via "setCameraFunction" API. The client should check if the media is inserted in the camera via "getStorageInformation" API.

After that, "getSchemeList" and "getSourceList" of "avContent" API service will provide the source name to retrieve contents count and contents list.

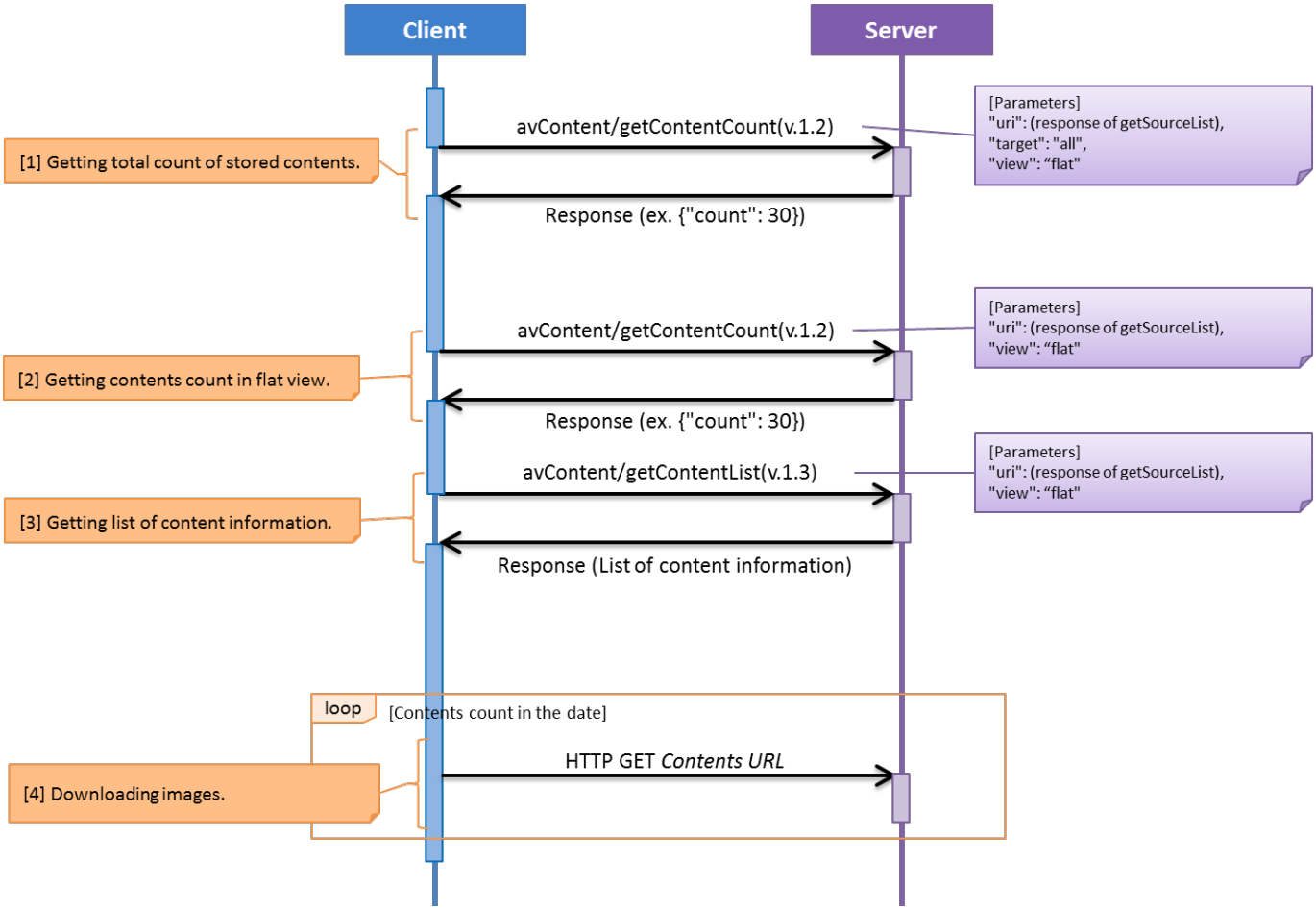
Transferring images (Date view)



In "date" view, the client can get count of dates via "getContentCount (v1.2)" and list of dates via "getContentList (v1.3)". Using the "uri" for specific date, the client can get count of contents and list of contents in the date.

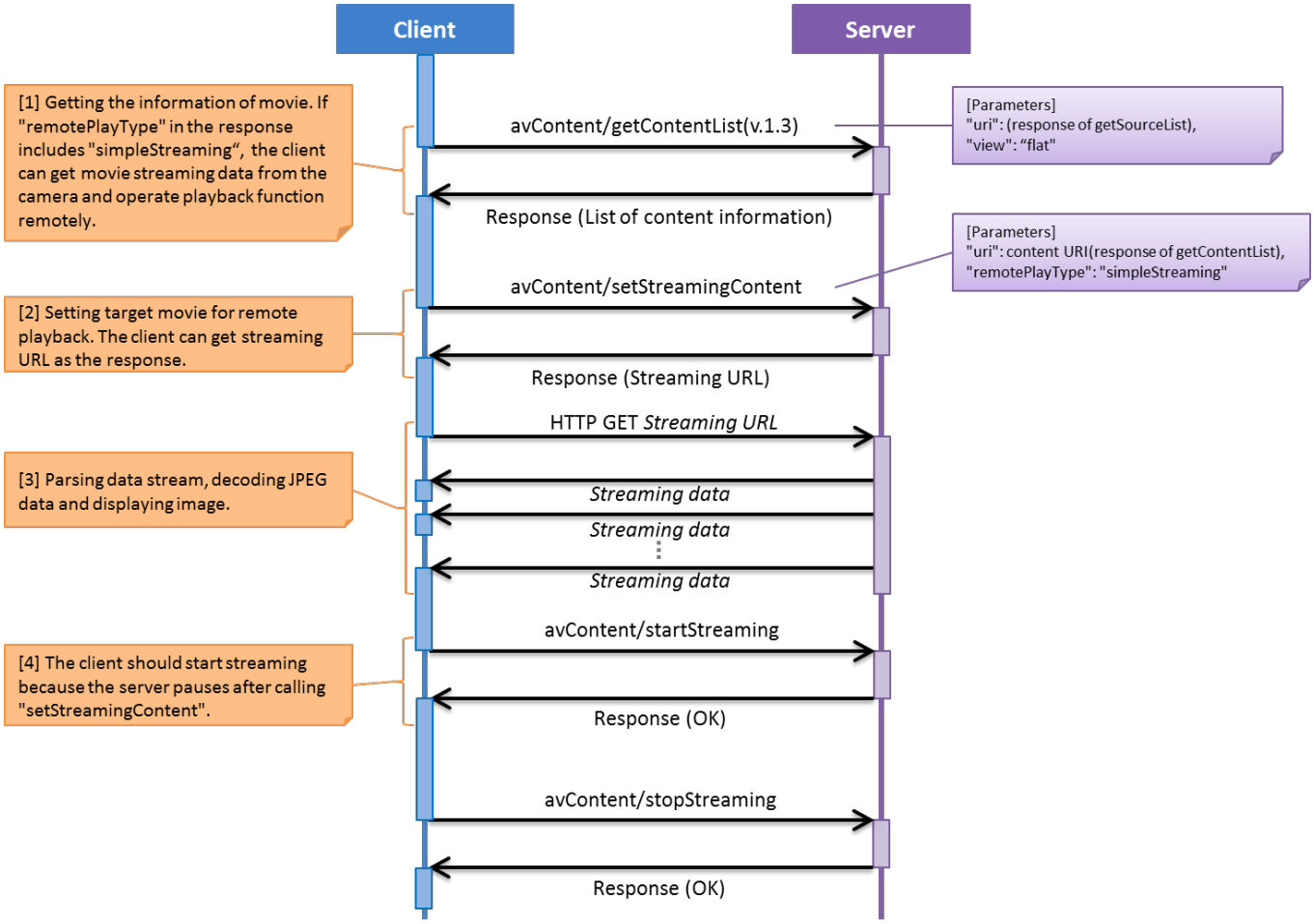
There are URLs for original still image or movie, resized data and thumbnails in the content information. The client can download images from camera via HTTP GET request.

Transferring images (Flat view)



The "flat" view has simple structure. Please refer to the structure diagram.

Remote playback



The remote playback allows the client to play movie streaming from camera. The target movie is specified by "uri" which the client can get using "getContentList (v1.3)" API.

The streaming data format is similar to the liveview data format. Please refer to Streaming data format.

More information

- IETF RFC 2119, Key words for use in RFCs to Indicate Requirement Levels
  http://www.ietf.org/rfc/rfc2119.txt
- IETF RFC 2616, Hypertext Transfer Protocol -- HTTP/1.1
  http://www.ietf.org/rfc/rfc2616.txt
- IETF RFC 4627, The application/json Media Type for JavaScript Object Notation (JSON)
  http://www.ietf.org/rfc/rfc4627.txt
- JSON-RPC
  http://json-rpc.org/

For information regarding the latest Camera Remote API SDK updates, go to Developer World available at http://developer.sony.com

Trademarks and acknowledgements