PTZ

Hanwha

SUNAPI

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Chapter 1. Overview

1.1. Description

SUNAPI allows you to control and configure the PTZ (pan, tilt, zoom) functionality of video surveillance devices. PTZ functionality is covered by two CGIs: **ptzcontrol.cgi** and **ptzconfig.cgi**.

The following submenus are used to control PTZ functionality:

- **absolute**: Moves the camera to the absolute coordinates.
- **relative**: Moves the camera to the new position relative to the current position.
- **continuous**: Controls continuous PTZ operation.
- **query**: Requests camera's current position information.
- **preset**: Recalls and moves to the specified preset.
- **swing**: Starts and stops a Swing operation, moving between two preset points.
- **group**: Starts and stops a Group operation, grouping multiple presets and calling them in sequence.
- **tour**: Starts and stops a Tour operation, calling groups of presets in sequence.
- **trace**: Starts and stops a Tracking operation.
- **home**: Moves the camera to Home position.
- **areazoom**: Defines the zoom area.
- **stop**: Stops a PTZ movement.
- **move**: Controls PTZ movement.
- **aux**: Controls the auxiliary PTZ operations.
- **digitalautotracking**: Starts or stops digital auto tracking if a profile is configured as a DPTZ profile.
- **rs485Command**: Sends custom RS-485 commands to devices in the format of hex.
- **osdmenu**: Controls the OSD (Onscreen Display) menu for analog cameras.
- **digitalrtz**: Moves the fisheye camera position based on the rotation angle.
- **supportedptzactions**: Provides information about supported submenus and action lists for each view mode.

The following submenus are used to configure PTZ settings:

- **swing**: Configures the Swing settings.
- **group**: Configures the Group settings.
- **tour**: Configures the Tour settings.
- **trace**: Configures the Trace settings.
- **autorun**: Configures the Auto run settings.
- **home**: Sets the current position to the Home position.

- **preset**: Specifies the camera preset number and name
- **presetimageconfig**: Configures the camera settings according to the selected preset.
- **presetvideoanalysis**: Configures the video analysis settings of the selected preset.
- **presetvideoanalysis2**: Same as presetvideoanalysis. However, it is possible to configure the parameters for each area/ROI.
- **ptzsettings**: Enables or disables auto flip and configures digital zoom limits.
- **ptlimits**: Enables or disables pan and tilt limits.
- **digitalautotracking**: Sets the object type to track. This is for AI cameras.
- **panzeroposition**: Configures the current pan position.
- **ptzprotocol**: Specifies the PTZ operation protocol.
- **ptzmode**: Configures the PTZ mode settings.
- **ptcorrection**: Configures the default position for Pan and Tilt.
- **exclusiveptzcontrol**: Configures the exclusive access authority for the PTZ features.

Chapter 2. PTZ Control

2.1. Absolute Position Control

2.1.1. Description

The **absolute** submenu of **ptzcontrol.cgi** controls absolute a PTZ operation that moves the camera to the specified position.

> **NOTE**
>
> This chapter applies to network cameras only. To find out whether Absolute Pan/Tilt/Zoom is supported by the device or not, refer to the Attributes/PTZSupport/Support/Absolute.Pan, Absolute.Tilt and Absolute.Zoom attributes, respectively, in the device attributes section.

Access level

Action	Camera
control	Suser

2.1.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
absolute&action=control[&<parameter>=<value>]
```

2.1.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	Pan	REQ	<float>	Panning, left/right movement
	Tilt	REQ	<float>	Tilting, left/right movement • Negative values: Moves downward. • Positive values: Moves upward
	Zoom	REQ	<float>	Zoom in/out **Zoom** and **ZoomPulse** cannot be sent together.

Action	Parameters	Request/ Response	Type/ Value	Description
	ZoomPulse	REQ	<int>	Controls the zoom by segmenting its phases from 1 to 9999(Normalized value). **Zoom** and **ZoomPulse** cannot be sent together.
	ActualZoomPulse	REQ	<int>	Controls the zoom by segmenting its phases; the range can be obtained from the attributes xml. (Actual hardware value) This parameter cannot be sent with **Zoom** or **ZoomPulse**.
	ViewModeIndex	REQ	<int>	View mode of index number
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.

2.1.4. Examples

2.1.5. Moving the camera to the right in 90 degrees

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=absolute&action=control&Pan=90
```

2.1.6. Setting thezoom to 30

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=absolute&action=control&Zoom=30
```

2.2. Relative Position Control

2.2.1. Description

The **relative** submenu of **ptzcontrol.cgi** controls a PTZ operation that moves the camera to the new position relative to the current position.

NOTE

This chapter applies to network cameras only. To find out whether Relative Pan/Tilt/Zoom is supported by the device or not, refer to the Attributes/PTZSupport/Support/Relative.Pan, Relative.Tilt and Relative.Zoom attributes, respectively, in the device attributes section.

Access level

Action	Camera
control	Suser

2.2.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
relative&action=control[&<parameter>=<value>]
```

2.2.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	Pan	REQ	<float>	Panning, left/right movement • Negative values: Moves to the left • Positive values: Moves to the right.
	Tilt	REQ	<float>	Tilting, left/right movement • Negative values: Moves downward. Positive values: Moves upward
	Zoom	REQ	<float>	Zoom in/out **Zoom** and **ZoomPulse** cannot be sent together.
	ZoomPulse	REQ	<int>	Controls the zoom by segmenting its phases from -9999 to 9999. **Zoom** and **ZoomPulse** cannot be sent together.
	RotateInPlace	REQ	<float>	Based on center of video, tilt horizon of video.
	ViewModeIndex	REQ	<int>	View mode of index number

Action	Parameters	Request/ Response	Type/ Value	Description
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.

2.2.4. Examples

2.2.5. Moving camera to the left in 90 degrees on the basis of the current position

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=relative&action=control&Pan=-90
```

2.2.6. Moving camera to the upward in 45 degrees on the basis of the current position

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=relative&action=control&Tilt=45
```

2.3. Continuous PTZ Operation Control

2.3.1. Description

The **continuous** submenu of **ptzcontrol.cgi** controls continuous PTZ operation. Once a command is entered, the camera continues to move until requested to stop.

> **NOTE** To find out whether Continuous Pan/Tilt/Zoom/Focus/Iris is supported by the device or not, refer to the Attributes/PTZSupport/Support/Continuous.Pan, Continuous.Tilt, Continuous.Zoom, Continuous.Focus and

Continuous.Iris attributes, respectively, in the device attributes section.

Access level

Action	Camera	NVR	Encoder	Decoder
control	Suser	User	Suser	User

2.3.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
continuous&action=control[&<parameter>=<value>]
```

2.3.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Pan	REQ	<int>	Pans at the specified speed • Negative values: Moves to the left • Positive values: Moves to the right.
	Tilt	REQ	<int>	Tilts at the specified speed • Negative values: Moves downward. • Positive values: Moves upward
	Zoom	REQ	<int>	Zooms in/out
	NormalizedSpeed	REQ	<bool> True, False	Enables or disables the normalized speed range for Pan, Tilt, and Zoom If **NormalizedSpeed** is not sent, or set as False, the Pan, Tilt, and Zoom speed range will be device dependent values; If **NormalizedSpeed** is set as True, the speed values for Pan, Tilt, and Zoom will be in the range of -100 to 100. **NormalizedSpeed** must be sent together with **Pan**, **Tilt**, or **Zoom**. CAMERA ONLY
	RotateInPlace	REQ	<float>	Based on center of video, tilt horizon of video.
	Focus	REQ	<enum> Near, Far, Stop	Focus control This parameter cannot be sent with any other parameters.
	Iris	REQ	<enum> Open, Close, Stop	Iris control NVR ONLY

Action	Parameters	Request/ Response	Type/ Value	Description
	Channel	REQ	<int>	Channel ID
	Duration	REQ	<int>	Time (seconds) to continue the requested operation
	ViewModeType	REQ	<enum> Panorama, DoublePanorama, QuadView, QuadView.#	Selecting particular view mode to do DPTZ All profiles with same view mode will move in sync
	SubViewIndex	REQ	<int>	Used to select the tile for PTZ in Quad view mode. This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY
	IgnoreIfBusy	REQ	<bool>	Ignores the command if the ptz controller is busy. If value is not passed, then this field is assumed to be false. CAMERA ONLY

2.3.4. Examples

2.3.5. Panning the camera

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=continuous&action=control&Pan=5
```

2.3.6. Zooming in with the camera

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=continuous&action=control&Zoom=3
```

2.3.7. Tilting the camera for 6 seconds

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=continuous&action=control&Tilt=5&Duration=6
```

2.4. Requesting Camera's Position Information

2.4.1. Description

The **query** submenu of **ptzcontrol.cgi** requests camera's current position and zooming information.

> **NOTE** This chapter applies to network cameras only.

To find out whether the camera can provide its Pan/Tilt/Zoom information by query submenu, refer to the Attributes/PTZSupport/Support/Query.Pan, Query.Tilt and Query.Zoom attributes, respectively, in the device attributes section.

Access level

Action	Camera
view	Suser

2.4.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
query&action=view[&<parameter>=<value>]
```

2.4.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view	Channel	REQ	<int>	Channel ID
	Query	REQ	<csv> Rotate,Pan, Tilt,Zoom,A ctualZoomP ulse,RotateI nPlace,Subr egionViewC oordinates	Current position of Pan, Tilt and (Zoom or AcutalZoomPulse) (+ Rotate in case of Fisheye models) **Note** **Query** must be sent together with the **view** action.
	Rotate	RES	<float>	Current Rotate angle FISHEYE ONLY

Action	Parameters	Request/ Response	Type/ Value	Description
	Pan	RES	<float>	Current Pan position
	Tilt	RES	<float>	Current Tilt position
	Zoom	RES	<float>	Lens Magnification
	ZoomPulse	RES	<int>	Controls the zoom by segmenting its phases from 1 to 9999. (Normalized values)
	SubregionViewCoordinates	RES	<string>	Shows subregions view's coordinates information
	RotateInPlace	RES	<float>	Shows Rotate degree infomration in Place
	ActualZoomPulse	RES	<int>	Controls the zoom by segmenting its phases; the range can be obtained from attributes xml. (Actual value)
	ViewModeIndex	REQ	<int>	View mode of index number
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.

2.4.4. Examples

2.4.5. Getting the position information of a camera

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=query&action=view&Channel=0&Query=Pan,Tilt,Zoom
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Pan=180.00
Tilt=25.00
Zoom=1.00
ZoomPulse=1789
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "Query": [
        {
            "Channel": 0,
            "Pan": 180,
            "Tilt": 25,
            "Zoom": 1,
            "ZoomPulse": 1789
        }
    ]
}
```

2.4.6. Getting the zoom information

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=query&action=view&Channel=0&Query=Zoom
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Zoom=11.00
ZoomPulse=1789
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "Query": [
        {
            "Channel": 0,
            "Zoom": 11,
            "ZoomPulse": 1789
        }
    ]
}
```

2.5. Moving to Preset Position

2.5.1. Description

The **preset** submenu of **ptzcontrol.cgi** controls the camera to move to the specified preset.

> **NOTE** To find out whether preset functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Preset attribute in the device attributes section.

Access level

Action	Camera	NVR	Encoder	Decoder
control	Suser	User	Suser	User

2.5.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
preset&action=control[&<parameter>=<value>]
```

2.5.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID

Action	Parameters	Request/ Response	Type/ Value	Description
	Preset	REQ	<int>	Preset number The number of presets supported is dependent on the device; To find out the max presets is supported by the device, please refer to the "Attributes/PTZSupport/Limit/MaxPreset" attribute in the device attributes section. **Note** Either **Preset** or **PresetName** must be sent together with the **control** action.
	PresetName	REQ	<string>	Preset name
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY

2.5.4. Examples

2.5.5. Moving the camera to Preset 1 position

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=preset&action=control&Preset=1
```

2.5.6. Moving the camera to the preset named ‘PresetName1’

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=preset&action=control&PresetName=PresetName1
```

2.6. Swing Control

2.6.1. Description

The **swing** submenu of **ptzcontrol.cgi** starts and stops a Swing operation. A swing is a monitoring function that moves between two preset points.

> **NOTE** To find out whether swing functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Swing attribute in the device attributes section.

Access level

Action	Camera	NVR
control	Suser	User

2.6.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
swing&action=control[&<parameter>=<value>]
```

2.6.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	Mode	REQ	<enum> Pan, Tilt, PanTilt, Stop	Swing mode • Pan: Performs the Swing monitoring only in the Pan mode • Tilt: Performs the Swing monitoring only in the Tilt mode • PanTilt: Performs the Swing monitoring using both Pan and Tilt functions • Stop: Stops the Swing monitoring **Note** **Mode** must be sent together with the **control** action.

2.6.4. Examples

2.6.5. Swing in the Pan mode

REQUEST

```
http://<Device IP>/stw-
```

```
cgi/ptzcontrol.cgi?msubmenu=swing&action=control&Channel=0&Mode=Pan
```

2.6.6. Swing in the Pan and Tilt mode

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=swing&action=control&Channel=0&Mode=PanTilt
```

2.7. Group Control

2.7.1. Description

The **group** submenu of **ptzcontrol.cgi** starts **and stops a Group operation in which v**arious presets are grouped and called in sequence.

> **NOTE** To find out whether group functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Group attribute in the device attributes section.

Access level

Action	Camera	NVR
control	Suser	User

2.7.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
group&action=control[&<parameter>=<value>]
```

2.7.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	Group	REQ	<int>	Group number
	SubViewIndex	REQ	<int>	Index of the tile in Quad view mode.

Action	Parameters	Request/ Response	Type/ Value	Description
	Mode	REQ	<enum> Start, Stop	Group mode • Start: Starts Group action. • Stop: Stops Group action **Note** **Mode** must be sent together with the **control** action.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY

2.7.4. Examples

2.7.5. Starting Group 1

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=group&action=control&Channel=0&Group=1&Mode=Start
```

2.8. Tour Control

2.8.1. Description

The **tour** submenu of **ptzcontrol.cgi** starts **and stops a Tour operation, calling groups of presets in sequence.**

NOTE To find out whether tour functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Tour attribute in the device attributes section.

Access level

Action	Camera	NVR
control	Suser	User

2.8.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
tour&action=control[&<parameter>=<value>]
```

2.8.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	Tour	REQ	<int>	Tour number
	Mode	REQ	<enum> Start, Stop	Tour mode • Start: Starts Tour action. • Stop: Stops Tour action **Note** **Mode** must be sent together with the **control** action.

2.8.4. Examples

2.8.5. Starting Tour 1

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
tour&action=control&Channel=0&Tour=1&Mode=Start
```

2.9. Trace Control

2.9.1. Description

The **trace** submenu of **ptzcontrol.cgi** starts and stops a Trace action.

NOTE To find out whether trace functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Trace attribute in the device attributes section.

Access level

Action	Camera	NVR
control	Suser	User

2.9.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
trace&action=control[&<parameter>=<value>]
```

2.9.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	Trace	REQ	<int>	Corresponding Trace number **Note** **Trace** and **Mode** must be sent together with the **control** action.
	Mode	REQ	<enum> Start, Stop	Trace mode • Start: Starts Trace action. • Stop: Stops Trace action

2.9.4. Examples

2.9.5. Starting the Trace 1

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=trace&action=control&Channel=0&Trace=1&Mode=Start
```

2.9.6. Stopping Trace

Stopping a Trace action means finishing memorizing the trace of movements of the device

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=trace&action=control&Channel=0&Trace=1&Mode=Stop
```

2.10. Moving to Home Position

2.10.1. Description

The **home** submenu of **ptzcontrol.cgi** moves the camera to the Home position.

NOTE This chapter applies to network cameras only.

To find out whether Home Position is supported by the device or not, refer to the Attributes/PTZSupport/Support/Home attribute in the device attributes section.

Access level

Action	Camera
control	Suser

2.10.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
home&action=control[&<parameter>=<value>]
```

2.10.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY

2.10.4. Examples

2.10.5. Moving camera to the Home position in Channel 0

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
home&action=control&Channel=0
```

2.11. Area Zoom

2.11.1. Description

The **areazoom** submenu of **ptzcontrol.cgi** defines the area for zooming in and out. It specifies which part of the area should be zoomed in or out.

NOTE

This chapter applies to network cameras only.

To find out whether area zoom functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/ AreaZoom attribute in the device attributes section.

Access level

Action	Camera
control	Suser

2.11.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
areazoom&action=control[&<parameter>=<value>]
```

2.11.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
Control	Channel	REQ	<int>	Channel ID
	Type	REQ	<enum> ZoomIn, 1x	Zoom type
	Profile	REQ	<int>	Index of profile being used while performing areazoom (an optional parameter that mainly improves the accuracy of areazoom if the profile is cropped)
	X1	REQ	<int>	X-coordinate of the start point of the zoom area X1, Y1, X2, and Y2 are interpreted as relative if **TileWidth** and **TileHeight** are not set; and scaled to 10000 in horizontal resolution pixels. **X1** is valid only when **Type** is set to ZoomIn.
	Y1	REQ	<int>	Y-coordinate of the start point of the zoom area X1, Y1, X2, and Y2 are interpreted as relative if **TileWidth** and **TileHeight** are not set; and scaled to 10000 in horizontal resolution pixels. **Y1** is valid only when **Type** is set to ZoomIn.

Action	Parameters	Request/ Response	Type/ Value	Description
	X2	REQ	<int>	X-coordinate of the end point of the zoom area X1, Y1, X2, and Y2 are interpreted as relative if **TileWidth** and **TileHeight** are not set; and scaled to 10000 in horizontal resolution pixels. **X2** is valid only when **Type** is set to ZoomIn.
	Y2	REQ	<int>	Y-coordinate of the end point of the zoom area X1, Y1, X2, and Y2 are interpreted as relative if **TileWidth** and **TileHeight** are not set; and scaled to 10000 in horizontal resolution pixels. **Y2** is valid only when **Type** is set to ZoomIn.
	TileWidth	REQ	<int>	Width of the zoom area **TileWidth** and **TileHeight** must be set together with **X1**, **Y1**, **X2** and **Y2** for absolute coordinates; X1, Y1, X2, Y2 are interpreted as relative if **TileWidth** and **TileHeight** are not set together. **TileWidth** is valid only when **Type** is set to ZoomIn.
	TileHeight	REQ	<int>	Height of the zoom area **TileWidth** and **TileHeight** must be set together with **X1**, **Y1**, **X2** and **Y2** for absolute coordinates; X1, Y1, X2, Y2 are interpreted as relative if **TileWidth** and **TileHeight** are not set together. **TileHeight** is valid only when **Type** is set to ZoomIn.

2.11.4. Examples

2.11.5. Defining the relative coordinates of the zoom area

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
areazoom&action=control&X1=100&X2=200&Y1=100&Y2=200
```

2.11.6. Defining the absolute coordinates of the zoom area

REQUEST

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
areazoom&action=control&X1=100&X2=200&Y1=100&Y2=200&TileWidth=200&TileHeight
=200
```

2.12. Stop Control

2.12.1. Description

The **stop** submenu of **ptzcontrol.cgi** stops a PTZ operation.

Access level

Action	Camera	NVR	Encoder	Decoder
control	Suser	User	Suser	User

2.12.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
stop&action=control[&<parameter>=<value>]
```

2.12.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY

Action	Parameters	Request/ Response	Type/ Value	Description
	ViewModeType	REQ	<enum> Panorama, DoublePanorama, QuadView, QuadView.#	Selecting particular view mode to stop DPTZ All profiles with same view mode will stop in sync
	OperationType	REQ	<csv> All, Pan, Tilt, Zoom, RotateInPlace	Operation type **Note** **OperationType** must be sent together with the **control** action.

2.12.4. Examples

2.12.5. Stopping all PTZ operation

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=stop&action=control&OperationType=All
```

2.13. Movement Control

2.13.1. Description

The **move** submenu of **ptzcontrol.cgi** controls a PTZ movement.

Access level

Action	Camera	NVR
control	Suser	User

2.13.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
move&action=control[&<parameter>=<value>]
```

2.13.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	MoveSpeed	REQ	<int>	Speed **MoveSpeed** is valid only when **Direction** is not set to Stop.
	Direction	REQ	<enum> Left, Right, Up, Down, LeftUp, LeftDown, RightUp, RightDown, Stop	Direction. • Left: Moves to the left. • Right: Moves to the right. • Up: Moves up. • Down: Moves down. • LeftUp: Moves to the top left. • LeftDown: Moves to the bottom left. • RightUp: Moves to the top right. • RightDown: Moves to the bottom right. • Stop: Stops PTZ movement. **MoveSpeed** should be sent along with **Direction** except for **Direction=Stop**. **Note** **Direction** must be sent together with the **control** action.
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY

2.13.4. Examples

2.13.5. Moving the camera left

This example moves the camera to the left and sets the speed of camera movement.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=move&action=control&Direction=Left&MoveSpeed=2
```

The following request example is for NVR only.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=move&action=Control&channel=1&MoveSpeed=100&Dire
ction=Right
```

2.14. Aux control

2.14.1. Description:

The **aux** submenu of **ptzcontrol.cgi** is for controlling the auxiliary PTZ operations; the supported auxiliary commands are listed in the attribute xml (refer to "AuxCommands").

Access level

Action	Camera
control	Suser
check	Suser

2.14.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
aux&action=<value>[&<parameter>=<value>]
```

2.14.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel ID
	Command	REQ	<string> HeaterOn, FanOn, HeaterOff, WiperOn, VibrationOn	Refer to "AuxCommands" in attributes.cgi for supported commands.

Action	Parameters	Request/ Response	Type/ Value	Description
check	Channel	REQ	<int>	Channel ID
	AuxType	REQ	<enum> Heater	Refer to "AuxType" in the attributes.cgi/cgis section for supported values.
	Activate	RES	<bool> True, False	Checks if a specific aux is activated

2.14.4. Examples

2.14.5. Control auxiliary camera functions

This example controls an auxiliary camera function: the heater.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=aux&action=control&Command=HeaterOn
```

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=aux&action=control&Command=HeaterOff
```

2.14.6. Check whether an auxiliary function is activated or not

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=aux&action=check&Channel=0&AuxType=Heater
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "Channel": 0,
    "Activate": true
}
```

2.15. Digital Auto tracking

2.15.1. Description

If a profile is configured as a DPTZ profile, digital auto tracking can be started and stopped using this submenu.

> **NOTE** This chapter applies to network cameras only. For a profile to support digitalautotracking, the IsDigitalPTZProfile parameter in profile should be true.

Access level

Action	Camera
control	Suser

2.15.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
digitalautotracking&action=<value>[&<parameter>=<value>]
```

2.15.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel number
	Profile	REQ	<int>	Profile number on which digital auto tracking should be performed.
	Mode	REQ	<enum> Start, Stop	Starts and stops the digital auto tracking

2.15.4. Examples

2.15.5. Enabling digital autotracking in a profile

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=digitalautotracking&action=control&Profile=2&Mod
e=Start
```

2.16. RS485 Command

2.16.1. Description

This submenu is used for sending custom RS485 commands directly to the serial device connected.

> **NOTE** This chapter applies to only Encoder.

Access level

Action	Encoder
control	Suser

2.16.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
rs485Command&action=<value>[&<parameter>=<value>]
```

2.16.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
control	Channel	REQ	<int>	Channel number
	Command	REQ	<string>	Hex values as string

2.16.4. Examples

2.16.5. Sending a custom serial command in hex string

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=rs485Command&action=control&Channel=1&Command=AA
1BC02B
```

2.17. OSD Menu

2.17.1. Description

This submenu is for controlling the OSD submenu of analog camera connected.

> **NOTE** This chapter applies to only Hybrid NVR

Access level

Action	NVR
view	Suser
control	Suser

2.17.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
osdmenu&action=<value>[&<parameter>=<value>]
```

2.17.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view	Channel	REQ	<int>	Channel number
	OSDMenuState	RES	<bool> True, False	The value True will be returned if OSD menu control is supported by the channel. **Note** In Hybrid NVR, only analog channels support this feature.
control	Channel	REQ	<int>	Channel number
	Mode	REQ	<enum> On, Off, Up, Down, Right, Left, Select, Return	Supported operations

2.17.4. Examples

2.17.5. Getting OSD menu state

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=osdmenu&action=view&Channel=1
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
```

```
<Body>
```

```
Channel.0.OSDMenuState=False
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "OSDMenus": [
        {
            "Channel": 0,
            "OSDMenuState": false
        }
    ]
}
```

2.17.6. Sending OSD menu control command

REQUEST

```
http://<Device IP>/stw-
cgi/ptzcontrol.cgi?msubmenu=osdmenu&action=control&Channel=1&Mode=Up
```

2.18. digitalrtz

2.18.1. Description

The **digitalrtz** submenu allows the user to move a selected point using Tilt and Rotate values. TNF-9010 has 5 channels, and the last 4 channels are dewapred channels. Users can calculate the Rotate and Tilt values if they know center point's coordinates and the selected point's coordinates from an overview stream. So user can directly move to a desired point using this feature. This will help user to configure initial settings quickly to observe each parking area.

> **NOTE** This chapter applies to **fisheye** cameras only.

Access level

Action	Camera
control	Admin

2.18.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
digitalrtz&action=control&[&<parameter>=<value>...]
```

2.18.3. Parameters

Action	Parameter	Request/ Response	Type/ Value	Description
control	Rotate	REQ	<float> 0~360	Rotate angle
	Tilt	REQ	<float> 0~90	Tilts value
	Channel	REQ	<int>	Channel ID
	SubViewIndex	REQ	<int> 1~4	Used to select the tile for PTZ in Quad view mode. This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.
	ViewModeIndex	REQ	<int>	View mode of index number
	RotateInPlace	REQ	<float>	Based on center of video, tilt horizon of video.

2.18.4. Examples

2.18.5. Going to a specific point

REQUEST

```
http://<Device
IP>/ptzcontrol.cgi?msubmenu=digitalrtz&action=control&Tilt=6.152&Rotate=61.6
99&SubViewIndex=3
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
```

```
<Body>
```

```
OK
```

2.19. Supported PTZ actions

2.19.1. Description

The **supportedptzactions** submenu provides supported PTZ action lists for each view mode.

> **NOTE** This chapter applies to **fisheye** cameras only.

Access level

Action	Camera
view	SUSER

2.19.2. Syntax

```
http://<Device IP>/stw-cgi/ptzcontrol.cgi?msubmenu=
supportedptzactions&action=view&[&<parameter>=<value>...]
```

2.19.3. Parameters

Action	Parameter	Request/ Response	Type/ Value	Description
view	Channel	REQ,RES	<csv>	Channel ID
	Support.ViewMode	RES	<enum> Overview, QuadView, DoublePanorama, Panorama, QuadView.1, QuadView.2, QuadView.3, QuadView.4	View mode supports in the target device
	Support.Submenus	RES	<csv>	Supported submenus support in the target device
	Support.Operations	RES	<csv>	Supported operations (Pan, Tilt, Zoom)

2.19.4. Examples

2.19.5. Going to a specific point

REQUEST

```
http://<Device IP>/ptzcontrol.cgi?msubmenu=supportedptzactions&action=view
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "Channels": [
        {
            "Channel": 0,
            "Support": [
                {
                    "ViewMode": "Overview",
                    "Submenus": [],
                    "Operations": []
                },
                {
                    "ViewMode": "QuadView",
                    "Submenus": [
                        "absolute",
                        "relative",
                        "continuous",
                        "query",
                        "preset",
                        "group",
                        "move",
                        "stop",
                        "digitalrtz"
                    ],
                    "Operations": [
                        "Pan",
                        "Tilt",
                        "Zoom"
                    ]
                },
                {
```

```
                    "ViewMode": "DoublePanorama",
                    "Submenus": [
                        "continuous",
                        "stop"
                    ],
                    "Operations": [
                        "Pan",
                        "Tilt"
                    ]
                },
                {
                    "ViewMode": "Panorama",
                    "Submenus": [
                        "continuous",
                        "stop"
                    ],
                    "Operations": [
                        "Pan"
                    ]
                }
            ]
        },
        {
            "Channel": 1,
            "Support": [
                {
                    "ViewMode": "QuadView.1",
                    "Submenus": [
                        "absolute",
                        "relative",
                        "continuous",
                        "query",
                        "preset",
                        "group",
                        "move",
                        "stop",
                        "digitalrtz"
                    ],
                    "Operations": [
                        "Pan",
                        "Tilt",
```

```
                    "Zoom"
                ]
            }
        ]
    },
    {
        "Channel": 2,
        "Support": [
            {
                "ViewMode": "QuadView.2",
                "Submenus": [
                    "absolute",
                    "relative",
                    "continuous",
                    "query",
                    "preset",
                    "group",
                    "move",
                    "stop",
                    "digitalrtz"
                ],
                "Operations": [
                    "Pan",
                    "Tilt",
                    "Zoom"
                ]
            }
        ]
    },
    {
        "Channel": 3,
        "Support": [
            {
                "ViewMode": "QuadView.3",
                "Submenus": [
                    "absolute",
                    "relative",
                    "continuous",
                    "query",
                    "preset",
                    "group",
```

```
                        "move",
                        "stop",
                        "digitalrtz"
                    ],
                    "Operations": [
                        "Pan",
                        "Tilt",
                        "Zoom"
                    ]
                }
            ]
        },
        {
            "Channel": 4,
            "Support": [
                {
                    "ViewMode": "QuadView.4",
                    "Submenus": [
                        "absolute",
                        "relative",
                        "continuous",
                        "query",
                        "preset",
                        "group",
                        "move",
                        "stop",
                        "digitalrtz"
                    ],
                    "Operations": [
                        "Pan",
                        "Tilt",
                        "Zoom"
                    ]
                }
            ]
        }
    ]
}
```

Chapter 3. PTZ Configuration

3.1. Swing Setup

3.1.1. Description

The **swing** submenu of **ptzconfig.cgi** configures the Swing settings.

A Swing is a monitoring function that moves between two preset points.

> **NOTE** To find out whether swing functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Swing attribute in the device attributes section.

Access level

Action	Camera	NVR
view	Suser	User
set	Suser	(Not supported)

3.1.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
swing&action=<value>[&<parameter>=<value>]
```

3.1.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the Swing settings.
	Channel	REQ, RES	<csv>	Channel ID
set	Channel	REQ, RES	<int>	Channel ID (read-only for NVR)

Action	Parameters	Request/ Response	Type/ Value	Description
	Mode	REQ, RES	<enum> Pan, Tilt, PanTilt	Swing mode (read-only for NVR) • Pan: Performs the Swing monitoring only by using the Pan function • Tilt: Performs the Swing monitoring only by using the Tilt function • PanTilt: Performs the Swing monitoring by using both Pan and Tilt functions **Note** **Mode**, **FromPreset**, **ToPreset**, **Speed**, and **DwellTime** must be sent together with the **set** action.
	FromPreset	REQ, RES	<int>	First preset for the Swing operation **Note** The number of presets supported is dependent on the device; To find out whether max presets is supported by the device, please refer to the "Attributes/PTZSupport/Limit/Max Preset" attribute in the device attributes section. CAMERA ONLY
	ToPreset	REQ, RES	<int>	Second preset for the Swing operation **Note** The number of presets supported is dependent on the device; To find out whether max presets is supported by the device, please refer to the "Attributes/PTZSupport/Limit/Max Preset" attribute in the device attributes section. CAMERA ONLY

Action	Parameters	Request/ Response	Type/ Value	Description
	Speed	REQ, RES	<int>	Moving Speed CAMERA ONLY
	DwellTime	REQ, RES	<int>	Interval between first and second presets CAMERA ONLY

3.1.4. Examples

3.1.5. Getting the current Swing settings in Channel 0

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=swing&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Mode.Pan.FromPreset=1
Channel.0.Mode.Pan.ToPreset=2
Channel.0.Mode.Pan.Speed=64
Channel.0.Mode.Pan.DwellTime=3
Channel.0.Mode.Tilt.FromPreset=3
Channel.0.Mode.Tilt.ToPreset=4
Channel.0.Mode.Tilt.Speed=25
Channel.0.Mode.Tilt.DwellTime=35
Channel.0.Mode.PanTilt.FromPreset=5
Channel.0.Mode.PanTilt.ToPreset=6
Channel.0.Mode.PanTilt.Speed=60
Channel.0.Mode.PanTilt.DwellTime=36
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
```

```
<Body>
```

```
{
    "PTZSwing": [
        {
            "Channel": 0,
            "SwingSequence": [
                {
                    "Mode": "Pan",
                    "FromPreset": 1,
                    "ToPreset": 2,
                    "Speed": 64,
                    "DwellTime": 3
                },
                {
                    "Mode": "Tilt",
                    "FromPreset": 2,
                    "ToPreset": 1,
                    "Speed": 64,
                    "DwellTime": 3
                },
                {
                    "Mode": "PanTilt",
                    "FromPreset": 1,
                    "ToPreset": 2,
                    "Speed": 64,
                    "DwellTime": 3
                }
            ]
        }
    ]
}
```

(The following response example is for NVR only.)

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.3.Mode=PanTilt
Channel.4.Mode=PanTilt
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZSwing": [
        {
            "Channel": 3,
            "Mode": "PanTilt"
        },
        {
            "Channel": 4,
            "Mode": "PanTilt"
        }
    ]
}
```

3.1.6. Setting Swing moving from Preset 1 to 2 in the Pan mode only

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=swing&action=set&Channel=0&Mode=Pan&FromPreset=1&
ToPreset=2&Speed=1&DwellTime=1
```

3.1.7. Setting Swing moving from Preset 2 to 3 in the Tilt mode only

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=swing&action=set&Channel=0&Mode=Tilt&FromPreset=2
&ToPreset=3&Speed=3&DwellTime=3
```

3.1.8. Swing moving from Preset 3 to 4 in both Pan and Tilt modes

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=swing&action=set&Channel=0&Mode=PanTilt&FromPrese
t=3&ToPreset=4&Speed=3&DwellTime=3
```

3.2. Group Setup

3.2.1. Description

The **group** submenu of **ptzconfig.cgi** configures the Group settings. Multiple presets are grouped and called in sequence according to the Group feature.

> **NOTE** To find out whether group functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Group attribute in the device attributes section.

Access level

Action	Camera	NVR
view	Suser	User
add, update	Suser	(Not supported)
remove	Suser	(Not supported)

3.2.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
group&action=<value>[&<parameter>=<value>]
```

3.2.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the Group settings.
	Channel	REQ, RES	<csv>	Channel ID
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY
add/ update	Channel	REQ, RES	<int>	Channel ID (read-only for NVR)

Action	Parameters	Request/ Response	Type/ Value	Description
	Group	REQ, RES	<int>	Group Number (read-only for NVR) **Note** **Group**, **Preset**, **Speed**, and **DwellTime** must be sent together with the **add** action, and **Group** and **PresetSequence** together with the **update** action, To find out whether Max Groups is supported by the device**,** refer to the "Attributes/PTZSupport /Limit/MaxGroupCount" attribute in the device attributes section.
	PresetSequence	REQ, RES	<int>	Preset sequence **Note** The number of presets supported is dependent on the device; To find out whether max presets is supported by the device, please refer to the "Attributes/PTZSupport/Limit/Max Preset" attribute in the device attributes section. CAMERA ONLY
	Preset	REQ, RES	<int>	Preset number **Note** The number of presets supported is dependent on the device; To find out whether max presets is supported by the device, please refer to the "Attributes/PTZSupport/Limit/Max Preset*"* attribute in the device attributes section. CAMERA ONLY
	Speed	REQ, RES	<int>	Speed CAMERA ONLY

Action	Parameters	Request/ Response	Type/ Value	Description
	DwellTime	REQ, RES	<int>	Interval between presets It specifies a waiting time before the next preset is called. CAMERA ONLY
	ViewModeIndex	REQ	<int>	View mode index number CAMERA ONLY
remove	Channel	REQ	<int>	Channel ID CAMERA ONLY
	Group	REQ	<csv>	Group number CAMERA ONLY
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY

3.2.4. Examples

3.2.5. Getting the current Group settings in Channel 0

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=group&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Group.1.PresetSequence.1.Preset=1
Channel.0.Group.1.PresetSequence.1.Speed=64
Channel.0.Group.1.PresetSequence.1.DwellTime=3
Channel.0.Group.1.PresetSequence.2.Preset=2
Channel.0.Group.1.PresetSequence.2.Speed=64
Channel.0.Group.1.PresetSequence.2.DwellTime=3
Channel.0.Group.2.PresetSequence.1.Preset=1
Channel.0.Group.2.PresetSequence.1.Speed=37
```

```
Channel.0.Group.2.PresetSequence.1.DwellTime=3
Channel.0.Group.2.PresetSequence.2.Preset=3
Channel.0.Group.2.PresetSequence.2.Speed=20
Channel.0.Group.2.PresetSequence.2.DwellTime=3
Channel.0.Group.2.PresetSequence.3.Preset=4
Channel.0.Group.2.PresetSequence.3.Speed=60
Channel.0.Group.2.PresetSequence.3.DwellTime=3
Channel.0.Group.2.PresetSequence.4.Preset=6
Channel.0.Group.2.PresetSequence.4.Speed=48
Channel.0.Group.2.PresetSequence.4.DwellTime=3
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZGroups": [
        {
            "Channel": 0,
            "Groups": [
                {
                    "Group": 1,
                    "PresetSequences": [
                        {
                            "PresetSequence": 1,
                            "Preset": 1,
                            "Speed": 64,
                            "DwellTime": 3
                        },
                        {
                            "PresetSequence": 2,
                            "Preset": 2,
                            "Speed": 64,
                            "DwellTime": 3
                        }
                    ]
                },
                {
                    "Group": 2,
```

```
                    "PresetSequences": [
                        {
                            "PresetSequence": 1,
                            "Preset": 1,
                            "Speed": 37,
                            "DwellTime": 3
                        },
                        {
                            "PresetSequence": 2,
                            "Preset": 3,
                            "Speed": 20,
                            "DwellTime": 3
                        },
                        {
                            "PresetSequence": 3,
                            "Preset": 4,
                            "Speed": 60,
                            "DwellTime": 3
                        },
                        {
                            "PresetSequence": 4,
                            "Preset": 6,
                            "Speed": 48,
                            "DwellTime": 3
                        }
                    ]
                }
            ]
        }
    ]
}
```


(The following example response is for NVR only.)

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.3.Group=1
```

```
Channel.3.Group=2
Channel.3.Group=3
Channel.4.Group=1
Channel.4.Group=2
Channel.4.Group=3
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZGroups": [
        {
            "Channel": 3,
            "Groups": [
                {
                    "Group": 1
                },
                {
                    "Group": 2
                },
                {
                    "Group": 3
                }
            ]
        },
        {
            "Channel": 4,
            "Groups": [
                {
                    "Group": 1
                },
                {
                    "Group": 2
                },
                {
                    "Group": 3
                }
            ]
```

```
        }
    ]
}
```

3.2.6. Adding Group 1 calling Preset 2

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=group&action=add&Channel=0&Group=1&PresetSequence=1&Preset=2&Speed=60&DwellTime=2
```

3.2.7. Updating Group 1 to call Preset 3 in the second sequence

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=group&action=update&Channel=0&Group=1&PresetSequence=2&Preset=3&Speed=50&DwellTime=3
```

3.2.8. Removing Group 1

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=group&action=remove&Channel=0&Group=1
```

3.3. Tour Setup

3.3.1. Description

The **tour** submenu of **ptzconfig.cgi** configures the Tour settings. Groups of presets are called in sequence according to the Tour feature.

> **NOTE** To find out whether tour functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Tour attribute in the device attributes section.

Access level

Action	Camera	NVR
view	Suser	User
add, update	Suser	(Not supported)

Action	Camera	NVR
remove	Suser	(Not supported)

3.3.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
tour&action=<value>[&<parameter>=<value>]
```

3.3.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the Tour settings.
	Channel	REQ, RES	<csv>	Channel ID
add/update	Channel	REQ, RES	<int>	Channel ID (read-only for NVR) **Note** **Group** and **DwellTime** must be sent together withthe **add** action, and **GroupSequence** together withthe **update** action.
	Tour	REQ, RES	<int>	Tour number (read-only for NVR) **Note** To find out whether Max Tours is supported by the device**,** refer to the "Attributes/PTZSupport/Limit /MaxTourCount" attribute in the device attributes section.
	GroupSequence	REQ, RES	<int>	Group sequence CAMERA ONLY
	Group	REQ, RES	<int>	Group number CAMERA ONLY
	DwellTime	REQ, RES	<int>	Interval between groups (second) It specifies a waiting time before a new group is called. CAMERA ONLY

Action	Parameters	Request/ Response	Type/ Value	Description
remove	Channel	REQ	<int>	Channel ID CAMERA ONLY
	Tour	REQ	<csv>	Tour number CAMERA ONLY

3.3.4. Examples

3.3.5. Getting the current Group settings in Channel 0

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=tour&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Tour.GroupSequence.1.Group=1
Channel.0.Tour.GroupSequence.1.DwellTime=10
Channel.0.Tour.GroupSequence.2.Group=2
Channel.0.Tour.GroupSequence.2.DwellTime=25
Channel.0.Tour.GroupSequence.3.Group=3
Channel.0.Tour.GroupSequence.3.DwellTime=36
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZTours": [
        {
            "Channel": 0,
            "Tours": [
                {
```

```
                    "Tour": 1,
                    "GroupSequences": [
                        {
                            "GroupSequence": 1,
                            "Group": 1,
                            "DwellTime": 10
                        },
                        {
                            "GroupSequence": 2,
                            "Group": 2,
                            "DwellTime": 25
                        },
                        {
                            "GroupSequence": 3,
                            "Group": 3,
                            "DwellTime": 36
                        }
                    ]
                }
            ]
        }
    ]
}
```

(The following response example is for NVR only.)

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.3.Tour=1
Channel.4.Tour=1
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZTours": [
        {
            "Channel": 3,
            "Tours": [
                {
                    "Tour": 1
                }
            ]
        },
        {
            "Channel": 4,
            "Tours": [
                {
                    "Tour": 1
                }
            ]
        }
    ]
}
```

3.3.6. Adding Tour 1 calling the Group 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=tour&action=add&Channel=0&Tour=1&GroupSequence=1&
Group=1&DwellTime=1
```

3.3.7. Updating Tour 1 to call the Group 2 in the second sequence

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=tour&action=update&Channel=0&Tour=1&GroupSequence
=2&Group=2&DwellTime=1
```

3.3.8. Removing Tour 1

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=tour&action=remove&Tour=1
```

3.4. Trace Setup

3.4.1. Description

The **trace** submenu of **ptzconfig.cgi** configures settings for a Trace action. Movement of the device is remembered and reproduced when required.

> **NOTE** To find out whether trace functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Trace attribute in the device attributes section.

Access level

Action	Camera	NVR
view	(Not supported)	User
memorize	Suser	(Not supported)

3.4.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
trace&action=<value>[&<parameter>=<value>]
```

3.4.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the Trace settings
	Channel	REQ, RES	<csv>	Channel ID
memorize	Channel	REQ	<int>	Channel ID
	Mode	REQ	<enum> Start, Stop	Trace mode • Start: Starts Trace action. • Stop: Stops Trace action (finishes memorizing) **Note** **Mode** and **Trace** must be sent together with the **memorize** action.

Action	Parameters	Request/ Response	Type/ Value	Description
	Trace	REQ	<int>	Trace number **Note** To find out whether Max Traces is supported by the device, refer to the "Attributes/PTZSupport/Limit/Max TraceCount" attribute in the device attributes section.

3.4.4. Examples

3.4.5. Getting current Trace settings in Channel 0

The following example is for NVR; only NVR supports the **view** action.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=trace&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.3.Trace=1
Channel.3.Trace=2
Channel.3.Trace=3
Channel.3.Trace=4
Channel.4.Trace=1
Channel.4.Trace=2
Channel.4.Trace=3
Channel.4.Trace=4
```

JSON RESPONSE

```
HTTP/1.0 200 OK

Content-type: application/json
```

```
<Body>
```

```
{
    "PTZTraces": [
        {
            "Channel": 3,
            "Traces": [
                {
                    "Trace": 1
                },
                {
                    "Trace": 2
                },
                {
                    "Trace": 3
                },
                {
                    "Trace": 4
                }
            ]
        },
        {
            "Channel": 4,
            "Traces": [
                {
                    "Trace": 1
                },
                {
                    "Trace": 2
                },
                {
                    "Trace": 3
                },
                {
                    "Trace": 4
                }
            ]
        }
    ]
}
```

3.4.6. Memorizing the Trace action

To use the **memorize** action, **Mode** and **Trace** must be set together. (Only network cameras support the **memorize** action.)

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=trace&action=memorize&Channel=0&Mode=Start&Trace=
1
```

3.5. Auto Run Setup

3.5.1. Description

The **autorun** submenu of **ptzconfig.cgi** configures settings for an Auto run. The Autorun makes the PTZ camera to start predefined operations such as going to a preset and starting Swing operation.

> **NOTE** This chapter applies to network cameras only.

To find out whether auto run functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/AutoRun attribute in the device attributes section.

Access level

Action	Camera
view	Suser
set	Suser
update	Suser

3.5.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
autorun&action=<value>[&<parameter>=<value>]
```

3.5.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the Auto run settings.
	Channel	REQ, RES	<csv>	Channel ID

Action	Parameters	Request/ Response	Type/ Value	Description
set	Channel	REQ, RES	<int>	Channel ID **Note** To use the **set** action, **Mode**, **ActivationTime**, and one of **Preset**, **Group**, **Trace**, **AutoPanSpeed**, **AutoPanTiltAngle**, **Tour**, and **SwingMode** must be sent together. (The parameters to be sent differ according to the **Mode** value.) For example, if the value of **Mode** is set to Preset, **Mode**, **ActivationTime**, and **Preset** must be sent together.
	Mode	REQ, RES	<enum> Off, Home, Preset, Swing, Group, Tour, Trace, AutoPan, Schedule	Auto run mode • Off: Disables Auto run • Home: Automatically moves to the Home position • Preset: Automatically moves to the preset number • Swing: Automatically executes the operation in Swing mode • Group: Automatically executes the operation in Group mode • Tour: Automatically executes the operation in Tour mode • Trace: Automatically executes the operation in Trace mode • AutoPan: Automatically executes the 360 degree rotation in the pan direction • Schedule: Automatically executes the operation according to a schedule **Note** When **Mode** is not set to Off, **ActivationTime** is a mandatory parameter.

Action	Parameters	Request/ Response	Type/ Value	Description
	ActivationTime	REQ, RES	<enum> 5s, 10s, 20s, 30s, 1m, 2m, 3m, 4m, 5m	Activation time (second/ minute) **ActivationTime** is valid only when **Mode** is not set to Off.
	Preset	REQ, RES	<int>	Preset number The number of presets supported is dependent on the device; please refer to the device attributes. **Preset** is valid only when **Mode** is set to Preset.
	Group	REQ, RES	<int>	Group number **Group** is valid only when **Mode** is set to Group.
	Trace	REQ, RES	<int>	Trace number **Trace** is valid only when **Mode** is set to Trace.
	AutoPanSpeed	REQ, RES	<int>	Speed in camera's automatic panning operation **AutoPanSpeed** is valid only when **Mode** is set to AutoPan.
	AutoPanTiltAngle	REQ, RES	<int>	Angle that is placed for the camera to move around during Panning and Tilting operation **AutoPanTiltAngle** is valid only when **Mode** is set to AutoPan.
	Tour	REQ, RES	<int>	Tour number **Tour** is valid only when **Mode** is set to Tour.
	SwingMode	REQ, RES	<enum> Pan, Tilt, PanTilt	Swing mode **SwingMode** is valid only when **Mode** is set to Swing.

Action	Parameters	Request/ Response	Type/ Value	Description
update	Channel	REQ, RES	<int>	Channel ID **Note** To use the **update** action, **ScheduleMode**, **FromTo**, and one of **Preset**, **Group**, **Trace**, **AutoPanSpeed**, **AutoPanTiltAngle**, **Tour**, and **SwingMode** (depending on the **ScheduleMode** value) must be sent together.
	ScheduleMode	REQ, RES	<enum> Home, Preset, Swing, Group, Tour, Trace, AutoPan	Automatically runs Schedule Mode
	FromTo	REQ, RES	<string>	Time schedule for auto run The schedule is specified in the format of <ddd hh:mm-ddd hh:mm>. Only mm=00 is allowed in FromTo (i.e, only a granular level houris allowed).
	Preset	REQ, RES	<int>	Preset number The number of the preset supported depends on the device; please refer to the device attributes. **Preset** is valid only when **ScheduleMode** is set to Preset.
	Group	REQ, RES	<int>	Group number **Group** is valid only when **ScheduleMode** is set to Group.
	Trace	REQ, RES	<int>	Trace number **Trace** is valid only when **ScheduleMode** is set to Trace.

Action	Parameters	Request/ Response	Type/ Value	Description
	AutoPanSpeed	REQ, RES	<int>	Speed of the camera's automatic panning operation **AutoPanSpeed** is valid only when **ScheduleMode** is set to AutoPan.
	AutoPanTiltAngle	REQ, RES	<int>	Angle that is set for the camera to move between during the Panning and Tilting operation **AutoPanTiltAngle** is valid only when **ScheduleMode** is set to AutoPan.
	Tour	REQ, RES	<int>	Tour number **Tour** is valid only when **ScheduleMode** is set to Tour.
	SwingMode	REQ, RES	<enum> Pan, Tilt, PanTilt	Swing mode **SwingMode** is valid only when **ScheduleMode** is set to Swing.

3.5.4. Examples

3.5.5. Getting the current Auto run settings in Channel 0

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=autorun&action=view&Channel=0
```

If **Mode** is set to Group, the following response will be returned.

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Mode=Group
Channel.0.ActivationTime=5s
Channel.0.Group=1
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```


```
{
    "AutoRun": [
        {
            "Channel": 0,
            "Mode": "Group",
            "ModeHome": {
                "ActivationTime": "5s"
            },
            "ModePreset": {
                "ActivationTime": "5s",
                "Preset": 1
            },
            "ModeSwing": {
                "ActivationTime": "5s",
                "SwingMode": "Pan"
            },
            "ModeGroup": {
                "ActivationTime": "5s",
                "Group": 1
            },
            "ModeTour": {
                "Tour": 1,
                "ActivationTime": "5s"
            },
            "ModeTrace": {
                "ActivationTime": "5s",
                "Trace": 1
            },
            "ModeAutoPan": {
                "ActivationTime": "5s",
                "AutoPanSpeed": 20,
                "AutoPanTiltAngle": 20
            },
            "ModeSchedule": {
                "ActivationTime": "5s",
```

```
                "Schedules": [
                    {
                        "FromTo": "SUN 00:00-SUN 14:00",
                        "ScheduleMode": "Swing",
                        "SwingMode": "Pan"
                    },
                    {
                        "FromTo": "SUN 14:00-TUE 06:00",
                        "ScheduleMode": "Home"
                    },
                    {
                        "FromTo": "TUE 06:00-TUE 16:00",
                        "ScheduleMode": "AutoPan",
                        "AutoPanSpeed": 20,
                        "AutoPanTiltAngle": 20
                    },
                    {
                        "FromTo": "TUE 16:00-FRI 04:00",
                        "ScheduleMode": "Home"
                    },
                    {
                        "FromTo": "FRI 04:00-FRI 07:00",
                        "ScheduleMode": "Tour",
                        "Tour": 1
                    },
                    {
                        "FromTo": "FRI 07:00-SAT 24:00",
                        "ScheduleMode": "Home"
                    }
                ]
            }
        }
    ]
}
```

If **Mode** is set to Schedule, the following response will be returned.

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
```

```
<Body>
```

```
Channel.0.Mode=Schedule
Channel.0.ActivationTime=5s
Channel.0.Schedule.1.FromTo=SUN 00:00-SUN 14:00
Channel.0.Schedule.1.ScheduleMode=Swing
Channel.0.Schedule.1.SwingMode=Pan
Channel.0.Schedule.2.FromTo=SUN 14:00-TUE 06:00
Channel.0.Schedule.2.ScheduleMode=Home
Channel.0.Schedule.3.FromTo=TUE 06:00-TUE 16:00
Channel.0.Schedule.3.ScheduleMode=AutoPan
Channel.0.Schedule.3.AutoPanSpeed=20
Channel.0.Schedule.3.AutoPanTiltAngle=20
Channel.0.Schedule.4.FromTo=TUE 16:00-FRI 04:00
Channel.0.Schedule.4.ScheduleMode=Home
Channel.0.Schedule.5.FromTo=FRI 04:00-FRI 07:00
Channel.0.Schedule.5.ScheduleMode=Tour
Channel.0.Schedule.6.FromTo=FRI 07:00-SAT 24:00
Channel.0.Schedule.6.ScheduleMode=Home
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "AutoRun": [
        {
            "Channel": 0,
            "Mode": "Schedule",
            "ModeHome": {
                "ActivationTime": "5s"
            },
            "ModePreset": {
                "ActivationTime": "5s",
                "Preset": 1
            },
            "ModeSwing": {
                "ActivationTime": "5s",
```

```
            "SwingMode": "Pan"
        },
        "ModeGroup": {
            "ActivationTime": "5s",
            "Group": 1
        },
        "ModeTour": {
            "Tour": 1,
            "ActivationTime": "5s"
        },
        "ModeTrace": {
            "ActivationTime": "5s",
            "Trace": 1
        },
        "ModeAutoPan": {
            "ActivationTime": "5s",
            "AutoPanSpeed": 20,
            "AutoPanTiltAngle": 20
        },
        "ModeSchedule": {
            "ActivationTime": "5s",
            "Schedules": [
                {
                    "FromTo": "SUN 00:00-SUN 14:00",
                    "ScheduleMode": "Swing",
                    "SwingMode": "Pan"
                },
                {
                    "FromTo": "SUN 14:00-TUE 06:00",
                    "ScheduleMode": "Home"
                },
                {
                    "FromTo": "TUE 06:00-TUE 16:00",
                    "ScheduleMode": "AutoPan",
                    "AutoPanSpeed": 20,
                    "AutoPanTiltAngle": 20
                },
                {
                    "FromTo": "TUE 16:00-FRI 04:00",
                    "ScheduleMode": "Home"
                },
```

```
                    {
                        "FromTo": "FRI 04:00-FRI 07:00",
                        "ScheduleMode": "Tour",
                        "Tour": 1
                    },
                    {
                        "FromTo": "FRI 07:00-SAT 24:00",
                        "ScheduleMode": "Home"
                    }
                ]
            }
        }
    ]
}
```

3.5.6. Disabling Auto run

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=autorun&action=set&Channel=0&Mode=Off
```

3.5.7. Setting Auto run in Swing mode to be activated in 30 seconds

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=autorun&action=set&Channel=0&Mode=Swing&ActivationTime=30s
```

3.5.8. Configuring Auto run schedule with the Home mode for entire week

Mode must be set to Schedule first, using the below example.

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=autorun&action=update&FromTo=SUN 00:00-SAT 23:59&ScheduleMode=Home
```

After the above example has been applied, the view action will return the following responses.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=autorun&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Mode=Schedule
Channel.0.ActivationTime=5s
Channel.0.Schedule.1.FromTo=SUN 00:00-SAT 24:00
Channel.0.Schedule.1.ScheduleMode=Home
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "AutoRun": [
        {
            "Channel": 0,
            "Mode": "Schedule",
            "ModeHome": {
                "ActivationTime": "5s"
            },
            "ModePreset": {
                "ActivationTime": "5s",
                "Preset": 1
            },
            "ModeSwing": {
                "ActivationTime": "30s",
                "SwingMode": "Pan"
            },
            "ModeGroup": {
                "ActivationTime": "5s",
```

```
                "Group": 1
            },
            "ModeTour": {
                "Tour": 1,
                "ActivationTime": "5s"
            },
            "ModeTrace": {
                "ActivationTime": "5s",
                "Trace": 1
            },
            "ModeAutoPan": {
                "ActivationTime": "5s",
                "AutoPanSpeed": 20,
                "AutoPanTiltAngle": 20
            },
            "ModeSchedule": {
                "ActivationTime": "5s",
                "Schedules": [
                    {
                        "FromTo": "SUN 00:00-SAT 24:00",
                        "ScheduleMode": "Home"
                    }
                ]
            }
        }
    ]
}
```


3.5.9. Configuring Auto run schedule for Monday 8PM to Wednesday 7PM with the Preset mode moving to preset 1

Mode must be set to Schedule first, using the below example.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=autorun&action=update&FromTo=MON 20:00-WED
19:00&ScheduleMode=Preset&Preset=1
```

After the above example has been applied, the view action will return the following responses.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=autorun&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Mode=Schedule
Channel.0.ActivationTime=5s
Channel.0.Schedule.1.FromTo=SUN 00:00-MON 20:00
Channel.0.Schedule.1.ScheduleMode=Home
Channel.0.Schedule.2.FromTo=MON 20:00-WED 19:00
Channel.0.Schedule.2.ScheduleMode=Preset
Channel.0.Schedule.2.Preset=1
Channel.0.Schedule.3.FromTo=WED 19:00-SAT 24:00
Channel.0.Schedule.3.ScheduleMode=Home
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "AutoRun": [
        {
            "Channel": 0,
            "Mode": "Schedule",
            "ModeHome": {
                "ActivationTime": "5s"
            },
            "ModePreset": {
                "ActivationTime": "5s",
                "Preset": 1
            },
            "ModeSwing": {
```

```
                "ActivationTime": "30s",
                "SwingMode": "Pan"
            },
            "ModeGroup": {
                "ActivationTime": "5s",
                "Group": 1
            },
            "ModeTour": {
                "Tour": 1,
                "ActivationTime": "5s"
            },
            "ModeTrace": {
                "ActivationTime": "5s",
                "Trace": 1
            },
            "ModeAutoPan": {
                "ActivationTime": "5s",
                "AutoPanSpeed": 20,
                "AutoPanTiltAngle": 20
            },
            "ModeSchedule": {
                "ActivationTime": "5s",
                "Schedules": [
                    {
                        "FromTo": "SUN 00:00-MON 20:00",
                        "ScheduleMode": "Home"
                    },
                    {
                        "FromTo": "MON 20:00-WED 19:00",
                        "ScheduleMode": "Preset",
                        "Preset": 1
                    },
                    {
                        "FromTo": "WED 19:00-SAT 24:00",
                        "ScheduleMode": "Home"
                    }
                ]
            }
        }
    ]
}
```

3.5.10. Configuring Auto run schedule for Tuesday 2AM to Wednesday 9AM with the Group mode

Mode must be set to Schedule first, using the below example.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=autorun&action=update&FromTo=TUE 02:00-WED
09:00&ScheduleMode=Group&Group=1
```

After the above example applied, the view action will return the followings;

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=autorun&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Mode=Schedule
Channel.0.ActivationTime=5s
Channel.0.Schedule.1.FromTo=SUN 00:00-MON 20:00
Channel.0.Schedule.1.ScheduleMode=Home
Channel.0.Schedule.2.FromTo=MON 20:00-TUE 02:00
Channel.0.Schedule.2.ScheduleMode=Preset
Channel.0.Schedule.2.Preset=1
Channel.0.Schedule.3.FromTo=TUE 02:00-WED 09:00
Channel.0.Schedule.3.ScheduleMode=Group
Channel.0.Schedule.3.Group=1
Channel.0.Schedule.4.FromTo=WED 09:00-WED 19:00
Channel.0.Schedule.4.ScheduleMode=Preset
Channel.0.Schedule.4.Preset=1
Channel.0.Schedule.5.FromTo=WED 19:00-SAT 24:00
Channel.0.Schedule.5.ScheduleMode=Home
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```


```
{
    "AutoRun": [
        {
            "Channel": 0,
            "Mode": "Schedule",
            "ModeHome": {
                "ActivationTime": "5s"
            },
            "ModePreset": {
                "ActivationTime": "5s",
                "Preset": 1
            },
            "ModeSwing": {
                "ActivationTime": "30s",
                "SwingMode": "Pan"
            },
            "ModeGroup": {
                "ActivationTime": "5s",
                "Group": 1
            },
            "ModeTour": {
                "Tour": 1,
                "ActivationTime": "5s"
            },
            "ModeTrace": {
                "ActivationTime": "5s",
                "Trace": 1
            },
            "ModeAutoPan": {
                "ActivationTime": "5s",
                "AutoPanSpeed": 20,
                "AutoPanTiltAngle": 20
            },
            "ModeSchedule": {
                "ActivationTime": "5s",
```

```
                "Schedules": [
                    {
                        "FromTo": "SUN 00:00-MON 20:00",
                        "ScheduleMode": "Home"
                    },
                    {
                        "FromTo": "MON 20:00-TUE 02:00",
                        "ScheduleMode": "Preset",
                        "Preset": 1
                    },
                    {
                        "FromTo": "TUE 02:00-WED 09:00",
                        "ScheduleMode": "Group",
                        "Group": 1
                    },
                    {
                        "FromTo": "WED 09:00-WED 19:00",
                        "ScheduleMode": "Preset",
                        "Preset": 1
                    },
                    {
                        "FromTo": "WED 19:00-SAT 24:00",
                        "ScheduleMode": "Home"
                    }
                ]
            }
        }
    ]
}
```

3.6. Home Position Setup

3.6.1. Description

The **home** submenu of **ptzconfig.cgi** sets the current preset position to the Home position.

> **NOTE** This chapter applies to network cameras only.

To find out whether home position is supported by the device or not, refer to the Attributes/PTZSupport/Support/Home attribute in the device attributes section.

Access level

Action	Camera
set	Suser

3.6.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
home&action=<value>[&<parameter>=<value>]
```

3.6.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
set	Channel	REQ, RES	<int>	Channel ID
	ViewModeIndex	REQ	<int>	View mode of index number

3.6.4. Examples

3.6.5. Setting the current position to the Home position

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=home&action=set
```

3.7. Preset Configuration

3.7.1. Description

The **preset** submenu of **ptzconfig.cgi** configures the preset number and name.

> **NOTE** To find out whether preset is supported by the device or not, refer to the Attributes/PTZSupport/Support/Preset attribute in the device attributes section.

Access level

Action	Camera	NVR
view	Suser	User
add, update	Suser	User
remove	Suser	User

3.7.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
```

```
preset&action=<value>[&<parameter>=<value>]
```

3.7.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the preset position settings.
	Channel	REQ, RES	<csv>	Channel ID
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY
add/update	Channel	REQ, RES	<int>	Channel ID
	Preset	REQ, RES	<int>	Preset of index number **Note** For the **add** or **update** action, **Preset** and **Name** must be sent together.
	Name	REQ, RES	<string>	Preset name
	SubViewIndex	REQ	<int>	Sub view of index number This parameter is valid only when **ViewMode.#.Type** of **image.cgi** is set to Quadview.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY
remove	Channel	REQ	<int>	Channel ID
	Preset	REQ	<csv>	Preset of index number **Note** **Preset** must be sent together with the **remove** action.
	ViewModeIndex	REQ	<int>	View mode of index number CAMERA ONLY

3.7.4. Examples

3.7.5. Getting the current preset information

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=preset&action=view
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Preset.1.Name=test1
Channel.0.Preset.2.Name=test2
Channel.1.Preset.1.Name=test3
Channel.1.Preset.2.Name=test4
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZPresets": [
        {
            "Channel": 0,
            "Presets": [
                {
                    "Preset": 1,
                    "Name": "test1"
                },
                {
                    "Preset": 2,
                    "Name": "test2"
                }
            ]
        },
        {
            "Channel": 1,
            "Presets": [
                {
```

```
                    "Preset": 1,
                    "Name": "test3"
                },
                {
                    "Preset": 2,
                    "Name": "test4"
                }
            ]
        }
    ]
}
```

3.7.6. Getting the preset information for Channel 0

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=preset&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Preset.1.Name=Preset1
Channel.0.Preset.2.Name=Preset2
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
```

```
<Body>
{
    "PTZPresets": [
        {
            "Channel": 0,
            "Presets": [
                {
```

```
                    "Preset": 1,
                    "Name": "Preset1"
                },
                {
                    "Preset": 2,
                    "Name": "Preset2"
                }
            ]
        }
    ]
}
```

3.7.7. Adding ‘Preset 1’ with the name ‘preset001’

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=preset&action=add&Preset=1&Name=preset001
```

3.7.8. Adding ‘Preset 3’ with the name ‘preset003’ to Channel 0

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=preset&action=add&Channel=0&Preset=3&Name=Preset0
03
```

3.7.9. Removing presets 1 and 3

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=preset&action=remove&Channel=0&Preset=1,3
```

3.7.10. Removing all presets at once

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=preset&action=remove&Channel=0&Preset=All
```

3.8. Preset Image Configuration

3.8.1. Description

The **presetimageconfig** submenu of **ptzconfig.cgi** configures the camera image settings according to the preset selected.

> **NOTE** This chapter applies to network cameras only.

To find out whether preset functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Preset attribute in the device attributes section.

Access level

Action	Camera
view	Suser
set	Suser

3.8.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
presetimageconfig&action=<value>[&<parameter>=<value>]
```

3.8.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads camera image settings.
	Channel	REQ, RES	<csv>	Channel ID
	Preset	REQ, RES	<csv>	Preset number of the channel **Note** To use the **view** action, the **Channel** and **Preset** parameters must be sent together.
set	Channel	REQ, RES	<int>	Channel ID

Action	Parameters	Request/ Response	Type/ Value	Description
	Preset	REQ, RES	<int>	Preset number **Note** The number of presets supported is dependent on the device; To find out whether max presets is supported by the device, please refer to "Attributes/PTZSupport/Limit/Max Preset" attribute in the device attributes section. **Note** **Preset** must be sent together with the **set** action.
	SSDREnable	REQ, RES	<bool> True, False	Enables or disables SSDR (Samsung Super Dynamic Range), which regulates the overall brightness by increasing the brightness of the dark area alone in a scene where the gap between brightness and darkness widens.
	SSDRLevel	REQ, RES	<int>	SSDR level **SSDRLevel** is valid only when **SSDREnable** is set to True.
	DynamicRange	REQ, RES	<enum> Narrow, Wide	SSDR dynamic range **DynamicRange** is valid only when **SSDREnable** is set to True.

Action	Parameters	Request/ Response	Type/ Value	Description
	WhiteBalanceMode	REQ, RES	<enum> ATW, Manual, Outdoor, Indoor, Mercury, Sodium	White balance mode • ATW: Automatically corrects the colors of the camera video • Manual: Manually adjusts the red and blue gains of the camera video • Outdoor: Automatically corrects the video colors of the camera to be optimized for the outdoor environment • Indoor: Automatically corrects the video colors of the camera to be optimized for the indoor environment. • Mercury: Automatically corrects the video colors of the camera to be optimized to a mercury lamp environment. • Sodium: Automatically corrects the video colors of the camera to be optimized to a sodium lamp environment.
	WhiteBalanceManualRedLevel	REQ, RES	<int>	White balance red level **WhiteBalanceManualRedLevel** is valid only when **WhiteBalanceMode** is set to Manual.
	WhiteBalanceManualBlueLevel	REQ, RES	<int>	White balance blue level **WhiteBalanceManualBlueLevel** is valid only when **WhiteBalanceMode** is set to Manual.
	CompensationMode	REQ, RES	<enum> WDR, HLC, BLC, Off	Compensation mode • WDR: Wide Dynamic Range • HLC: High Light Compensation • BLC: Backlight Compensation • Off: Disables the compensation function

Action	Parameters	Request/ Response	Type/ Value	Description
	BLCLevel	REQ, RES	<enum> Low, Medium, High	BLC (Backlight Compensation) level **BLCLevel** is valid only when **CompensationMode** is set to BLC.
	BLCAreaTop	REQ	<int>	Top position info for BLC region **BLCAreaTop** is valid only when **CompensationMode** is set to BLC. It is a request only parameter for PTZ models.
	BLCAreaBottom	REQ	<int>	Bottom position info for BLC region **BLCAreaBottom** is valid only when **CompensationMode** is set to BLC. It is a request only parameter for PTZ models.
	BLCAreaLeft	REQ	<int>	Left position info for BLC region **BLCAreaLeft** is valid only when **CompensationMode** is set to BLC. It is a request only parameter for PTZ models.
	BLCAreaRight	REQ	<int>	Right position info for BLC region **BLCAreaRight** is valid only when **CompensationMode** is set to BLC. It is a request only parameter for PTZ models.
	HLCMode	REQ, RES	<enum> NightOnly, AllDay	HLC (High Light Compensation) mode **HLCMode** is valid only when **CompensationMode** is set to HLC.
	HLCLevel	REQ, RES	<enum> Low, Medium, High	HLC level **HLCLevel** is valid only when **Compensation Mode** is set to HLC.

Action	Parameters	Request/ Response	Type/ Value	Description
	HLCMaskTone	REQ, RES	<int>	Tone of the mask used for high light compensation **HLCMaskTone** is valid only when **CompensationMode** is set to HLC.
	HLCMaskColor	REQ, RES	<enum>	Color of the mask used for high light compensation area **HLCMaskColor** is valid only when **CompensationMode** is set to HLC.
	WDRLimit	REQ, RES	<int>	WDR (Wide Dynamic Range) limit **WDRLimit** is valid only when **CompensationMode** is set to WDR.
	WDRLevel	REQ, RES	<enum> Low, Medium, High	WDR sensitivity level **WDRLevel** is valid only when **CompensationMode** is set to WDR.
	WDRBlackLevel	REQ, RES	<enum> Low, Medium, High	WDR black level **WDRBlackLevel** is valid only when **CompensationMode** is set to WDR.
	WDRWhiteLevel	REQ, RES	<enum> Low, Medium, High	WDR white level **WDRWhiteLevel** is valid only when **CompensationMode** is set to WDR.
	Brightness	REQ, RES	<int>	Brightness level
	ShutterMode	REQ, RES	<enum> ESC, Manual, AFLK	Shutter mode • ESC: Electronic shutter control. Automatically adjusts the shutter speed according to the ambient brightness • Manual: Manually adjusts the shutter speed of the camera • AFLK: Anti flicker. Adjusts the shutter speed when a screen flickers due to frequent mismatches of the ambient lighting.

Action	Parameters	Request/ Response	Type/ Value	Description
	AFLKMode	REQ, RES	<enum> Off, On	Anti-flicker mode
	ManualShutterSpeed	REQ, RES	<enum>	Shutter speed **ManualShutterSpeed** is valid only when **ShutterMode** is set to Manual, and **CompensationMode** is set to Off.
	SSNREnable	REQ, RES	<bool> True, False	Enables or disables SSNR (Samsung Super Noise Reduction)
	SSNRLevel	REQ, RES	<int>	SSNR level **SSNRLevel** is valid only when **SSNREnable** is set to True.
	SSNRMode	REQ, RES	<enum> Off, Manual, Auto	SSNRMode mode • Off: Off SSNR feature. • Manual: Manually adjusts the SSNR. • Auto: Automatically adjusts the SSNR if a moving object is detected.
	SSNR2DLevel	REQ, RES	<int>	Adjust level of 2DNR to reduce noise. **SSNR2DLevel** is valid only when SSNR is not Off.
	SSNR3DLevel	REQ, RES	<int>	Adjust level of 3DNR to reduce noise. **SSNR3DLevel** is valid only when SSNR is not Off.
	LDCEnable	REQ, RES	<bool> True, False	Enables or disables LDC (Lens Distortion Control). **LDCEnable** and **LDCMode** cannot be set at the same time. **LDCEnable** True is same as Manual LDCMode. **LDCEnable** False is same as Off LDCMode.

Action	Parameters	Request/ Response	Type/ Value	Description
	LDCMode	REQ, RES	<enum> Off, Auto, Manual	Provides option to control the LDC feature. • Off: Disables LDC function • Auto: Automatically adjusts the LDC • Manual: Manually sets the LDC level
	LDCLevel	REQ, RES	<int>	LDC Level The greater the value, the higher the LDC level. **LDCLevel** is valid only when **LDCMode** is not set to Off. **LDCLevel** is valid only when **LDCEnable** is not set to False.
	SensupMode	REQ, RES	<enum> Off, Auto	Sens-up mode • Off: Disables sens-up feature • Auto: Automatically senses the darkness level in a low contrast scene and extends the accumulation time according to the bright and sharp image.
	SensupLevel	REQ, RES	<enum>	Sens-up level **SensupLevel** is valid only when **SensUpMode** is set to Auto.
	IrisMode	REQ, RES	<enum> Auto, Manual	Lens Iris mode • Auto: Automatically adjusts the iris. • Manual: Manually adjusts the iris and focus.
	IrisFno	REQ, RES	<enum>	Iris F-stop number **IrisFno** is valid only when **IrisMode** is set to Manual.

Action	Parameters	Request/ Response	Type/ Value	Description
	AGCMode	REQ, RES	<enum> Off, Low, Medium, High, Manual	AGC (Automatic Gain Control) mode. Adjusts the gain value of the video to control the video brightness. • Off: Disables AGC. • Low/ Medium /High: As the level of the screen increases to the high and brighter level in a low lighting condition. • Manual: Manually adjusts the AGC level
	AGCLevel	REQ, RES	<int>	AGC level **AGCLevel** is valid only when **AGCMode** is set to Manual.
	DISEnable	REQ, RES	<bool> True, False	Enables or disables DIS (Digital Image Stabilization) Automatically compensates the image when the camera vibrates due to the external factors including wind
	DefogMode	REQ, RES	<enum> Off, Auto, Manual	Defogging mode
	DefogLevel	REQ, RES	<int>	Defogging level **DefogLevel** is valid only when **DefogMode** is set to Manual.
	DayNightMode	REQ, RES	<enum> Color, BW, Auto	Day and night mode • Color: Always outputs in color • BW: Always outputs in black and white. • Auto: Normally outputs in color but black and white under low luminance at night.

Action	Parameters	Request/ Response	Type/ Value	Description
	DayNightSwitchingTime	REQ, RES	<enum> 5s, 7s, 10s, 15s, 20s, 30s, 40s, 60s	Duration of switch between day and night mode **DayNightSwitchingTime** is valid only when **DayNightMode** is set to Auto.
	DayNightSwitchingMode	REQ, RES	<enum> Slow, Fast	Interval of switch between day and night mode **DayNightSwitchingMode** is valid only when **DayNightMode** is set to Auto.
	SharpnessEnable	REQ, RES	<bool> True, False	Enable or disables image sharpness feature
	SharpnessLevel	REQ, RES	<int>	Sharpness level **SharpnessLevel** is valid only when **SharpnessEnable** is set to True.
	Saturation	REQ, RES	<int>	Saturation level
	AfterAction	REQ, RES	<enum> Off, AutoRun, Tracking, VideoAnalytics, HomeAfterTracking, AutoRunAfterTracking, Washer	Action after the corresponding preset e.g. when **AfterAction** is set to Tracking, the device automatically starts tracking when it moves to a certain preset.
	AfterActionTrackingTime	REQ, RES	<enum> 10s, 20s, 30s, 40s, 50s, 1m, 2m, m, 4m, 5m, 10m	Tracking time where auto tracking is executed as an after action **AfterActionTrackingTime** is valid only when **AfterAction** is set to Tracking.

Action	Parameters	Request/ Response	Type/ Value	Description
	FocusMode	REQ, RES	<enum> Manual, Auto, OneShotAutoFocus	Focus mode • Manual: Manually adjusts the focus. • Auto: Automatically adjust the focus according to the zoom factor • OneShotAutoFocus: Adjust the focus for one shot
	AutoFocusRange	REQ, RES	<enum> Wide, Narrow	Setting AutoFocus to target for Wide or Narrow view.
	DigitalZoomEnable	REQ, RES	<bool> True, False	Enables or disables the digital zoom.
	MaxDigitalZoom	REQ, RES	<enum>	Digital zoom limit **MaxDigitalZoom** is valid only when **DigitalZoomEnable** is set to True.
	OpticalDefogFilterEnable	REQ, RES	<bool>	Enables or disables the optical defog filter setting.
	XCEEnable	REQ, RES	<bool>	Enables XCE(eXternd Contrast Enhancement) This feature is similar to using unsharp mask filtering
	XCELevel	REQ, RES	<int>	Sets XCE filter level
	GammaControl	RES	<enum> Off, On	Gamma Control Adjust the brightness of the image. When On is selected, dark areas are generally brighter.

3.8.4. Examples

3.8.5. Getting the current preset image information of preset 1 in Channel 0

To use the **view** action, the channel number and preset number must be set together.

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=presetimageconfig&action=view&Channel=0&Preset=1
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Preset.1.SSDREnable=True
Channel.0.Preset.1.SSDRLevel=8
Channel.0.Preset.1.WhiteBalanceMode=ATW
Channel.0.Preset.1.WhiteBalanceManualRedLevel=138
Channel.0.Preset.1.WhiteBalanceManualBlueLevel=140
Channel.0.Preset.1.Brightness=50
Channel.0.Preset.1.AFLKMode=Off
Channel.0.Preset.1.SSNREnable=True
Channel.0.Preset.1.SSNRLevel=2
Channel.0.Preset.1.IrisMode=Auto
Channel.0.Preset.1.IrisFno=F1.6
Channel.0.Preset.1.AGCMode=High
Channel.0.Preset.1.AGCLevel=0
Channel.0.Preset.1.DISEnable=False
Channel.0.Preset.1.DayNightMode=Auto
Channel.0.Preset.1.DayNightSwitchingTime=5s
Channel.0.Preset.1.DayNightSwitchingMode=Slow
Channel.0.Preset.1.SharpnessEnable=True
Channel.0.Preset.1.SharpnessLevel=24
Channel.0.Preset.1.Saturation=50
Channel.0.Preset.1.DefogMode=Off
Channel.0.Preset.1.DefogLevel=5
Channel.0.Preset.1.AfterAction=VideoAnalytics
Channel.0.Preset.1.AfterActionTrackingTime=10s
Channel.0.Preset.1.FocusMode=OneShotAutoFocus
Channel.0.Preset.1.DigitalZoomEnable=False
Channel.0.Preset.1.MaxDigitalZoom=2x
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PresetImageConfig": [
        {
            "Channel": 0,
            "Presets": [
                {
                    "Preset": 1,
                    "SSDREnable": true,
                    "SSDRLevel": 8,
                    "WhiteBalanceMode": "ATW",
                    "WhiteBalanceManualRedLevel": 138,
                    "WhiteBalanceManualBlueLevel": 140,
                    "Brightness": 50,
                    "AFLKMode": "Off",
                    "SSNREnable": true,
                    "SSNRLevel": 2,
                    "IrisMode": "Auto",
                    "IrisFno": "F1.6",
                    "AGCMode": "High",
                    "AGCLevel": 0,
                    "DISEnable": false,
                    "DayNightMode": "Auto",
                    "DayNightSwitchingTime": "5s",
                    "DayNightSwitchingMode": "Slow",
                    "SharpnessEnable": true,
                    "SharpnessLevel": 24,
                    "Saturation": 50,
                    "DefogMode": "Off",
                    "DefogLevel": 5,
                    "AfterAction": "VideoAnalytics",
                    "AfterActionTrackingTime": "10s",
                    "FocusMode": "OneShotAutoFocus",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
                }
            ]
        }
    ]
}
```

3.8.6. Setting SSDR level in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetimageconfig&action=set&Channel=0&Preset=1&S
SDREnable=True&SSDRLevel=1
```

3.8.7. Setting white balance in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetimageconfig&action=set&Channel=0&Preset=1&W
hiteBalanceMode=Manual&WhiteBalanceManualRedLevel=1&WhiteBalanceManualBlueLe
vel=1
```

3.8.8. Setting compensation mode to BLC in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetimageconfig&action=set&Channel=0&Preset=1&C
ompensationMode=BLC
```

3.8.9. Setting BLC level to medium in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetimageconfig&action=set&Channel=0&Preset=1&C
ompensationMode=BLC&BLCLevel=Medium
```

3.8.10. Setting day and night switching time in Preset 2

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetimageconfig&action=set&Channel=0&Preset=2&D
ayNightMode=Auto&DayNightSwitchingTime=5s
```

3.8.11. Setting focus mode to auto in Preset 2

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetimageconfig&action=set&Channel=0&Preset=2&F
ocusMode=Auto
```

3.9. Preset Video Analysis Setup

3.9.1. Description

The **presetvideoanalysis** submenu of **ptzconfig.cgi** configures the video analysis settings of the preset selected.

> **NOTE** This chapter applies to network cameras only.

To find out whether preset functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Preset attribute in the device attributes section.

Access level

Action	Camera
view	Suser
set	Suser
remove	Suser

3.9.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
presetvideoanalysis&action=<value>[&<parameter>=<value>]
```

3.9.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads video analysis settings.
	Channel	REQ, RES	<csv>	Channel ID
	Preset	REQ, RES	<csv>	Preset number **Note** To use the **view** action, the **Channel** and **Preset** parameters must be sent together.

Action	Parameters	Request/ Response	Type/ Value	Description
set	Channel	REQ, RES	<int>	Channel ID
	Preset	REQ, RES	<int>	Preset number **NOTE** The number of presets supported is dependent on the device; To find out whether max presets is supported by the device, please refer "Attributes/PTZSupport/Limit/MaxPreset" attribute in the device attributes section. **Note** To use the **set** action, **Preset**, **DefinedArea.#.Mode**, and **DefinedArea.#.Coordinate** must be sent together to set the user defined area; then **Preset**, **Line.#.Mode** and **Line.#.Coordinate** must be sent together to set the line.
	DetectionType	REQ, RES	<enum> MotionDetection, IntelligentVideo, Off	Detection type • MotionDetection: Detects motion within the specified area. • IntelligentVideo: Detects objects that are appearing, disappearing, entering, exiting, changing their scenes, etc within the specified area. • Off: No detection.
	Sensitivity	REQ, RES	<enum> VeryLow, Low, Medium, High, VeryHigh	Sensitivity level **Sensitivity** is valid only when **DetectionType** is NOT set to Off.

Action	Parameters	Request/ Response	Type/ Value	Description
	MinimumObjectSize	REQ, RES	<string>	Minimum size of objects that are detected by motion detection The size is specified in the format of <width, height>. The value of **MinimumObjectSize** should be less than the value of **MaximumObjectSize**. **MinimumObjectSize** is valid only when **DetectionType** is Notset to Off.
	MaximumObjectSize	REQ, RES	<string>	Maximum size of object that are detected by motion detection The size is specified in the format of <width, height>. The value of **MaximumObjectSize** should be greater than the value of **MinimumObjectSize**. **MaximumObjectSize** is valid only when **DetectionType** is NOTset to Off.
	MinimumObjectSizeInPixels	REQ, RES	<string>	Minimum size of objects that are detectable by motion detection (in pixels) The size is specified in the format of <width, height>, where the value of **MinimumObjectSizeInPixels** should be less than the value of **MaximumObjectSizeInPixels**. **MinimumObjectSizeInPixels** is valid only when **DetectionType** is NOTset to Off.

Action	Parameters	Request/ Response	Type/ Value	Description
	MaximumObjectSizeInPixels	REQ, RES	<string>	Maximum size of object that are detectable by motion detection. The size is specified in the format of <width, height>, where the value of **MaximumObjectSizeInPixels** should be greater than the value of **MinimumObjectSizeInPixels**. **MaximumObjectSizeInPixels** is valid only when **DetectionType** is NOT set to Off.
	ROI.#.Coordinate	REQ, RES	<string>	ROI (Region of Interest) coordinates **ROI.#.Coordinate** is valid only when **DetectionType** is NOTset to Off.
	ROIMode	REQ, RES	<enum> Inside, Outside	ROI detection mode • Inside: Detects motion within the specified ROI • Outside: Detects motion outside the specified ROI **ROIMode** is valid only when **DetectionType** is NOT set to Off.
	IVRuleType	REQ, RES	<enum> Passing, EnterExit, AppearDisappear	Rule type for IntelligentVideo **IVRuleType** is valid only when **DetectionType** is NOT set to Off.

Action	Parameters	Request/ Response	Type/ Value	Description
	DefinedArea.#.Mode	REQ, RES	<csv> Off, AppearDisappear, Entering, Exiting	Defined virtual area detection mode • Off: Disables virtual area detection mode • AppearDisappear: Detects objects that are appearing or disappearing in the specified virtual area. • Entering: Detects objects that are entering the specified virtual area. • Exiting: Detects objects exiting the specified virtual area. When **DetectionType** is set to IntelligentVideo, **DefinedArea.#.Coordinate** should be sent along with **DefinedArea.#.Mode**.
	DefinedArea.#.Coordinate	REQ, RES	<string>	Top left and bottom right verticles of the defined virtual area for motion detection When **DetectionType** is set to IntelligentVideo, **DefinedArea.#.Mode** should be sent along with **DefinedArea.#.Coordinate**.
	EntireAreaMode	REQ, RES	<enum> Off, AppearDisappear, Scenechange	Entire area detection mode • Off: Disables the entire area detection mode • AppearDisappear: Detects objects appearing or disappearing in the entire area • Scenechange: Detects scene change events, which are triggered when a large portion of the scene is changed. **EntireAreaMode** is valid only when **DetectionType** is set to IntelligentVideo.

Action	Parameters	Request/ Response	Type/ Value	Description
	DetectionResultOverlay	REQ, RES	<bool> True, False	Enables or disables detection result overlay **DetectionResultOverlay** is valid only when **DetectionType** is NOT set to Off.
	DisplayRules	REQ, RES	<bool> True, False	Enables or disables the rule display **DisplayRules** is valid only when **DetectionType** is set to IntelligentVideo.
	Line.#.Mode	REQ, RES	<csv> LeftSide, RightSide	Line detection mode • LeftSide: Detects motion to the left of the virtual line. • RightSide: Detects motion to the right of the virtual line. When **DetectionType** is set to IntelligentVideo. **Line.#.Coordinate** should be sent along with **Line.#.Mode**.
	Line.#.Coordinate	REQ, RES	<string>	X and Y coordinates of the two points which define the virtual line When **DetectionType** is set to IntelligentVideo, **Line.#.Mode** should be sent along with **Line.#.Coordinate**.
remove	Channel	REQ	<int>	Channel ID
	Preset	REQ	<int>	Preset number **Note** **Preset** must be sent together with the **remove** action.
	ROIIndex	REQ	<csv>	Index of the ROI
	LineIndex	REQ	<csv>	Index of the virtual line
	DefinedAreaIndex	REQ	<csv>	Index of the virtual area

3.9.4. Examples

3.9.5. Getting the video analysis setting information of Preset 1 for Channel 0

To use the **view** action, the channel number and preset number must be set together.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis&action=view&Channel=0&Preset=
1
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Preset.1.DetectionType=Off
Channel.0.Preset.1.Sensitivity=Medium
Channel.0.Preset.1.MinimumObjectSize=4,7
Channel.0.Preset.1.MaximumObjectSize=50,89
Channel.0.Preset.1.MinimumObjectSizeInPixels=96,96
Channel.0.Preset.1.MaximumObjectSizeInPixels=972,972
Channel.0.Preset.1.IVRuleType=Passing
Channel.0.Preset.1.EntireAreaMode=Off,
Channel.0.Preset.1.DetectionResultOverlay=False,
Channel.0.Preset.1.DisplayRules=False,
Channel.0.Preset.1.ROIMode=Inside
Channel.0.Preset.1.ROI.1.Coordinate=189,291,708,624
Channel.0.Preset.1.ROI.2.Coordinate=1188,180,1683,393
Channel.0.Preset.1.ROI.3.Coordinate=924,684,1581,882
Channel.0.Preset.1.ROI.4.Coordinate=90,837,639,990
Channel.0.Preset.1.Line.1.Mode=RightSide
Channel.0.Preset.1.Line.1.Coordinate=1302,141,1302,774
Channel.0.Preset.1.DefinedArea.2.Mode=AppearDisappear
Channel.0.Preset.1.DefinedArea.2.Coordinate=588,402,1785,972
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PresetVideoAnalysis": [
        {
            "Channel": 0,
            "Presets": [
                {
                    "Preset": 1,
                    "DetectionType": "Off",
                    "Sensitivity": "Medium",
                    "MinimumObjectSize": "4,7",
                    "MaximumObjectSize": "50,89",
                    "MinimumObjectSizeInPixels": "96,96",
                    "MaximumObjectSizeInPixels": "972,972",
                    "IVRuleType": "Passing",
                    "EntireAreaMode": "Off",
                    "DetectionResultOverlay": false,
                    "DisplayRules": false,
                    "ROIMode": "Inside",
                    "ROIs": [
                        {
                            "ROI": 1,
                            "Coordinate": [
                                {
                                    "x": 189,
                                    "y": 291
                                },
                                {
                                    "x": 708,
                                    "y": 624
                                }
                            ]
                        },
                        {
                            "ROI": 2,
                            "Coordinate": [
                                {
                                    "x": 1188,
                                    "y": 180
                                },
                                {
                                    "x": 1683,
```

```
                            "y": 393
                        }
                    ]
                },
                {
                    "ROI": 3,
                    "Coordinate": [
                        {
                            "x": 924,
                            "y": 684
                        },
                        {
                            "x": 1581,
                            "y": 882
                        }
                    ]
                },
                {
                    "ROI": 4,
                    "Coordinate": [
                        {
                            "x": 90,
                            "y": 837
                        },
                        {
                            "x": 639,
                            "y": 990
                        }
                    ]
                }
            ],
            "Lines": [
                {
                    "Line": 1,
                    "Mode": "RightSide",
                    "Coordinate": [
                        {
                            "x": 1302,
                            "y": 141
                        },
                        {
```

```
                                    "x": 1302,
                                    "y": 774
                                }
                            ]
                        }
                    ],
                    "DefinedAreas": [
                        {
                            "DefinedArea": 2,
                            "Mode": "AppearDisappear",
                            "Coordinate": [
                                {
                                    "x": 588,
                                    "y": 402
                                },
                                {
                                    "x": 1785,
                                    "y": 972
                                }
                            ]
                        }
                    ]
                }
            ]
        }
    ]
}
```

3.9.6. Setting the sensitivity level for motion detection to high in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis&action=set&Channel=0&Preset=1
&DetectionType=MotionDetection&Sensitivity=High
```

3.9.7. Setting the minimum and maximum object size in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis&action=set&Channel=0&Preset=1
```

```
&DetectionType=MotionDetection&MinimumObjectSize=5,5&MaximumObjectSize=10,10
```

3.9.8. Setting the detection mode and coordinates of defined area 1 in Preset 2

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis&action=set&Channel=0&Preset=2
&DetectionType=IntelligentVideo&DefinedArea.1.Mode=AppearDisappear&DefinedAr
ea.1.Coordinate=441,231,429,912,1200,933,1100,177
```

3.9.9. Setting the detection mode and coordinates of line 1 in Preset 3

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis&action=set&Channel=0&Preset=3
&DetectionType=IntelligentVideo&Line.1.Mode=RightSide&Line.1.Coordinate=650,
750,622,410
```

3.9.10. Removing the defined area of index 1 in Preset 1

To use the **remove** action, the **Preset** parameter must be set.

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis&action=remove&Channel=0&Prese
t=1&DefinedAreaIndex=1
```

3.9.11. Removing line index 1 in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis&action=remove&Channel=0&Prese
t=1&LineIndex=1
```

3.10. Preset Video Analysis 2 Setup

3.10.1. Description

The **presetvideoanalysis2** submenu is similar to the **presetvideoanalysis** submenu, but allows the operator to configure the parameters for each area/ROI.

NOTE This chapter applies to network cameras only.

To find out whether preset functionality is supported by the device or not, refer to the Attributes/PTZSupport/Support/Preset attribute in the device attributes section.

Access level

Action	Camera
view	Suser
set	Suser
remove	Suser

3.10.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
presetvideoanalysis2&action=<value>[&<parameter>=<value>]
```

3.10.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads video analysis settings.
	Channel	REQ, RES	<csv>	Channel ID
	Preset	REQ, RES	<csv>	Preset number **Note** To use the **view** action, the **Channel** and **Preset** parameters must be sent together.
	DetectionType	REQ	<enum> MotionDetection, IntelligentVideo, Off, MDAndIV	Detection type **DetectionType** for the **view** action requests the current preset video analysis settings and does not change the configured detection type.
set	Channel	REQ, RES	<int>	Channel ID

Action	Parameters	Request/ Response	Type/ Value	Description
	Preset	REQ, RES	<int>	Preset number **Note** The number of presets supported depends on the device. To find out whether max presets is supported by the device, please refer to the "Attributes/PTZSupport/Limit/Max Preset" attribute in the device attributes section. **Note** To use the **set** action, **Preset**, **DefinedArea.#.Mode**, and **DefinedArea.#.Coordinate** must be sent together to set the user-defined area; then **Preset**, **Line.#.Mode** and **Line.#.Coordinate** must be sent together to set the line.
	DetectionType	REQ, RES	<enum> MotionDetection, IntelligentVideo, Off, MDAndIV	Detection type • MotionDetection: Detects motion within the specified area. • IntelligentVideo: Detects objects that are appearing, disappearing, entering, exiting, changing their scenes, etc. within the specified area. • Off: No detection.
	SensitivityLevel	REQ, RES	<int>	Sensitivity level for IntelligentVideo. **Sensitivity** is valid only when **DetectionType** is NOT set to Off.

Action	Parameters	Request/ Response	Type/ Value	Description
	DetectionType.#.MinimumObjectSize	REQ, RES	<string>	Minimum size of objects detectable by motion detection. Objects smaller than the specified minimum size are not detected. The size is specified in the format of <width, height>. The value of **MinimumObjectSize** must be less than the value of **MaximumObjectSize**. **MinimumObjectSize** is valid only when **DetectionType** is NOT set to Off.
	DetectionType.#.MaximumObjectSize	REQ, RES	<string>	Maximum size of objects detectable by motion detection Objects bigger than the maximum size are not detected. The size is specified in the format of <width, height>. The value of **MaximumObjectSize** must be greater than the value of **MinimumObjectSize**. **MaximumObjectSize** is valid only when **DetectionType** is NOT set to Off.
	DetectionType.#.MinimumObjectSizeInPixels	REQ, RES	<string>	Minimum object size in pixels The size is specified in the format of <width, height>. **MinimumObjectSizeInPixels** is valid only when **DetectionType** is NOT set to Off.

Action	Parameters	Request/ Response	Type/ Value	Description
	DetectionType.#.MaximumObjectSizeInPixels	REQ, RES	<string>	Maximum object size in pixels The size is specified in the format of <width, height>. **MaximumObjectSizeInPixels** is valid only when **DetectionType** is NOT set to Off.
	ROI.#.Coordinate	REQ, RES	<string>	ROI (Region of Interest) coordinates **ROI.#.Coordinate** is valid only when **DetectionType** is NOT set to Off.
	ROI.#.Mode	REQ, RES	<enum> Inside, Outside	ROI detection mode • Inside: Detects motion within the specified ROI • Outside: Detects motion outside the specified ROI **ROIMode** is valid only when **DetectionType** is NOT set to Off.
	ROI.#.Duration	REQ, RES	<int>	Event activation duration in seconds for ROI.
	ROI.#.SensitivityLevel	REQ, RES	<int>	Sensitivity level for Motion Detection
	ROI.#.ThresholdLevel	REQ, RES	<int>	Threshold level for Motion Detection
	ROI.#.HandoverIndex	REQ, RES	<int>	Handover index for designated ROI

Action	Parameters	Request/ Response	Type/ Value	Description
	DefinedArea.#.Mode	REQ, RES	<csv> Off, AppearDisappear, Entering, Exiting, Intrusion, Loitering	Defined virtual area detection mode • AppearDisappear: Detects objects appearing or disappearing in the specified virtual area. • Entering: Detects objects entering the specified virtual area. • Exiting: Detects objects exiting the specified virtual area. • Intrusion: Detects objects moving inside of the specified virtual Area • Loitering: Detects objects loitering more than threshold time in the specified virtual area. **DefinedArea.#.Mode** is valid only when **DetectionType** is set to IntelligentVideo. **Note** **DefinedArea.#.Mode**, **DefinedArea.#.Coordinate**, **Line.#.Mode**, and **Line.#.Coordinate** must be sent together with the **set** action.
	DefinedArea.#.Coordinate	REQ, RES	<string>	Top left and bottom right vertices of the defined virtual area for motion detection **DefinedArea.#.Coordinate** is valid only when **DetectionType** is set to IntelligentVideo. **DefinedArea.#.Mode** must be sent together with **DefinedArea.#.Coordinate**.
	DefinedAraa.#.Type	REQ, RES	<enum> Inside, Outside	Define Area type • Inside: Detects video analytics within the specified area • Outside: Detects video analytics outside the specified area

Action	Parameters	Request/ Response	Type/ Value	Description
	DefinedArea.#.AppearanceDuration	REQ, RES	<int>	Appearance Duration in seconds
	DefinedArea.#.LoiteringDuration	REQ, RES	<int>	Loitering Duration in seconds
	DefinedArea.#.IntrusionDuration	REQ, RES	<int>	Intrusion duration in seconds for designated defined area
	DefinedArea.#.HandoverIndex	REQ, RES	<int>	Handover index for designated Defined Area
	EntireAreaMode	REQ, RES	<enum> Off, AppearDisappear, Scenechange	Entire area detection mode • Off: Disables the entire area detection mode • AppearDisappear: Detects objects appearing or disappearing in the entire area • Scenechange: Detects scene change events, which are triggered when a large portion of the scene is changed. **EntireAreaMode** is valid only when **DetectionType** is set to IntelligentVideo.
	Line.#.Mode	REQ, RES	<csv> Left, Right, BothDirections ,Off	Line detection mode • Left: Detects motion to the left of the virtual line. • Right: Detects motion to the right of the virtual line. • BothDirections: Detects motion on both sides of line • Off : No event will be detected **Line.#.Mode** is valid only when **DetectionType** is set to IntelligentVideo. The **Line.#.Mode** parameter must be sent along with **Line.#.Coordinate**.

Action	Parameters	Request/ Response	Type/ Value	Description
	Line.#.Coordinate	REQ, RES	<string>	X and Y coordinates of the two points which define the virtual line The coordinates are specified in the form of <x1,y1,x2,y2>; x1 and y1 are the start points and x2 and y2 are the end points. **Line.#.Coordinate** is valid only when **DetectionType** is set to IntelligentVideo. The **Line.#.Coordinate** parameter must be sent together with **Line.#.Mode**.
	Line.#.HandoverIndex	REQ, RES	<int>	Handover index for designated Line
remove	Channel	REQ	<int>	Channel ID
	Preset	REQ	<int>	Preset number **Note** **Preset** must be sent together with the **remove** action.
	ROIIndex	REQ	<csv>	Index of the ROI
	LineIndex	REQ	<csv>	Index of the virtual line
	DefinedAreaIndex	REQ	<csv>	Index of the virtual area

3.10.4. Examples

3.10.5. Getting the video analysis setting information of Preset 1 for Channel 0

To use the **view** action, the channel number and preset number must be set together.

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis2&action=view&Channel=0&Preset=1
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
```

```
<Body>
```

```
{
    "PresetVideoAnalysis": [
        {
            "Channel": 0,
            "Presets": [
                {
                    "Preset": 1,
                    "DetectionType": "IntelligentVideo",
                    "SensitivityLevel": 80,
                    "ObjectSizeByDetectionTypes": [
                        {
                            "DetectionType": "MotionDetection",
                            "MinimumObjectSize": "0,0",
                            "MaximumObjectSize": "99,99",
                            "MinimumObjectSizeInPixels": "24,24",
                            "MaximumObjectSizeInPixels": "1920,1080"
                        },
                        {
                            "DetectionType": "IntelligentVideo",
                            "MinimumObjectSize": "4,7",
                            "MaximumObjectSize": "50,89",
                            "MinimumObjectSizeInPixels": "97,97",
                            "MaximumObjectSizeInPixels": "972,972"
                        }
                    ],
                    "ROIs": [
                        {
                            "ROI": 1,
                            "Mode": "Inside",
                            "SensitivityLevel": 80,
                            "ThresholdLevel": 5,
                            "Coordinates": [
                                {
                                    "x": 0,
                                    "y": 0
                                },
                                {
                                    "x": 0,
```

```
                            "y": 1079
                        },
                        {
                            "x": 1919,
                            "y": 1079
                        },
                        {
                            "x": 1919,
                            "y": 0
                        }
                    ],
                    "HandoverIndex": 0,
                    "Duration": 0
                }
            ],
            "DefinedAreas": [
                {
                    "DefinedArea": 1,
                    "Type": "Inside",
                    "Mode": [
                        "Intrusion"
                    ],
                    "Coordinates": [
                        {
                            "x": 849,
                            "y": 218
                        },
                        {
                            "x": 849,
                            "y": 724
                        },
                        {
                            "x": 1553,
                            "y": 724
                        },
                        {
                            "x": 1553,
                            "y": 218
                        }
                    ],
                    "AppearanceDuration": 10,
```

```
                            "LoiteringDuration": 10,
                            "IntrusionDuration": 2,
                            "HandoverIndex": 0
                        }
                    ],
                    "EntireAreaMode": "Off"
                }
            ]
        }
    ]
}
```

3.10.6. Setting the sensitivity level for IV detection to 20 in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis2&action=set&Channel=0&Preset=
1&DetectionType=IntelligentVideo&SensitivityLevel=20
```

3.10.7. Setting the minimum and maximum object size in Preset 1

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis2&action=set&Channel=0&Preset=
1&DetectionType=MotionDetection&DetectionType.MotionDetection.MinimumObjectS
ize=5,5&DetectionType.MotionDetection.MaximumObjectSize=10,10
```

3.10.8. Setting the detection mode and coordinates of defined area 1 in Preset 2

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis2&action=set&DefinedArea.1.Coo
rdinate=159,138,114,363,540,429,576,96&
DefinedArea.1.Mode=AppearDisappear&DefinedArea.1.AppearanceDuration=10&Defin
edArea.1.LoiteringDuration=10&Channel=0&Preset=2&DetectionType=IntelligentVi
deo
```

3.10.9. Setting the detection mode and coordinates of line 1 in Preset 3

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis2&action=set&Line.1.Coordinate=129,183,246,884&Line.1.Mode=Right&Channel=0&Preset=3&DetectionType=IntelligentVideo
```

3.10.10. Removing the defined area of index 1 in Preset 1

To use the **remove** action, the **Preset** parameter must be set.

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis2&action=remove&Channel=0&Preset=1&DefinedAreaIndex=1
```

3.10.11. Removing line index 1 in Preset 1

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=presetvideoanalysis2&action=remove&Channel=0&Preset=1&LineIndex=1
```

3.11. PTZ Settings

3.11.1. Description

The **ptzsettings** submenu of **ptzconfig.cgi** enables or disables auto flip and configures digital zoom limits.

> **NOTE** This chapter applies to network cameras only.

To find out whether digital zoom is supported by the device or not, refer to the Attributes/PTZSupport/Support/DigitalZoom attribute in the device attributes section.

Access level

Action	Camera
view	Admin
set	Admin

3.11.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
ptzsettings&action=<value>[&<parameter>=<value>]
```

3.11.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads PTZ settings.
	Channel	REQ, RES	<int>	Channel ID
	ImagePresetMode.#.DigitalZoomEnable	RES	<bool> True, False	Enables or disables the digital zoom for each image preset mode
	ImagePresetMode.#.MaxDigitalZoom	RES	<enum> 2x, 3x, 4x, 5x, 6x...	Max digital zoom scale for each image preset mode
set	Channel	REQ, RES	<int>	Channel ID
	AutoFlipEnable	REQ, RES	<bool> True, False	Enables or disables auto flip
	DigitalZoomEnable	REQ, RES	<bool> True, False	Enables or disables the digital zoom.
	MaxDigitalZoom	REQ, RES	<enum>	Digital zoom limits
	ProportionalPTSpeedMode	REQ, RES	<enum> Off, Slow, Medium, Fast	Proportional PT speed mode
	ProportionalPTSpeed	REQ, RES	<int>	Proportional PT speed value (from 1 to 100)
	RememberLastPosition	REQ,RES	<bool> True, False	Whether to remember the last PTZ position for RemberLastPositionDuration
	RememberLastPostionDuration	REQ,REQ	<int>	Remember the last position for the set duration.
	DigitalPTZEnable	REQ, RES	<bool> True, False	Whether to route PTZ commands for DPTZ or External PTZ in supported models

Action	Parameters	Request/ Response	Type/ Value	Description
	NorthDirection	REQ		Sets current position as a north direction. **NorthDirection** is an empty parameter with no value required, and should be sent alone in a request.
	ImagePreview	REQ	<enum> Start, Stop, AWC	Image preview mode Allows viewing of the preview image of the configuration, rather than saving the image configuration to the camera. If this parameter is ignored, then preview mode will be stopped and the original image configuration will be applied. • Start: Image preview mode will be started • Stop: Image preview mode will be stopped, and the original image settings saved in the camera will be applied • AWC: AWC mode will be started
	SpeedType	REQ, RES	<enum> Linear, Exponential	Selects speed of PTZ movement to increase linearly or exponentially.
	ImagePresetMode	REQ, RES	<enum> UserPreset1, UserPreset2, OutdoorDaytime, OutdoorNightime, IndoorBacklight, IndoorBrightScene, NumberPlate, Vivid	Selects image preset mode.

Action	Parameters	Request/ Response	Type/ Value	Description
	MountPosition	REQ, RES	<enum> Floor,Ceiling	Based on mountposition, direction of relative PTZ changes. **Note** **PTZSupport/Support/MountPosition** value in attributes is true if this feature is supported.

3.11.4. Examples

3.11.5. Getting the current PTZ settings of channel 0

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.AutoFlipEnable=True
Channel.0.DigitalZoomEnable=False
Channel.0.MaxDigitalZoom=2x
Channel.0.ProportionalPTSpeedMode=Medium
Channel.0.RememberLastPosition=False
Channel.0.RememberLastPositionDuration=100
Channel.0.SpeedType=Linear
Channel.0.MountPosition=Ceiling
Channel.0.ImagePresetMode.UserPreset1.DigitalZoomEnable=True
Channel.0.ImagePresetMode.UserPreset1.MaxDigitalZoom=3x
Channel.0.ImagePresetMode.UserPreset2.DigitalZoomEnable=False
Channel.0.ImagePresetMode.UserPreset2.MaxDigitalZoom=2x
Channel.0.ImagePresetMode.OutdoorDaytime.DigitalZoomEnable=False
Channel.0.ImagePresetMode.OutdoorDaytime.MaxDigitalZoom=2x
Channel.0.ImagePresetMode.OutdoorNightime.DigitalZoomEnable=False
Channel.0.ImagePresetMode.OutdoorNightime.MaxDigitalZoom=2x
Channel.0.ImagePresetMode.IndoorBacklight.DigitalZoomEnable=False
```

```
Channel.0.ImagePresetMode.IndoorBacklight.MaxDigitalZoom=2x
Channel.0.ImagePresetMode.IndoorBrightScene.DigitalZoomEnable=False
Channel.0.ImagePresetMode.IndoorBrightScene.MaxDigitalZoom=2x
Channel.0.ImagePresetMode.NumberPlate.DigitalZoomEnable=False
Channel.0.ImagePresetMode.NumberPlate.MaxDigitalZoom=2x
Channel.0.ImagePresetMode.Vivid.DigitalZoomEnable=False
Channel.0.ImagePresetMode.Vivid.MaxDigitalZoom=2x
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```


```
{
    "PTZSettings": [
        {
            "Channel": 0,
            "AutoFlipEnable": true,
            "DigitalZoomEnable": false,
            "MaxDigitalZoom": "2x",
            "ProportionalPTSpeedMode": "Medium",
            "RememberLastPosition": false,
            "RememberLastPositionDuration": 100,
            "SpeedType": "Linear",
            "MountPosition": "Ceiling",
            "ImagePreset": [
                {
                    "ImagePresetMode": "UserPreset1",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "3x"
                },
                {
                    "ImagePresetMode": "UserPreset2",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
                },
                {
                    "ImagePresetMode": "OutdoorDaytime",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
```

```
                },
                {
                    "ImagePresetMode": "OutdoorNightime",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
                },
                {
                    "ImagePresetMode": "IndoorBacklight",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
                },
                {
                    "ImagePresetMode": "IndoorBrightScene",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
                },
                {
                    "ImagePresetMode": "NumberPlate",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
                },
                {
                    "ImagePresetMode": "Vivid",
                    "DigitalZoomEnable": false,
                    "MaxDigitalZoom": "2x"
                }
            ]
        }
    ]
}
```

3.11.6. Setting auto flip to be enabled

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=set&Channel=0&AutoFlipEnable=True
```

3.11.7. Setting maximum limit of digital zoom

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=set&Channel=0&MaxDigitalZoom=4
x
```

3.11.8. Setting proportional speed mode to Slow

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=set&Channel=0&ProportionalPTSp
eedMode=Slow
```

3.11.9. Setting proportional speed with integer

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=set&Channel=0&ProportionalPTSp
eed=50
```

3.11.10. Setting proportional speed mode to Off

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=set&Channel=0&ProportionalPTSp
eedMode=Off
```

3.11.11. Setting the current pan position as North direction

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=set&NorthDirectoion
```

3.11.12. Change the mount position of camera

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzsettings&action=set&MountPosition=Floor
```

3.12. PT Operation Limits

3.12.1. Description

The **ptlimits** submenu of **ptzconfig.cgi** enables or disables pan and tilt limits.

> **NOTE** This chapter applies to network cameras only.

Access level

Action	Camera
view	Admin
set	Admin
control	Admin

3.12.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
ptlimits&action=<value>[&<parameter>=<value>]
```

3.12.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads limit settings for pan and tilt functions.
	Channel	REQ, RES	<int>	Channel ID
set	PanLimitEnable	REQ, RES	<bool> True, False	Enables or disables pan limits
	TiltLimitEnable	REQ, RES	<bool> True, False	Enables or disables tilt limits
	TiltRange	REQ, RES	<enum>	Setting the Tilt range value of camera.
	DaysAfterReboot	REQ, RES	<int>	Duration to reset the PT module. From 0 to 7 days.
	StartTime	REQ, RES	<int>	Time to initialize the PT module. From 0 to 23.
control	Channel	REQ	<int>	Channel number

Action	Parameters	Request/ Response	Type/ Value	Description
	Mode	REQ	<enum> PanBegin, PanEnd, TiltBegin, TiltEnd, Exit	PT operation limits

3.12.4. Examples

3.12.5. Getting the current PTZ settings

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptlimits&action=view&Channel=0
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.PanLimitEnable=False
Channel.0.TiltLimitEnable=False
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTLimits": [
        {
            "Channel": 0,
            "PanLimitEnable": false,
            "TiltLimitEnable": false
        }
    ]
}
```

3.12.6. Enabling Pan limits

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptlimits&action=set&PanLimitEnable=True
```

3.13. PTZ Protocol

3.13.1. Description

The **ptzprotocol** submenu of **ptzconfig.cgi** configures the protocol used for PTZ operation.

Please refer to the **serial** submenu of system.cgi for the serial port settings.

NOTE This chapter applies to network cameras, encoder and hybrid NVR.

Access level

Action	Camera	Encoder	NVR
view	Suser	Suser	Suser
set	Suser	Suser	Suser

3.13.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
ptzprotocol&action=<value>[&<parameter>=<value>]
```

3.13.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the values of all response parameters and shows the current information.
	Channel	REQ, RES	<int>	Channel ID
	Status	RES	<enum> Connect, Disconnect	Returns the connection status of the analog channel serial. This parameter is supported only for analog channels in Hybrid NVR NVR ONLY
set	Channel	REQ, RES	<int>	Channel ID

Action	Parameters	Request/ Response	Type/ Value	Description
	Protocol	REQ, RES	<enum> Samsung-T, Samsung-E, Pelco-D, Pelco-P, Panasonic, Vicon, Honeywell, AD, GE, Bosch, Sungjin	Protocol **Note** **Protocol** must be sent together with the **set** action.
	ConnectionPortType	REQ, RES	<enum> RS-485, Coaxial	Selecting connection port type The value may vary depending on the model. Please check the device attributes using attributes.cgi. ENCODER ONLY
	CameraID	REQ, RES	<int>	Camera ID for the PTZ protocol
	CoaxProtocol	REQ, RES	<enum> Auto,None	Returns the Coax protocol type This parameter is only supported for analog cameras in Hybrid NVR. NVR ONLY
	PortNum	REQ, RES	<int>	In Hybrid NVR, the analog port number This parameter is only supported for analog channels in Hybrid NVR NVR ONLY

3.13.4. Examples

3.13.5. Getting the current PTZ Protocol

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=ptzprotocol&action=view
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
```

```
<Body>
```

```
Channel.0.Protocol=Samsung-T
Channel.0.CameraID=1
Channel.0.ConnectionPortType=RS-485
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZProtocol": [
        {
            "Channel": 0,
            "Protocol": "Samsung-T",
            "CameraID": 1,
            "ConnectionPortType": "RS-485"
        }
    ]
}
```

JSON RESPONSE(Hybrid NVR)

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PTZProtocol": [
        {
            "Channel": 0,
            "PortNum" : 0,
            "CoaxProtocol":"Auto",
            "Protocol": "Samsung-T",
            "CameraID": 1,
            "ConnectionPortType": "RS-485"
        }
```

```
    ]
}
```

3.13.6. Setting the PTZ Protocol to ‘Samsung-E’ protocol

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzprotocol&action=set&Protocol=Samsung-E
```

3.13.7. Setting connection port Type to RS-485

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzprotocol&action=set&Channel=0&Protocol=Samsung
-T&CameraID=1&*ConnectionPortType=RS-485*
```

3.14. PTZ Mode

3.14.1. Description

The **ptzmode** submenu of **ptzconfig.cgi** configures the mode used for PTZ operation.

> **NOTE** This chapter applies to network cameras only. If "/attributes/PTZSupport GlobalPTZMode" attribute is true, this setting is globally applied for the device.

Access level

Action	Camera
view	Suser
set	Suser

3.14.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
ptzmode&action=<value>[&<parameter>=<value>]
```

3.14.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view				Reads the values of all response parameters and shows the current information.
	Channel	REQ,	<int>	Channel ID
set	Channel	REQ, RES	<int>	Channel ID
	Mode	REQ, RES	<enum> DigitalPTZ, ExternalPTZ	PTZ Mode

3.14.4. Examples

3.14.5. Getting the current PTZ Mode

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=ptzmode&action=view
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "PtzMode": [
        {
            "Channel": 0,
            "Mode": "ExternalPTZ"
        }
    ]
}
```

3.14.6. Setting the PTZ Mode to ‘DigitalPTZ’

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=ptzmode&action=set&Mode=DigitalPTZ
```

3.15. Pan Zero Position

3.15.1. Description

The **panzeroposition** submenu configures the current pan position for the pan zero position of the requested channel.

> **NOTE** This chapter applies to network cameras only.

Refer to Attributes/PTZSupport/Support/PanZeroPosition in the attributes section for more information.

Access level

Action	Camera
set	ADMIN

3.15.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
panzeroposition&action=<value>[&<parameter>=<value>]
```

3.15.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
set	Channel	REQ, RES	<int>	Channel ID

3.15.4. Examples

3.15.5. Getting the current PTZ mode

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=panzeroposition&action=set&Channel=0
```

3.16. Digital Auto Tracking

3.16.1. Description

The **digitalautotracking** submenu configures digital auto tracking settings.

> **NOTE** This chapter applies to network cameras only.

AI Camera DPTZ Channel (Channel 1) only supports this.

Access level

Action	Camera
view	Admin
set	Admin

3.16.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
digitalautotracking&action=<value>[&<parameter>=<value>]
```

3.16.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view	Channel	REQ	<int>	Channel ID
set	Channel	REQ,RES	<int>	Channel ID
	ObjectTypeFilter	REQ,RES	<csv> Vehicle,Person,Face	When the filter is configured, digital auto tracking would be enabled only for configured object types.

3.16.4. Examples

3.16.5. Getting the current setting

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=digitalautotracking&action=view
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "digitalautotracking": [
        {
            "Channel": 1,
            "ObjectTypeFilter": [
                "Person",
```

```
                "Vehicle"
            ]
        }
    ]
}
```

3.16.6. Setting digitalautotracking configuration

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=digitalautotracking&action=set&Channel=1&ObjectTy
peFilter=Person,Vehicle
```

3.17. PT Position Correction

3.17.1. Description

The **ptcorrection** submenu configures PT's default position.

> **NOTE** This chapter applies to PT cameras only.

Access level

Action	Camera
view	Admin
set	Admin

3.17.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
ptcorrection&action=<value>[&<parameter>=<value>]
```

3.17.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
set	Channel	REQ	<int>	Channel ID that sets the current PT's position to be 0. You can check PT's position in query submenu in ptzconrol cgi.

3.17.4. Examples

3.17.5. Set the current PT position to be 0

REQUEST

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=ptcorrection&action=set
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "Response": "Success"
}
```

3.18. Exclusive PTZ Control

3.18.1. Description

The **exclusiveptzcontrol** submenu configures exclusive access authority for PTZ controls, allowing execution of only one PTZ operation at a time.

> **NOTE** This chapter applies to PTZ cameras only.

Access level

Action	Camera
view	Admin
set	Admin

3.18.2. Syntax

```
http://<Device IP>/stw-cgi/ptzconfig.cgi?msubmenu=
exclusiveptzcontrol&action=<value>[&<parameter>=<value>]
```

3.18.3. Parameters

Action	Parameters	Request/ Response	Type/ Value	Description
view	Channel	REQ	<csv>	Channel ID
set	Channel	REQ	<int>	Channel ID
	Enable	REQ,RES	<bool> True,False	Sets the exclusive PTZ control authority to enabled or not.

3.18.4. Examples

3.18.5. Enable the exclusive PTZ control authority

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=exclusiveptzcontrol&action=set&Channel=0&Enable=T
rue
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "Response": "Success"
}
```

3.18.6. Request the current settings

REQUEST

```
http://<Device IP>/stw-
cgi/ptzconfig.cgi?msubmenu=exclusiveptzcontrol&action=view
```

TEXT RESPONSE

```
HTTP/1.0 200 OK
Content-type: text/plain
<Body>
```

```
Channel.0.Enable=False
```

JSON RESPONSE

```
HTTP/1.0 200 OK
Content-type: application/json
<Body>
```

```
{
    "ExclusivePTZControl": [
        {
            "Channel": 0,
            "Enable": false
        }
    ]
}
```