

Media Production Suite Auto Tracking Plugin Web API Specifications

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1 Introduction

1.1 Purpose of this Document

This document specifies the communication interface for the Web API to control the Auto Tracking plugin of the Media Production Suite software.

1.2 Notes on using the Web API

When using the Web API described in this document, make sure to register cameras in the Media Production Suite software as a single group, not divided into multiple groups.

If cameras are registered in multiple groups, camera specification via the Web API may not work correctly.

2 Interface

2.1 Specifications

The communication interface defined as the Web API in this document complies with the HTTP 1.1 communication specifications, and control of this software is realized as an HTTP request to a URL on a web server. All HTTP requests are GET method.

2.2 Format

The format (URL) of the control commands provided as Web API is as follows.

[Transmission]

http://[IP Address]:[Port No]/cgi-bin/auto_tracking?cmd=[Command]&[Parameter]=[Value]&...

Table 2.2-1 Details of Transmission Format

No.	Name	Description
1	IP Address	IP address of the Web application.
2	Port No	The standby port number of the Web application. Currently fixed at 1337.
3	Command	The control command string. A list of commands that can be used is provided in 2.3 List of Commands.
4	Parameter	The control command parameter. You can use an "&" to specify several parameters. Since it is specified in each command, refer to each section in 3 Details of Commands.
5	Value	The value set in the control command parameter. Since it is specified in each command, refer to each section in 3 Details of Commands.

[Reception]

The following two patterns are defined for the format of the response data returned to the command issuer.

Pattern 1: Return of only the response value

200 OK [Response]:[Response value]

Pattern 2: Return of the response value and response parameter value (string)

200 OK [Response]:[Response value],[Parameter]:[Parameter value], [Parameter]:[Parameter value],...

Table 2.2-2 Details of Reception Format

No.	Name	Description	Related command
1	Response	"resp" is saved as a fixed string.	All commands
2	Response value	"ack" or "nack" is saved as the response value.	All commands
3	Parameter	Since it is specified in each command, refer to each section in 3 Details of Commands.	Camera Control Camera State, etc.
4	Parameter value	Since it is specified in each command, refer to each section in 3 Details of Commands.	Camera Control Camera State, etc.

2.3 List of supported commands

The following is a list of commands supported by the Auto Tracking plugin of the Media Production Suite software.

For details on each command, see 3 Command Details.

Table 2.3-1 List of supported commands

No.	Name	Description
1	Camera Control	Used to control auto tracking function ON/OFF
2	Tracking	Used to start or stop the tracking process.
3	Angle	Used to set camera angle during auto tracking
4	Camera State	Used to acquire the state information of the camera.
5	Tracking Control	Used to start or stop the tracking process.
6	Camera Control View	Used to control auto tracking function ON/OFF
7	Auto Face Search	Used to set auto the face search function
8	Preset	Used to set, clear or recall the preset position

2.4 List of unsupported commands

The following commands defined in the old Auto Tracking System are not supported by the Auto Tracking plugin of Media Production Suite software.

Table 2.4-1 List of unsupported commands

Name	Description
Camera Setting	Used to acquire or change the settings of the target camera.
Target	Used to set the display position of the tracking process target.
Image	Used to acquire a shot of camera images.
Set Face Recognition	Used to set the face recognition information
Get Face Recognition	Used to acquire the face recognition information list
Edit Face Recognition	Used to edit the face recognition information list
Clip Face Image	Used to extract the face image data.
Auto Zoom	Used to set the auto zoom function

3 Details of Commands

3.1 Camera Control

The Camera Control command is used to control the Auto Tracking function ON/OFF of the target camera.

The list of transmission parameters is as shown below.

Table 3.1-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.
control	Mandatory	String	Specify either start or stop. start: Auto Tracking function ON stop: Auto Tracking function OFF

The command response parameter is as follows:

message:[1]

The information shown below is saved in [1].

Table 3.1-2 List of Values

No.	Name	Type	Description
1	message	String	In the case of a negative acknowledgment, the cause is saved as a message.

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Auto Tracking function ON

http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=CameraControl&id=1&control=start

Auto Tracking function OFF.

http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=CameraControl&id=1&control=stop

3.2 Tracking

The Tracking command is used to control the start/stop of the tracking process of the target camera.

The list of transmission parameters is as shown below.

Table 3.2-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.
process	Mandatory	String	Specify either start or stop. start: start tracking stop: stop tracking

The reception response is saved as either "ack", which indicates a positive acknowledgment, or "nack", which indicates a negative acknowledgment.

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Start tracking

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=Tracking&id=1&process=start`

Stop tracking

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=Tracking&id=1&process=stop`

3.3 Angle

The Angle command is used to control at what size the tracking target is captured (Upper Body / Full Body / Full / Off) when performing automatic tracking on the controlled camera.

The transmission parameters are as follows.

Table 3.3-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.
mode	Mandatory	String	Specify one of upper / body / full / off. upper: Sets Angle to Upper Body body: Sets Angle to Full Body full: Sets Angle to Full off: Sets Angle to OFF

The reception response is saved as either "ack", which indicates a positive acknowledgment, or "nack", which indicates a negative acknowledgment.

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Set Angle to Upper Body

http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=Angle&id=1&mode=upper

3.4 Camera State

The Camera State command is used to get the camera's automatic tracking processing state.

The list of transmission parameters is as shown below.

Table 3.4-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.

The reception response parameters are specified as below.

**id:[1],connection:[2],detection:[3],tracking:[4],lost:[5],angle:[6],preset:[7],angle_type:[8],target_position[9],target_position_area:[10],pan_tilt_limit:[11] ,
face_recognition:[12],auto_face_search[13],auto_zoom[14]**

The camera state information is saved in the below-mentioned format at the locations corresponding to the numbers enclosed within "[]". Note that when the camera ID is invalid, "nack", which indicates a negative acknowledgment, is saved, and the response parameter described above is not saved.

Table 3.6-2 List of Values

No.	Name	Type	Description
1	id	Integer value	This is the camera ID.
2	connection	Integer value	Indicates the communication state with the camera. 0: No communication, or communication disruption 1: Communication in progress
3	detection	Integer value	Indicates the detection state of the tracking target. 0: The tracking target is not detected 1: The tracking target is already detected
4	tracking	Integer value	Indicates the execution state of the tracking process. 0: The tracking process has stopped 1: The tracking process is being executed
5	lost	Integer value	Indicates the existence of LOST detection for the tracking target. 0: LOST not detected 1: LOST detected
6	angle	Integer value	Indicates the feasibility of executing the Angle command. 0: Angle request is possible 1: Angle request is not possible
7	preset	Integer value	Indicates whether or not the Preset command (recall) can be executed for a total of 10 items, Home and Preset1 to Preset9, separated by commas. 0: Cannot be executed 1: Can be executed

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			Example: Can be executed only for Home: 1,0,0,0,0,0,0,0,0,0 Can be executed only for Preset 2: 0,0,1,0,0,0,0,0,0,0
8	angle_type	Integer value	Indicates the type of the angle of view during automatic tracking execution. 0: Upper Body Shot 1: Full Body Shot 2: Full Shot 3: Control Off
9	target_position	Integer value	This parameter is not supported. Always returns 0,0.
10	target_position_area	Integer value	This parameter is not supported. Always returns 0,0,0,0.
11	pan_tilt_limit	Integer value	The Pan/Tilt Limitation setting status is shown in the order of up, down, left, and right, separated by commas. 0: Release 1: Set Example: Set only the upper direction : 1,0,0,0 Set all direction : 1,1,1,1
12	face_recognition	Integer value	This is the setting of the facial recognition. Always stores 1 (enabled).
13	auto_face_search	Integer value	This is the setting of the Auto Face Search. Either 0 (disabled) or 1(enabled) is saved.
14	auto_zoom	Integer value	This is the setting of the Auto Zoom. Always stores 1 (enabled).

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Acquiring state of the camera

http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=CameraState&id=1

3.5 Tracking Control

The Tracking Control command is used to control the start/stop of the tracking process of the target camera.

The list of transmission parameters is as shown below.

* The processing of this command is the same as that of the 3.2 Tracking command.

Table 3.5-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.
enable	Mandatory	String	Specify either on or off. on: start tracking off: stop tracking

The reception response is saved as either "ack", which indicates a positive acknowledgment, or "nack", which indicates a negative acknowledgment.

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Start tracking

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=TrackingControl&id=1&enable=on`

Stop tracking

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=TrackingControl&id=1&enable=off`

3.6 Camera Control View

The Camera Control command is used to control the Auto Tracking function ON/OFF of the target camera.

The list of transmission parameters is as shown below.

* The processing of this command is the same as that of the 3.1 Camera Control command.

Table 3.9-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.
control	Mandatory	String	Specify either start or stop. start: Auto Tracking function ON stop: Auto Tracking function OFF

The reception response is saved as either "ack", which indicates a positive acknowledgment, or "nack", which indicates a negative acknowledgment.

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Auto Tracking function ON

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=CameraControlView&id=1&control=start`

Auto Tracking function OFF

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=CameraControlView&id=1&control=stop`

3.7 Auto Face Search

The Auto Face Search command is used to change the enable/disable setting of the Auto Face Search function.

A list of parameters to be sent is shown below.

Table 3.7-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.
mode	Mandatory	String	This is the setting of the Auto Face Search. Either 0 (disabled) or 1(enabled) is saved.

The reception response is saved as either "ack", which indicates a positive acknowledgment, or "nack", which indicates a negative acknowledgment.

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Auto Face Search OFF

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=AutoFaceSearch&id=1&mode=0`

Auto Face Search ON

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=AutoFaceSearch&id=1&mode=1`

3.8 Preset

The Preset command is used to set, clear, or recall a camera preset.

A list of parameters to be sent is shown below.

Table 3.16-1 List of Transmission Parameters

Name	Usage	Type	Description
id	Mandatory	Integer value	Specify the camera ID number (starting from 1). Specify the camera number displayed on the Device View screen or PTZ Control screen of the Media Production Suite software.
mode	Mandatory	String	Specify either set / clear / recall. set: register clear: delete recall: recall
preset_num	Mandatory	Integer value	Preset number (Specify in the range of 1 to 100)

The reception response is saved as either "ack", which indicates a positive acknowledgment, or "nack", which indicates a negative acknowledgment.

Command example:

In this example, the command is sent to the camera with ID = 1 of Auto Tracking plugin running on the PC with IP address 192.168.0.200.

Set the current position to Preset 1

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=Preset&id=1&mode=set&preset_num=1`

Recall Preset 20

`http://192.168.0.200:1337/cgi-bin/auto_tracking?cmd=Preset&id=1&mode=recall&preset_num=20`

4 Processing of Error Commands

"nack", which indicates a negative acknowledgment, must be saved in the reception response to the transmission of all error commands that are not specified in 3 Details of Commands.